

Yours sincerely
Pied Leviz

BILLIARDS:

THE STROKES OF THE GAME

PART II.

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BY
RISO LEVI.



DEDICATED TO THE MEMORY OF MY FATHER WHO
FOR MORE THAN FIFTY YEARS HAD AN UNBOUNDED
ENTHUSIASM FOR THE GAME. HIS PLEASURE IN
MY WORK WAS INTENSE, AND HE LIVED TO SEE
. . . THE WHOLE OF THIS VOLUME IN PRINT. . . .

321 ILLUSTRATIONS.

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PREFACE.

WHEN in September, 1906, I published Vols. I., II., and III. of **BILLIARDS : THE STROKES OF THE GAME**, complete in one cloth volume, I intimated to my readers that three years later a further volume would be issued, and the present book, containing the whole of Vols. IV., V., and VI. of **BILLIARDS : THE STROKES OF THE GAME**, is the fulfilment of that promise. Three years ago I anticipated that the present volume would have completed my work on the game, but Mr. S. A. Mussabini, the well-known editor of "The New World of Billiards"—and, by the way, a very capable player—in reviewing all that I had written up to that period, used these words :—

"That the work has exceeded the bounds which were first of all in the author's mind may be taken for granted. But in a labour of love—and I know it has been so to Mr. Levi—the end is never in sight."

And the prophetic nature of his words has been borne out by the fact that, in order to complete my treatise on the game, another volume of the same size as the present one is necessary. This I hope to publish in three years' time after having first issued the contents thereof in three 1/- vols., which will appear as Vols. VII., VIII., and IX. of **BILLIARDS : THE STROKES OF THE GAME**.

The remaining chapters of my work have all been mapped out, and many are already written. They are as follow :—

Screw Cannons from the D,
Long-distance Cannons—Object Balls Close Together,
Cannons—Hitting a Cushion First,
Gathering Cannons,
Cannons off Double Baulks,
Nursery Cannons and Close Cannons,
Rocking Cannons,
Pendulum Cannons,
Cradle Cannons,
The Jam Stroke,
Getting Position for a Drop Cannon,
Drop Cannons,
Getting Position for Top-of-the-Table Play,
Top-of-the-Table Play,
Safety Play,
Single Baulks,
Double Baulks,

and possibly short chapters on Piqué and Massé Strokes.

I have been asked by several correspondents to include the rules of the game in later editions of my books, and by other correspondents to give a chapter on how to stand at the table, how to hold the cue, and various other physical matters connected with addressing the cue ball. My reply to the first request is that I do not consider it advisable to append a set of rules, as firstly, most of the rules are known by every player (in very many cases they can hardly be considered as rules); and secondly, the important ones, such as those which deal with touching balls and with the penalties attaching to the various kinds of foul strokes, have been altered from time to time, and there would be little use in giving rules which, though in force to-day, may be obsolete next year. As a matter of fact, there are no less than three sets of rules in vogue at the present moment, viz., the Rimington-Wilson code, the Billiard Association rules, and those of the Billiards Control Club!

In order to prevent great breaks being made by means of cradle-stroke cannons, a rule was passed in March, 1908, by the Billiard Association limiting the number of consecutive ball-to-ball cannons—without the cue ball hitting a cushion—to twenty-five, but this rule is a somewhat clumsy one, as it may conceivably interfere with what may be termed legitimate billiards. For example, although no professional at English billiards has ever made any large break of close cannons with all the balls away from a cushion, several of our leading players are quite capable of making more than twenty-five close cannons with the balls grouped together in the open part of the table. Again, clever nursery-cannon players are able to make a fairly long run of close kiss cannons by play which necessitates the balls being taken a very considerable distance along a cushion, and it is somewhat absurd to place a limit to the number of cannons which may be made by either of these methods of play or even to compel a professional player to count his cannons whilst making a break. The intention of the framers of the rule was to do away with a large number of cannons with the object balls *in the identical position in every stroke*. A much better way out of the difficulty would have been to have given the opponent the right to appeal against the player making more than a certain number of cannons by the same kind of stroke, at any time when in his opinion the striker has worked the balls into any recognized position from which it is possible to make a large number of cannons without moving one or both object balls. On the referee allowing that the player has obtained such recognized position—say a cradle-cannon position—a law limiting the further number of cannons by means of the same kind of stroke could then operate.

I do not propose to lay down any rules upon the question as to how a player should stand at the table, as in the first place this subject has already been gone into very thoroughly by other writers on the game, and secondly, it is very questionable whether even a long chapter on it would be of any very material advantage to a player. When a player reads that a certain stroke should be played in such and such a manner in order to leave a certain position,

he fully understands how the stroke ought to be played, and what view in end the player has who plays it in the way described. When, however, a player is told that he should stand in such and such a manner, and that his cue arm must move in a certain way, etc., etc., he tries to get into the correct position, but he does not know whether he is right, for he cannot look at himself in a looking-glass as he strikes his ball, and even were it possible for a player, who tries to learn from a book how to stand at the table, etc., to see himself in a mirror as he strikes his ball, it is more than doubtful whether his reflection would tell him what he wants to know. Moreover, if a player has to think about the position of his legs, the disposition of the weight of his body, the position of his cue arm in relation to his body, etc., in addition to the other things connected with the stroke, he will have so many different things to think about at the same time that in all probability his mind will not be sufficiently centred on the stroke he is playing. In my opinion a player can best learn how to stand correctly at the table and how to strike the ball correctly by one or two lessons on these points from a professional player or from a marker who is competent to teach these matters.

The one great thing in billiards is true cueing. Without true cueing no man can ever become a really good player. By true cueing is meant a cue-movement backwards and forwards without the slightest deviation from one imaginary line, no matter how long the movement is maintained. A player first takes his aim at the object ball, then draws his cue away from the cue ball, advances it to the ball again, and as a rule repeats these movements several times before actually striking the ball. But unless the cue as it is drawn away from the ball travels exactly on a line which is a continuation of the line of aim, and further unless the cue as it travels backwards and forwards moves as though it were sliding to and fro in a tight-fitting groove, true cueing does not take place. If in travelling backwards and forwards the cue travels slightly to the right or the left, or above or below the line over which it was drawn away from the cue ball, the cueing is faulty, although it is only a movement to the right or the left which affects the aim. If, as a professional player is about to strike his ball the working of his cue is examined, its beautiful piston-like movement will be at once apparent. In fact, it is not too much to say that every professional owes the excellence of his play in a very great measure to this piston-like action of his cue. This perfection of cue-movement is exceedingly difficult of attainment, but the nearer one approaches to such perfection the more rapid will be his progress. When every now and then the average player in playing an ordinary half-ball stroke from a distance fails in it through getting much too full or too thin on to the object ball, the fault—if the balls are true—may be put down to ~~an~~ true cueing. The aim is seldom at fault to begin with, but it can easily be understood that if the cue does not travel to and fro on the line of aim the cue ball cannot travel with correct direction. When in playing a half-ball stroke the object ball is taken, say three-quarter-ball or quarter-ball, the contact is a

very faulty one, but in either case the object ball has been struck at a point which is only about a quarter of an inch from the point at which it should have been taken for a half-ball contact, and an error of a quarter of an inch in contact is equivalent to an error of half an inch in the line of aim (except in full-ball strokes the point of contact is never on the line of aim). In a long-distance half-ball stroke it does not require any very great fault of cueing to cause an error in the line of the cue ball's travel which will amount to half an inch at the end of the line, and which will result in an error in contact of about a quarter of an inch. Two lines which commence at the same point, and which diverge so slightly that they are only half an inch apart after travelling say eight feet, will represent a correct line of travel for the cue ball in an eight-foot shot and also the line of travel which is faulty to the extent of a difference of a quarter-ball from the contact played for, and two lines which commence at the same point and which have only diverged to the extent of half an inch after travelling eight feet are not very far removed from parallel lines.

A firm stand at the table as well as a firm bridge assists very materially in true cueing, but will not of itself ensure it. The piston-like accuracy of cue-movement to which reference has already been made can hardly be acquired by practice unless a player from the very commencement has a great natural aptitude for the game and, just as in many other games, this aptitude seldom exists after boyhood's days. All our professionals of note made their first hundred break before they were fifteen, and in several cases they were making their three-figure breaks by the time they were twelve; and as it is with our professionals so it is with our best amateurs. That the particular stand at the table which is generally recognized as the correct one is not really absolutely essential for good billiards is proved by Diggle's play. Diggle stands at the table in the most unorthodox manner, and yet to-day (1909) only Stevenson can give him points, and just as the most stylish batsman does not always make the most runs, so Diggle proves that style is not everything at billiards. Many people, it is true, may argue that had Diggle cultivated a better stand at the table he might have been a much better player than John Roberts at his best or than Stevenson to-day. As however, his style, or rather want of style, has not prevented him from making many breaks of over 500 and a few far in excess of this number, it is difficult to see how any such argument can rest on a sound and logical basis.

Just as there is an orthodox stand at the table, so there is an orthodox bridge. Figure 1 shows this, but by observation of the leading professionals at the table it will be seen that not only do no two of them make exactly the same kind of bridge, but that not one of them makes a bridge which conforms exactly with the regulation style; and that in many cases the professional bridge is very far removed from this. The fact of the matter is that, provided the bridge is a very firm one, the style or shape of its formation is of little or no importance.

If, however, the bridge hand is limp and moves ever so slightly during the stroke, true cueing is an impossibility. The bridge hand must be as immovable as a rock whilst the cue passes to and fro between the thumb and first finger.

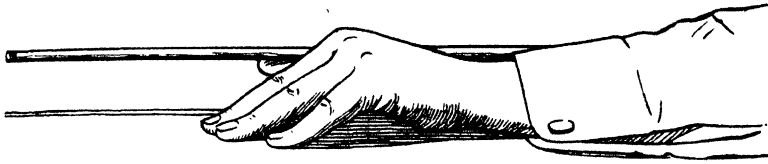


Fig. 1.—The regulation bridge. Knuckles well raised.



Fig. 2.—A modification of the regulation bridge. Knuckles not so high as in Fig. 1.



Fig. 3.—A very low bridge. Hand nearly flat on the table.

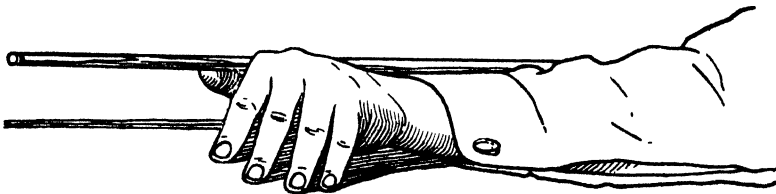


Fig. 4.—A strong, firm bridge. All four fingers at a very considerable angle to the thumb.

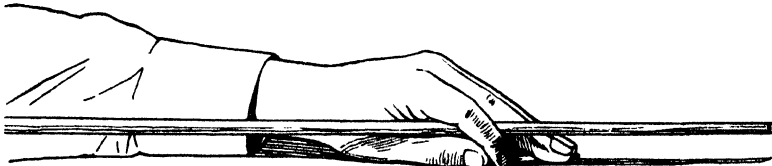


Fig. 5.—The Bouclé bridge.

Figures 2, 3, and 4 show a few of the various styles adopted by many professionals and good amateurs, and Figure 5 the Bouclé bridge used by English players for certain strokes and by many Continental players for almost every stroke.

The distance at which the hand should be placed from the cue ball is a very important factor in good cueing. Too short a bridge, as it is called, cramps a player and prevents free cueing, and too long a bridge also militates against true cueing, as there is a tendency for the cue to slither from side to side when the bridge hand is too far from the cue ball. The hand is correctly placed when in the ordinary way the end of the thumb is about eight or nine inches from the cue ball. Players who make too long a bridge are as a rule weak at pots. In no stroke is accuracy of aim and contact so essential as in a pot with the object ball a considerable distance from a pocket—and accuracy of aim and contact depend upon true cueing.

Resting the forearm on the bed of the table is common with many players—for example, with Stevenson—and it seems logical enough to contend that this must conduce to increased steadiness and firmness of the bridge hand, and for this reason this placing of the forearm on the table when possible—especially with beginners—is advisable. On the other hand, very many fine players never place any part of the arm on the bed of the table.

How often should the cue be moved backwards and forwards before striking the cue ball? Here again no definite answer can be given. Many amateurs move the cue backwards and forwards for such a length of time that they give one the impression that they are never going to strike the ball. So much “sawing,” as it is called, not only looks ugly, but also has a tendency to cause indecision over a stroke, consequently any player who is at fault in this way should endeavour to check this too long continued passing to and fro of the cue over the bridge hand. That this fault of too long continued cueing is, however, not a barrier to very big breaks, provided that a player possesses the gift of true cueing, is forcibly proved by the fact that one of our leading amateurs, with whom a 200 break is no great rarity, and who has more than once made a bold bid for championship honours, generally moves his cue backwards and forwards eight or ten times—and occasionally even oftener—before striking the ball. On the other hand, many very good amateurs go to the other extreme. They take their aim, draw back the cue, and then straightaway strike their ball. Provided, however, that the cue in its single backward and forward movement travels exactly on the line which is a continuation of the line of aim, the stroke will be a true one, and thus players who adopt this style can make just as big breaks as players who move the cue to and fro several times before hitting the cue ball. In proof of this it is only necessary to cite Diggle as a player who seldom moves his cue more than once each way. Indeed, whenever one desires to show that much as correct style may tend to make a man a good player, good billiards—even billiards of the very highest order—is not necessarily dependent upon a strict adherence to all nor even to any of the various details which in combination are known as good style, there is always brilliant, unorthodox Diggle to prove his contention. Moderate players will, however, find it best to move the cue backwards and forwards several times before striking the ball, but any

tendency to "saw" should be checked. Three or four or at the most five times each way is a sufficient number of times to move the cue.

How far down should the head and body be bent when playing an ordinary stroke? It is impossible to write with any authority on this point owing to the great diversity of opinion which exists amongst good players on this question. It might at first seem logical enough to contend that just as a marksman looks along the barrel of his rifle when taking aim, so a billiard player should get his eyes as nearly as possible down to the level of his cue when playing his stroke. The two cases, are, however, not quite analogous, for whereas a marksman may miss the object at which he has aimed by reason of his aim having been too high or too low, too much to the right or to the left, the billiard player's stroke can—as regards the line of aim—only be at fault through the cue ball travelling either to the right or to the left of what would have been the correct line of travel. Again, as the cue ball can never be five yards from the object ball, and is seldom anything like this distance from it, it is quite possible to take very correct aim with the eyes quite a long distance from the cue. John Roberts bends his body but little, and by reason of his height his eyes are a long way from his cue as he strikes his ball, and yet no player ever took a truer aim than the old champion. In addition to sighting a ball so truly, John Roberts—who to-day is a fast player—when in his prime took his aim and played his stroke so quickly that the speed of his play was really marvellous. Indeed, twenty or twenty-five years ago the impression that he generally gave anyone watching him for the first time was that he was going to miss his stroke through playing it too quickly. His hand was barely on the table before he struck his ball. On the other hand, many players, both amateur and professional, get very low down to their stroke, Inman, for example, when taking aim lowers his head until his chin is only a very short distance from his cue, and Major Fleming, the winner of the amateur championship in 1909, actually touches his cue with his chin, so low does he get down to his stroke. Nor is Major Fleming's position at the table quite exceptional, for I can call to mind several amateurs who also play with their chin on their cue.

Although it is not absolutely essential that a player should get his head very low down in order to take good aim, there is not the slightest doubt that getting well down to a stroke—when the object ball is a considerable distance away—conduces to good aim. Those who have played for years are not likely to change their position at the table after reading these lines, nor would they perhaps be wise in doing so, but the beginner will do well to get low down to his stroke. There is, however, no need to lower the head till the chin touches the cue—many players could hardly play a stroke with the head so low down—a player is well down to his stroke when his chin is four or five inches above his cue. When the stroke is a straight pot with the cue ball some distance from the object ball the eyes should be lowered even more than for ordinary strokes. In no stroke is correct aim more essential than in a straight pot, particularly when

the pot is into a more or less blind pocket, and players who constantly fail at a pot into a centre pocket from the D will find that getting very low down to the stroke will cause a considerable improvement.

Many players invariably take their aim at the base of the cue ball for strokes that are played without side, notwithstanding that the ball may have to be struck at the centre or even above the centre. The cue is moved backwards and forwards with its point low down and then is suddenly raised before it strikes the ball. This method of aiming at and striking a ball never appears graceful, and often looks ugly and even clumsy, and no player who adopts it ever becomes a stylist. Diggle always takes his aim at the very bottom of the cue ball when playing a plain-ball stroke, but Diggle never was and never will be a stylist. Indeed, as already remarked, whenever a writer on the game wishes to prove that a certain action or style is incorrect and bad he draws attention to the fact that Diggle has made it his own, and should Diggle ever read any of the comments which are made concerning his methods—which is very doubtful—he answers his critic by making another great break. The idea of taking aim at the bottom of the ball is that it must be easier to find the central line there than on the full width of the ball half-way up. There is, however, very little if anything in this, for the difficulty in hitting the cue ball at the centre lies not in *finding* the centre when taking aim, but in hitting the ball exactly at the point at which aim has been taken. Any player when desiring to hit his ball at the centre can point his cue sufficiently near the centre of the ball for all practical purposes, but unless he can cue truly he will fail to hit his ball as intended, and the more his cue-movement differs from that piston-like action to which reference has already been made, the more untruly is he likely to hit his ball. A player whose cueing is faulty will therefore not hit a ball more truly by taking his aim at the base of the ball than by aiming at the point he intends to hit. Indeed, the uplifting of the cue just before striking the ball, which is necessary when taking aim at the base of the ball for a central stroke, is even apt in many instances to interfere with true cueing, especially in high-pace strokes where accuracy of cue-movement is so essential. From every point of view, therefore, all players who have not played long enough to be wedded for ever to one particular style should take their aim through that point of the cue ball which they desire to hit. Stevenson does this always and the same is true of most professionals and first-class amateurs.

Which ball should be looked at last, the cue ball or the object ball? Were it not that this question has been so often raised it would be almost too trivial for discussion. When the object ball is quite near the cue ball both balls are in the same focus, and consequently the eye rests on both at the same moment; when, however, the object ball is any considerable distance from the cue ball the eye should most certainly rest on the object ball just previous to, and at the moment of striking the cue ball. If the authoritative pronouncement of a great

player be required on this point, readers are referred to Dawson's book on billiards, wherein in the chapter on "Hints to Beginners," he writes as follows :—

"At the instant of striking, the eye should undoubtedly rest on the object ball."

And again :—

"Take, for instance, if the player is about to play a stroke the length of the table, say to cut a red ball into a pocket, which requires to be hit very fine on one side, how can he do this with any certainty with his eye on his own ball at the instant of striking? It is possible when the balls are near together (nursery cannons) to see where you are striking your own ball as well as the object ball at the same time; but even in this case it should not be followed. The only stroke in which the eye should be on the player's ball at the instant of striking is when playing a *massé* stroke."

Harverson has also written on this question as follows :—

"It will pay you to keep your eye on the object ball after taking aim."

It is, of course, quite possible to play long-distance strokes—especially half-ball strokes—quite correctly even though the eye is allowed to rest on the cue ball at the moment of striking, for when correct aim has been taken and the cueing is good, correct final delivery is quite possible even with the disadvantage of the object ball being more or less invisible at the moment of striking the cue ball. But any player who has a good cue delivery can quite easily get ordinary half-ball in-offs and ball-to-ball cannons *with his eyes closed*, provided that he takes his aim first and only closes his eyes just before striking his ball. It would, however, be poor logic to argue that because this is so a player ought to shut his eyes when about to hit his ball. The difference between not looking at the object ball and not looking at either ball at the moment of striking is, however, only one of degree.

With regard to the best length and weight for a cue, this is to a very great extent a matter of personal choice. One player's pet cue is often of no value to another player. Indeed, should a player who has for some reason or other discarded a one-time favourite cue for another of different weight, etc., happen long afterwards to pick up the old cue he will very likely wonder how he could ever have played with it. The heaviest cue that I have known to be used regularly by an amateur who could make a three-figure break was one weighing 18½ ounces, and, on the other hand, I some years ago witnessed an amateur make his record break, which was only a few short of 200, with a cue weighing only 11 ounces! Lovejoy too, I believe, played for years with a cue which only weighed 12 ounces. Speaking generally, however, the best weight for a cue is from 15 to 16 ounces, and few professionals, if any, use a cue the weight of which is outside these limits. A good average length for a cue is about 4ft. 9in., though men whose height is very much above or below the average may require a somewhat longer or shorter cue. The cues of very good players are, however, generally on the short side, for a cue that has been played with regularly for many years is often considerably shorter than when it was first used. This is due to the filing, etc., which as a rule is necessary when a new tip has to be put on. The size of the tip is also a matter of choice, but a very small tip is not

advisable, firstly because with such a tip a player is more liable to make miscues when playing with plenty of side or screw, and secondly because a small tip will not remain on a cue as long as one which has a greater holding surface.

The cue should be held some distance from the end of the butt, except when playing with the rest, when the end of the butt must be grasped with the tips of the fingers. In playing a series of close cannons the cue should be held several inches farther from the end of the butt than for ordinary strokes, for this shortening of the cue increases delicacy of touch. When a cue becomes short from long use it should be held nearer the end of the butt than when it is of average length. Also, by holding the cue very near the end it is sometimes possible with the cue ball a long way from a cushion to avoid using the rest without being overreached for the shot, whereas the same might not be possible were the cue to be grasped some distance from the end of the butt. Most amateur players make the mistake of never using the rest if they can manage to hit the cue ball without having recourse to it. Except in strokes which have to be played with very little pace, just being able to reach the cue ball is however not sufficient. Generally speaking, unless the cue can be made to travel some little distance past the spot on which the cue ball lies previous to the stroke being played the use of the rest is essential. Indeed, when the position necessitates a forcing stroke or a strong screw the cue may have to follow the cue ball quite a considerable distance in order that the stroke may be properly played. Professional players and first-class amateurs seldom overreach themselves, and often put the point of the cue as far past the side of the cue ball as they comfortably can in order to ascertain whether the use of the rest is necessary. In a similar way they decide between the use of the short rest and the half butt and the long rest, or between the half butt and the long butt.

Many amateurs make the mistake of grasping the cue tightly, whereas it should be held quite lightly. Some players—amateurs as well as professionals—hold the cue between the thumb and first finger only, but although this is a very excellent way of holding the cue, a player is holding it quite correctly when three of his fingers—or even all four fingers—are in contact with it, provided that very little more than the tips of the fingers are touching the cue. When playing screw strokes the cue—which must be held in exactly the same way as for ordinary strokes—should be clinched—very tightly when very high pace has to be employed—just at the moment when it strikes the ball. Without this clinching of the cue, screw strokes—except very gentle ones with the cue ball very near the object ball are impossible. Of course, it is not the clinching of the cue which causes the screw, for screw is the result of reverse rotation imparted to the cue ball by reason of its being hit below the centre. When, however, the cue ball is hit well below the centre, little more than the extreme edge of the cue tip can come into contact with it, and consequently the inevitable result of the cue being held quite loosely at the moment of contact would be a miscue. Many good players are quite unaware of the fact that, when playing a

screw stroke they clinch the cue at the exact moment that it meets the cue ball. They have not analysed their action in playing such a stroke and might be surprised if told of it, nevertheless any strong screw played without this clinching of the cue would be a failure. Players who experience great difficulty in playing screws—especially screw-back cannons—will find that they will quickly improve at these strokes by clinching the cue in the manner described. This clinching of the cue at the moment of its contact with the cue ball is also necessary when playing strokes that require plenty of side and pace or plenty of top and pace. Without it miscues are bound to occur, for when the cue ball is struck near the edge or very high up not much more than the edge of the tip comes in contact with it, and a lightly-held cue glances off the ball.

To what cause is good form due, and how is it that a player can play very well one evening and is perhaps right off his game a night or two later? This question is a difficult and in many respects an impossible one to answer. In cricket and golf these variations in form are experienced just as they are in billiards. In cricket, however, a player has not always as many opportunities as in billiards or golf. A batsman may be in the best of form and score a hundred runs or more and then be bowled by a ball that was almost unplayable. Another batsman may, on the other hand, be bowled by the same kind of ball—or one equally unplayable—in his first over, or he may be out quite early to a catch which is the sensation of the innings. Or he may lose his wicket through a right down bad stroke or by being run out. Once out for a poor score, or perhaps without even scoring, his only hope is that he may do better in the next innings, provided that there is a second one for him. A golfer, on the other hand, may play very badly to the first hole, but by very good play afterwards may retrieve his bad commencement. In billiards there are more opportunities even than in golf, for whereas a golfer who happens to play very badly to, say, the first six holes, is almost certain to be beaten unless his opponent has also played very indifferently, a billiard player playing, say, a game of 250 up may make quite a number of bad strokes in the early stages of the game and only score 20 or 30 by the time his opponent has reached his first 100, and yet by consistently good play afterwards may still win.

In no game is good nerve perhaps so essential as in billiards, and to a very great extent good form depends upon the state of one's nerves. One evening a player playing a confident game plays well and at another time the necessary confidence in his ability to make the strokes he plays is just as lacking, and is reflected in his score. Confidence is often inspired by a good beginning and a lack of it is, as a rule, caused by a bad one, especially if one's opponent happens to be playing well. Good billiards demands also that a player be fit and fresh. If one is at all tired, sustained good play is quite out of the question. A player may also make much bigger breaks one day than he does another day, not because he is in better form, but solely because he is better favoured by the run of the balls. An amateur who is only good enough to make a three-figure

break every now and then, seldom makes a hundred without having to play once or twice during the break some stroke or other which, though easy enough just as a stroke, cannot be played in such manner as to leave with certainty some other clearly-defined scoring position. The position happens, let us say, when his break stands at forty. He plays the stroke, scores from it, the balls run favourably for him, and continuing to play well he reaches the coveted century. Another day, after having made forty he is faced with the same or a similar position. He again gets the stroke for which he plays, but this time the balls run very safe and failure at the next stroke terminates the break. Yet quite possibly the player is in just as good form as on the day when he made the hundred break. When every allowance is, however, made for the manner in which the run of the balls may affect one's game and also for the other considerations to which reference has been made it can hardly be denied that there still remains an indefinable and impalpable something upon which good form is in a very great measure dependent, an intangible something which is impossible of elucidation or analysis, and which in all probability will for ever remain an unknown quantity.

To the hosts of correspondents who have written to me—from far-off climes as well as from our home lands—in appreciation of my work, I once again tender my sincerest thanks, and should the present volume also prove of interest and assistance to my readers, my efforts to advance the great game have been amply rewarded.

RISO LEVI.

The measurements given under the various diagrams are—unless specifically stated otherwise—from the edge of the balls at half their height from the bed of the table.

CHAPTER XVIII.

POTTING THE RED BALL.

Perhaps, in no stroke is the superiority of professional players over amateurs more clearly marked, than in potting the red ball. Many good amateurs who are by no means first-class can pot well enough, but as often as not—should the stroke not be an easy one from which to obtain good position—when the red goes down, the resultant leave is a bad one. On the other hand, anyone who has watched professionals play will be aware that not only do they rarely miss a pot when it is at all reasonably on, but that they seldom fail to get good position from the stroke. Of course, there is an immense amount of difference between simply going for a pot without caring a rap where the cue ball will go to, and trying to play the stroke in such a way that good after-position will be left to continue with. Many a pot that a good amateur misses through trying to get position, would often enough have been made had he been content to let the after-position take care of itself. The ordinary player, as a rule, just slashes at the red; the good player sometimes dribbles the red in, another time he stabs the ball or plays the stroke with screw, and often and often he strikes the cue ball with plenty of side, and though by these several means which he employs to get position, he is constantly making the stroke far more difficult than the pot by itself would be, the position that he gets from a well-played stroke is his reward. The player who always slashes the red down at lightning speed, no matter how brilliant he may be at this particular kind of stroke, will never make breaks, for though sometimes the after-position may come out very well, far more frequently the reverse will be the case.

Of course, as soon as a player who seldom makes more than a twenty break begins trying to play pots in such a way as to leave position, he will miss any number that he would have made in the old style, and he will probably lose many games that he might otherwise have won. If, however, he does not allow himself to be discouraged, he will before long improve his game so considerably, that he will be able to give a fair number of points to players that but recently were his own class.

Very many players who can pot a ball exceptionally well cannot easily describe how they play the stroke. From long practice, they seem to know intuitively where to aim, whether the shot demands a fine cutting of the ball, almost a full stroke, or any kind of contact between these extremes. Perhaps, before discussing the various pots which this chapter will contain, some reference to the theory of potting will not be uninteresting to many players, even though it may not prove of actual assistance to them at the table.

With certain exceptions to which reference will be made later on, a ball that is any distance from a pocket, in order to be potted must be struck by another ball on that part of it which is farthest from the pocket, and which is in a line with the centre of the ball and the centre of the pocket. In other words, if an imaginary line be drawn from the centre of the pocket right through the centre of the object ball, the termination of the line on the surface of

the ball will indicate the point where the ball must be struck in order to be potted.

Diagram 324 will show this very clearly. A is the centre of the pocket at the fall of the slate, and the line AB passes through the centre of the ball. The point B on the surface of the ball is the part of the ball that must be struck by another ball, no matter from what part of the table it comes, in order for the pot to be made. If the position of the cue ball is such that it is impossible for it to come into contact with this point on the object ball, then the pot is impossible.

Diagram 325 shows a pot into a centre pocket from various angles, and the intersected circle shows the position of

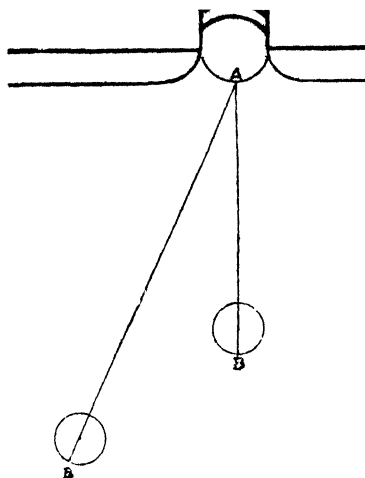


DIAGRAM 324.

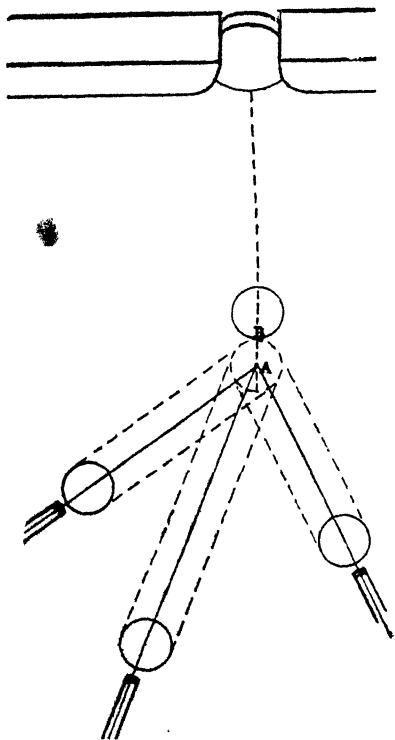


DIAGRAM 325.—Potting a ball from different positions. In every case, the cue ball must go over the point A.

the cue ball at the moment of contact, the path by which it travelled from its different locations being indicated by the parallel intersected lines. As the point B must in every case be the part of the ball which must be struck, it clearly follows that just at the moment of contact, the cue ball must always be in the position shown by the intersected circle, and that a straight line drawn from the centre of the pocket through the centre of the object ball must if continued also pass through the centre of the cue ball at the moment of contact. Therefore, as, no matter from what part of the table the cue ball comes, it must always be in the one place at the moment of contact, it consequently follows that the centre of the cue ball must always go over the point A.

B is the point on the object ball that must be struck, but if aim be taken at B the cue ball cannot hit the object ball at B unless the cue ball and object ball are in an exact straight line with the pocket.

Diagram 326 will show this more clearly. If aim be taken at B, the cue ball will collide with the object ball at C, and the latter will be driven off in the

direction of D, which direction is a continuation of a line passing through the centre of both balls at the moment of contact.

If instead, the alignment of the cue is in the direction of A, as shown on Diagram 327, contact will be made with the object ball at B, and the ball will be driven in a straight line to the pocket, this direction being a continuation of a line passing through the centre of both balls at the moment of contact.

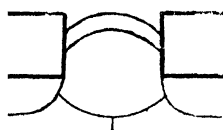


DIAGRAM 327.—The object ball can only travel to the pocket when struck at B. In what contact may be made at B, the point of the cue must be in the direction point A, which point is half the diameter of a ball from B.

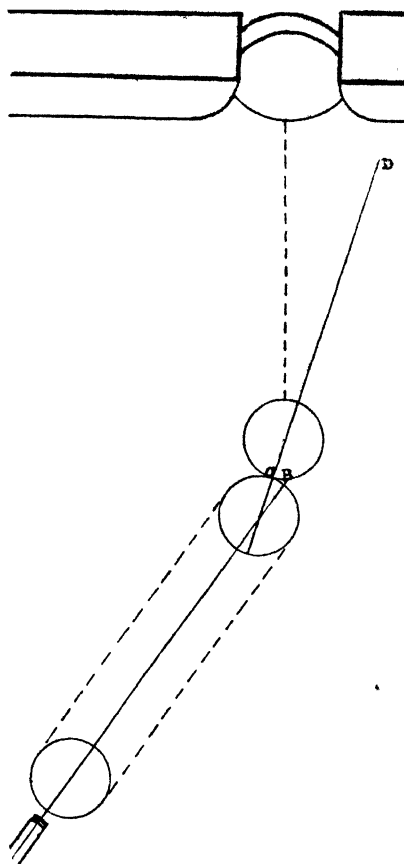


DIAGRAM 326.—The object ball can only travel to the pocket when struck at B, but if aim be taken at B, the contact will be at C, and the object ball will travel in the direction of D. The parallel intersected lines denote the path of the cue ball when aim is taken at B, and the cue ball is also shown in contact with the object ball.

To cause the centre of cue ball to travel over the point A is the whole essence of potting. This point A is, of course, half a ball's diameter from the object ball, and therefore with $2\frac{1}{8}$ in. balls it will be $1\frac{1}{8}$ in., or roughly, an inch from the object ball, this measurement being, of course, from the edge of the ball half way up, the point A being at the same elevation.

Owing to the point A being always an imaginary one, there is nothing to define its locality, and this is what makes potting so difficult, and perhaps no stroke requires so much practice as that of potting balls from any angle.

A very good way of practising to pot the red from various angles is as follows :—Make a small but clearly visible white chalk mark on any part of the table, one to two feet away from a pocket and right away from any cushion. Place a white ball as accurately as possible on this mark, and then place the red ball touching the white (being careful not to move the white) and in a direct line between the white ball and the pocket. Then, when the red has been so placed, carefully remove the white and place it on any part of the table from which it is desired to pot the red. If aim be then taken at *the white spot*, and the cue ball be struck in the centre, it will travel over the spot, and drive the red straight to the pocket. If, however, the cue ball be struck with side the cue must be aligned either to the right or the left of the chalk mark, according to which side is used, otherwise the *centre* of the cue ball will not pass over the chalk mark, and the pot will thus fail.

When a ball is near a pocket, and the pocket is an open one, it need not be struck so accurately, in order to make the pot, as when it is some distance from the pocket. This is, however, simply owing to the pocket being so much larger than the ball, and just as accurate hitting would be required to make the ball go straight to the centre of the pocket.

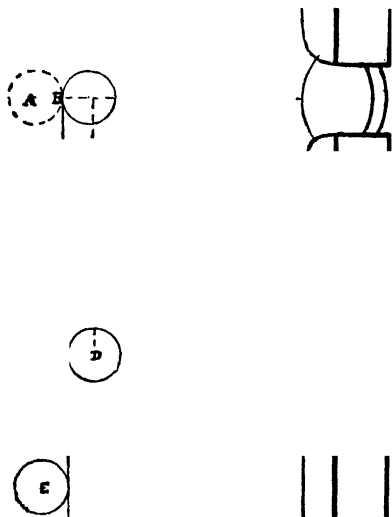


DIAGRAM 328.—The impossibility of a right-angle pot. The object ball cannot be potted unless struck at B. The cue ball D could not touch this point at all, and the cue ball E could not more than graze it.

THE IMPOSSIBILITY OF A RIGHT-ANGLE POT WHEN THE RED IS SOME LITTLE DISTANCE FROM A POCKET.

From Diagram 328 it will be seen that as a ball in order to be potted must be struck at the point B (which is the termination of a line drawn from the centre of the pocket and through the centre of the ball to the far side of the ball) no pot is possible with the cue ball at right-angles to the red ball and the pocket, as with the cue ball so placed, it could not be made to strike the object ball at B. In Diagram 328 the cue ball at D forms a right-angle with the object ball and the pocket. In order for it to be possible to hit the object ball at the point B, the cue ball must be outside the line BC. In the diagram, a ball E is shown just outside the line, but from this position, only the very merest grazing of the object ball could take place if it were hit at B. In fact, theoretically the cue ball would, so to speak, touch the object ball without hitting it. In order, therefore, for the pot to be possible even as an extremely fine cut, the cue ball at E would have to be slightly to the left of its position

on the diagram. Thus, it will be seen that in order for a pot to be at all on, the angle formed by the balls and the pocket must always be considerably greater than a right angle.

As soon as the angle exceeds a right angle by a moderate margin, the pot becomes possible, but when the contact has to be exceedingly fine, high speed must be used in order to cause the object ball to travel to the pocket.

When the cue ball is a considerable distance away, the pot does not require quite so fine a contact as when the cue ball, still at the same angle (measured from the centres of the balls), is nearer the object ball.

Diagram 329 illustrates this. The cue ball is at the same angle with the red ball and the pocket (the angle being measured from the centres of the balls) whether situated at D or E, but from D which is only just outside the line BC (as already explained unless the cue ball is over this line, a pot is impossible), only a fine grazing stroke can send the object ball to the pocket, whereas from E the contact has to be considerably less fine. The parallel intersected lines enclose the paths of the cue balls and the intersected circle shows the cue ball at the moment of its contact with the object ball, whether played from D or E. The angle EDFH (measured from the centres of the balls to the centre of the pocket), is the angle which the cue ball—whether at D or E—makes with the object ball and the pocket.

From a consideration of Diagrams 328 and 329, it will be quite clear that although it is impossible to pot a ball when the balls form a right angle with a pocket, the angle may more nearly approach a right angle without the pot being impossible, when the balls are a considerable distance apart, than when close together. On the other hand, distance makes correct hitting far more difficult. For this reason a very fine pot from a distance is a stroke that belongs almost entirely to Pyramids and the various kinds of Pool, and is seldom or never attempted at Billiards.

FINE CUTS.

One or two examples of what is possible in the way of a fine cut may prove not uninteresting, though I give them more as examples of fancy strokes than anything else.

Diagram 330 shows the red on the centre spot and also on the billiard spot. Playing from the far end of the D, it will be found that, though not easy, it is not extremely difficult to pot the red in the centre pocket when the ball is on the

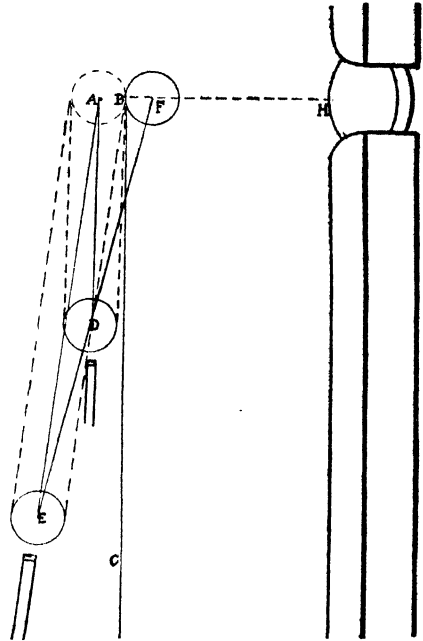


DIAGRAM 329.—The object ball, to be potted, must be struck at B. The pot requires a finer stroke when played from D than it does from E, though the angle, as measured from the centres of the balls, is the same in each case.

centre spot. Naturally, the stroke demands a very fine contact—much finer than when playing to pot the red off the spot into a corner pocket—but owing to the cue ball not being very far from the red ball, it is easier to make sure of a fine contact than when nearly the length of the table separates the balls.

When the red is on the spot it is quite possible to cut it into a corner pocket, playing from the end of the D; in fact, such a stroke is sometimes seen as a fluke when the red has been hit very much finer than intended. By means of a still finer stroke, the red on the spot can be cut into the corner pocket, spotting from the end of the D on the same side of the table as the pocket played for (on the diagram this is the right extremity of the D). Such a stroke may to many players appear almost impossible; yet not only is this not so, but I have more than once seen an amateur pot the red into the right corner pocket, spotting his ball on the baulk line six inches to the right of the right end of the D. The balls in such a position appear to the eye to form almost a right angle with the pocket, but careful measurement will show that a line drawn from the centre of the pocket to the billiard spot forms a right angle with the intersected line on the diagram, which misses the baulk line altogether!

When playing to pot the red, position for the next stroke should always be considered. According to the location of the balls, the red may be potted in such a manner as to leave another pot, a cannon, an in-off from the white, or an in-off from the red. The cannons that may be left as the result of potting the red into one of the six pockets are so innumerable that to classify them would be impossible. In the present chapter, in those cases where after-position is considered, I shall chiefly confine myself to examples of potting the red in such a manner as to leave an in-off, from the red on the spot, for the next stroke, the presumption in these cases being that with the position of the balls, this is the best game to play.

As the in-off following the pot must always be into one of the top pockets, the ideal position for the cue ball, after potting the red is either close to the upper angle of a top pocket or a centre pocket, or anywhere on the farther end of a line drawn from the edge of the red on the spot to the upper angle of a top or centre pocket, or, to be more correct, to a point on the cloth about an inch away from, and in front of the angle, so that when the cue ball is touching the angle it will be on this line.

Diagram 331 shows these lines, and it will be noticed that they are continued

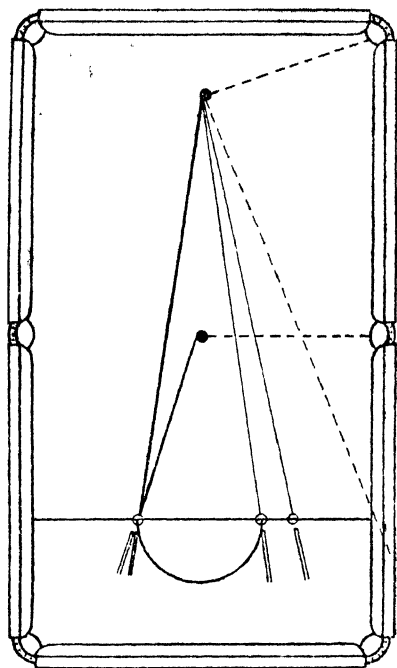


DIAGRAM 330.—Two thin pots. Red ball on the billiard spot and also on the centre spot.

past the angle into the pocket, and that the cue ball in each instance is on the line and touching the upper angle of the pocket.

When the cue ball after potting the red remains in any position from which the ensuing in-off is a half-ball stroke, it is said to be "on the line."

It must not, however, be thought that the in-off is on by means of a plain half-ball stroke from *any* position on the lines between the cue ball and the red; shown on Diagram 331, for such is not the case. For reasons which will be explained in the next chapter the in-off is only a plain half-ball stroke when—played from the corner pocket—the cue ball is not more than five or six inches from the pocket, and when played from the direction of the centre pocket, not more than about three feet from this pocket. These angles for plain half-ball strokes are the average angles of ivory balls—for the half-ball angle often varies somewhat between one set of ivory balls and another. With composition balls, the angle of deflection is

generally somewhat greater than is the case with ivory balls, consequently the line for the half-ball in-off from the red on the spot is a slightly different one from that with ivory balls. For example, with composition balls, the in-off from the vicinity of the corner pocket, is generally a half-ball stroke with the cue ball an inch farther along the top cushion than shown on Diagram 331.

Of course, it would be impossible to always obtain this ideal half-ball angle position after potting the red, but so long as the cue ball remains anywhere near the half-ball lines shown on Diagram 331, the in-off will always be on. Often, though the cue ball is not on the line, the in-off may still be made by means of a half-ball stroke with side, at other times the pocket may be found by means of a fine stroke, a run-through, or a forcing stroke. In the next chapter I intend to treat exclusively of the various kinds of in-offs from the red on the spot, therefore in the present chapter I shall only discuss the methods of leaving the in-off.

The simplest positions for leaving the in-off are, of course, when the red is very near a centre or a top pocket and the cue ball is in close proximity and behind the red. In cases like this it ought to be quite easy, if a little care be taken, for the poorest of players to leave the cue ball well situated for the ensuing stroke. When the red is some little distance away from the pocket, but the cue ball is pretty close to, and in a straight line with, the red and the pocket, and the pocket is fairly open, position for the subsequent in-off should be almost as easily gained, as the result of potting the red by means of a following-on stroke.

Diagram 332 shows various positions for this following-on pot. Of course,

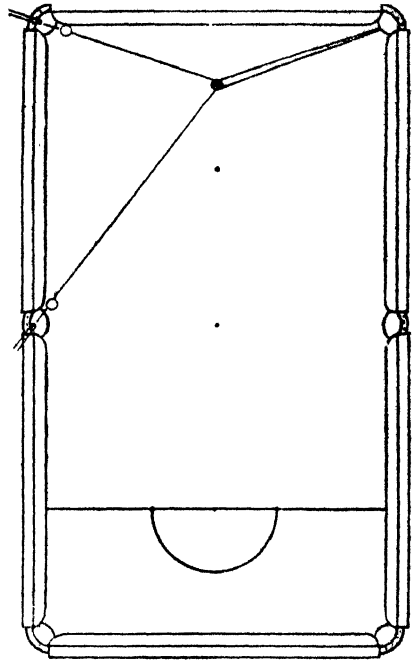


DIAGRAM 331.—The half-ball in-off lines.

the nearer the red is to the cushion the less easy will the stroke become owing to the pocket becoming more and more blind.

It will often happen that the red ball is so situated that the very spot it occupies would be a favourable one from which to play the subsequent in-off.

Diagram 333 shows two such positions. In cases like these, the red should be potted by means of a stab shot, in order that the cue ball may remain on or close to the spot that the red ball previously occupied. In the positions shown it would not, however, matter if the cue ball followed on a few inches, as it would still remain on "the line" and consequently the subsequent in-off would be a half-ball stroke. It is, however, better when



DIAGRAM 332.—Simple pots, to leave the cue ball on, or close to, the half-ball in-off line.

possible, to keep the cue ball well away from the cushion, for even half-ball strokes are easier with the cue ball some distance from the cushion than when it is touching or nearly touching it.

Many positions also occur in which, though a stab shot will leave the cue ball on "the line" for a half-ball in-off, the same result would not be obtained if the cue ball ran on a few inches after its contact with the red.

Diagram 334 shows two such positions. In either, it is evident that if the cue ball followed on a few inches after hitting the red, no ordinary in-off would be left to continue with. In both positions the red ball is shown about a ball away from the line for plain half-ball in-offs from the red on the spot. If the pot in either position be, however, made by a correct stab stroke the cue ball will remain on the half-ball line, for in correctly-played stab strokes the cue

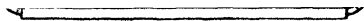


DIAGRAM 333.—Centre-pocket pots, to leave the cue ball on the half-ball in-off line. A stab stroke would leave the cue ball well placed but even should the cue ball follow on, it will still remain on the line.

ball does not really afterwards occupy the spot that was previously covered by the object ball. Instead, it stops dead at the very moment of contact.

Diagram 335 shows the red in position for a simple pot. Many players, however, in getting this pot, often leave the cue ball badly placed for the next stroke. It is, of course, possible to leave the cue

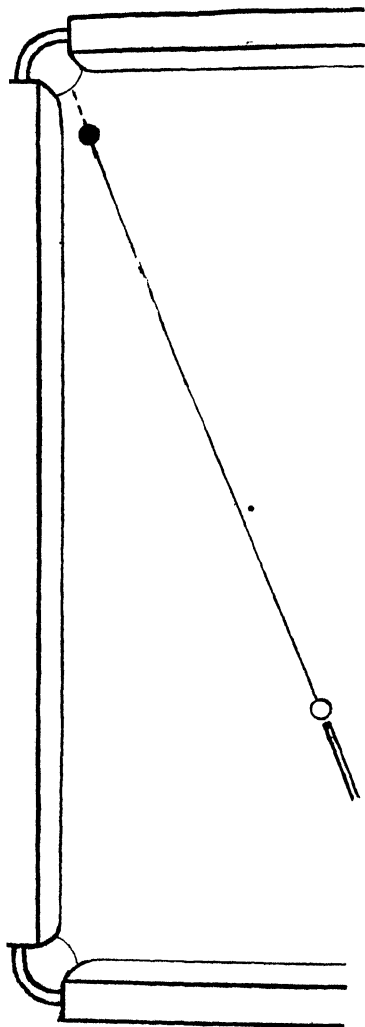


DIAGRAM 335.—A stab pot, to leave the cue ball on the line for the cross in-off.

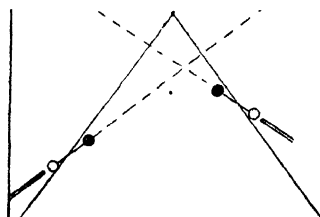


DIAGRAM 334.—Stab pots, to leave the cue ball on, or close to the half-ball in-off line. The continuous lines show this half-ball in-off line.

ball on the line for the cross in-off, by means of a slow stroke, but as the red ball is not hanging over the pocket, it has to be truly hit, and if a very slow stroke be used the cue ball may easily run off a little. And if a medium-pace stroke be used, the cue ball will run on and may either follow the red into the pocket, in which case position will be lost—presuming that the object white is badly placed—or touch a cushion and rebound from it away from the line, thus leaving bad position to continue with. If instead, the pot be played by means of a stab stroke, hitting the red quite full, the cue ball will remain on the line in perfect position for the cross in-off. As the cue ball is a considerable distance from the red, the stroke must be played with plenty of pace in order to ensure the cue ball stopping dead after its contact with the red. The cue ball must be hit below the centre.

Often, in order to leave the cue ball on the line for the in-off, the red must be potted by means of a following-on stroke.

Diagram 336 shows such a position. The red is on the spot and the cue ball is in a line with the red and the pocket. In playing this pot to leave an in-off, care must be taken that the cue ball does not follow the red into the pocket. Should the cue ball remain on the upper angle of the pocket, or on a line drawn from this angle to the spot and close to the angle, the in-off will be a half-ball stroke, and even if the ball be just off this line, the in-off may still be a half-ball stroke with side.

Diagram 337 shows a position in which the cue ball must follow on a few inches after striking the red, in order to remain on the line. The cue ball will be on the line when it reaches A, but

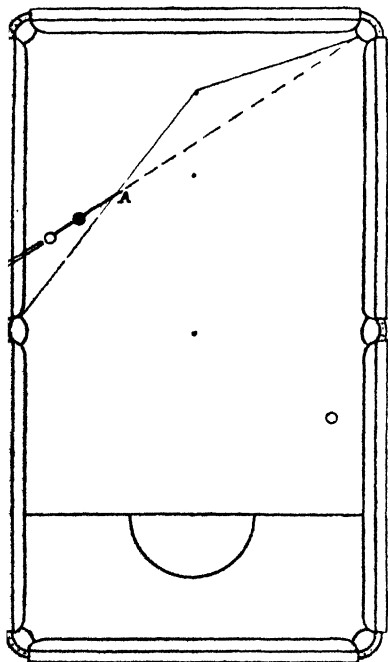


DIAGRAM 337.—A pot, to leave the cue ball on the half-ball in-off line. The thin continuous line shows this half-ball in-off line.



DIAGRAM 336.—A following-on pot, to leave the cue ball on the line for the cross in-off. Red on the spot. Cue ball in a direct line with the red and the pocket.

should it travel several inches past A position will be lost.

Diagram 338 shows how good position for the cross in-off can sometimes be obtained by causing the red to drop into the pocket off the angle, instead of travelling to the centre of the pocket. As the width of a pocket is much greater than the diameter of a ball, it follows clearly that a ball can, from the same spot, travel to a pocket by different directions. It may travel straight to the centre of the pocket, or it may enter the pocket after touching the upper or the lower angle. When a ball is a considerable distance from a pocket the different lines of direction by which it may travel to the pocket can only diverge from one another very slightly indeed, but when a ball is close to a pocket, as in Diagram 338, it can enter it by quite different lines of travel, and

this being the case, it can be potted by different kinds of contact. In the diagram, in order for the red to travel to the centre of the pocket, the cue ball would necessarily have to catch the red somewhat less than full, and this would cause the cue ball to travel on to the side cushion even though the stroke were played quite slowly, and thus position for the cross in-off would be altogether lost. If instead, the red be taken *quite* full and the strength of the stroke be such that the ball strikes the angle quite gently, it will fall into the pocket off this angle. The great advantage of this method of potting the red, in this particular position, is that the gentle full contact with the red leaves the cue ball either on the line or quite close to it, and thus position for the cross in-off is ensured.

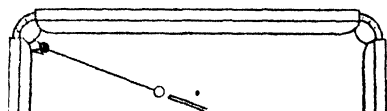


DIAGRAM 339.—The wrong way of playing the pot, when the red is quite close to the pocket. When no check side is used, good position for the cross in-off cannot be obtained.



DIAGRAM 338.—Potting the red off the angle, to leave the cue ball on the line for the cross in-off. Red ball $2\frac{1}{2}$ inches from the side cushion and half-an-inch from the top cushion. Cue ball 2 inches from the red and half-an-inch from the top cushion. The long continuous line is the cross in-off line.

When the red ball is close to a corner pocket, but a little nearer to the side

cushion than the top cushion, as shown in Diagrams 339 and 340, good position for the cross in-off is always obtainable when the cue ball is at the spot end of the table, and some little distance below the red ball. Positions very similar to the ones shown on Diagrams 339 and 340—as regards the method of play though the location of the cue ball may be different—occur with the greatest regularity, yet many ordinary players never think of anything but the pot, consequently oftener than not the pot ends their break.

Diagram 339 shows the red ball potted without any thought of after position. A slow stroke has been used, and the cue ball has remained close to the side cushion and right away from the line



DIAGRAM 340.—The right way of playing the pot, when the red is quite close to the pocket. Check side—right-hand side in the diagram—causes the cue ball to travel up the table after contact with the side cushion. By this means position may easily be obtained for the cross in-off.

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for a half-ball cross in-off. Diagram 340 shows the same stroke played with side—right-hand side in the diagram. The cue ball under the influence of this side, after it touches the side cushion runs up to the top cushion, and if the stroke has been played at medium pace, the cue ball will remain on, or quite close to the half-ball in-off line, as shown on the diagram.

Diagram 341 shows two more corner-pocket pots of the same nature—as regards the after-position—of the pot shown on Diagram 340, but far more difficult, for the red ball is no longer over the pocket, but has to be potted into a blind pocket. Not only this, but the pot into the right top pocket necessitates the use of the long rest, and



DIAGRAM 341.—Two pots, to leave the cue ball in position for a cross in-off. The cue ball must in each case be struck with the side which will be running side off the side cushion. The pot into the right top pocket necessitates the use of the long rest.

even for the easier stroke into the left top pocket, the player has to lean over the table. Nevertheless, to play just to get either of these pots, without any thought as to the after-position, is very poor billiards. The correct way to play them is to use right-hand side when playing for the left top pocket, and left-hand side when playing for the right top pocket. In each case, the side will be running side off the side cushion, and this will cause the cue ball to run up to the top cushion, and if the strength of the stroke be well judged, the cue ball will come to rest on or close to the line for the half-ball cross in-off, as shown on the diagram.

Diagram 342 shows the red ball right over either top pocket. With the object white in some safe position as shown on the diagram, a six shot into either top pocket would be a very poor stroke, as nothing at all easy would be left to continue with. In such positions the game is to pot the red and leave the cue ball well situated for a cross in-off. Played as a direct shot, should the red be hit full or nearly full the cue ball will most likely also enter the pocket, even though the stroke be played quite slowly, and should the red be taken considerably less than full the cue ball will in all probability not remain in the desired position for the in-off. Of course, if the cue ball were struck with just the strength to reach the red ball, and no more, good position could be obtained by means of a direct stroke, but from any considerable distance, even with very true balls and on a true table, such a stroke would not be an easy one for any player, and for most players it would be a very difficult one. The only reliable way of leaving the cue ball well situated for the cross in-off, is by playing the pot by means of a cushion stroke, as shown on the diagram. The stroke requires no side whatever. All that is necessary is a slow stroke, aiming to hit the side cushion just in front of the red. Even in potting the red by means of this cushion stroke, the strength has to be well judged, especially when the stroke is played from the D, but exact strength is not nearly so necessary as is the case with a direct stroke. For when the red is potted by means of the cushion stroke, if the cue ball be hit with little more strength than to reach the red, the cue ball after potting the red will remain close to the top cushion in favourable position for the cross in-off, and if the stroke be just a little faster than this, the cue ball after touching the top cushion will travel in such a direction that when it comes to rest it will be on or quite close to the line for half-ball in-offs. In fact, it will after leaving the top cushion approximately travel on this half-ball line. This line of travel is shown on Diagram 342 after potting the red into the right top pocket.

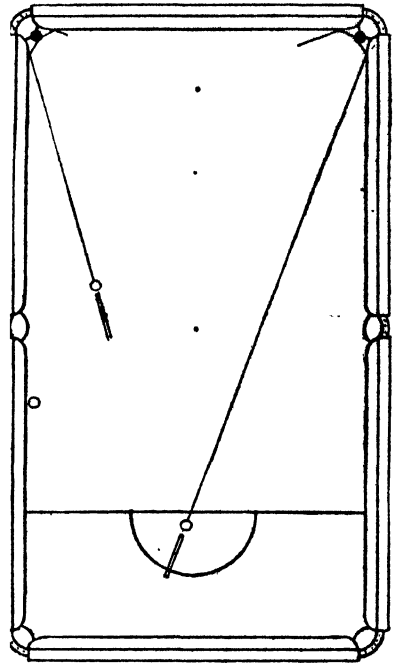


DIAGRAM 342.—Two pots—striking the cushion first—to leave the cross in-off. Very gentle strength must be used.

Diagram 343 shows the cue ball just below a line which passes through the red on the spot and the centre of the pocket. Position for the cross in-off can easily be gained by means of a medium-pace following-on stroke. As, in order to be potted, the red ball must be hit just a shade less than full, the cue ball cannot follow the red on the line to the pocket but must travel above this line, as shown by the continuous line on the diagram. If, however, the strength has been well judged, the cue ball after striking the top cushion will rebound a little and come to rest on or close to the half-ball line for the cross in-off. In playing this stroke the cue ball should be struck above the centre, but no side is required.

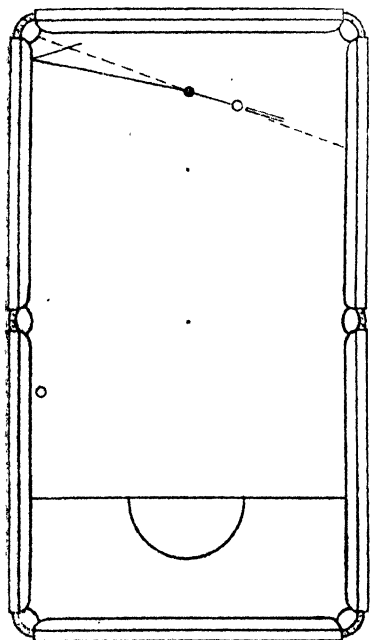
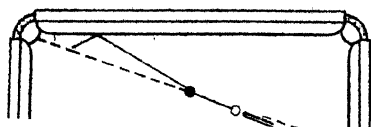


DIAGRAM 344.—A pot, to leave a cross in-off. Red ball on the spot. Cue ball 15 inches from the top cushion and 24 inches from the side cushion. In this position, the cue ball is just above a straight line drawn from the centre of the pocket through the red on the spot to the opposite cushion. The intersected line shows this line.



DIAGRAM 343.—A pot, to leave a cross in-off. Red ball on the spot. Cue ball 15½ inches from the top cushion and 24½ inches from the side cushion. In this position, the cue ball is just below the straight line drawn from the centre of the pocket through the red on the spot to the opposite cushion. The intersected line shows this line.

Diagram 344 shows the cue ball just above a line which passes through the red on the spot and the centre of the pocket. Position for the cross in-off may also be gained here by means of a following-on stroke, the cue ball in a well-played stroke coming to rest on or near the half-ball line after striking the side cushion, instead of the top cushion as in the position shown on Diagram 343. It is rather more difficult to get on the line *via* the side cushion than *via* the top cushion in these particular pots off the spot, consequently the stroke shown on Diagram 343 is easier than the one shown on Diagram 344.

When the cue ball is a considerable distance above the line passing through

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the red on the spot and the centre of the pocket, position for the cross in-off can no longer be obtained. Now, the cue ball must travel down the table so that when it comes to rest it may be on or near the half-ball line drawn from the upper angle of the centre pocket to the red on the spot. In the position shown on Diagram 345 in order that the cue ball may come to rest on or near this half-ball line, the pot must be played with sufficient strength to allow the cue ball to rebound from the side cushion, as shown by the continuous line on the diagram. The stroke requires no side.

Sometimes, when the cue ball is above the line passing through the centre of the pocket and the red ball on the spot,

DIAGRAM 345.—A pot, to leave the cue ball on, or close to the half-ball in-off line. Red ball on the spot. Cue ball $11\frac{1}{2}$ inches from the top cushion and 9 inches from the red.

the easiest position-stroke to play is to pot the red to leave another pot. Diagram 346 shows such a position. Here, the cue ball is higher up the table than in the position shown on Diagram 344 and not as high up as in the position shown on Diagram 345. In such a position the cue ball cannot, of course, be left on the line for a cross in-off and though it would be possible to pot the red and leave the cue ball somewhere near the other in-off line, such a stroke would not be an easy one to judge. With the balls situated as they are, however, a slow following-on pot will leave the cue ball at the other side of the spot, generally for a straight or almost straight pot, and the second pot can as a rule be played in such a manner that with the next stroke the object white may be rescued from some bad position.

A cannon—pot can be played to leave a cannon—for after a second pot off the spot, the red goes on to the centre spot—and thus the object white can be brought into play again. Red ball on the spot. Cue ball $13\frac{1}{2}$ inches from the top cushion and 7 inches from the red.

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After the second pot off the spot, the red, of course, goes on to the middle spot, and thus according to the position of the object white, a player will determine on which side of the table to remain after sending the red down the second time. This method of rescuing the object white from some bad position is often resorted to by good players.

Diagram 347 shows a very difficult pot sometimes played by good players. Such a stroke is never a certainty even for the very best players, but so well do most professionals pot that when they have to play this awkward stroke, they bring it off far oftener than not. Even good amateurs often enough get the stroke. There is one thing that makes

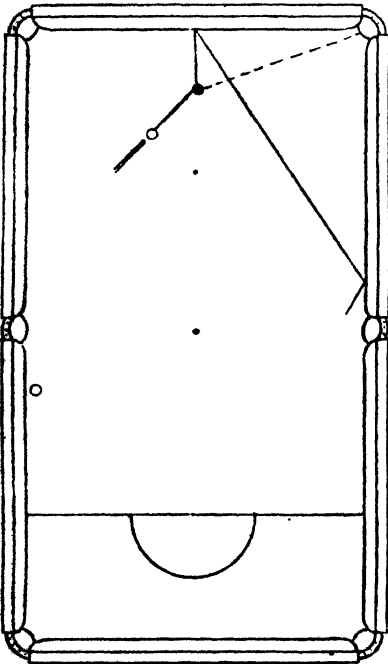


DIAGRAM 347.—A difficult pot. Red ball on the spot. Cue ball $4\frac{1}{2}$ inches from the nearest point on the top cushion and close to or touching the side cushion. A slowly-played stroke will leave the cue ball in position for an in-off from the red on the spot.

it often worth going for, and that is that a successful stroke automatically ensures good position to continue with, for a slowly-played stroke—the way the stroke is always played by good players—leaves the cue ball on or near the half-ball line more or less as shown on the diagram. Of course, when the stroke is missed good position is generally left for one's opponent. In fact, the red will often be left hanging over the top pocket and the white favourably situated near the centre pocket.

When the cue ball is a considerable distance below the line passing through the centre of the pocket and the red ball on the spot, position for an in-off from the red on the spot may often be gained

DIAGRAM 348.—A pot, to leave an in-off. A difficult stroke, for the amount of side has to be well judged, and potting the red at an awkward angle with side on the cue ball, intensifies the difficulty of the pot. Red ball on the spot. Cue ball 20 inches from the top cushion and $25\frac{1}{2}$ inches from the side cushion.

by potting the red and running down to the vicinity of the centre pocket after rebounding from the top cushion. Diagram 348 gives an example of such a stroke. In order to give the cue ball a correct direction as it rebounds from the top cushion, the stroke has to be played with side, and the amount of side has to be well judged too. Such position-strokes are anything but easy. In the first place, the pot, even with a plain-ball stroke, requires very well judging, and as soon as the cue ball has to be struck with side, any pot—excepting positions with the ball quite near a pocket—is made far more difficult than it would otherwise be. Nevertheless, the stroke shown on Diagram 348 is well worthy of consideration by all players at all above the ordinary. An alternative stroke to the one shown on Diagram 348 would be to play to leave another pot.

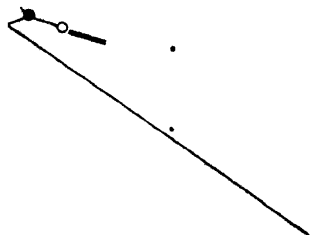


Diagram 349 shows a pot into a top pocket. With the balls situated as shown, it is quite possible to get position for the cross in-off by playing the pot with plenty of right-hand side and taking the red as full as potting the ball will allow, but such a stroke requires well playing, otherwise the cue ball, after striking the side cushion, will not

Diagram 349 shows a pot into a top pocket. With the balls situated as shown, it is quite possible to get position for the cross in-off by playing the pot with plenty of right-hand side and taking the red as full as potting the ball will allow, but such a stroke requires well playing, otherwise the cue ball, after striking the side cushion, will not

come far enough up the table to allow the cross in-off to be made by anything like a half-ball stroke. In the position shown on the diagram, the pot could easily be played in such a way as to leave another pot. Pots off the spot are, however, never easy strokes except for good players, and for the ordinary player it is therefore, as a rule, far better to pot the red in such a manner as to leave an in-off instead of another pot to continue with, when the position is such that either of these methods of play can be adopted.

In positions similar to the one shown on Diagram 349, position for an in-off from the red on the spot can be obtained by causing the cue ball to travel across the table to the vicinity of the centre pocket. The very best player could not be sure of getting his ball exactly on the half-ball line for the in-off, but this is, of course, not necessary. So long as the ball comes to rest anywhere near this line, the in-off will always be on. Very exact strength is not necessary either, for the cue ball may come to rest close to the line without reaching the side cushion, or it may come to rest in good position after rebounding from the side cushion. In playing strokes similar to the one shown on Diagram 349 a little running side—left-hand side on the diagram—will often be of assistance in causing the cue ball to cross the table with good direction.

Diagram 350 shows a couple of pots into the baulk pockets. Many ordinary players when confronted with positions at all similar to these, pot the red in an

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aimless sort of way, only trying to get to the top of the table in order to be somewhere near the red when it goes on the spot. More often than not the cue ball runs into some safe position or else only an awkward pot is left to continue with. In either of the positions shown on Diagram 350 the red should be potted in such a manner that the cue ball travels to the vicinity of the opposite centre pocket in order to have an in-off to continue with. With a little practice this stroke will be found to present no great difficulty even to a very ordinary player. Of course, the strength of the stroke has to be pretty well judged and also the direction of the cue ball's path as it leaves the baulk cushion. A little running side is often necessary to give the cue ball a good direction. The stroke shown on the right requires the rest and consequently is perhaps a little more difficult than the

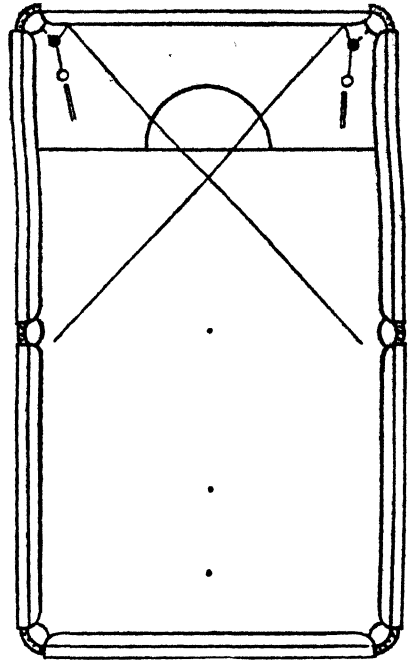


DIAGRAM 350.—Pots into baulk pockets, to leave an in-off from the red on the spot.

other, though the use of the rest in strokes of this nature ought not to make very much difference.

Diagram 351 shows a couple of pots into baulk pockets which are very similar to the ones shown on Diagram 350, except that the cue ball travels to the vicinity of the centre pocket *via* the side cushion instead of the baulk cushion. In all these pots into corner pockets, whether baulk pockets or top pockets there is a considerable amount of latitude as to the direction by which the cue ball may travel to the vicinity of the centre pocket, and this, of course, makes it far easier to obtain good position than if this latitude did not exist. On Diagram 351 two of the many paths by which the cue ball may travel to the vicinity of the centre pocket are shown.

Diagram 352 shows the red near the brink of a baulk pocket, with the cue ball right behind it. With the object

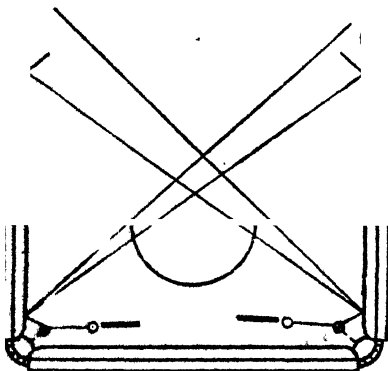


DIAGRAM 351.—Pots into baulk pockets, to leave an in-off from the red on the spot.

white in some safe position a six shot could only be the stroke of a novice. Instead, if the pot be played in such a way as to leave an in-off from the red on the spot, the player can go on scoring. There are two different ways of playing this particular pot to leave the cue ball in the vicinity of a centre pocket. One, is to cross the table as shown on the diagram; the other, is to screw up the table, as close to the cushion as possible, to the centre pocket on the same side of the table. The former is the more reliable stroke, though owing to the red ball being so close to the pocket, it is rather more difficult to judge the pace and direction of the cue ball after its contact with the red, than it is in the positions shown on Diagram 351. To anyone who can screw well, the screw up to the centre pocket on the same side of the table, is



DIAGRAM 352.—A pot into a baulk pocket, to leave an in-off from the red on the spot. Position for the in-off may be gained by screwing up the cushion to the centre pocket, or by crossing the table to the opposite centre pocket.

not exactly a difficult stroke. It is, however, not easy to gauge the strength of the stroke. Sometimes the cue ball will travel too far, at other times not far enough, and thus bad position can easily result. In the diagram, two different paths by which the cue ball may travel to the vicinity of the centre pocket are shown, one a direct line and the other *via* the side cushion.

Diagram 353 shows the cue ball and the red in a direct line with a baulk pocket. Here again, a six stroke though an easy enough shot is of no use when the object white is in some safe position. Instead, a powerful screw-back to the vicinity of the centre pocket will

The stroke is, however, practically only on, on one side of the table. On the other side,

A position for an in-off from the red on the spot can be obtained by means of a strong screw-back stroke.

the rest would have to be used and this would make the stroke extremely difficult. When the cue ball and the red, still about the same distance apart and in an exact line with the pocket, are considerably farther from the pocket than shown on the diagram, the stroke becomes an easier one, as the cue ball after contact with the red has not to come back such a distance to gain the desired position. Of course, to anyone who has not good screwing powers, a six shot followed by a safety miss will be the best game to play, when the object ball is in some safe position.

Diagram 354 shows another location of the balls from which good position can be gained by means of a strong screw-back stroke. The cue ball is right behind the red, and a six shot would mean leaving nothing at all worth going for.

The difficulty, even for good players, in strokes of the nature of those shown on Diagrams 353 and 354 is to control the pace of the cue ball, and it may either travel too far or not far enough. As, however, the in-off from the red on the spot is on by a moderately easy stroke, even when the cue ball is some little distance below the centre pocket, and also from positions above the centre pocket, that are not on the line, a fair amount of latitude for inexactness of strength exists, when playing these screw backs, without position being lost.

Position for an in-off from the red on the spot is commonly obtained by potting the red into a centre pocket, both from the D and from other parts of the table. When playing from the D, it is generally during a break—often during a break off the red, for after a series of in-offs, the ball will often come down to the centre pocket to leave a pot instead of an in-off. In fact, big breaks off the red almost always contain an occasional centre-pocket pot.

Diagram 355 is an example of a centre-pocket pot from the D. When such a position occurs indifferent players generally spot their ball in a direct line with the red and the pocket. When a six shot is desired, the cue ball must, of course, be spotted in this manner, but when the pot has to be followed by an in-off, unless the pocket be very blind the cue ball should never be spotted in a line with the red and the pocket. With the red in the position shown on Diagram 355 the pocket is an open one—that is for a pot from the D—in fact, it is nearly as open as it can be from the D.

When, with the red in the position shown on the diagram, the cue ball is spotted in a direct line with the red and the pocket—as shown at A—one of several bad things may easily happen. The cue ball may follow the red into the

DIAGRAM 354.—A pot into a baulk pocket. Position for an in-off may be gained by means of a screw-back stroke, but the strength of the screw has to be very well gauged.

pocket. This constantly happens to the chagrin of the player. Or, in playing to prevent the cue ball from following the red into the pocket, it may not follow on as far as desired, and a forcing stroke may be required for the subsequent in-off. Besides, if a slow stroke be used to prevent the cue ball from following the red too far, a great risk is taken, for should the cue ball run off ever so slightly—and it has to travel a considerable distance before it reaches the red—the pot may be missed. Again, when the cue ball does not follow the red into the pocket, it may remain on the brink of the pocket, or on one of the angles, and from any of these positions the in-off, though not a difficult shot for any fair player, is never quite as comfortable a stroke as when the ball is some little distance from the cushion and still in the region for an ordinary half-ball in-off. Worse still, the player who spots in a line with the ball and the pocket for all centre-pocket pots, may now and then—it is true it will only be on rare occasions—find himself angled under the upper cushion after the stroke, and unable to hit the red at all when it goes on the spot. Another thing that often occurs when the cue ball is spotted in a line with the red and the pocket, is that the cue ball strikes the upper angle of the pocket and bumps away quite a little distance, especially if the stroke has been played with some pace. When the ball rebounds any distance from the angle a nasty shot will be left, more especially will this be the case when the pot has been played into the right centre pocket, for the cue ball cannot be got at quite as easily and comfortably for forcing strokes from the vicinity of the right centre pocket, as it can be for the same stroke on the other side of the table. In fact, forcing in-offs from the red on the spot often require the rest when played from the right side of the table, whereas the rest is never required for a forcing stroke off the red on the spot when played from the left side of the table.

Instead of spotting the cue ball in a direct line with the red and the pocket, it should be spotted at an angle as shown at B on Diagram 355. In this way, all the lurking dangers already referred to will be avoided. The angle, however, must be a decided one, otherwise a six shot, etc., may still occur. Many a very fair player has often been greatly surprised to find that he has got the six when he purposely spotted out of the straight line to avoid this. The simple reason of this, is that a pocket is considerably larger than a ball, and the ball may thus travel straight to the centre of the pocket or fall in after touching an angle, consequently it may travel to the pocket by slightly different

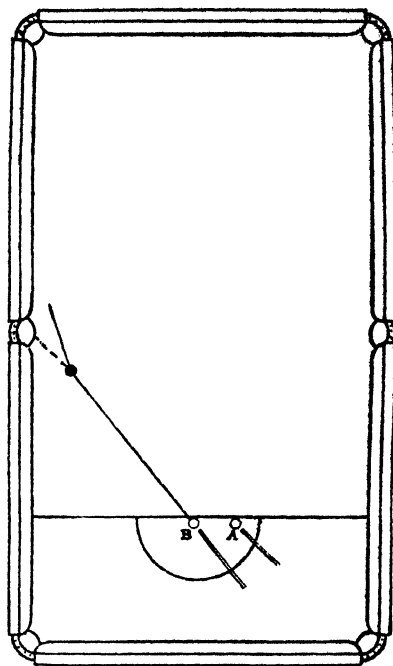


DIAGRAM 355.—A centre pocket pot from the D, to leave an in-off from the red on the spot. Red ball 10 inches from the pocket. The cue ball instead of being spotted in a straight line with the red and the pocket—as at A—should be spotted well out of a straight line—as shown at B—when the pot is played as a following-on stroke.

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e especially when not far from a pocket—and this allows of the pot being made by slightly different contacts between the cue ball and object ball. If the cue ball at A be moved a ball's diameter to the left, it will still be very nearly in a line with the red and the pocket, owing to its being so much farther from the red than the red is from the pocket, consequently, in order to prevent all danger of a six shot and of any contact with the angles of the pocket, the cue ball must be placed quite a considerable distance from A. A suitable position is shown at B. If the pot be played from B as a medium-pace stroke, the cue ball will travel more or less as shown by the continuous line, and will come to rest in the half-ball in-off region, away from the cushion, and thus when the ensuing in-off is played the cue ball can be got at quite easily. Of course, care must be taken that the cue ball does not travel much past the pocket, else position will be lost.

Potting the red by spotting the cue ball at a slight angle with the red and the pocket, makes the pot, little, if at all, more difficult than a straight pot, in fact, many players seem to pot better when the cue ball is not quite in a line with the object ball and the pocket.

Diagram 356 shows another way of playing a centre-pocket pot from baulk, viz., by a stab stroke. The red is in the same position as in Diagram 355, but the cue ball is spotted differently. Were the cue ball spotted in a line with the red and the pocket, a stab shot would cause the ball to remain dead, close to the spot previously occupied by the red. If on the other hand, the cue ball were placed at a decided angle as at B on Diagram 355 the correct contact for a pot could not result in a proper stab shot. Played as a stab from B on Diagram 355, the cue ball would run too far up the table. In order that the cue ball may run on only a short distance after a stab stroke, the object ball must always be taken very nearly full, consequently to play the pot on Diagram 356 by means of a stab stroke, the cue ball must be placed so that it is only a little out of a straight line with the red and the pocket, as shown at B. A well-played stab will leave the cue ball on or close to the line for a half-ball in-off, and not only will the ball be well away from the cushion but it will be considerably nearer the red than when the pot is played by a slow stroke. Thus in two ways, accurate half-ball striking for the ensuing stroke will be rendered easier. All good players constantly play centre-pocket pots by means of a stab stroke

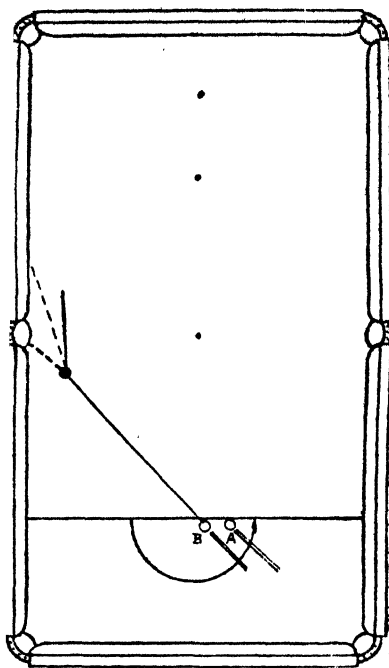


DIAGRAM 356.—A centre-pocket pot from the D, to leave an in-off from the red on the spot. Red ball 10 inches from the pocket. Played as a stab, the cue ball should be spotted only a little out of a straight line with the red and the pocket—as shown at B. (The cue ball at A being in a line with the red and the pocket). The thin intersected line shows the bad position the cue ball may travel into, when the pot is played from B, as a half-hearted stab.

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but ordinary players will find this stroke more difficult than the slower stroke, for when the pocket has to take the ball at a high speed—as it must in all stab strokes—the ball has to travel straight to the centre of the pocket, and consequently very accurate striking is necessary. In playing these stab pots the cue ball must, of course, be hit below the centre and no half-and-half kind of stroke will do, for unless plenty of pace be used, the stroke will become a run-through instead of a stab, and the cue ball will run on to the side cushion well up the table, and thus very bad position will result. In the diagram the continuous line shows how the cue ball travels when the stroke is well played, and the thin intersected line shows the path the cue ball may take when the pot has been played as a half-hearted stab.

Diagram 357 shows the red quite close to a centre pocket. Here again

DIAGRAM 357.—An easy stab pot from the D, to leave an in-off from the red on the spot.

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a slow stroke can be played or the red may be potted by means of a strong stab stroke. In playing the stab stroke, care must be taken to get very full on to the red, otherwise the cue ball will run up the table. A stab stroke, with the ball quite close to the pocket keeps the cue ball away from the cushion and is thus a very useful stroke. Moreover, as the pot itself cannot well be missed, the stroke is within the compass of the most ordinary player. As in all stab strokes from a distance, the cue ball must be struck below the centre, and plenty of pace must be used.

Diagram 358 shows what is commonly called a narrow pot into a centre pocket. In order that the cue ball may be in a line with the red and the pocket, it has to be spotted at or near the extreme end of the D, consequently the pot is into a very blind pocket. Pots like this are difficult strokes and should be

DIAGRAM 358.—A pot from the D, into a blind centre pocket.

with great care. There need be little fear of a six shot, even though the cue ball be spotted in a direct line with the red and the pocket, for, firstly, if the stroke be played with little strength, as it ought to be, the cue ball will not travel quite up to the pocket, and secondly, when playing this stroke, the cue ball will after contact seldom take absolutely the same path as the red, and the slightest deviation either way renders a six stroke impossible, when the pocket is as blind as in the stroke shown on Diagram 358. When the pot is successful, a forcing in-off will be left to continue with. Of course, were the player in hand, he would have as an alternative stroke—with the red as shown on Diagram 358—a jenny into the top pocket, but if the cue ball happened to be anywhere on a line drawn from the end of the D to the red ball, the pot would be the only stroke on.

Similar positions for these narrow centre-pocket pots often occur with both balls above the centre pocket, and a well-played stroke always leaves the cue ball well situated for the in-off.

Diagram 359 gives further illustrations of how position for an in-off from the red on the spot can be gained by the agency of a centre-pocket pot. Positions more or less similar to the ones shown on the diagram constantly occur. Sometimes, the pot will be quite simple, as is the case with the one into the left centre pocket, at other times, it will be much more difficult, but whether the pot, in positions at all similar to those illustrated on Diagram 359, be quite simple or otherwise, playing the shot to get on the line will make the stroke little, if at all, more difficult. Better far to play a stroke with some idea of after-position, and miss it, than just to go for the stroke without any thought or care for the after-position. The player who plays for position, and constantly misses his stroke on this account, will in time regularly get his stroke and position as well. The man who only goes for his stroke may get it often enough, but he will remain a haphazard player and never make breaks.

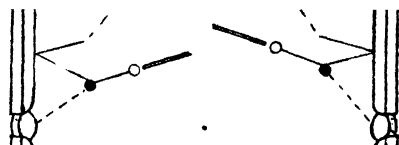


DIAGRAM 359.—Pots into centre pockets, to leave the cue ball on, or close to, the line for a half-ball in-off from the red on the spot.

A KISS-POT.

Diagram 360 shows the red on the lower angle of a top pocket, but so placed that either no in-off is possible or at least no easy in-off is on. From the position of the cue ball, the red can be potted quite easily by means of a thin stroke, and this is the way that the majority of ordinary players play such a stroke. This method of potting the red, even though quite a slow stroke be used, naturally causes the cue ball to strike the side cushion and travel down

the table a little way, leaving nothing but a very awkward pot as regards the red, and even though the stroke be played considerably faster, position for a subsequent in-off would always be very problematical. Instead of playing to cut the red in, it should be potted by hitting it *full in the face*. Such a stroke is absolutely simple. Any player, no matter how poor, can get it quite easily. In fact, if the ball be hit full, the pot cannot be missed. Hitting the ball full in the face causes a kiss to take place, and as a result of this kiss the object ball always falls into the pocket. But the ball must be taken full. Provided that the contact be full, the ball will fall into the pocket whether the stroke be played quite fast, at medium pace, or quite gently. If, however, the stroke be played quite gently, that is

DIAGRAM 360.—A kiss-pot, to leave the cross in-off. A gentle stroke, taking the red quite full, will leave the cue ball on the line. Red ball on the lower angle.

with little more pace than is required to reach the red, the cue ball will remain on, or close to, the half-ball line for the cross in-off. As such a position often occurs, this kiss-pot is a most useful stroke, especially as anyone who can hit a ball, can get it quite easily. Of course, when the stroke is played with too much strength the cue ball will not remain in good position, though the red will be potted provided it has been struck sufficiently full. No side is required for this kiss-pot, but if any side be used, the cue ball should be struck on the side away from the top cushion—left-hand side on the diagram.

Diagram 361 shows a position similar to the one shown on Diagram 360, but in this instance the red is intended to be so situated that the pot is just not possible by means of a thin cut. It is impossible to give measure-



DIAGRAM 361.—A kiss-pot, to leave top-of-the-table position. Red ball so placed that the pot is just not on by means of a fine cut. A full contact will pot the red by means of a kiss.

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ments for this position of the red, for owing to the difference in size of various pockets and to the difference in the cut of different cushions at the pocket—a very important point this—and even to the difference as to where the fall of the slate begins—for in some tables the slate goes considerably farther into the pocket than in others—measurements that would be correct for one table would be quite wrong for another table. The position can, however, easily be set up for any table as follows :—

With the cue ball situated anywhere near its position on the diagram, place the red—touching the cushion—in such a position that the pot is possible by means of a thin cut, then move it fractionally away from the pocket—still keeping it on the cushion—and see if it can still be potted by a thin stroke. Should the pot still be on, move the ball fractionally again, still keeping it on the cushion. In this way, a position will quickly be found from which the pot is just not on by means of a thin cut. Of course, when this position is found, an easy in-off will in all probability be on, but should the object white be favourably situated near the spot—as shown on Diagram 361—and the player be capable at the top-of-the-table game, the pot will afford him the means of continuing his break without having to go into the D. This kiss-pot is quite a simple stroke. All that is necessary is a full stroke on to the red—should the contact be appreciably less than full the stroke will fail—but as the red is a little farther from the pocket than in Diagram 360 too slow a stroke must not be used, otherwise the kiss will not cause the red

to fall into the pocket. No strong stroke is, however, necessary. A medium-pace stroke, or even a somewhat slower than medium-pace stroke, is all that is required. It is only when the cue ball travels so slowly that it little more than reaches the red, that the stroke can fail for want of pace.

This kiss-pot, with the red so situated that it cannot be potted by means of a thin stroke, is extremely valuable in Pyramids, Snooker, etc., as such a position not infrequently occurs, and the pot is just as much on by a strong stroke which will cause the cue ball to travel away from the pocket. In playing this kiss-pot, side on the cue ball—left-hand side on the diagram—is of assistance, though the pot is easily on by means of a plain ball stroke.

Diagram 362 shows a kiss-pot, with the red on the upper angle of a top pocket. Position for a cross in-off cannot be obtained by means of this stroke in the same manner that it can when the red is on the lower angle, for when the red is on the lower angle a gentle kiss throws the cue ball on or quite close to the line for a half-ball in-

362.—A kiss-pot to leave top-position. Red ball on the upper angle of a top pocket.

off, whereas when the red is on the upper angle the gentlest of kisses resulting from a full contact must leave the cue ball badly situated for the cross in-off. When, however, the object white is favourably situated near the spot, this kiss-pot, with the red on the upper angle, may be of great use. In Pyramids or Snooker, it is always a useful stroke, especially when the red cannot be potted by means of a fine cut. This kiss-pot is often made by novices, when playing an in-off from the D, with the object ball very near the pocket. They get too full on to the ball, and the kiss causes it to fall into the pocket.

Diagram 363 shows what is really a fancy kiss-pot into a centre pocket, though the stroke is sometimes played in Pyramids and Snooker, etc. The position of the red is intended to be such that the pot is not on by means of a thin stroke from the D. The pot can be got quite easily by playing *quite full* on to the ball, using medium pace.

*THE HALF-BALL POT.

A stroke sometimes played by good players but quite unknown to ordinary players is the half-ball pot. This stroke is seldom played except from the D, as the cue ball has to be very correctly placed in relation to the red, for the pot to be on by means of a half-ball stroke.

Before describing the stroke in detail, it is as well to point out that though called a half-ball pot, it is, theoretically speaking, a quarter-ball pot. In fact, strictly speaking, there is no such thing as a half-ball stroke at all. Every so-called half-ball in-off is in reality a quarter-ball in-off. To many readers this may appear a very startling statement, but very little reflection will quickly convince them that it is a correct one. The line that divides a ball in halves naturally passes through its centre and through the centre of the face of the ball as seen from the position of the player, consequently a ball can only be struck on this dividing line when the cue ball catches it full in the face, and this is of course a full-ball stroke.

That an object ball is only struck a quarter-ball in the ordinarily termed half-ball strokes will be apparent by a reference to Diagram 364. The cue ball *covers* half of the object ball at the moment of contact—as viewed from the position of the striker—but the *point of contact* is really at quarter-ball. Similarly, in what are generally called quarter-ball strokes, the cue ball at the moment of contact covers a quarter of the object ball but the contact is at one-eighth ball. If, however, the terms half-ball and quarter-ball contact are taken to mean the half distance and the quarter distance from the edge to the centre of the object ball they will be quite correct.

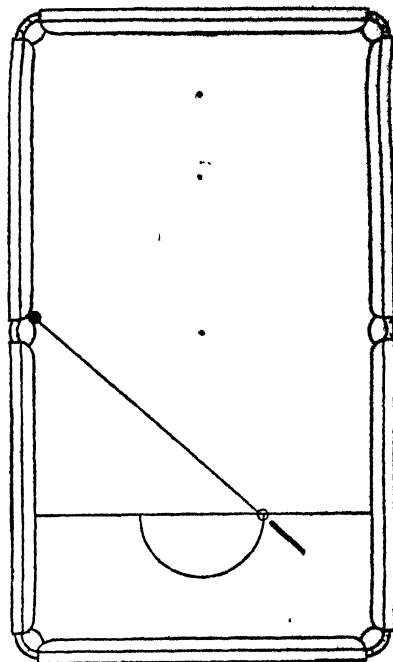


DIAGRAM 363.—A Pyramid or Snooker stroke—A centre-pocket kiss-pot played from the D. Red ball right on the upper angle of the centre pocket.

When a ball is struck by another ball, it always travels in the direction of the forward continuation of a line passing through the centres of the balls at the moment of contact. This rule holds good for every kind of contact.

Diagram 365 will illustrate this. The parallel intersected lines enclose the path of a cue ball which strikes an object ball differently each time. The intersected circles A, B and C show the cue

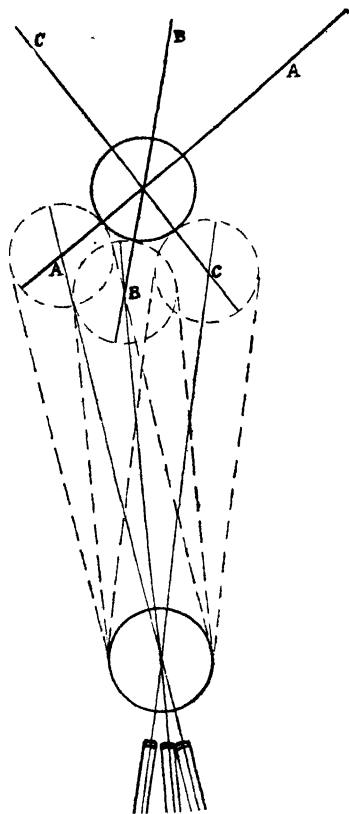


DIAGRAM 365.—The intersected circles at A, B and C show the cue ball taking the object ball in different ways. The line passing through the cue and through the centre of the cue ball is the line of aim, and the parallel intersected lines enclose the path of the cue ball. The lines AA, BB and CC pass through the centres of the cue ball and object ball at the moment of contact, and these lines determine the object ball's line of travel.

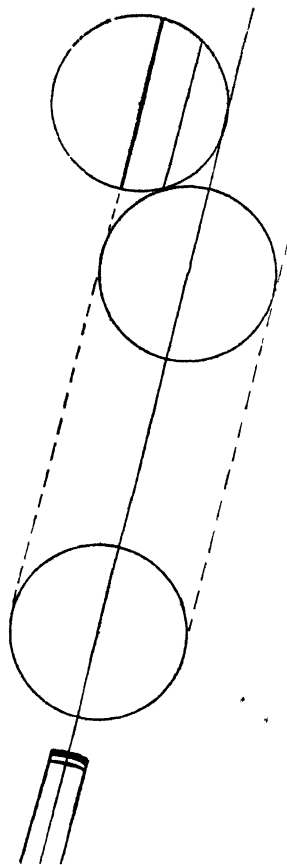


DIAGRAM 364.—A half-ball stroke. The cue ball is shown close to the cue and also in contact with the object ball, and the point of contact is half-way from the centre of the object ball. The parallel intersected lines enclose the path of the cue ball, and the line passing through the cue and through the centre of the cue ball in both its positions and impinging on the edge of the object ball is the line of aim.

ball making different contacts with the object ball and the continuous lines AA, BB, and CC pass through the centres of the balls at the moment of contact. In every case, the object ball after being struck will travel along such a line. This rule is invariable, the strength of the stroke making no difference whatever. It can be proved both mathematically and by measurement that in

all half-ball strokes the angle at which the object ball diverges from the *line of aim* is always one of 30° .

Diagram 366 shows a half-ball stroke, and the angle of the object ball's divergence from the line of aim. The parallel intersected lines enclose the path of the cue ball until the moment of its contact with the object ball. AB is the line of aim, and CDE is the line which passes through the centres of the balls at the moment of contact, and which thus determines the direction that the object ball must take. The angle BCE, which is the angle of the object ball's divergence from the line of aim, always measures 30° or one third of a right angle. I give this measurement simply because it may be interesting to many players, but the knowledge of it will not be of much practical use. If a beginner be told the size of the angle in degrees for an ordinary half-ball in-off, it will avail him little or nothing when he goes to the table. He has to learn the angle from all sorts of positions, by the eye, and this knowledge can only be attained with any degree of exactness by constant practice. Very few good players know the angle *in degrees* at which the cue ball is deflected from the line of aim, in ordinary half-ball strokes, but by being able to correctly gauge the angle by the eye, they know exactly where to place their ball for a half-ball stroke when playing from the D.

In the same way, the angle for a half-ball pot can be learnt by the eye, by constant practice. In fact, any fair player ought to become acquainted with this angle with much less difficulty than that with which a beginner learns the angle for half-ball in-offs. A fair player when playing a half-ball stroke can generally hit the object ball as he intends, whereas beginners, when playing a half-ball in-off, sometimes chance to spot their ball correctly but miss the stroke through hitting the object ball too fine or too full, or through screwing the stroke, etc. At other times, though spotting their ball quite incorrectly, they happen to get the in-off, though not by means of a half-ball stroke as played by them, and getting in-offs every now and then from wrong angles makes it all the more difficult to learn the correct angle. Especially as, when a beginner gets an in-off from an incorrect angle for a half-ball stroke, he seldom knows that he did not hit the object ball half-ball.

There are plenty of good amateurs who are not well acquainted with this

DIAGRAM 366.—A half-ball stroke. AB is the line of aim and the cue ball is shown near the cue, and again at C at the moment of its contact with the object ball. BCE is the angle of the object ball's divergence from the line of aim. This angle always measures 30° in half-ball strokes.

half-ball pot angle, doubtless because in billiards, position only occasionally occurs when it becomes the game to play a half-ball pot from the D. The best Pyramid and Snooker players, however, know this half-ball pot angle very well indeed—practically as well as they know the half-ball in-off angle—and playing from the D they bring off difficult-looking pots into top pockets with unfailing accuracy, often slamming the ball in at tremendous speed. In playing these pots they simply spot for a half-ball stroke and then make certain of taking the ball half-ball.

Diagram 367 shows the red in position for a half-ball pot. The player is in hand, and no in-off is on. In describing this stroke it is necessary to give measurements as naturally the spotting of the cue ball will vary with the location of the red. In the present instance the red is intended to be on a spot which is $14\frac{7}{8}$ in. from the centre of the pyramid spot, and on exactly the same line across the table as the pyramid spot. If the cue ball be placed on the baulk line, on a spot two inches from the right end of the D, the correct angle for the half-ball pot will be made, and if an accurate half-ball stroke be played the red cannot fail to be potted. The beauty of this stroke is that after the angle has been made there is not the slightest need to look at the pocket. The attention of the player can be entirely devoted to hitting the red a true half-ball, just as though he were playing a half-ball in-off (in which case also, the pocket should never be looked at, after the angle has been made).

It is true that a half-ball pot requires a more accurate hitting of the object ball, than a half-ball in-off does. In order to prove the amount of latitude that exists for, so-to-speak, different kinds of half-ball contacts when playing in-offs, a ball may be placed anywhere in the upper half of the table, in such a position that an ordinary in-off into one of the top pockets can be played from the D. If, from exactly the same spot in the D, this in-off be played and made half-a-dozen times, it will most likely be found that the path that the object ball takes will be more or less different on each occasion, thus proving most conclusively that the ball must have been taken slightly differently on each occasion, and possibly not once *exactly* half-ball.

In the half-ball pot there is not the same amount of latitude. At the same time it is certainly not necessary to be extraordinarily accurate in making the ball contact, especially when the red ball is no farther from the pocket shown on Diagram 367, and it can never be much farther down the table

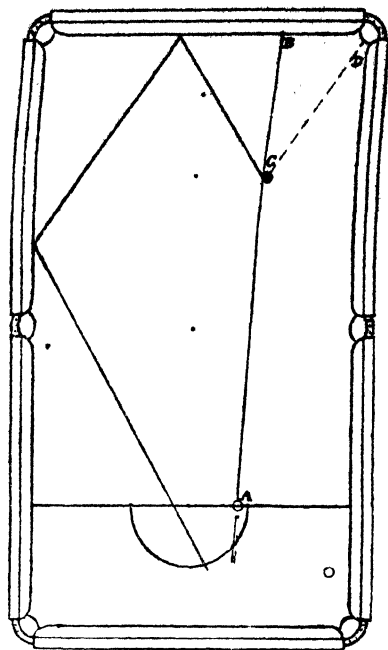


DIAGRAM 367.—A half-ball pot. Red ball $19\frac{1}{8}$ inches from the side cushion and on the same line across the table as the pyramid spot. Cue ball on the D line and on a spot 2 inches from the end of the D line. A B is the line of aim and B C D is the angle of the object ball's divergence from this line.

with a half-ball pot still possible from the D, without a half-ball in-off also on from the D.

The pocket must always be a pretty open one when this half-ball pot is on from the D, and therefore the extra width of the pocket, as compared with the diameter of the ball, allows a certain amount of latitude for slight differences in contact. Moreover, it may be pointed out that when playing an in-off, even though the correct angle be made and the object ball be truly struck, the in-off may fail. Too much strength will cause the cue ball to come off at a different angle from the normal one. Again, side on the cue ball, often unconsciously applied, will also take the cue ball out of its proper course. When, however, a half-ball pot is played, strength, side, top, or screw have no influence or bearing on the stroke, and can make absolutely no difference to the path of the red, which is determined only by the point of contact. This being so, naturally causes the stroke to be far less difficult than it would otherwise be.

In Diagram 367 the object white is shown in baulk. With such a position, most players would play to pot the red and cannon, and many would often get one or the other and sometimes both shots. When, however, a player has sufficient confidence in his ability to pot the red, it is far better in such a position not to play for the five shot. If the pot only be made, the player will be able to bring the white out of baulk the next stroke, provided that the pot has been played with good strength, whereas when an all-round cannon off the red is played for, the very best player in the world can never tell how the cue ball will catch the object white when the cannon comes off, and thus the after-position is obscure.

Pots like the one shown on Diagram 367 naturally appear very difficult strokes to most players, as it is impossible to spot the cue ball in the D for a straight pot, but to those players who know how to spot correctly for a half-ball pot they are comparatively easy strokes. Even when a player plays the five shot, in positions similar to the one on Diagram 367, the knowledge of where to spot for a half-ball pot will make the pot far more certain, and when the red goes down, he can wait for the cannon with more equanimity than when the pot has been missed.

In giving the exact measurements for the half-ball pot shown on Diagram 367 I may point out that as tables vary slightly in width (though only to the extent of about half an inch at most) between the edge of the cushions the measurements must only be considered approximate, but they will generally be

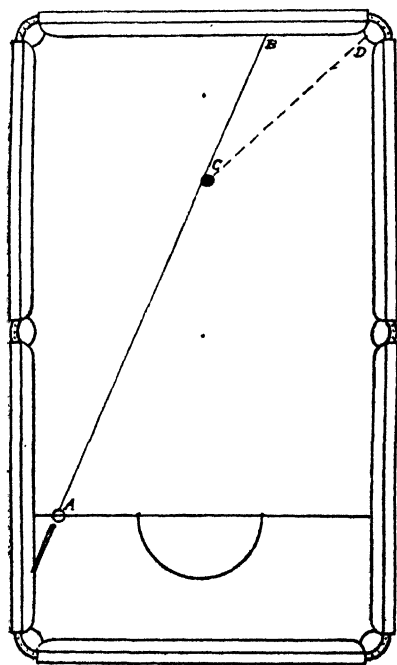


DIAGRAM 368.—A half-ball pot. Red ball on the pyramid spot. Cue ball on the baulk line and 2 inches from the cushion. AB is the line of aim and BCD is the angle of the object ball's divergence from this line.

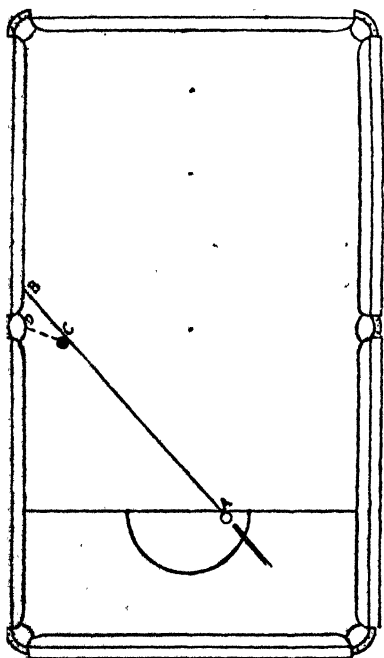
found quite near enough and if any adjustment should be necessary the red may be moved to the right or left, but only fractionally.

In Diagram 367, AB is the line of aim and BCD is the angle at which the red ball diverges from the line of aim as the result of a half-ball stroke. This angle BCD is the half-ball pot angle, and is the angle which must be judged when placing the cue ball in the D for a half-ball pot.

Diagram 368 shows another example of the half-ball pot and I give this simply as a practice stroke in order that the eye may get accustomed to the angle from all sorts of positions. A thorough knowledge of this half-ball pot angle though it may be of no great use as far as potting at billiards is concerned will prove of inestimable value in the numberless positions that constantly occur in which a half-ball stroke is likely to pot the white.*

In Diagram 368 the red is on the pyramid spot and the cue ball is exactly on the baulk line on a spot 20½ in. from the end of the D measured from the centre of the spot at the end of the D line. AB is the line of aim and BCD is the half-ball pot angle.

Diagram 369 shows a half-ball pot into a centre pocket played from the D.



The red ball is intended to be 6 inches from the side cushion and $36\frac{7}{8}$ inches from the baulk line. To pot the red by a half-ball stroke, the cue ball when placed exactly on the D line must be situated on a spot $7\frac{1}{2}$ inches to the right of the centre of the D line. In the diagram, AB is the line of aim and BCD is the half-ball pot angle.

Of course, the red could be potted from other parts of the D, but if a player has an accurate knowledge of the half-ball pot angle, the stroke by this method of play becomes absolutely easy, and if necessary it can be played with plenty of pace without any fear of failure.

This pot into a centre pocket is often played by good players, even when a simple in-off is also on, in order to get to the top of the table, when the object white happens to be in the neighbourhood of the spot. I do not for a moment mean to say that good players always use a half-ball stroke when potting the red in a centre pocket to get to the top of the table, for, in the first place, such a stroke is not always on from the D, and even when it is the exigencies of the position may demand a finer or fuller contact. Nevertheless good position can

369.—A half-ball pot. Red ball 6 inches from the side cushion and $36\frac{7}{8}$ inches from the baulk line. Cue ball on a spot $7\frac{1}{2}$ inches to the right of the centre of the D line. AB is the line of aim and BCD is the angle of the object ball's divergence from this line.

* Several examples of such positions are given farther on in this chapter.

POTTING THE RED BALL.

often and often be gained by this half-ball stroke, and when such is the case the stroke becomes a very valuable one if the player can accurately gauge the half-ball pot angle. Many good amateurs often break down, when trying to get to the top of the table by the agency of a centre-pocket pot. A pot at an awkward angle into a centre pocket, especially when the stroke has to be played with a fair amount of pace, is always a nasty stroke, and it is in positions like this that accurate knowledge of the half-ball pot angle may become of great service to a player.

Diagram 370 shows another practice stroke for a half-ball pot. The red ball is on the spot, and the cue ball is 21 inches from the side cushion and $11\frac{3}{4}$ inches from the top cushion, that is to say that it is exactly the same distance from the top cushion as the red on the spot. (The centre of the spot is $12\frac{3}{4}$ inches from the top cushion and the red when on the spot is $11\frac{3}{4}$ inches from the top cushion.) AB is the line of aim and BCD is the half-ball pot angle. It will be found on trial that a half-ball stroke will pot the red every time. This is, of course, provided that the billiard spot is in its proper place, which is not always the case.

All players know that when the red is on the spot, an ordinary half-ball in-off is on when the cue ball is on the farther end of the line drawn from the edge of the red to the upper angle of the top or centre pockets. In fact, this position is termed *on the line*. Just in the same way that there are two lines for half-ball in-offs from the red on the spot, so there are two lines for half-ball pots when the red is on the spot. In the case of the in-offs, however, the plain half-ball stroke can only be successfully employed when the cue ball is on the farther end of the line, or at most from positions no great distance from the end of the line—not many inches from the end in the case of the cross in-off from one corner pocket to the other. When the cue ball is near the red and still on the line from the red to the upper angle of the pocket, the in-off is not possible by means of a plain half-ball stroke. With pots, the case is different. Proximity to the red ball makes not the slightest difference. As already demonstrated an object ball always travels in the direction which is a continuation of a line passing through the centres of the balls at the moment of contact, consequently it makes not the slightest difference whether the object ball be struck by a ball which has only travelled a few inches or by a ball which has travelled the length of the table. Thus from any point on the half-ball pot lines a half-ball stroke will always pot the red.

DIAGRAM 370.— A half-ball pot. Red ball on the spot. Cue ball 21 inches from the side cushion and $11\frac{3}{4}$ inches from the top cushion. AB is the line of aim and BCD is the angle of the object ball's divergence from this line.

THE STROKES OF THE GAME.

In Diagram 370 the cue ball is on one of these lines.

It is always easy to judge whether the cue ball is on the half-ball in-off line, by the guidance afforded by the corner or centre pocket, as the case may be; there is, however, no similar means of determining the lines for a half-ball pot, consequently, the fact that these lines exist is of little or no use to any player. As, however, the location of these lines may be of interest to some players they are shown on Diagram 371.

In the one case, the line extends from a point about an inch below the centre of the spot ($1\frac{1}{2}$ inch with $2\frac{1}{8}$ inch balls) to a point on the side cushion about $10\frac{1}{2}$ inches from the top cushion (if this cushion were continued past the pocket). In the other case, the line extends from a point about an inch above the centre of the spot to a point on the side cushion about $42\frac{7}{8}$ inches from the top cushion. From any position on either of these lines, fairly accurate half-ball striking will always pot the red, and the stroke may be played with plenty of strength without in any way jeopardizing the success of the shot. Even with the cue ball touching the cushion the pot can be got quite as often as not by any fair player.

The knowledge of the direction that an object ball takes as the result of a half-ball contact is the fundamental basis of the in-off game, especially is this so with regard to top-pocket in-offs. A very exact knowledge of the direction which a half-ball stroke gives to the object ball is always required when playing top-pocket in-offs from the D with the object ball placed anywhere in the enclosed area shown on Diagram 372. This area if marked out on a table will be found to be a very large one and yet if a ball be placed anywhere within its confines, an in-off from the D, if played as a half-ball stroke, may easily pot the object ball. I do not for a moment mean to say that an exact half-ball stroke which caused the in-off to be made, would pot the object ball into the opposite pocket, no matter on what part of the enclosed area on Diagram 372 the object ball were placed. Exact half-ball contacts, however, but seldom take place, and when playing top-pocket in-offs by means of half-ball strokes, the in-off from the same spotting of the cue ball can be got by a contact somewhat fuller than half-ball or by one somewhat thinner than half-ball, just as well as by a true half-ball stroke. The reason of this is that the cue ball comes off an object ball at practically the same angle for various kinds of contacts so long as these different kinds of contacts are not far removed from true half-ball contacts. With the object ball the case is very different and slight differences of contact make a decided difference in the line of its travel, for as already explained

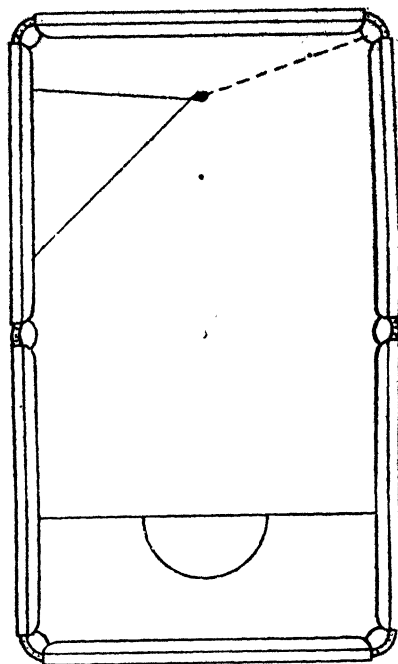


DIAGRAM 371.—The two lines for half-ball pots, when the red is on the spot. A half-ball stroke from any position on either of these lines will pot the red.

the direction that an object ball takes is always determined by a line passing through the centres of the balls at the moment of contact. Thus, as in-offs can be got—from the same spotting of the cue ball in the D—by thinner and by fuller than half-ball contacts, as well as by a true half-ball contact, it clearly follows that several successive in-offs, from an object ball spotted in the same place each time, can give the object ball a different direction each time, and this is the reason that, with an object ball placed anywhere in the danger zone shown on Diagram 372, the double shot is always on.

When the object ball happens to be the red, the double shot may or may not be disastrous. Sometimes, the object white will be favourably placed for a continuance of the break; on the other hand, the white may be in some very safe place, and when this is the case, a

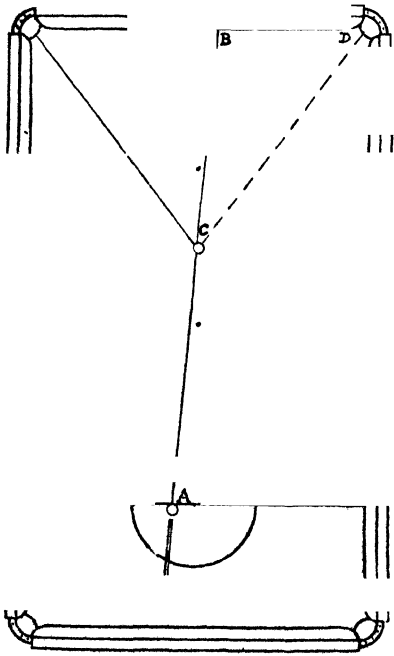


DIAGRAM 372.—The heart-shape figure shows roughly the four-shot zone.

six shot in all probability terminates the break. When the double shot results in the loss of the white, the case is very much worse. The red may or may not be in good position, but even when well placed, there is always the possibility of missing a stroke, and this generally means leaving the balls well placed for one's opponent, who will be in hand.

Diagram 373 shows one of these positions for a half-ball four shot. The object white is situated on the central line of the table exactly equidistant from the centre and pyramid spots. For a plain-ball half-ball in-off into the left-hand corner pocket with average ivory balls (for the half-ball angle varies somewhat with different sets of ivory balls), the cue ball would be placed on the D line on a spot about two inches to the left of the centre of the D line.

The in-off from this spotting of the cue ball would, provided the contact were a true half-ball one, also pot the

at this angle, the cue ball is in the half-ball pot angle.

for the line of aim AB just makes, with the object ball and the right top pocket, the angle of a half-ball pot. Of course, the stroke might be played several times, and the in-off be got each time, without losing the object white. When, however, the object ball does not go into the pocket it will simply be because it has been taken fuller or thinner than half-ball, and when it has been taken very nearly half-ball, it will always go very near the pocket, often striking the angles. Many players when confronted with this or a similar position, although knowing that the four shot is on, just play for the in-off and take the risk of losing the white. Often enough, the stroke will come out all right, but just as often they lose the white, or the ball catching the angles of the pocket runs into some safe position. Of course, to play the in-off in such a manner as to make certain of avoiding the pocket and its angles, makes the in-off considerably more difficult, and many a good player often misses an in-off through trying to avoid the double shot, when he could have made a certainty of the stroke, had he played simply for the in-off, without a thought or care for the after-position. Any player, however, who has any pretensions to good play cannot afford to take the risk of losing the white in these four-shot positions. The positions occur so often that were he constantly taking the risk he would be constantly coming to grief over them.

In many of these four-shot positions, in order to avoid all possibility of the object white entering the pocket, or catching the angles of the pocket, the ball must be taken decidedly fuller or thinner than half-ball. In many cases either method will serve, but in some positions the fuller than half-ball stroke is the easier and sounder stroke, and in others the thinner than half-ball contact is the safer method to adopt. When the object white, in these half-ball four-shot positions, is prevented from going into the pocket by the fuller than half-ball stroke, it will always strike the top cushion and then rebound on to the side cushion, and when it is saved by the thinner than half-ball stroke, it will always strike the side cushion first and then rebound on to the top cushion.

It is impossible to lay down any hard and fast rule as to when the in-off, in these four-shot positions, should be played by a fuller than half-ball stroke, and when by a thinner than half-ball stroke. Were these positions confined to the ones in which the double shot results from a true half-ball stroke the case might be different, but countless positions exist wherein a true half-ball stroke would easily keep the white out of the pocket, and yet were the very best players to play such in-offs by plain half-ball strokes, they would constantly pot the white, for the simple reason that no player can ever be sure of taking an object ball exactly half-ball. The knowledge of when to play to take the object ball fuller than half-ball, and when thinner than half-ball, can only come with plenty of experience. Players who are sufficiently advanced to have a very good idea of the direction that an object ball takes after being struck half-ball, adopt the following method of determining the kind of contact to save the white :—

If they can see that it is possible, by means of what may be termed a fullish half-ball stroke, to cause the object ball to strike the top cushion a considerable distance from the pocket, they use this fullish stroke for the in-off, but if they feel that even by this fullish stroke they could not keep the object ball at best more than a few inches from the pocket, they go to the other extreme, and play the in-off by means of what may be termed a thinnish half-ball stroke, and thus on to a point on the side cushion some considerable distance

A somewhat rough and ready rule as to the way to play the in-off in four-shot positions is as follows :—

When the object ball is on, or very near, the central line of the table, and nearer the pyramid spot than the centre spot (for a four-shot to be on from the D, an object ball situated on the central line of the table can only be a little nearer the pyramid spot than the centre spot), the in-off should be played in such a way that the object ball strikes the top cushion well away from the pocket. To ensure this a fullish half-ball stroke will often be required.

When the object ball is nearer the centre spot than the pyramid spot, especially if some little distance from the central line of the table, the in-off should be played in such a way that the object ball strikes the side cushion well away from the pocket. To ensure this a thinner than half-ball stroke will often be required.

In Diagram 373 with the object ball on the central line of the table and exactly the same distance from the centre and pyramid spots the four-shot can be averted by taking the object ball either thinner or fuller than half-ball and in this position there is little to choose between the two opposite methods. As regards after-position, the fuller than half-ball stroke will generally give better results.

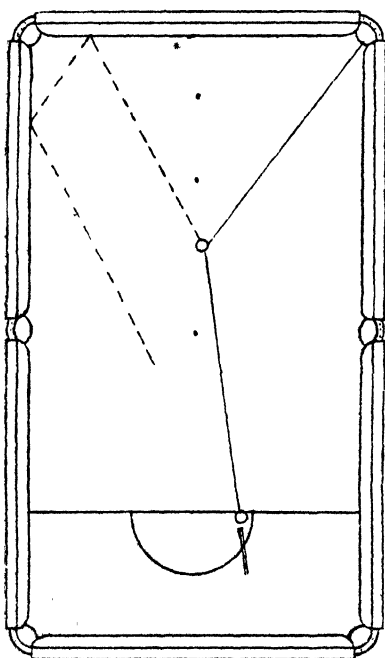


DIAGRAM 374.—A four-shot position. The object white instead of being on the central line of the table and equidistant from the pyramid and centre spots as in Diagram 373, is 2 inches higher up the table and 1 inch more to the right. To avoid a four-shot the object ball should be taken fuller than half-ball.

Diagram 374 shows another four-shot position, that is to say, the object white is so situated that if the in-off into a top pocket be played by means of an ordinary half-ball stroke, the possibility always exists of the object ball entering a pocket as well. In all these four-shot positions, with the in-off on for either pocket, the danger of losing the white is just as great no matter which pocket be selected for the in-off; thus it is impossible to make certain of keeping the white out by simply playing for the right pocket or the left pocket as the case may be. If an in-off into the right pocket is likely to pot the white in the left pocket, then an in-off into the left pocket is just as likely to pot the white in the right pocket. Of course, in many four-shot positions the in-off is only on for one pocket, but in positions such as the one shown on Diagram 374 and on Diagram 373 either pocket is optional.

With the object ball in the position shown on Diagram 374, a true half-ball contact will not pot the object white, but will cause it to strike the top cushion a few inches from the pocket. But herein lies the danger of playing such an in-off as a half-ball stroke. A player—not the best in the world—may never be sure of taking a ball exactly

may do so, but generally he will take it just a little fuller or just a little thinner than half-ball. In the stroke under discussion, an exact half-ball stroke or a fuller than half-ball stroke will always keep the object ball out of the pocket, but a thinner than half-ball stroke may easily pot it. Therefore, in order to make sure of not taking the white less than half-ball, a good player plays to take it fuller than half-ball.

As already explained, when a ball is struck only a little fuller than half-ball, the cue ball comes off at practically the same angle as it does in true half-ball contacts, so that in the position shown on Diagram 374 the cue ball can be spotted just as though an ordinary half-ball stroke were going to be played, and then from this spotting of the cue ball all that is necessary is to play to take the object ball just a shade fuller than half-ball, using no side. In some positions, however, which are but a slight variation of the one shown on Diagram 374, when it is desired to avoid all risk of the object white falling into a pocket or catching its angles, by causing the ball to strike the top cushion well away from the pocket, a contact just a shade fuller than half-ball may not be full enough. The contact may have to be appreciably fuller than half-ball. When this is the case, the cue ball naturally slightly runs through the object ball and therefore the angle of deflection is slightly different from that of half-ball strokes. Consequently, a plain-ball stroke from the same place in the D that would be selected for an ordinary half-ball stroke, will not do. If, however, the cue ball be placed as though for an ordinary half-ball stroke and the stroke be played with running side—right-hand side on the diagram—this spotting will answer all right, for the running side will, so to speak, widen the angle of deflection, and will thus counteract the effect of the fullish contact. Of course, in order for the in-off to be made, the effect of the side must just balance the effect of the fullish contact. Such a stroke is, however, not a very difficult one for moderately good players.

There is another and a better way—the way adopted by all really good players—of playing these in-offs from four-shot positions, when only a considerably fuller than half-ball contact can throw the object white on to the top cushion, any distance from the pocket. Instead of spotting as though for a half-ball stroke, and playing to take the object ball fuller than half-ball and using running side to counteract the effect of the fullish contact, the cue ball is placed so that the angle is made what is generally called narrow—to do this in the position shown on Diagram 374, the cue ball would have to be placed a little more to the left—and the stroke is played with check side—left-hand side on the diagram—to counteract the narrowness of the angle. Of course, the angle is not made a *very* narrow one—only just a trifle narrower than a half-ball angle.

The advantage of playing the in-off in this manner—in all those positions in which a considerably fuller than half-ball contact is required to throw the object ball on to the top cushion—is twofold. In the first place, spotting the cue ball for a narrower angle than the half-ball one, allows the contact to be a very full one—sometimes not far short of three-quarter ball—and secondly, the very spotting of the cue ball for a narrower angle, helps to throw the object ball on to the top cushion. In other words, should the in-off be played from two positions in the D, say an inch apart, and the object ball be taken exactly the same each time, it clearly follows that the object ball will be given different directions. In Diagram 374, the object ball after contact is thrown to the left, but should the cue ball be spotted say an inch to the left of its position in the diagram, the same contact with the object ball will not

throw this ball quite so much to the left, and the difference at the top cushion, as shown by the points of contact on this cushion, may amount to several inches.

Diagram 375 shows another four-shot position of just the opposite nature to the one shown on Diagram 374, in that, whereas, in the position shown on Diagram 374, the best method of preventing a four shot is by taking the object ball fuller than half-ball, and thus throwing it on to the top cushion well away from the pocket, in Diagram 375 the four shot is best prevented by taking the object ball thinner than half-ball and cutting it on to the side cushion, some distance below the pocket. The position is such, that, though a half-ball stroke would not pot the white, it would cause it to strike the side cushion not many inches from the pocket, and in playing to take the object ball exactly half-ball, if the contact were just a little fuller than half-ball the object white might easily enter the pocket. By playing to take the object ball thinner than half-ball, all danger of taking it too full is averted.

When playing this in-off by means of a, so to speak, thinnish half-ball stroke, the cue ball should be struck with running side—right-hand side in the diagram. When playing in this way, the cue ball can be spotted as though for a half-ball stroke, and then although the contact be less than half-ball the running side pulling the cue ball after contact will more or less balance the effect of the thinnish contact.

Thus, to sum up, when the position is such that a true half-ball stroke will cause the object ball to strike the top cushion close to the pocket, the four shot is best averted by playing to take the object ball fuller than half-ball and using check side, and when a true half-ball stroke will cause the object ball to strike the side cushion close to the pocket, the four shot is best averted by playing to take the object ball thinner than half-ball and using running side.

Of course, before a player can correctly decide which method of play to adopt in what appears to him to be a four-shot position, he must have a very good knowledge of the direction that the object ball takes as a result of a half-ball stroke, but even when one is proficient in the knowledge of this angle, these four-shot positions are never very nice ones to tackle. Often and often, good players get these four shots, though, of course, playing to keep the white out, and often and often, too, they miss the in-off solely through trying to avoid potting the white. Sometimes, too, when playing to keep the white out by throwing it on to the top cushion well away from the pocket

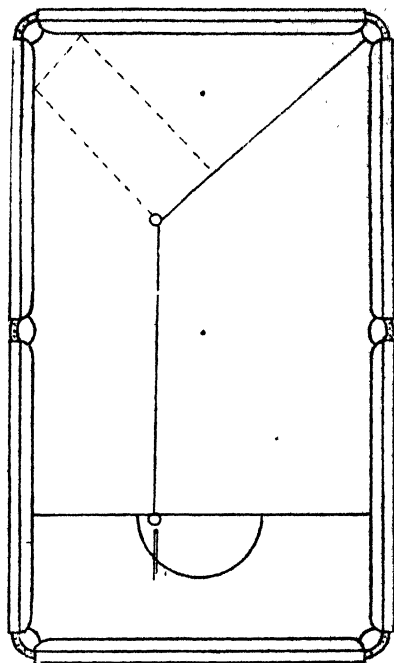
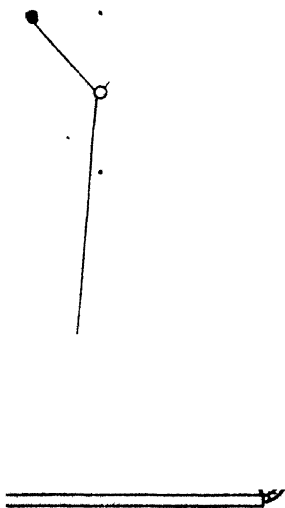


DIAGRAM 375.—A four-shot position. Object white $25\frac{1}{2}$ inches from the side cushion and $53\frac{1}{2}$ inches from the top cushion. To avoid a four-shot, the object ball should be taken thinner than half-ball.

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the in-off is got all right, and the object ball is cut on to the side cushion, thus ng that the contact has been much finer than intended, and also that the can be kept out of the pocket by totally different kinds of strokes. Also, playing to save the white by means of a thinnish half-ball stroke it sometimes happen that it is saved owing to its having been caught much fuller than intended. Nevertheless, although it may be quite possible to save the white, in many positions, by either kind of stroke, yet in most positions one stroke is much safer than the other and consequently is the better game. The only exception is when an exact half-ball stroke would pot the white. In such a case either the fuller than half-ball or the thinner than half-ball contact may be used, according to the taste of the player. Some players prefer the fuller stroke, others the thinner stroke. It must not be forgotten, however, that totally different position will be left from the different strokes, for the fuller contact will bring the ball down the table *via* the top and side cushions, more or less as shown on Diagram 374, whereas the thinner contact will bring the ball down *via* the side and top cushions, more or less as shown on Diagram 375. The knowledge of this totally different after-position of the object ball consequent on the different kinds of contact is taken advantage of by professionals and first-class amateurs, when they desire to give a certain direction to the object ball, but this is very refined play and hardly falls within the scope of the moderately good amateur.

Diagram 376 shows a position for a cannon. Many players with such a position only think about getting the cannon, or at most try to cannon in such a manner as to leave the red favourably situated. Never a thought do they give to the object white, yet when this ball is allowed to take care of itself, it will often fall into the top pocket. The position is simply a variation of the four-shot positions already described, the difference being that the cue ball has to cannon instead of having to find the top pocket. Of course, it is infinitely easier to keep the white out of the top pocket, when playing a cannon such as the one shown on Diagram 376 than it is when playing an in-off from a four-shot position. For even when the cannon is played with sufficient strength to drive the white to the top of the table, it can be got in such a variety of ways, and from such different spottings in the D, that the object ball can be given very different directions without making the cannon at all



376.—A cannon from the D, how a careless stroke may pot the white. Object white on the central line of the table and equidistant from the pyramid and centre spots. Red ball 21 inches from the side cushion and 35 inches from the top

play such a cannon without the slightest thought or care, and the object white happens to fall into a top pocket they consider they have experienced terribly bad luck.

Diagram 377 shows another simple ball-to-ball cannon from the D. Here again, if the cue ball be spotted in the D, for a half-ball stroke, and the object ball be taken fuller than half-ball, the white can easily fall into the top pocket. In such a position, and in all similar ones care must, therefore, be taken that the contact with the white ball is such that it does not cause this ball to travel to the pocket.

Even should the first object ball be the red, in a position at all similar to the ones shown on Diagrams 376 and 377, care should still be taken that this ball does not enter the pocket, as should it do so the after-position may or may not be good. When easily possible, it should be driven on to the side cushion, high up the table. In this way better position will as a rule be left than when the red strikes the top cushion first.

Not only when playing from baulk, but all over the table, positions constantly occur, when, whether playing an ordinary ball-to-ball cannon or—with the balls not far apart—even a run-through or a screw cannon, a slight variation in the fulness of contact can keep a ball out of a pocket, or, when there is no question of the ball being potted, cause it to travel in a favourable direction, without in any way jeopardizing the cannon, and even when the position is such, that to try and avoid losing the white would make the stroke considerably more difficult, such a stroke should generally be attempted.

At the beginning of this chapter on POTTING THE RED BALL, I stated that, generally speaking, in order to pot a ball, contact must be made with it at that point which is one end of a straight line passing through the centre of the ball and the centre of the pocket. This is, however, only absolutely correct when the pocket is as open as possible.

When the pocket, instead of being very open, is very blind, as shown on Diagram 378, the ball to be potted must be struck on that point which is one end of a line drawn through the centre of the ball to a spot on the farther angle of the pocket, just slightly inside the point where the fall of the slate begins. The

line AB shows this line, and the parallel intersected lines enclose the ball's path to the pocket. It will be observed that in this way the with the top cushion nearly parallel to which it has to

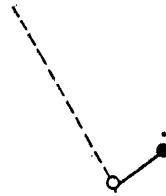


DIAGRAM 377.—A cannon from the D, showing how a careless stroke may pot the white. Object white $25\frac{1}{2}$ inches from the right side cushion and $53\frac{1}{2}$ inches from the top cushion. Red ball on the central line of the cushion and $44\frac{1}{2}$ inches from the top cushion.

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It can easily be understood that, though the ball may strike the far cushion before it falls into the pocket, yet as the point on the cushion which the ball touches is past the fall of the slate, more of the ball is off the table than on the table at the moment of its contact with the cushion, so that even though

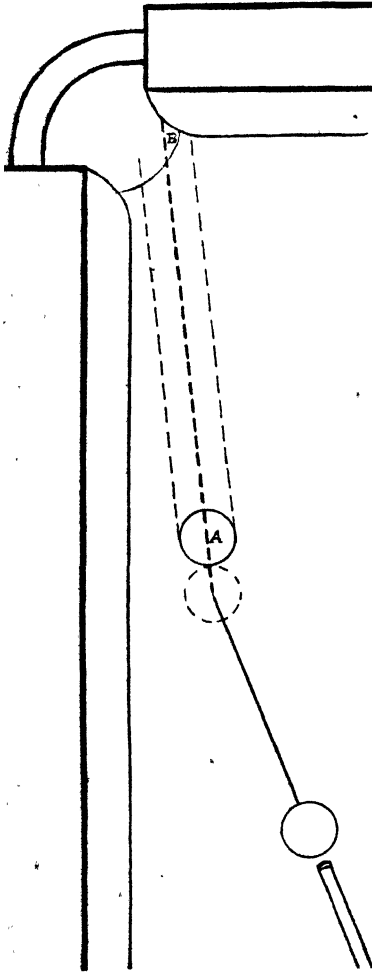


DIAGRAM 378.—A pot into a blind corner pocket. The object ball must not travel in the direction of the pocket's centre. The intersected circle shows the cue ball in contact with the object ball, and the thick intersected line passes through the centres of the balls at the moment of contact.

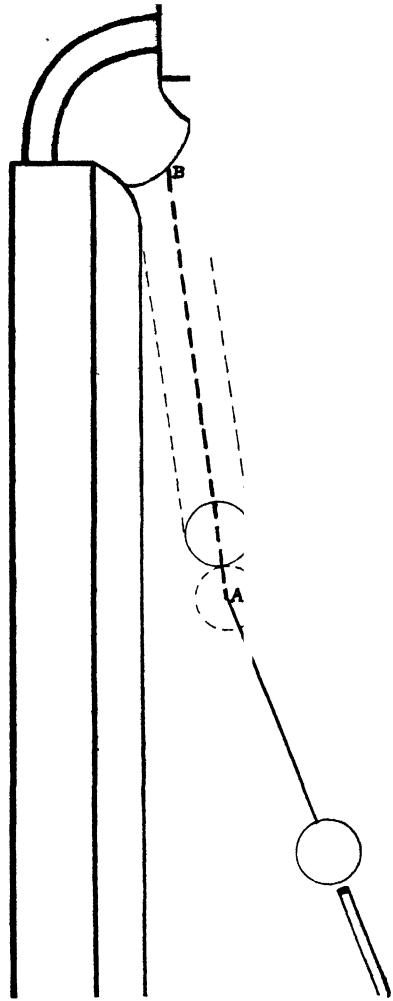


DIAGRAM 379.—An illustration of an unsuccessful attempt to pot a ball into a blind pocket. The intersected circle shows the cue ball in contact with the object ball, and the parallel thin intersected lines which enclose the path of the object ball, show how the ball must strike the cushion some little distance from the pocket should it be travelling to the centre of the pocket at the fall of the slate.

the stroke be played fairly fast the ball will fall into the pocket. Such strokes are, however, much safer when played gently, for in gentle strokes the ball will

fall into the pocket if it strike the cushion ever so little beyond the fall of the slate, whereas in very strong strokes the ball may easily strike the cushion past the fall of the slate without entering the pocket. In the latter case, the momentum on the ball does not allow it to fall into the pocket and the angle throws it back on to the table.

Diagram 379 will perhaps help to make it still clearer why a ball in order to enter a blind pocket, should not travel in the direction of the centre of the pocket, though this direction is the correct one when the pocket is an open one.

In Diagram 379 the line AB passes through the centre of the pocket—at the fall of the slate—and through the centre of the object ball. Were the object ball, however, to travel to the pocket along this line AB, it is quite evident that it could not enter it, for as one of the thin intersected lines, which enclose the path of the cue ball as it travels along the line AB, meets the cushion some little distance in front of the pocket, the ball will come into contact with the cushion.

Diagram 380 shows the path an object ball must take when a blind centre pocket is the objective goal. The parallel thin intersected lines enclose the path of the ball, and it will therefore be seen that in order to find the pocket, the ball must travel on the line AB which is drawn through the centre of the ball to a point on the farther angle a little inside the fall of the slate.

Except when the cue ball is close to the object ball and right behind it, or at least very little out of the straight line, a pot into a blind centre pocket is always a very difficult stroke. Contact with the nearer angle has to be avoided, and yet the ball must pass very close to this angle, in order to strike the farther angle at a point inside the fall of the slate. Such a pot should always be played slowly, in order to allow the ball to drop into the pocket after contact with the farther angle. If such a stroke be played at all fast, the ball will bump away from the angle even though it may have struck it at a point past the fall of the slate.

Diagram 381 shows an object ball touching the cushion. It is apparent that in order to find the pocket the ball must travel along the cushion and that the line AB, which is the line by which it travels to the pocket, passes through the centre of the ball and impinges on the farther angle of the pocket at a

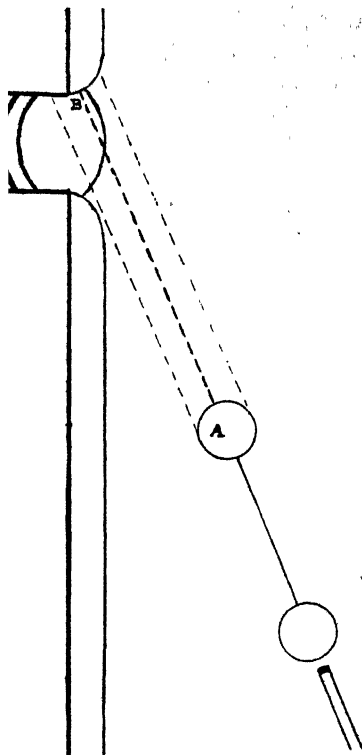


DIAGRAM 380—A pot into a blind centre pocket. The thick intersected line AB shows the line by which the object ball must travel to the pocket and the parallel thin intersected lines enclose the path of the object ball.

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little inside the fall of

When a ball is coming
the cue ball can only pot it when it hits
both the ball and the cushion together.*
reference to Diagram 382 will show
is so.

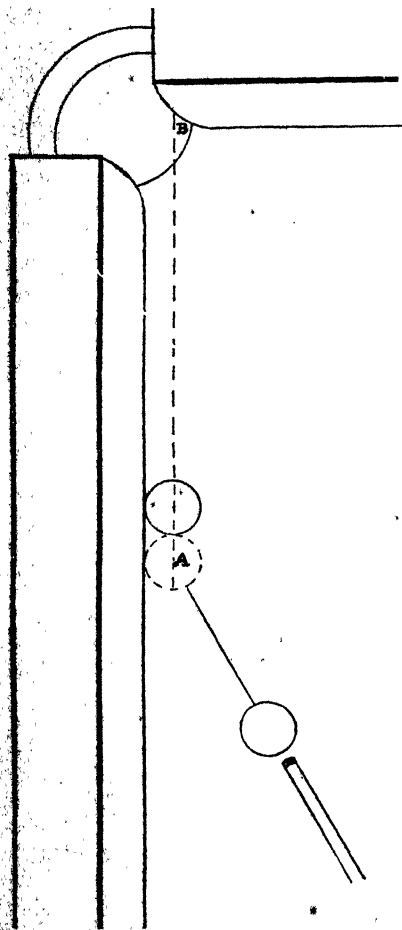


DIAGRAM 381.—A cushion pot. The intersected circle shows the cue ball in contact with the object ball and the intersected line which passes the centres of the balls at the moment of contact shows the path of the object ball to the pocket.

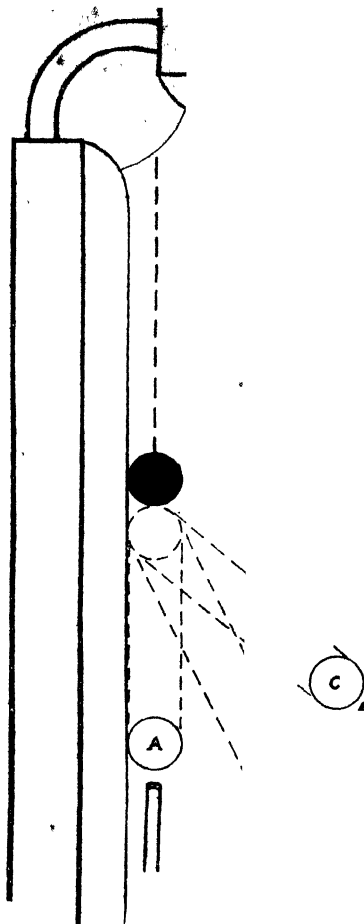


DIAGRAM 382.—A cushion-pot, from three different positions. The intersected circle shows the cue ball at the moment of contact with the red—whether played from A, B, or C. The cue ball's path is in each case shown by parallel intersected lines.

The cue ball is shown in three different positions, but as it is evident that no matter from which position the pot is played the object ball in order to be potted must always be struck on the same spot, it follows that the at the moment of contact must

n to this rule must be made when the angle is a very square one.

shown on the diagram. As the cue ball at A is touching the cushion, it follows that it must travel along the cushion in order to pot the object ball, consequently it must be touching the cushion at the moment of contact with the object ball. When the pot is played from B or C, the cue ball at the moment of contact must therefore also be touching the cushion, otherwise the stroke will fail.

It is solely due to this circumstance that it is only necessary to hit the cushion and the ball together, that cushion pots at certain angles are comparatively easy strokes for good players. Of course, plenty of judgment is required in order to hit the cushion and the ball together, but good pool and snooker players seldom miss these pots—from ordinary angles—even though the object ball may have a long way to travel to the pocket.

When, however, the ball is just slightly away from the cushion—say a quarter of an inch or even only an eighth of an inch away—unless the cue ball is nearly behind it, the pot becomes an intensely difficult one, so much so that the finest player could never be sure of getting such a stroke if the ball had a long distance to travel before reaching the pocket.

Diagram 383 shows a cushion-pot played from a very square angle. Such a stroke will appear an impossibility to many players. Yet, although a difficult one to the best of cueists, it is a stroke that is often made by good players in games of snooker and pool and is occasionally played even in billiards. Side on the cue ball—right-hand side in the diagram—is of great assistance in strokes of this nature; in fact the pot is often made by striking the cushion *before* the object ball, but so little in front of the ball that it appears as though the cushion and ball were stuck together.

From the position of the cue ball at B the pot would be a comparatively easy stroke.

Diagram 384 shows a cushion-pot which is not quite as simple as it may look—even for a fairly good player. The red ball is on the baulk line and the cue ball is a foot from the red and both balls are tight against the cushion. Ordinary players will most likely find that they will miss this stroke when trying it for the first time. In order for the object ball to be correctly hit, the cue ball must graze the cushion all the way till it reaches the red. This stroke, especially if with any speed, there is always a tendency for ball to come away from the cushion; very slightly it may be, often so slightly as to quite escape notice, yet still sufficiently to cause it to strike the object ball

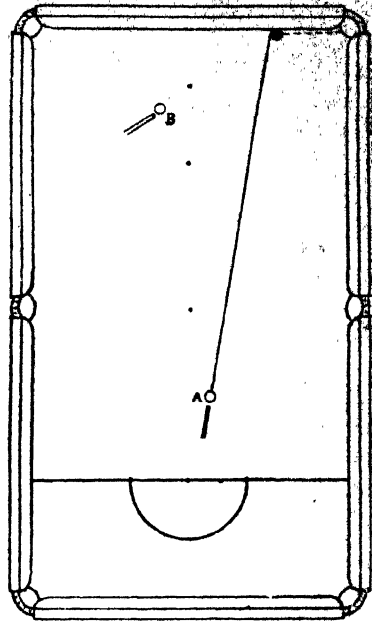


DIAGRAM 383.—A cushion-pot. A difficult stroke from A—a moderately easy stroke from B. Red ball touching the cushion and 12 to 15 inches from the pocket.

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Should any player wish to thoroughly satisfy himself about this difficulty of sending a ball along a cushion, let him place a ball dead on a side cushion and try and give a three miss nearly the length of the table in such a manner that the ball hugs the cushion all the way to the pocket. Such a stroke is quite possible but is anything but easy. The three miss is rendered much easier—especially up the table—by the use of side, but when played with side is a different stroke altogether, for the ball may leave the cushion a little and then come back to it under the influence of side acting in conjunction with the nap of the cloth.

In order to test the difficulty of making a ball travel along the cushion the stroke must be played without any side. It will generally be found that the stroke is more difficult playing down the table against the nap than up the table with the nap.

The pot with the balls in the position shown on Diagram 384 should be played slowly and care should be taken that the cue is so truly aligned, that, that part of it which extends from the bridge made by the hand, and which has little or no taper, is quite parallel with the cushion. Of course, this manner of playing the pot would generally be quite useless as a position stroke and is simply given as the easiest way of getting it. The easiest way of getting any stroke is seldom the way to play it if the after-position is to be considered. With the object white, however, situated as shown on the diagram, the pot played in the manner described would leave good position to continue with, for the cue ball running on a short distance after its contact with the red would come to rest in good position for an in-off from the white.

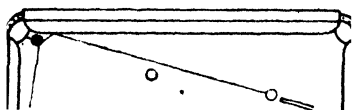
the baulk line and touching the cushion, cue ball 12 or 15 inches from the red and touching the cushion.

Diagram 385 shows a position with the red close to the baulk pocket. The direct pot cannot be missed and a six shot is quite a simple stroke from the position of the cue ball, but the object white, even if out of baulk, might be so situated that a six shot would be a very poor stroke. By playing, however, to hit the cushion just in front of the red all danger of a six shot is averted and the cue ball can, if necessary, be made to travel a long distance, the strength of the stroke being a great factor in determining the after-position. Different kinds of contact with the red will, however, give the cue ball different directions of travel. On the diagram, two totally different paths for the cue ball are shown resulting from the pot played from the same position of the cue ball. When the red ball is hanging over the pocket, practically any kind of contact causes it to disappear but the cue ball's line of travel is naturally very different after a thin contact from what it is after a fullish contact. Side on the cue

ball also greatly affects the line of travel, and, generally speaking, it is very difficult to get any exact position from this pot when the cue ball has to travel a long distance. The cue ball can, however, always be easily made to travel to the top end of the table, so that with the red on the spot there will be a very fair probability of an in-off or a pot being on for the next stroke. Should the object white happen to be anywhere near the spot, position for a cannon can be easily obtained. The cue ball, should, however, be struck below the centre, for top will prevent it from coming up the table when the contact with the red is a fullish one.

A CUSHION-POT WHEN NO DIRECT POT IS POSSIBLE.

Diagram 386 shows a cushion-pot, the red ball being covered by the object white when playing from the position



owing to the red being covered by the object white.

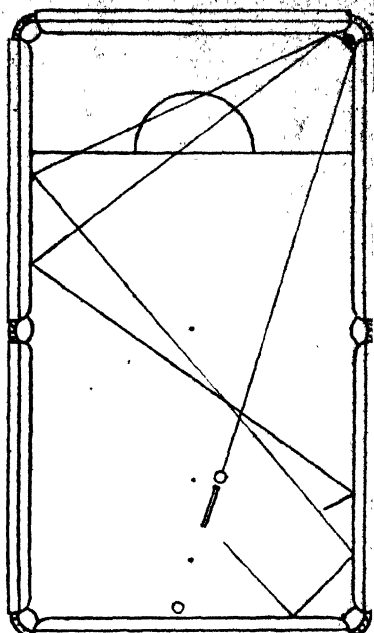


DIAGRAM 385.—A cushion pot, to bring the cue ball to the top of the table. Care must be taken not to hit the cue ball above the centre.

indicated by the cue ball. The three balls are not intended to be in a straight line, the cover being about a quarter-ball though this may be somewhat increased without making the stroke much more difficult. To most players the position would appear a bit awkward, for with the balls so far apart, to pot the red with the white is not quite an easy stroke even with the three balls in a straight line, and situated as they are a little out of a straight line with one another, such a stroke is still less easy. Other highly improbable strokes might, of course, possibly come off but the most reliable stroke to play is a pot made by hitting the cushion in front of the red, as shown by the continuous line on the diagram. The red is covered for a direct pot, but the cue ball can be aimed past the object and made to strike the cushion just a

little in advance of the red. Of course, in order to strike the cushion very close to the red, the cue ball must miss the white by very little. It may occasionally happen that even by only just missing the white it is not possible to hit the cushion quite close to the red. When this is the case, the pot may often still be made by playing the stroke with strong running side—left-hand side—in the diagram—for the tendency of this side will be to increase the acuteness of the angle at which the ball rebounds from the cushion, and this increase in the acuteness of the angle of rebound may ensure the fullish hitting of the red which is always necessary for a cushion-pot except when the ball is so close to the pocket that almost any kind of contact will pot it.

In playing cushion-pots at all similar to the one shown on Diagram 386, it must not be forgotten that the effect of side on the cue ball can never be very great, for owing to the ball striking the cushion so obliquely, side cannot alter to the angle of reflection to any very great extent.

A CENTRE-POCKET CUSHION-POT.

Cushion-pots can also be made into the centre pockets but in order that such strokes may be easily on, the object ball must always be very near the pocket and so situated that the pocket is a pretty open one.

As far, however, as Billiards is concerned such strokes are of no practical utility, for when the position is such that the pot can be made by hitting the cushion first, good position to continue with can quite easily be gained by the agency of a direct stroke. Even in cases where the direct pot is impossible by reason of the red being covered by the object white, and the pot could be made by the agency of the cushion, there is still no need to have recourse to a cushion-pot, for in such positions a more or less easy run-through cannon would generally be on, for the object white could be driven past the red. Besides, for a centre-pocket cushion-pot to be at all on, the red must be so near the pocket that it could not be a very difficult stroke to pot the red with the white when the white covers the red.

In Pyramids and Snooker, however, a centre-pocket cushion-pot is often an exceedingly useful stroke, when the ball to be potted is covered by two or more balls in such a manner that it is not even possible to pot it by the agency of another ball.

Diagram 387 shows such a position. The ball which lies close to the pocket is covered for a direct stroke and it is impossible to pot it by means of either of the obstructing balls. By striking

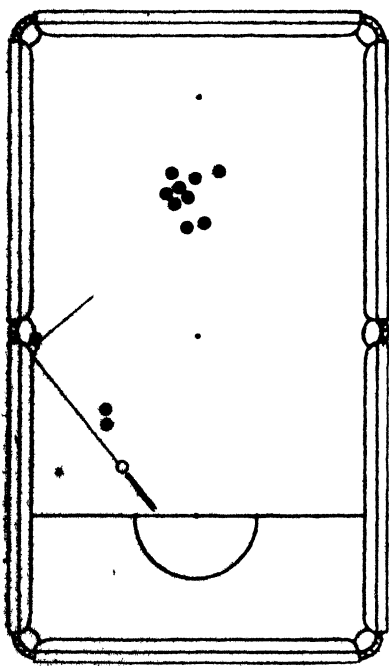


DIAGRAM 387.—A centre-pocket cushion pot—intervening balls preventing the direct

the cushion just a little in front of the ball the pot becomes possible and moreover is by no means difficult. The use of running side—right-hand side in the diagram—will often prove of great assistance when playing strokes of this nature.

In Billiards, when the object white covers the red ball, the red is often potted by playing the white ball on to it. In Snooker, however, a cover is often more serious; the obstructing ball may be one of the coloured balls and the red ball that is covered by it may be the only red ball on the table. Or, it may be that the ball which is right over the centre pocket is a coloured ball covered by a red ball. When either of these contingencies occur, one ball cannot be played on to the other and the cushion often then becomes the medium by which the pot may be made.

POTTING THE RED BY PLAYING IT ON TO THE WHITE.

Diagram 388 illustrates two examples of pots made by playing the red on to the object white. Pots of this nature are seldom played by ordinary players but in many cases they are absolutely simple strokes. Very often, in these positions, it would be possible to pot the red without its hitting the object white at all, but such a stroke might be very difficult owing to the pocket being a very blind one or by reason of the object white partially blocking up the entrance thereto.

In the position shown to the left on Diagram 388 it is possible to pot the red without its touching the object white, but such a stroke is not an easy one as owing to the white blocking up part of the entrance to the pocket there is barely room for the red to pass the white. Instead, by playing the red on to the white the pocket is greatly enlarged by being made a very open one. In this way a pot which may sometimes be very difficult as a direct stroke may often be turned into a comparatively easy stroke—frequently into a practically unmissable one—by playing the red on to the white.

It will also occasionally happen that the red is so placed that it cannot possibly be potted except by playing it on to the white ball. The location of the balls to the right on Diagram 388 shows such a position. Here, it is easily apparent that were the object white removed the red could not be potted for from such a position the red could not be sent into the pocket even if with the cue. By playing the red on to the white—aiming, of course, to cause the red to strike the white on the side facing the pocket—the pot can hardly be missed.

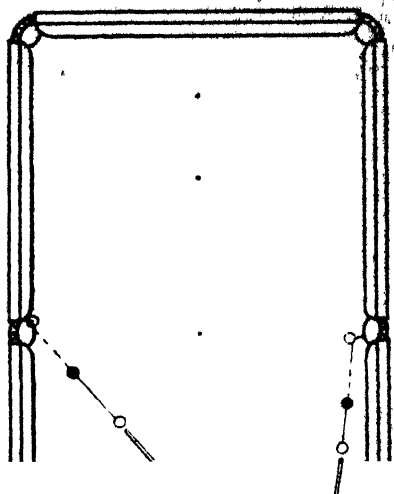


DIAGRAM 388.—Potting the red by playing it on to the object white. The pot into the right centre pocket—red ball $2\frac{1}{2}$ inches from the cushion and 12 inches from the centre of the pocket—would be impossible without the assistance of the object white

When playing strokes of this nature, it will often be good policy to follow on to the neighbourhood of the centre pocket and thus have position for an in-off from the red on the spot for the following stroke. When the stroke is played from the baulk end of the table the object white will, of course, always remain in the field of play, but when the stroke is played from positions above the centre pockets, that is looking towards baulk, too strong a following-on stroke may easily send the white over the line, and care must therefore be taken to avoid thus losing the white.

When the cue ball and the red are above the centre pocket there will often be no necessity for the cue ball to follow on after its contact with the red. This is the case when the red is situated on or near "the line," from any point on the lower part of which, as already explained, the in-off from the red is an ordinary half-ball stroke.

When the object white happens to be on, or very close to the angle of the pocket, as shown in the position to the left on Diagram 388, a slow stroke will generally leave the object white in good position for an in-off into the same pocket, for the red gently striking the white will cause it to rebound from the angle and travel a few inches out into the table.

Diagram 389 further illustrates the assistance that is often derived from the white when playing to pot the red. With the white away, the pot is none too easy, for in the first place it is into a blind pocket, and secondly, either the rest has to be used or the stroke must be played with the left hand. With the object white situated as shown on the diagram, the pot is so greatly simplified that it becomes quite an easy stroke. If the stroke be played gently, an easy in-off from the white may be left for the next stroke.

Diagram 390 shows the three balls in a straight line, and to many players the position would appear to be quite safe, except as regards the possibility of potting the white with the red. Instead, by playing the red on to the cushion close up to the object white, it can be potted off the white. It is practically like playing an in-off from the white with the red ball, with the difference that the red ball instead of being struck with the cue is struck by a ball. Of course, a stroke of this nature demands very accurate hitting, especially as the red ball cannot have the assistance of any side. In the diagram, the cue ball is not very far from the red, but if the distance between the balls be increased the stroke becomes more difficult.

This pot is sometimes played by good players and its accomplishment is illustrative of how a score can some-



DIAGRAM 389.—Potting the red by playing it on to the object white. The use of the rest is required in this position but the stroke is quite simple.

times be made from positions which to ordinary cueists appear quite safe.

Positions for strokes similar to those shown on Diagrams 388, 389, and 390 occur much more frequently in games of Pyramids or Snooker than in Billiards owing to the number of balls that may be on the table at one time in the former games, besides which in Billiards the red is only played on to the white for a pot off the white, when the white is very near the pocket. When the white is any distance from the pocket, though it might still be quite possible to pot the red off the white, there will always be some easier stroke to play.

In Pyramids and Snooker it will occasionally happen that the only stroke at all on is a pot off a ball lying some little distance from the pocket.

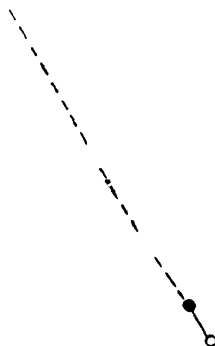


DIAGRAM 390.—Potting the red by playing it on to the white via the side cushion. Object white on the upper angle and about $2\frac{1}{2}$ inches from the opposite cushion.



Diagram 391 shows such a position. Here, a direct pot is impossible owing to several balls blocking the straight route to the pocket. By playing the ball A on to the ball B as shown in the diagram, the pot is quite possible, nor is it a very difficult stroke when the balls are near each other. At the same time, accurate hitting is essential and the player has to judge the necessary kind of contact between the two red balls. Such a position as this could not occur at Billiards as at least four balls are required to form it.

A POT BY A JUMP STROKE.

DIAGRAM 391.—Potting a red ball by playing it on to another red ball—the direct pot being impossible owing to other balls blocking the direct way to the pocket.

Diagram 392 is typical of positions which, as regards the cover, often occur at the top of is on the brink of the pocket and the object white lies between the cue ball

THE STROKES OF THE GAME.

red, the three balls being in a line. With the balls thus it would, of course, be quite easy to pot the red with the white and a well-played stroke could leave an in-off from the white to continue with. If, however, the position shown on the diagram be set up, and the pot be made by playing the white on to the red, it will be found that the after-position will not always turn out well. Many things may happen; the white may follow the red into the pocket, or it may remain in the jaws of the pocket leaving no in-off on, or it may travel too far from the pocket to leave the desired

By potting the red by means of a jump shot, good position to continue with will always be left, owing to the object white being situated near the spot. This jump shot is infinitely easier than the jump in-off or the steeplechase cannon, for in order that either of these latter strokes may be successful it is necessary to make the cue ball jump a very exact distance, whereas in playing the pot shown on Diagram 392, the cue ball has only to jump over the object white, and provided it drops *anywhere* on the line between the white and the red the pot may be made.

DIAGRAM 392.—A pot by a jump shot.
All three balls in a line.

The best way to make the cue ball jump is to aim at, and strike the cloth an inch or so in front of the ball. Care must be taken to align the cue with the three balls when the balls are in a straight line. When the balls are not quite in a line the alignment must be with the cue ball and the red. This is to ensure the cue ball jumping forward and rolling on in a straight line to the red.

Many ordinary players may consider such a stroke a very difficult one but if they will try it in the way I have described they will find that it is much easier than they imagined.

This jump shot can, of course, be played to pot the red in any pocket but generally speaking it is of most use when by its means the red can be potted into one of the top pockets. In Pyramids and Snooker this jump pot is equally useful matter which is the objective pocket for it will often happen that two balls close together intervene between the cue ball and a ball on the brink of a pocket and that the pot is impossible by the assistance of either of the intervening balls owing to these balls being so situated that neither can be played on to the ball overhanging the pocket. In Snooker this jump shot is often made use of by good players to hit a ball when that same ball happens to be

A POT BY A SWERVING STROKE.

Diagram 393 shows the three balls again in a straight line, the red being on the brink of a baulk pocket. In this case the jump shot is impracticable owing to the distance between the cue ball and the object white. The red ball might be potted with the object white but it would require a very good stroke to accomplish this, owing to the distance which intervenes between the cue ball and the object white and between the object white and the red. Moreover, a successful stroke would in all probability leave nothing at all easy to continue with.

Another, and for good players, a better way to play the pot is by means of a swerving stroke. For this shot, aim must be taken past the white, the butt of the cue must be raised, and the cue ball must be struck pretty high up and on that side which will be nearest the object white as it passes it—this will be left-hand side in the stroke illustrated on the diagram. Struck in this way, the cue ball can be made to curve round the white and then hit the red, and if that ball is right over the pocket it is bound to fall in. The difficulty in a stroke of this nature, even to a player who can play swerving strokes, lies in gauging the amount of the curve. The cue ball has to be forced some distance out of the straight line in order to clear the white, and if the stroke be not well played the ball will not curve inwards, or at least not sufficiently to hit the red; or the stroke, which is really a *massé*, may be *masséd* too much, in which case the cue ball will describe too pronounced a curve and hit the white. The amount of elevation of the cue, the strength of the stroke, and the distance from the centre that the ball is struck all have an important bearing on the stroke, and the stroke may be got in different ways, but generally speaking, the best way to play the stroke is to elevate the cue to an angle of about thirty to forty-five degrees to the table and to hit the ball well to the side with a fair amount of strength.

Difficult as the stroke undoubtedly is, it is one that is occasionally made use of by really good players. When the stroke comes off, the cue ball will often come right away from the pocket owing to its having struck the cushion just in front of the red. Sometimes, when the red is right on the brink of the pocket the stroke results in a six-shot being made.

A FANCY STROKE—A POT BY A SWERVING STROKE.

Diagram 394 illustrates another pot made by a swerving stroke but this is really a fancy stroke for the balls seldom or never come into such a

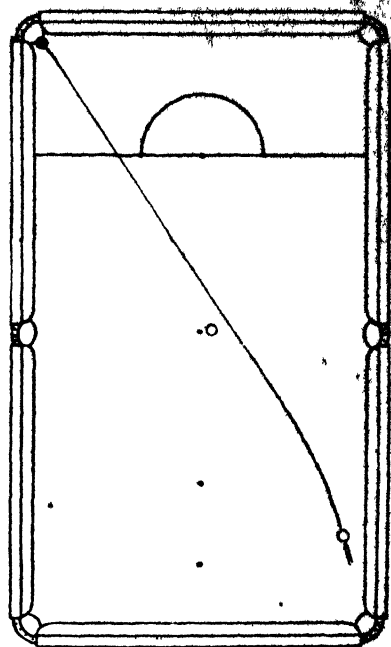


DIAGRAM 393—A pot by a swerving stroke—a difficult shot. All three balls in a line.

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position. The cue ball is angled to both balls and though to pot the red by a swerving stroke is an extremely difficult shot, there are plenty of players who through constant practice can get it quite often. Should such a position occur in a game, a more certain way of potting the red would be by playing the cue ball on to the opposite side cushion. With the cue ball not angled to the white, the safest game to play would be to pot the white and then the red.

When playing to pot the red, the object white may be so situated that a six-shot, if on, would be a very paying stroke. As a rule, the only six-shots that can be played with any degree of certainty are those which are made by causing both balls to enter the same pocket. An exception to this occurs when the red is close to a centre pocket and the cue ball is in hand. From this position a six-shot can be made as the result of a jenny into the top pocket which sends the red into the centre pocket.*

When both balls have to be sent into one pocket, very accurate striking is necessary when the red is any little distance from the pocket, and even when the red is comparatively near the pocket a careless stroke will often result in the cue ball remaining out of the pocket though the red enters it. Even when the red is almost over the pocket, should the cue ball be at the other end of the table the six-shot may easily be missed, owing to a slight inaccuracy of aim, or untrue running of the cue ball, etc. If, however, in these long-distance strokes with the red close to the edge of the pocket, the cue ball be hit above the centre and with plenty of strength, it will almost invariably follow the red ball into the pocket, unless, of course, the red has been hit very badly indeed. Often, the cue ball will be seen to absolutely wriggle into the pocket as the result of the strong forward rotation imparted to it by top and pace.

The tremendous assistance derived from the use of top and high pace in certain strokes is exceptionally illustrated when playing for six in the position shown on Diagram 395. The red is right on the angle of the pocket, but so placed that a ball held in the fingers could not be passed between it and the opposite angle, the space being $\frac{1}{3}$ th of an inch narrower than the diameter of a ball. In such a position, an in-off might possibly be made by means of an exceedingly high-paced stroke with plenty of top, but with a certain pot on, such a stroke would be too risky to play.

Viewed from the position of the cue ball, though the pot is simplicity itself, a six-shot would to many players appear quite impossible, and played for in the ordinary way it would be impossible. Any player, however, who can hit a ball tremendously hard and with plenty of top can make the six-stroke though he



DIAGRAM 394.—A fancy shot—a pot by a swerving stroke. Cue ball angled.

may never have made a decent break in his life. But no attempt must be made to cut the red in. It must be banged full in the face and the kiss that will then ensue will cause it to fall into the pocket. The cue ball will always be kissed back—though when only fractionally so this may not be apparent to the striker—but the strong top on the ball will always carry it forward again and it will often enter the pocket even though it may at first wriggle in the jaws. Sometimes the kiss back will be very pronounced, the cue ball being sent several inches away from the pocket—in extreme cases six or eight inches or even more—and then rushing back to the pocket.

On the diagram the stroke is shown into a baulk pocket, as generally speaking, when the object white is out

D

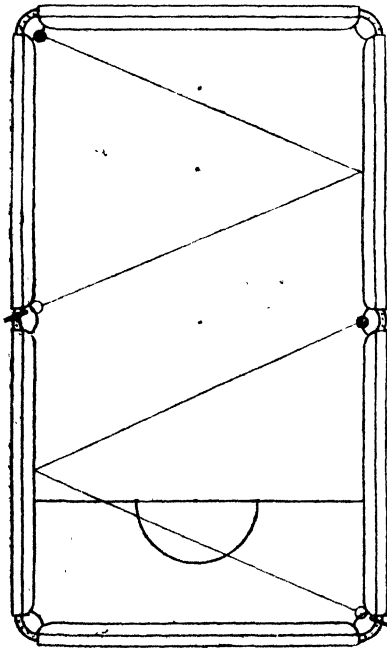


DIAGRAM 395 —Position for a possible six-shot by means of strength and top. Red ball on the baulk cushion angle, the space between the ball and the side cushion angle being one-eighth of an inch less than the diameter of a ball.

DIAGRAM 396.—Playing across the table—from angled positions—to pot the red. In these positions the angles of incidence and reflection in medium pace strokes are approximately equal.

of baulk it is better to get a six-shot into a baulk pocket when possible than only a pot. With the same position over a top pocket, good after-position can often be gained by means of the pot only. On the other hand, the object white might be so placed that a six-shot would leave perfect position from the D, whereas to leave good position by a pot only might be a difficult and uncertain stroke especially when the pot is played from the distance of the D. Moreover, when playing such a six-shot from the D, should only the red ball enter the pocket—and the red will always enter the pocket if hit full in the face—the cue ball will often remain close to the jaws of the pocket, or should it come to rest some little distance from the pocket, it will

as often as not remain close to the line for the cross in-off, thus a fair probability always exists of position being left when the six-shot does not come off.

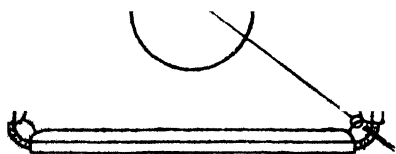
In the position shown on Diagram 395 the six-shot into the baulk pocket leaves a drop cannon to continue with.

Diagram 396 shows the cue ball angled, and the red on the brink of a pocket. If the cue ball be sent across the table so that it strikes the opposite cushion at a point half-way between the pockets, a medium-pace stroke without side will result in the red being potted. In this stroke the line of aim is at an angle of about 60° to the opposite cushion, and when a ball carrying no side and travelling without much speed strikes a cushion at an angle as little acute as this, the angle of reflection is practically the same as the angle of incidence. Hence the old saying that the angle of reflection is equal to the angle of incidence. Very often, however, a very great deal of difference exists between the two angles. In the strokes shown on Diagram 396 strength will quite alter the angle of incidence, especially on a table with very resilient cushions. Very strong strokes—aim being taken at the same spot on the opposite cushion—will cause the cue ball to rebound much more squarely from the cushion and the red ball will be missed by many inches.

Not only does the angle of reflection often differ very considerably from the angle of incidence when a ball hits a cushion with plenty of force, but in many cases the angle of reflection differs from the angle of incidence even when a ball strikes a cushion at medium pace.

The stroke shown on Diagram 397 will illustrate this very forcibly. With the cue ball angled in the jaws of a baulk pocket and the red on the brink of a top pocket, as shown on the diagram, it might be thought that if there were no centre pockets, the centre of the opposite cushion would be the point to aim at in order to pot the red, but that with the pocket in the way aim must be taken on to the point of the cushion just below the pocket and a trifle of side be used as compensation for hitting the cushion lower down than would be the case if no pocket existed. Played this way, however, the stroke will fail, in fact, even if no side be used, a medium-pace stroke will cause the cue ball to strike the top cushion some little distance from the red, whereas were the angle of reflection equal to the angle of incidence in this stroke, the cue ball would travel across the table to the opposite side cushion and strike this cushion just below the red.

In order to pot the red, aim must be taken at a point on the side cushion considerable distance below the centre pocket. The exact point will



from an angled position—to pot the red. In this position the angle of reflection differs from the angle of incidence.

considerably on different tables as different cushions throw very different angles. On some tables the point to aim at will be about three inches from the pocket, on other tables aim has to be taken at a point quite seven inches below the pocket and in extreme cases even still lower than this. On Diagram 397 the cue ball is shown striking the cushion six inches from the pocket. In trying this stroke several times, even though the same strength be used and the same spot on the opposite cushion be struck each time, it may happen that in some strokes the cue ball will rebound from the side cushion at a somewhat different angle from what it does in other strokes. When this is the case it is simply because in at least some of the strokes a little side has been unintentionally imparted to the cue ball. As already pointed out in the chapter on SIDE, it is no easy matter at all to hit a ball exactly at the centre, and if it be struck only slightly away from the centre some side is at once imparted to the ball. If the stroke shown on Diagram 397 be played with the butt end of the cue, placing the cue against the ball and pushing the ball—not hitting it—it will be found that, provided the same spot on the opposite cushion be struck and about the same strength be used each time, the cue ball will always come off the cushion at the same angle. The reason of this is, of course, that when the ball is pushed with the butt end of the cue no side can be imparted to it.

DEAD SETS.

Diagram 398 shows a position generally termed a dead set. The object white and the red—or in Pyramids or Snooker two red balls—are touching and are in a straight line with the centre of the top pocket. All players are aware that from any position below the touching balls, as for example from A, B or C, the pot is a certainty provided that the first ball be hit moderately full. What may be new to many players, however, is that the pot is equally on from positions above the touching balls, as for example from D and E. The pot is, however, considerably more difficult from D and E than from A, B and C, for from A, B, and C any fullish contact will serve, whereas from D and E a thin contact is required—a very thin one from E—and the stroke must be played at a fast pace in order that the second ball may travel to the pocket.

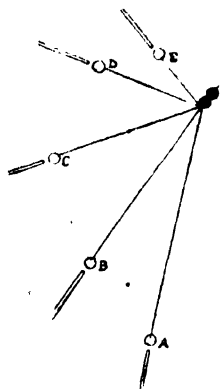


DIAGRAM 398.—A dead set.

Diagram 399 further illustrates sets sometimes played at Pyramids. In the diagram, the cue ball is shown on the D line in both instances but the strokes could, of course, be played from various other positions. In the centre-pocket set, if the touching balls are in a straight line with the inside of the lower angle of the pocket as shown by

the intersected line, the pot from the D is a certainty if the farther ball be taken very thinly and high pace be used. It is, however, not so very easy to play this very fast fine shot, for in attempting to take the ball as thin as the making of the stroke demands the ball will often be missed altogether. The pot into the baulk pocket, on the other hand, is quite a simple stroke, for owing to the cue ball being so near the ball that has to be hit, it is quite easy to play a very fast fine stroke without any fear of missing the ball. Also, in the positions shown on the diagram not

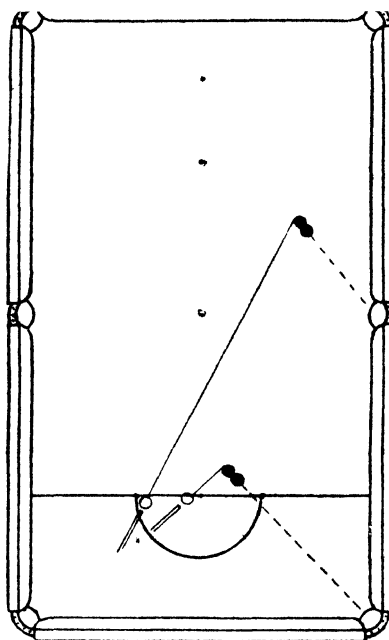


DIAGRAM 399.—Two sets quite possible by fast fine strokes.

quite so thin a stroke is necessary for the pot into the baulk pocket as for the pot into the centre pocket.

Diagram 400 shows a position with two balls touching, the balls however not being in a line with the pocket; in fact, a line passing through the centres of the balls would meet the top cushion at a point several inches from the pocket, as shown by the thick intersected line on the diagram. Surveying such a position at the table, most players would decide that no pot was on, owing to the touching balls not being in a line with the pocket. Many good Pyramid and Snooker players are, however, aware that sets are often possible when touching balls are not in a line with the pocket, and to such players the position shown on the diagram would present a fairly easy pot.

DIAGRAM 400.—A peculiar and little-understood set. A line passing through the centres of the touching balls will, if continued, meet the top cushion at a point four or five inches from the centre of the pocket at the fall of the slate. Cue ball in a line with, and about 15 or 20 inches from the touching balls. First object red five or six inches from the spot and on a line—across the table—with the spot. A thin stroke catching the first object red on the side facing the top cushion will send the second red ball to the pocket.

In order that the second ball may be potted, in the position shown on the diagram, the nearer ball must be taken quite thinly so that it is cut down the table towards baulk and a moderately slow stroke should be used. When the stroke is played in this manner the second object ball will never travel along the thick intersected line drawn from the ball to the cushion, but will always travel to the right of this line and may travel to the pocket as shown by the thin intersected line. When the contact with the first object ball has not been fine enough, though still thin, the ball though not travelling to the pocket will strike the cushion at a point nearer the pocket than shown by the thick intersected line.

Many players, however, who can get these pots easily enough through knowing how to play them, are absolutely ignorant as to the true cause that compels the red—when the stroke is played in a certain way—to travel to the pocket instead of to the cushion. These players generally make the assertion that the pot is the result of communicated side, that is to say that side is imparted to the cue ball by the cue, that the cue ball transmits some of this to the first object ball, and that this ball in turn communicates a portion to the ball touching it.

The question of transmitted side in ordinary billiards has often been a vexed one but it has already been fully discussed in the chapter on SIDE, and whilst no doubt side may be transmitted to an object ball, the amount is always so exceedingly small as to be practically inappreciable. In fact, so great an authority as Mannock goes even farther and gives it as his opinion that transmitted side exists only in theory. If therefore side can only be faintly transmitted to an object ball, how can an object ball communicate any to a second object ball? Yet were the pot shown on Diagram 400 the result of communicated side, the ball would have to travel to the pocket with a tremendous amount of spin, in order to pull to the pocket, and in a slow stroke the spin and pull would both be easily discernible, and moreover, the direction of the spin would have to depend upon whether the stroke was being played into a top pocket or whether into a baulk pocket, for in the former case the ball would be travelling *with* the nap of the cloth and in the latter *against* it, and consequently opposite spins would be required to produce the same effect.

That the pot cannot be the result of side, is most conclusively proved by the fact that the stroke can be made with just as much certainty no matter whether the cue ball be struck with right-hand side, left-hand side or without side at all. Yet were the stroke the result of transmitted side, left side on the cue ball would produce just the opposite effect of right side.

That the ball which enters the pocket travels to it absolutely without side may be proved quite easily in the following manner:—Use a spot-white ball for the second ball, so placing it that the spots are exactly half-way up and at right angles to an imaginary line from the touching balls to the pocket. If then whilst one player strikes the cue ball, another stands facing the white ball, the player who is watching it can tell with absolute certainty whether or not this ball travels with any spin. If only a trace of spin were imparted to it, the spots would slowly move round, but if the spin were powerful enough to pull the ball to the pocket the rotation would be so fast that the spots would be invisible or at most would only show as a blurred line. When, however, this experiment is tried, no matter whether the cue ball be struck with left-hand side, with right-hand side or without any side at all it is at once apparent that the spots on the white ball do not travel round in the slightest degree, thus conclusively proving that no side has been communicated to the ball, and this result is always the same no matter what kind of contact takes place between the cue ball and the first object ball.

The theory of the pot shown on Diagram 400 is as follows:—When from the position of the cue ball, the first object ball is taken thinly on the side towards the top cushion (as shown by the continuous line) it is cut down the table more or less as shown by the intersected line. When this happens the object balls *do not separate immediately*. For a fraction of a second all three balls are touching, and owing to the first object ball being locked between the other two balls it cannot travel down the table as it has to do, *without pulling the second object ball down with it a little way*. When, however, the object balls separate, the second object ball travels *in a straight line*, the direction of this line being a continuation of a line passing through the centres of the object balls *at the last moment of contact*. The second object ball has only to be carried a very short distance to be given quite a different direction of travel from that which it would take as the result of a fullish stroke on to the first object ball.

On Diagram 401 the intersected circles are intended to roughly show the position of the two object balls *still touching* a fraction of a second after the first object ball has been struck. It will be seen that they are now in a line with the pocket, and the thin intersected line shows how the second object ball travels straight to the pocket. This pull which the first object ball exercises over the other ball lasts too short a space of time to be detected by the eye, and consequently however closely a successful stroke be scrutinized, it always appears as though the second ball makes straight for the pocket the very moment that the cue ball touches the first object ball.

Many players who know this pot have ~~an~~ an idea that it is only possible by means of a slow stroke. This, however, is not the case. I am not prepared to say that a fast stroke will cause the first ball to carry the second ball along with it quite as far as a slow stroke will. Possibly it will not, nevertheless even when the touching balls are pointing several inches from the pocket the pot is quite on—from the position of the cue

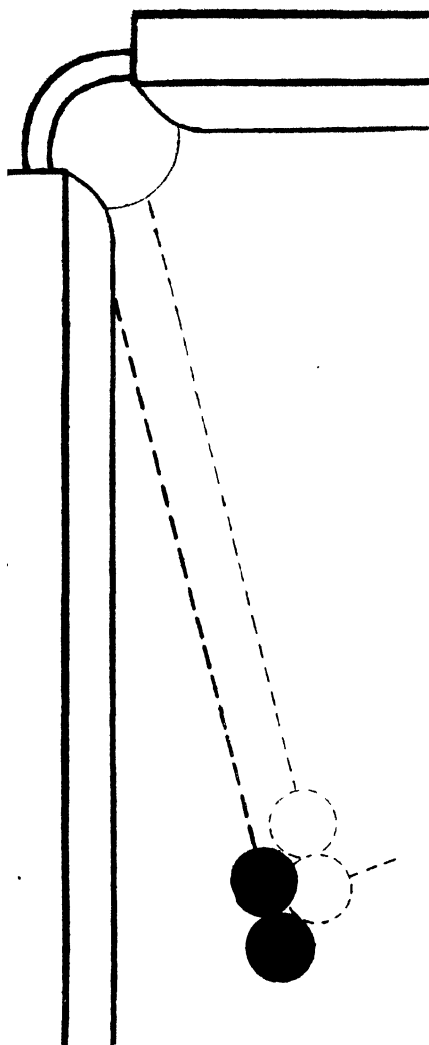


DIAGRAM 401.—The thick intersected line shows the direction to which the touching balls point, before the stroke illustrated on Diagram 400 is played. The intersected circles and the thin intersected line show the balls pointing to the pocket at the moment of separation.

ball shown on Diagram 400—by means of a strong slashing stroke provided that the first object ball be taken very thinly.

When playing one of these sets with the balls in a similar position to the one shown on Diagram 400, but more nearly pointing to the pocket, the first object ball must not be taken too thinly otherwise the stroke may be overdone through the second ball being carried past the pocket and thrown on to the side-cushion angle.

Diagram 402 shows a variation of the stroke shown on Diagram 400. A line passing through the centres of the touching red balls does not meet the pocket, but instead, impinges on the top cushion at a point about four or five inches from the centre of the pocket. In order for the second ball to be potted, the ball hit by the cue ball must be sent down the table, so that the farther red ball may also be carried down a short distance before the two red balls separate.

From the position of the cue ball in Diagram 402, a thin stroke cannot cause the ball hit by the cue ball to carry the farther red ball down the table. If, however, aim be taken nearly full on to the nearer red ball and a medium-pace stroke be used, the second red ball will be pulled down the table a little before the balls separate and in this way the pot may be made. Medium pace is, however, not really essential and the pot is also on by means of a strong slashing stroke.

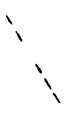


DIAGRAM 402 — A peculiar and little-understood set. A variation of the stroke shown on Diagram 400. A line passing through the centres of the touching balls will, if continued, meet the top cushion at a point four or five inches from the centre of the pocket. Cue ball above the touching balls. A fullish stroke—three-quarter ball or so, taking the object ball on the side away from the top cushion, will send the second ball to the pocket.

A HIDDEN SET.

In Pyramids and Snooker it will sometimes happen that two balls are touching and exactly situated for a set, but that the ball that must be struck for the pot to be made is covered by one or more balls, and cannot be hit by the cue ball by means of a direct stroke. When such a contingency arises—and Diagram 403 illustrates one of these covered sets—it will generally happen that the pot can be made quite easily by playing the obstructing ball on to the ball that has to be hit. Especially is this the case when, as in Diagram 403, the obstructing ball is close to the cue ball, and at no great distance from the touching balls. In the diagram, the cue ball, the obstructing ball A and the ball B are shown in a line with each other, so that in playing A on to B, all that is required is a stroke played like a straight pot.

It will, however, sometimes happen that this method of playing an obstructing

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ball on to the ball that has to be hit is impracticable, owing to the obstructing ball being in its turn obstructed by another ball.

Diagram 404 shows such a position, and here the ball A can no longer be played on to the ball B, as in Diagram 403. In cases like these, the touching balls may still be attacked by means of what may be termed a cannon stroke, provided that another red ball is so situated as to allow of this method of play. In Diagram 404, two balls are favourably situated and the pot can quite easily be made by playing a simple ball-to-ball cannon off C on to B or an easy screw cannon off D on to B. In fact, the pot by either of these cannon strokes is even a more certain stroke than the pot shown on Diagram 403, for the simple reason that ordinary cannons do not require very great precision of aim.

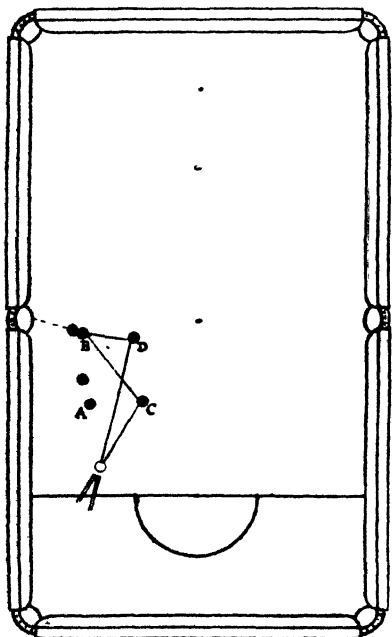


DIAGRAM 404.—A hidden set. The ball B cannot be hit by a direct stroke, but a cannon off C on to B or D on to B ensures the pot being made.

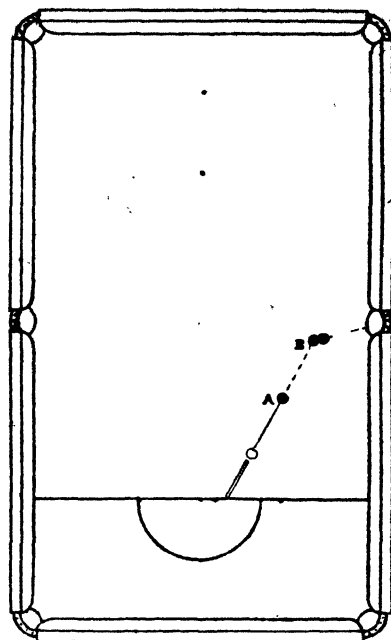


DIAGRAM 403.—A hidden set. By playing the ball A on to the ball B, the pot is quite a simple stroke.

In complicated positions when a lot of balls are in a cluster—generally before the pyramid has been properly broken up—a set may sometimes be made by a combination of the strokes shown on Diagrams 403 and 404, that is by causing a red ball to cannon off another ball on to two touching balls in a line with the pocket, with sufficient speed to cause the farther of the touching balls to travel to the pocket.

Diagram 405 shows such a stroke. By playing the ball A on to the ball B in such a manner that the ball A cannons on to the ball C with a fair amount of strength, the ball D will be potted.

The watchful player at Pyramids or Snooker not seldom brings off strokes that many a player would not know were on, and it should always be remembered that when two touching balls are in a line with a pocket, the pot will be on far oftener than not, and in the majority of instances no difficult

stroke is necessary for its accomplishment. These positions for sets should always be *looked for* at the beginning of a game as they exist far more often than many players imagine.

PLANTS.

There is another kind of pot which is not infrequently on at Pyramids and Snooker which is quite unknown to the ordinary player. When two balls are touching and are also in a straight line with a pocket a set is on, but in all sets the ball which is potted is never the ball which is struck by the cue ball. It will sometimes, however, happen that two touching balls are so situated that whilst

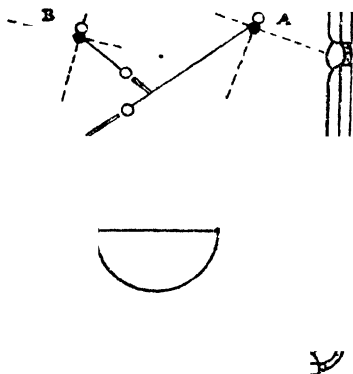


DIAGRAM 406.—In position A, as a line passing through the centres of the touching balls forms a right angle with a line passing through the centre of the red and the centre of the pocket, the red can be quite easily potted from the position of the cue ball. In position B, a line passing through the centres of the touching balls does not form a right angle with a line passing through the centre of the red and the centre of the pocket, therefore no plant is possible.

DIAGRAM 405.—A hidden set. By causing the ball A to cannon off the ball B on to the ball C, the ball D can be sent to the pocket.

no set is at all on, the ball that is struck by the cue ball may itself be potted, by reason of its being in contact with another ball. Such a stroke is generally called a plant, and for this plant to be on when two balls are touching, a line drawn from the centre of the pocket to the centre of the ball to be potted must be at a right angle to a line passing through the centres of the touching balls.

Thus in position A on Diagram 406, as the line which is drawn from the centre of the pocket to the centre of the lower ball is at a right angle to a line passing through the centres of the touching balls, the lower ball can easily

table. From the position of the cue any kind of stroke from a fine stroke up to about a half-ball stroke will do,

ball to be potted be taken very full.

THE STROKES OF THE GAME.

however, there is so much latitude between a fine stroke and a half-ball stroke, it is practically impossible to miss the pot when the touching balls are properly set for the shot.

In position B, as a line drawn from the centre of the pocket to the centre of the lower ball is not at a right angle to a line passing through the centres of both balls, the pot is impossible, and the intersected line shows the direction that the ball will always take as the result of strokes varying from fine strokes right up to about half-ball strokes—played from the position of the cue ball shown on the diagram.

Diagram 407 shows an adaptation of this plant for a pretty and very telling fancy stroke, and one, moreover, very easy of accomplishment by the most moderate player. The red is on the centre spot and the white is exactly behind the red and touching it. Playing from the D, the red can easily be potted into either centre pocket. Should the right centre pocket be chosen, the best position on the D line for the cue ball is the left-hand corner. Playing from here, a quarter-ball contact—hitting the red to the left—will always pot the red. But no exact hitting is at all necessary; the red can be taken considerably fuller than half-ball, and also quite thin, without the stroke failing, but when the contact is a very thin one, unless the stroke has been played with plenty of pace the red although travelling in the right direction may not reach the pocket. If the red be taken too full the stroke will fail, and therefore aim should be taken to hit the red moderately thin. In trying this stroke, care must be taken that the white ball is *exactly* behind the red, for should it be only slightly to the right or the left, the pot will not come off. Also, the balls must be touching. This fancy stroke can be made to look still more effective by playing it from the centre of the D line. The stroke is quite easy even from this placing of the cue ball. All that is required is a fast fine stroke.

If the cue ball be placed on the right extremity of the D line, the red can still be potted into the right centre pocket, but from this spotting of the cue ball the stroke is somewhat more difficult, for the contact has to be very fine and plenty of pace must be used in order to cause the red to travel to the pocket.

Diagram 408 shows a pretty variation of the fancy stroke shown on Diagram 407. The object balls are placed exactly as before, but instead of the cue ball being in the D, or anywhere below the object balls, it is actually above them. The pot, from the various positions of the cue ball shown on the diagram, is quite easy. Of course, were the white ball removed, the pot would still be on, but it could easily be missed through catching the

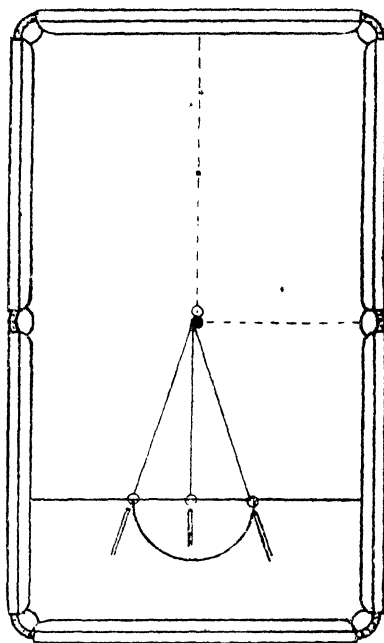


DIAGRAM 407.—A pretty fancy stroke. A pot into a centre pocket played from the D. Red ball on the centre spot, object white touching the red and *exactly* behind it. Quite a simple stroke from the left extremity of the D.

red too full, or through overcutting it, that is taking it too thin. With the object white where it is, it is impossible to overcut the red, for the white prevents its taking a direction above the centre pocket. Consequently it is impossible for the ball to travel in a wrong direction as the result of too thin a contact. Too full a stroke will send the ball down the table, just as it would were the white not where it is, but a contact which would be too fine with the object white away, will not be too fine with the object white where it is. The best way, therefore, of playing the stroke is to take aim for a thinner contact than would be necessary with the white away. When the stroke has been correctly played, the object white will always travel some little distance up the table, thus showing that it has prevented the red from being overcut.

Diagram 409 shows a very pretty plant into a corner pocket. From the position of the cue ball, the nearer red ball can be potted provided it be taken very thinly indeed, and a very fast stroke be used, for a line drawn from the centre of the pocket through the centre of the ball to be potted, will be at a right angle to a line passing through the centres of the touching balls. This plant is a very effective-looking stroke, and one that any player can get.

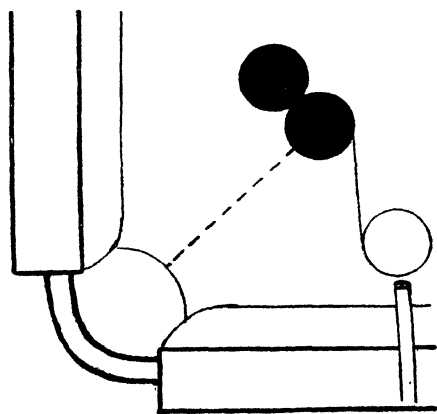


DIAGRAM 409.—A very pretty and simple plant made by a fast thin stroke.

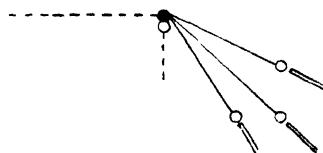


DIAGRAM 408.—A pretty fancy stroke. Red ball on the centre spot, object white touching the red and *exactly* behind it (looking from the D). From the different positions of the cue ball the cue is not so "uncut" as the object white prevents from being overcut.

A SET AND A PLANT

Diagram 410 shows an exceedingly effective fancy shot, viz., a set and a plant in one stroke. The position is set up as follows (and innumerable other positions can be set up in the same way):—

Draw a line AB from a baulk pocket to a point on the opposite side cushion (no exact point on the opposite cushion is at all necessary but it is best to select a point facing or nearly facing the pocket). Then from the middle of the centre pocket, draw a line CD at right angles to AB. Put a ball on the line AB at the point of intersection, also a ball on the line DC in front of the first ball and touching it. In this way, the touching balls will be in a line with the centre pocket. From the position of the cue ball on the diagram, the farther

red ball can clearly be potted in the centre pocket, as the stroke is a simple set, and as the line AB drawn from the centre of the baulk pocket through the centre of the nearer red ball, is at right angles to the line CD which passes through the centres of the touching balls, the nearer ball is equally correctly placed for a plant into a baulk pocket. Thus, if from the position of the cue ball, a fast thin stroke be played, both red balls will be potted. By playing at the same time for an in-off into the right top pocket, it is quite possible to cause all three balls to disappear.

Diagram 411 shows a variation of the stroke illustrated on Diagram 410 and is a well-known fancy shot. The red is on the pyramid spot, and the white is touching it and in a straight line with it and the centre

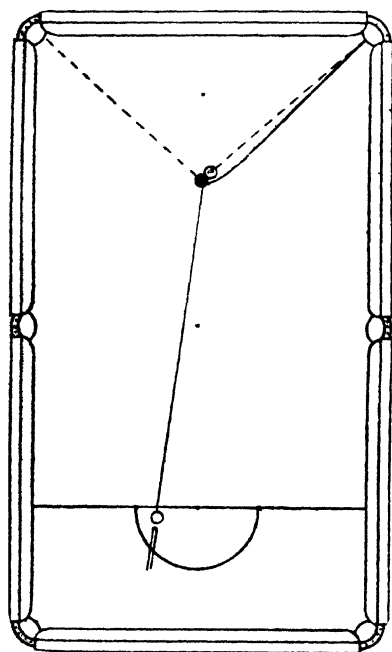


DIAGRAM 411.—A well-known fancy stroke which causes all the balls to disappear. Red ball on the pyramid spot, object white touching the red and in a line with the red and the centre of the top pocket.

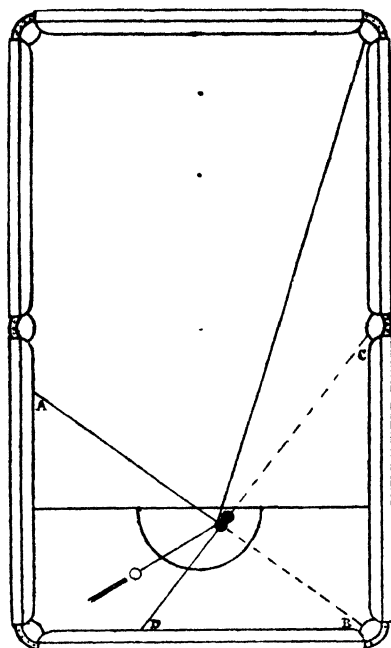


DIAGRAM 410.—An exceedingly pretty fancy stroke. A combination of a set, a plant, and an in-off.

of the top pocket. The location of the balls will be found to fulfil all the conditions necessary for both a set and a plant. If the cue ball be placed in the D, and an in-off from the red be played, all the balls may be made to disappear, the object white following the cue ball into the right pocket, and the red going into the left pocket. As the object balls are touching, a half-ball stroke will throw the cue ball off at a somewhat wider angle than the angle of normal half-ball strokes, consequently, this must be allowed for when making the angle for the in-off.

When the stroke comes off it is a wonderfully effective one, but unfortunately it can rarely be made with any certainty, and more often than not only two balls disappear, though not always the same two. Several reasons may conduce to a partial failure of the stroke. Great care is necessary to get the

balls correctly placed, for extreme accuracy of placing is essential. On many tables the pyramid spot is not quite exactly in its proper place, and though it may be only a little out, this may be quite sufficient to cause a faulty placing of the balls. Of course, it is not really necessary for one of the balls to be on the pyramid spot, or even near it. So long as the conditions already given as necessary for both a set and a plant are fulfilled, the position can be set up independently of whether the pyramid spot is in its right place or not. Another difficulty which is, however, not so easily overcome is getting the balls to touch when correctly placed. On cloths that are worn, balls will often fall just slightly away from each other after having been placed touching one another, and in the stroke under discussion it is very essential that the balls should touch.

Diagram 412 shows another position for the same kind of stroke as the one shown on Diagram 411. Here again, the two object balls are touching and in a direct line with the right top pocket, and are also so situated that the red is in position for a plant into the left top pocket. If the balls are correctly placed and an in-off from the red be made all three balls will disappear. The cue ball should be spotted in the D for a rather wide in-off, for owing to the object balls being in contact with each other, a half-ball stroke will cause the cue ball to be thrown off at a wider angle than the normal half-ball angle.

Diagram 413 shows the red ball on the brink of a baulk pocket. When such a position occurs and the player is in hand, it will naturally be the game to try and pot the red, should the object white also be in baulk. Even should the object white be off the table, it will, as a rule, still be the game to try and pot the red, for the simple reason that should the striker give a miss instead, his opponent may himself succeed in potting the red. It will often be the game to attempt to pot the red, even with the object white out of baulk, for the white may be in such a safe position that uncertain as the pot may be to many players, it will be a much easier stroke, than any stroke off the white.

There are innumerable methods of potting the red when over a baulk pocket, if every possible way be taken into consideration, but all the different strokes may be grouped into three classes as follow :—

- I.—Playing across the table, and striking the cushion just outside the D, and using sufficient side to cause the cue ball to travel across the table on to the red.
- II.—Playing up the table so that the ball may rebound from the top cushion and travel down the table on to the red.
- III.—Playing all round the table.

Diagram 413 shows the first method of potting the red. It is possible, by

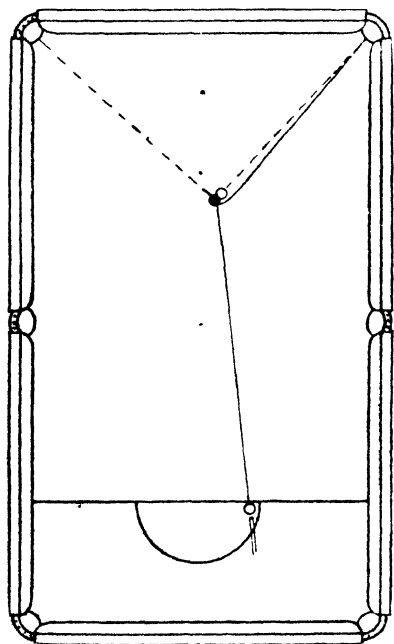


DIAGRAM 412.—A variation of the position shown on Diagram 411.

the use of extreme side, to get the pot after having sent the cue ball a considerable distance out of baulk, but as a rule nothing is gained by sending the cue ball more than fractionally out of baulk. In fact, even when a player can impart a great deal of side to a ball, sending the cue ball more than fractionally out of baulk increases the uncertainty of the stroke, owing to the difficulty of gauging the amount of side required. Sometimes, however, the pot cannot be made by sending the cue ball only fractionally out of baulk owing to the object white lying on or close to a line drawn from the red ball to that part of the opposite cushion which overhangs the baulk line.

The second method of potting the red on the brink of a baulk pocket, viz. : by playing up the table from the D, admits of great variation, as the cue ball may be placed in any part of the D and different points of the top cushion may be aimed at, according to the position in the D from which the stroke is played, and according to whether the stroke is played with or without side. Many players when adopting this method of potting the red, play the stroke with side, but this is an unsound way to play it, owing to the difficulty of gauging the amount of side for the particular angle made. The better method is to play without side and to spot and aim in such a manner that the angles of incidence and reflection are as nearly as possible equal. Even when playing the stroke in this manner, it is not very easy to judge the angle correctly, if the cue ball is placed on no particular spot on the D line. Fortunately, however, there is one particular spot on the D line which is pretty well defined, and from which there is a well-defined line of aim for a stroke which if played at medium pace and without side will cause the pot to be made, as the result of the equalization of the cue ball's angles of incidence and reflection.

Diagram 414 shows the stroke. The cue ball is placed on the D line, on a spot $5\frac{1}{2}$ inches from the end of the D—this spot is easily found as it lies exactly midway between the centre of the D line and the extremity of the D—and the line of aim is exactly over the centre spot which lies midway between the centre pockets. If the stroke be played without side and not much strength be used—the strength of the stroke should be such that the cue ball travels down the table with very little more speed than is necessary to reach the red—the cue ball will rebound from the top cushion at practically the same angle at which it strikes it, and this will result in the pot being made. If, however, too much strength be used, even though the cue ball be struck truly in the centre, the stroke will fail, for the strength of the stroke will cause the ball to rebound from the top cushion at a different angle from that which results from a slow stroke. As has already been explained, when a ball strikes a cushion with any force, unless the angle of incidence be very acute,

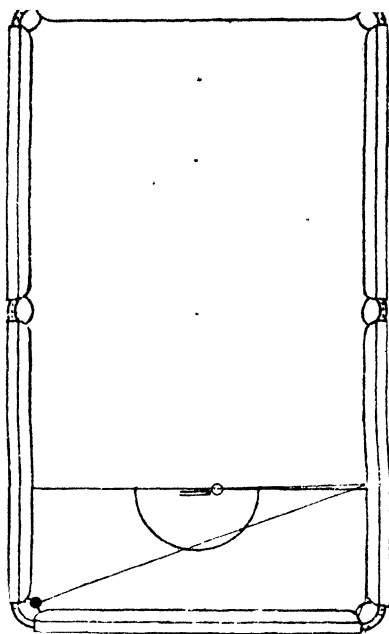


DIAGRAM 413.—An across-the-table pot.

it presses itself into the cushion and then rebounds at a squarer angle than it would otherwise have done. In the stroke shown on Diagram 414, a strong stroke would cause the cue ball, though correctly struck, to hit the baulk cushion some inches from the red no matter on what table the stroke were played. On a table with very resilient cushions the effect of a strong stroke would be very marked indeed. In fact, the cue ball might very easily meet the baulk cushion quite a foot from the red ball. On tables with these fast yielding cushions—and all good tables have these cushions—it is very necessary to allow for this alteration of angle caused by the ball being pressed into the cushion, for it exists to a certain extent even in medium paced strokes. In the stroke under discussion the necessary allowance may be made by aiming an inch or so to the left of the centre spot, or by spotting the cue ball an inch or so nearer the end of the D and still taking aim to send the ball over the centre spot. If for any reason it be desired to pot the red by means of a rather fast stroke, a still greater allowance for the alteration of the angle of the rebound must be made.

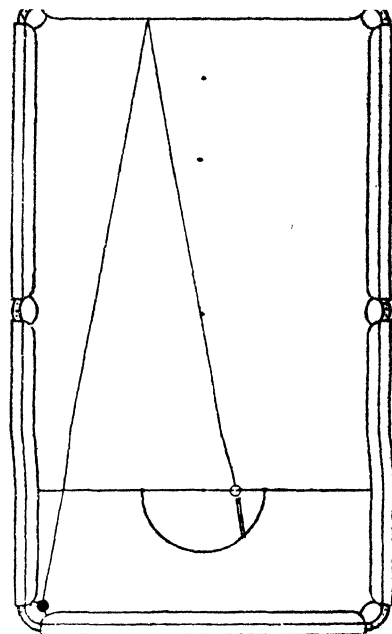


DIAGRAM 414.—An up-and-down-the-table pot. The correct angle for a medium-paced stroke is made by placing the cue ball half-way between the centre and end of the D line, and playing over the spot situated midway between the centre pockets.

In trying the shot shown on Diagram 414 should any appreciable side be imparted to the cue ball the stroke will fail, and many players oftener than not impart side to the cue ball even when playing to hit it truly in the centre. That the angle given is the correct one may easily be tested in the following manner:—Place two balls touching and exactly in a line with the centre spot—as shown on Diagram 415—the ball on the D line being exactly midway between the centre and end of the line. From any position behind the touching balls play a ball on to them with sufficient strength to cause the farther ball to travel up the table and down again. In this way, no side can possibly be imparted to the ball that goes up and down the table, and if the strength of the stroke be so measured that the ball comes down the table with little more than sufficient speed to reach the ball over the pocket, the accuracy of the angle will at once be demonstrated. For the reason already referred to, a strong stroke will give a totally different result.

Another method of testing the angle is by placing the cue ball on the D line, midway between the centre and end of the line, and then sending it over the centre spot *using the butt end of the cue* and pushing the ball. In this way, no side can be imparted to the ball. As before, the strength of the stroke must not be greater than is necessary to cause the ball to travel down the table to the ball over the pocket.

Diagram 416 illustrates the third manner of potting a ball lying on

the brink of a baulk pocket—by playing all round the table. The cue ball is spotted at the extremity of the D and aim is taken at a point on the side cushion 15 to 20 inches above the centre pocket. The stroke should be played with moderate strength, and the cue ball should be struck with a little running side—right-hand side in the diagram. The point on the side cushion at which aim should be made can be easily gauged by the baulk pocket, for a line drawn from the centre of a baulk pocket and passing over the end spot of the D will meet the side cushion at a point about 16 inches above the middle pocket (the measurement being from the centre of the pocket at the fall of the slate). In order therefore for the cue ball to travel on this line, all that is necessary is that the cue moves backwards and forwards on this line preparatory to striking the ball. Although when the stroke is played in this manner, the cue ball is aimed at a point

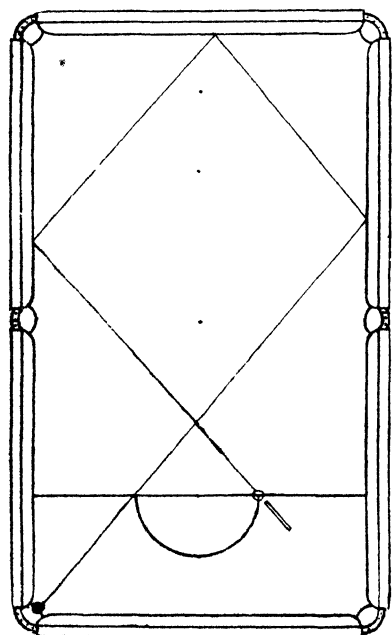


DIAGRAM 416.—An all-round-the-table pot played from the far end of the D line.

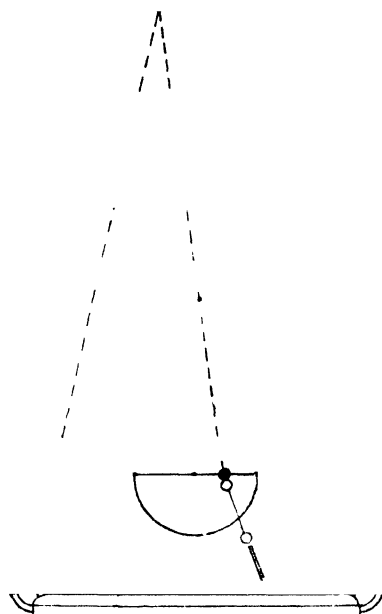


DIAGRAM 415.—A method of testing the accuracy of the angle shown on Diagram 414.

on the side cushion 16 inches above the centre of the middle pocket, the ball will strike the cushion about an inch nearer the pocket, for except when a ball strikes a cushion at a right angle (that is full in the face) it always strikes it at a point in front of the line of aim.

Unfortunately, these all-round strokes are always very uncertain. A player who always plays on the same table may bring them off quite often, but as soon as he essays such strokes on a strange table, he will likely find that he is at fault by quite a large margin. For the same stroke played in exactly the same way on two different tables will frequently give surprisingly dissimilar results. The cushions on one table are often very different from those on another table and consequently they throw different angles, and in the stroke under discussion the different way in which dissimilar cushions throw off a ball is accentuated by the fact that the cue ball has to strike three cushions. It

is for this reason, that whereas on one table the side cushion may have to be struck at a point about 15 inches above the centre pocket, on another table contact with the cushion must be at a point perhaps 20 inches above the pocket. In any case, the line passing through the baulk packet and over the end spot of the D always gives a very good guidance. If this all-round stroke be played with plenty of strength the angles of the cue ball's rebound will be greatly altered, especially on a table with resilient cushions. The stroke should therefore be played with only moderate strength. A little running side should always be used, for when all-round strokes of this nature are played without side—or rather when the intention of the player is to play without side—unintentional side is often imparted to the cue ball, and any check side in strokes of this nature at once insures failure. A little running side is thus often

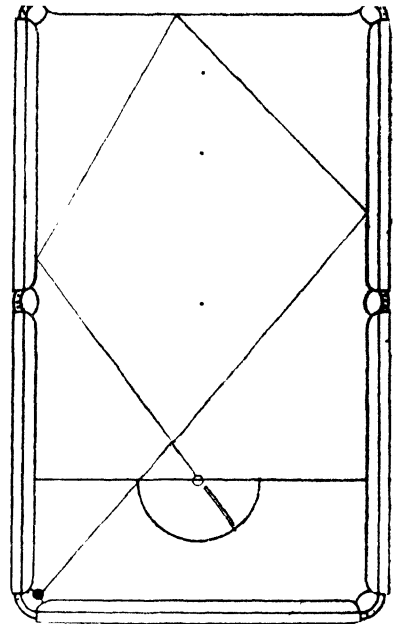


DIAGRAM 417.—An all-round-the-table pot played from the centre of the D line.

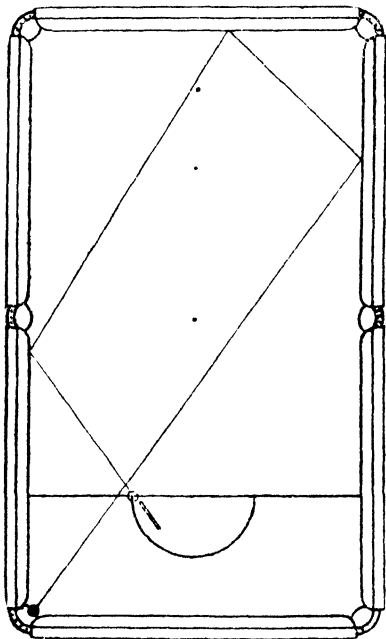


DIAGRAM 418.—An all-round-the-table pot played from the near end of the D line.

advisable, if for no other reason than to avoid the possibility of unintentional check side.

Diagram 417 shows a variation of the all-round stroke shown on Diagram 416. Instead of placing the cue ball on the end spot it is here placed on the centre spot of the D, and aim is taken for a point on the side cushion a few inches above the centre pocket. On some tables the side cushion must be struck at a point only just above the termination of the angle of the pocket; on other tables contact must be made with the cushion 5 or 6 inches above the angle. As in the stroke shown on Diagram 415 the cue ball should be struck with a little running side—right-hand side in the diagram—and only moderate strength should be used.

Diagram 418 shows a third way of playing the all-round stroke when the red ball is over a baulk pocket. The cue ball is spotted at the end of the D (on

THE STROKES OF THE GAME.

the same side of the table as the ball over the pocket) and aim is taken for a point on the side cushion just below the centre pocket. As in the previous examples, the stroke should be played with only moderate strength, and the cue ball should be struck with a little running side.

Although, as a rule, a player has always the choice of the three methods of potting a ball over a baulk pocket, viz., from the opposite side cushion, from the top cushion, or by the all-round-the-table stroke, the location of the other object ball may restrict his choice by leaving him the option of only two strokes.

Diagram 419 will show this very clearly. With the object white at A, the up-and-down-the-table stroke is of no use for the object white covers the red. When the object white is at B, the red is covered for an across-the-table stroke, and with the object white at C, the red is masked for an all-round-the-table stroke.

THE SPOT-STROKE.

Although the spot-stroke was abolished when the rule which causes the red ball to be placed on the centre spot after having been potted twice off the billiard spot came into force, this chapter on **POTTING THE RED BALL** would perhaps be incomplete without some description of the stroke which at the hands of players like Peall, Mitchell, Dawson, etc., produced the gigantic breaks of the past.* Even to-day the red has to be constantly potted off the spot from all sorts of angles and at all kinds of speed, by following-on strokes, by screw-strokes, by stabs, and the exigencies of after-position often necessitate the cue ball being struck with side, and thus increase the difficulty of a stroke which may be none too easy even if played as a plain-ball stroke. Every one of these methods of potting the red off the spot is comprised in the spot-stroke game, and the player who practices the spot-stroke until he is sufficiently proficient to pot the red ten or twelve times consecutively (always, of course, playing from where the cue ball comes to rest after each stroke), will find that he has improved his game to a surprising extent. Especially will this be the case should he aspire to a moderate proficiency at the top-of-the-table game. In fact, the top-of-the-table game may be said to be but a variation of the spot stroke.

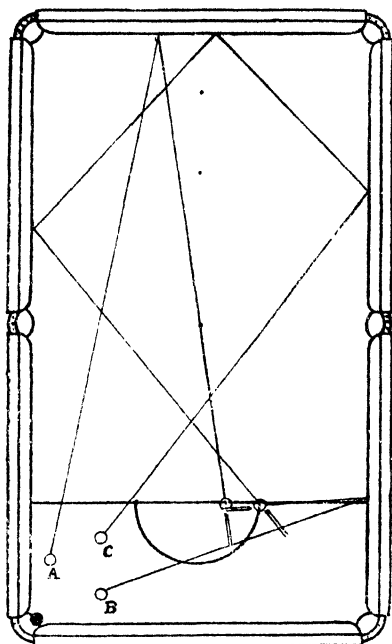


DIAGRAM 419.—Any particular method of attacking the red ball over a baulk pocket may be rendered impracticable by the position of the object white.

*By means of the spot stroke Peall made the record break of 3304; also breaks of 2413, 2127, 2107, 2099, 2033, 2031, 2022, besides nearly forty other breaks of over 1000. Mitchell made the first four-figure break ever made in public, viz., 1055, and afterwards made a break 1839, besides several other breaks of over 1000. Dawson has also made several four-figure breaks, the largest being one of 1848. Several other players also made four-figure breaks by the agency of the spot stroke, viz., North, Sala, Taylor, Watson, and White.

Since the above lines were written tremendous breaks have been made by the agency of what is known as the cradle double-kiss cannon position, which owes its discovery to Lovejoy. By its means Lovejoy made breaks of 2070, 2257, and 2486; Dawson 6245, 7184, and 23,769; Cook 19,780 and 42,746; and Reece 4593, 6138, and 499,135. Aiken and Williams also made large breaks by means of cradle cannons. The cradle-stroke cannon was abolished on September 2nd, 1907, by a rule which makes the stroke a foul.

The principal strokes in the spot-stroke game are seven in number. The simplest of all is the straight screw-back, position for which is shown on Diagram 420, the cue ball being about 6 or 8 inches from the red and in a direct line with the red and the pocket. In the days of the spot-stroke, big breaks used often to contain a tremendous number of consecutive screw-back strokes. More than one hundred consecutive screw-back pots were made on several occasions and Sala created a record for this class of stroke with 186 consecutive screw-back pots. All these big breaks of consecutive screw-back pots were, however, to a very great extent worthless, for they were only possible when the path from the cue ball to the red was marked by a rut or groove in the cloth. In playing screw-back strokes the cue is driven through the cue ball and scrapes along the cloth. In addition to this the cue ball under the influence of retrograde rotation drags along the cloth on its way to the red instead of rolling forward. Constantly playing the same stroke from exactly the same spot, or at least from points on the same line, causes a groove to form and in time this groove becomes quite a rut and can easily be felt by the hand. When once the groove becomes as pronounced as this, long successions of screw-backs present no difficulty whatever to any player who can screw back with ease. The only thing required is facility to screw back at correct strength, but even here there is plenty of latitude, and so long as the cue ball recoils from the red from say three inches to nine inches the next stroke is quite easy. Unless the red is taken considerably less than full, in which case the pot will fail, the cue ball cannot get out of the straight line behind the red. A close inspection will show that the cue ball really wobbles as it travels back from the red, but is compelled to keep to the line by reason of the groove in which it is travelling. Many years ago I practised the spot-stroke assiduously for some months but I never made more than twenty-nine consecutive pots by legitimate play, that is to say by using the various strokes which are comprised in the spot-stroke. In time, however, a well-defined groove marked the line straight behind the red and the pocket, and as the result of the best of several tries I succeeded in putting the red down fifty-one times by means of consecutive screw-back strokes and at the end only broke down through miscuing. The break, however, was absolutely devoid of merit, and to the big records of consecutive screw-back strokes made in the days when the spot-stroke was played, practically the same words must be applied. On a new cloth the best player in the world could not make twenty consecutive screw-back pots—perhaps not even ten—for though it is quite possible for a very capable player to regain the line when only very slightly off it, such a stroke is far



DIAGRAM 420.—Spot-stroke play. Position for straight screw-back. Red ball and cue ball exactly in a line with the centre of the pocket.

too difficult a one to be very often repeated.

Diagram 421 shows the next easiest stroke in the series of spot strokes. A slow following-on stroke without side will leave the cue ball well situated for a similar stroke from the other side of the red. If cue ball be placed just slightly higher up the table this following-on pot will occasionally leave the cue ball right behind the red in good position for a screw-back. The same position can also now and then be gained—when playing from the location of the cue ball as given under Diagram 421—by very slightly stunning the cue ball. It is, however, very difficult to get exactly behind the red, when playing to get from one side of the table to the other no matter whether the stroke be an ordinary run-through or a stun run through, and unless the cue ball is directly behind the red or very nearly

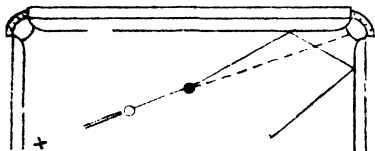


DIAGRAM 421.—Spot-stroke play. Position for a slow run-through pot. Cue ball 7 inches from the red and half a ball above a line passing through the centre of the pocket and the centre of the red on the spot.

so, a screw-back stroke means loss of position for the spot stroke.

Diagram 422 illustrates a third variation of the spot stroke—a strong run-through stroke. Although the cue ball is only very slightly below the line drawn from the red to the pocket, continuation of spot-stroke position cannot be obtained by means of a screw-back stroke. In playing this strong run-through, very accurate striking of the red is essential as the ball has to enter the pocket at a high pace. When the stroke is correctly played the cue ball travels round the corner of the table as shown by the continuous line on the diagram. Some running side on the cue ball is often necessary in order to bring it into good position for the next pot, and this makes the stroke more difficult than a plain-ball stroke.

In the diagram the cue ball is comparatively near the red, but the same

DIAGRAM 422.—Spot-stroke play. A strong run-through pot to obtain position at the other side of the red. Cue ball 17 inches from the top cushion and $19\frac{1}{2}$ inches from the side cushion.

stroke has often to be played with the cue ball very much farther from the red provided it makes the same angle with the red and the pocket as the one shown on Diagram 422. How much more difficult the stroke is, when the cue ball is a long way from the red, will quickly be realized by attempting it with the cue ball only two or three inches from the side cushion. The x on the diagram indicates this position of the cue ball.

Diagram 423 illustrates a fourth variation of the spot-stroke. The cue ball is struck with right-hand side, in order that after its rebound from the top cushion it may come into position for a similar kind of stroke from the other side of the table. Should it not travel far enough down the table to leave a similar position for the next stroke, position will be left for one or other of the strokes previously described, unless the stroke has been very badly played—that is as judged by the high standard

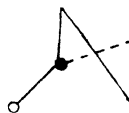


DIAGRAM 423.—Spot-stroke play. Crossing over—via the top cushion—to the other side of the red. Cue ball 23 inches from the top cushion and $20\frac{1}{2}$ inches from the side cushion.

of play required for a successful manipulation of spot-stroke positions.

Diagram 424 illustrates a fifth variation of the spot-stroke. The cue ball is struck with left-hand side and this causes it to remain on the same side of the table for the next stroke. As the contact with the red has to be a rather thin one, little more strength must be used than is necessary to cause the red to reach the pocket, otherwise the cue ball after its rebound from the top cushion will travel too far down the table. Even if the stroke be played without side, the cue ball will remain on the same side of the table that it occupied previous to the stroke being played. The use of side, however, prevents the cue ball from remaining too near the red—as measured across the table, not up and down the table—a thing always to be guarded against in spot-stroke play.

Diagram 425 illustrates another

on the same side of the table. Cue ball 20 inches from the top cushion and 27 inches from the side cushion.

variation of spot-stroke play. Although the cue ball is only fractionally below a line passing through the centre of the pocket and the centre of the red ball, a screw-back stroke will not leave position for another screw-back pot. A well-played screw will, however, leave the cue ball well placed for a continuance of spot-stroke play. The position resulting from the screw will be very similar to the one shown on Diagram 421.

Diagram 426 shows the cue ball fractionally above a line passing through the centre of the pocket and the centre of the red ball. Here again, the screw-back pot does not leave position for another screw-back stroke, but a well-played screw will leave the cue ball in



DIAGRAM 425.—Spot-stroke play. Screwing back almost straight—to leave position for a run-through pot. Cue ball only fractionally out of a straight line drawn from the centre of the pocket through the centre of the red.



good position for a continuance of spot-stroke play. The position that will be left as the result of the screw will be of a similar nature to the one shown on Diagram 423.

With the cue ball situated as shown on Diagram 426 position can be retained by playing the pot as a run-through and thus transferring the cue ball to the other side of the table. But an ordinary run-through stroke will not suffice here as it would leave the cue ball too high up the table. Good position could only be retained by a stun run-through stroke—always a difficult stroke, but especially difficult when the stunning of the cue ball has to be of a very exact amount.

DIAGRAM 426.—Spot-stroke play. Screwing back to leave the cue ball below the red. Cue ball $14\frac{1}{2}$ inches from the top cushion and 23 inches from the side cushion.

CHAPTER XIX.

CROSS IN-OFFS.

Billiards as regards the play of professionals and of the best amateurs has been broadly divided into the In-off game and Top-of-the-table play. It is perhaps not too much to say that the In-off game must always remain the backbone of an amateur's play. The Top-of-the-table game is so intensely difficult that a complete mastery of its subtle intricacies must ever present the unattainable to all those who cannot devote their whole time to its study and practice.

When one watches the almost perfect manipulation of the balls which characterises the play of Stevenson or Dawson or Diggle during a big break at the spot end of the table, one is too apt to forget that though gifted from the commencement with great natural ability, these players have only attained their present proficiency after long years of incessant work. Even among those who devote their whole time to the game, few ever excel at Top-of-the-table play—that is judged by the standard of what is necessary for a player to be able to rely on this method of play for the bulk of his scoring. Indeed, up till the present the only players who can claim to have reached this standard can almost be counted on the fingers of one hand, for the list is made up with Stevenson, Dawson, Diggle, Roberts, and Mitchell, and perhaps Bateman, Reece, Cook, and Lovejoy. It is even questionable whether some of the last mentioned players have as yet climbed any higher rung of the professional ladder through their assiduous practice of the Top-of-the-table game. Contrast say Harverson and Inman—two notable players who rely upon the In-off game for the bulk of their scoring—with Bateman and Reece. Has not Harverson always been as good as Bateman and does not Inman almost always beat Reece? Watching Reece when in form makes one feel that he is an incomparably finer player than Inman—and so in a sense he is—but he is always playing a far more difficult game than Inman, and thus time after time Inman's simpler and easier game brings victory to him.

It must not be supposed that because Harverson and Inman score the bulk of their points by the all-round game they cannot play the Top-of-the-table game. There is practically no stroke that Stevenson plays that they do not know or could not get. Their inferiority to Stevenson lies in their inability to keep the balls in position as long as he can, and so knowing their own limitations and aware of the many snares and pitfalls that encompass Top-of-the-table play they do not linger near the spot too long. As a matter of fact, Harverson can play the Top-of-the-table game quite as well if not better than the leading amateurs, but his long experience prevents him from sacrificing everything to this Top-of-the-table fetish. He knows too well that Top-of-the-table play would lose him many a game, that he wins quite easily by means of sound all-round play.

With most amateurs it is quite different. Moderate ability at the top of the table has lost many a good player games out of mind. The ever-present idea is to get up to the spot, and the ambition is to make a good break without leaving its vicinity. So much so is this the case that many a player will remain at the top of the table when the position is such that Stevenson or Dawson would decide to go into baulk, and many a winner of the amateur championship

has owed his victory to his keeping to the In-off game whilst his opponent has played the other game on every available occasion.

It may be argued that Stevenson and Dawson would never have attained their present marvellous proficiency had they not always sacrificed everything to Top-of-the-table play. The answer to this is that whilst it *may* pay those who elect to become professional billiard players—nearly all present-day professionals made their first three-figure break in their early teens and in some cases earlier still—to give up everything for Top-of-the-table play in the hope of ultimate gain, the case is very different with the amateur.

To-day Stevenson and Dawson, chiefly by reason of their exceptional ability at the top of the table, can give a big start to Harverson or Inman, but do the former players excel only by their proficiency near the spot? Supposing that Top-of-the-table play were abolished by a rule prohibiting more than two consecutive strokes with all the balls inside a baulk line drawn across the table—say 30 inches from the top cushion—would not Dawson be at least as good as, if not considerably better than Inman? Would not Dawson be a great player at whatever branch of the game he practised? As a proof of this, was not Dawson a very great player when games were won entirely by Spot-stroke play? * It is well known that Inman depends upon the In-off game for the greater part of his scoring, and that he constantly makes big breaks off the red ball alone, whereas Dawson only very rarely confines himself to the one ball. Nevertheless, Dawson's biggest break off the red ball, viz., 297 made in 1899, all but ties with Inman's record break of 300 off the red made in 1906. Is it too much to say that supposing all the time Dawson has spent in the study and practice of the Top-of-the-table game had been as exclusively devoted to the In-off game, this great player would still be as far ahead of Inman as he is to-day? It is even within the range of possibility that the difference between these players would have been still more marked than it is at present. Again, few there are who will say that Roberts in his prime would not have shown the same superiority over all other players at the spot-barred game had he never discovered the infinite potentialities and brilliantly demonstrated the actualities of the Top-of-the-table game.

As it is, Roberts more than once made a break of over 300 off the red ball alone, his record being 372. Nor is it professionals only who have made gigantic breaks off the red ball. Good, an ex-amateur champion, has made a spot-barred break of 315 without any assistance from the white ball, and incredible as it may appear, Dudley Pontifex, a well-known amateur and an old Middlesex County cricketer, is credited with having more than once made a break of over 500 off the red ball only.

Nor do amateur records for big breaks off the red ball end here, for an Australian boy named George Gray, at the age of 14, made 513 off the red ball. Nor is this gigantic break off the red ball the only one which this phenomenal boy has already made. "The World of Billiards" of September 26th, 1906, gives the following list of red-ball breaks made by George Gray:—

June 18th, 1906	228
June 21st, 1906	210
June 25th, 1906	513
June 27th, 1906	453
July 3rd, 1906	495†

and many credible witnesses have testified to the authenticity of these breaks.

* Dawson's record break at the all-in game in the days of spot-stroke play was 1848.

† All these breaks were made with bonzoline balls. In later chapters attention will be drawn to the tremendous superiority of bonzoline balls over ivory balls when playing the in-off game.

It is true that many of the big breaks off the red ball which have been compiled by amateurs were made on tables the pockets of which were larger than standard size, but granting even that in every case the pockets were easy ones, is it at all likely that any of these amateurs would have made anything like such breaks had they renounced the In-off game for Top-of-the-table play?

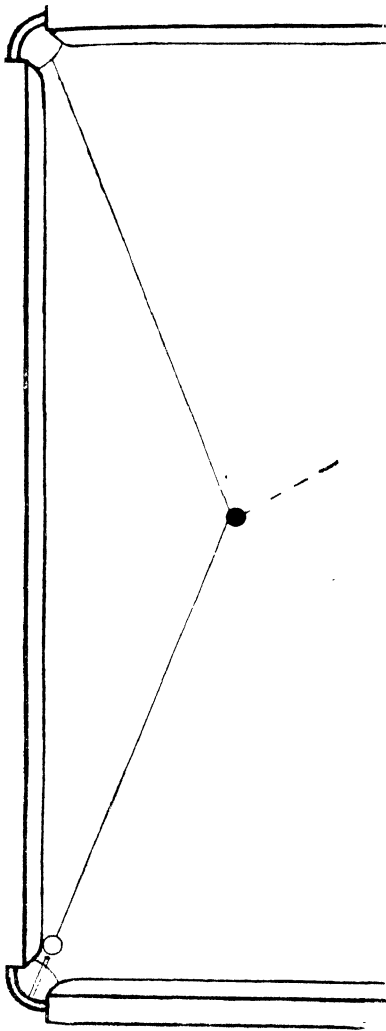


DIAGRAM 427.—The ideal position for the cross in-off with ivory balls. Red on the cue ball on the top cushion angle. The in-off is a plain half-ball stroke.

Position for the In-off game may be left by one's opponent or it may be obtained by a variety of strokes. The chief stroke to leave position for an in-off, is a pot, especially a pot into a top or centre pocket. In the previous chapter on **POTTING THE RED BALL**, various examples of strokes to leave the cue ball in position for an in-off were illustrated, but as it is impossible to always obtain ideal position for the in-off after potting the red, the various methods of playing the in-off will be discussed in this and the following chapter.

Diagram 427 shows the ideal position for the cross in-off with average ivory balls, for all that is required for the in-off is a medium-pace half-ball stroke without any side. With bonzoline balls, this in-off could not be made by means of a plain half-ball stroke, for with these balls the throw-off angle is slightly wider than it is with average ivory balls, and as, when playing a cross in-off, the pocket is a pretty blind one, the cue ball has to travel far more truly to the pocket than is necessary when the pocket is a very open one.

The fact that with the cue ball as shown on Diagram 427, the cross in-off is not a plain half-ball stroke with bonzoline balls, whereas the stroke is a half-ball one with ivory balls, is often used as an argument to prove the superiority of ivory balls to bonzoline balls. This argument is, however, a very poor one, for in the first place, the position of the spot— $12\frac{3}{4}$ inches from the top cushion—is an arbitrary one and is different to-day from what it used to be and may conceivably be again altered in the future—and secondly, the player

does not place his ball in position for the plain half-ball in-off after potting the red. Instead, he has to gain the position, as the result of a well-played pot, and it is not one whit more difficult to get position for a plain half-ball in-off when playing with bonzoline balls, than it is when using ivory balls.

Diagram 428 shows the ideal position for a plain half-ball cross in-off with bonzoline balls. The cue ball is about two inches farther along the top cushion than in Diagram 427.

In the position shown on Diagram 428, the in-off if played with ivory balls would require running side, and in the position shown on Diagram 427, the in-off if played with bonzoline balls would require either a thinner than half-ball stroke, or a half-ball stroke played with check side—preferably the latter stroke.

As already shown, the cross in-off is a plain half-ball stroke with ivory balls, when the cue ball is on the upper angle of a top pocket. This being the case, it might easily be thought that the in-off ought also to be a plain half-ball stroke with the cue ball as shown on Diagram 429, for in the first place, the angle that the cue ball makes with the red and the pocket (as measured from the centres of the balls) is the same whether the cue ball is situated as shown on this diagram, or whether it is on the upper angle of the pocket as indicated by the intersected circle, and secondly, when the cue ball is on the upper angle of the pocket it must, when the stroke is a half-ball one, pass over the exact spot occupied by the cue ball in Diagram 429, before it can reach the red. If, however, the in-off shown on Diagram 429 be played as an ordinary plain half-ball stroke, the cue ball instead of finding the pocket, will strike the cushion just a little in advance of the pocket, and the in-off can only be made either by taking the red somewhat thinner than half-ball, or by the help of plenty of check side when the contact is a half-ball one. The reason that the cross in-off is a plain half-ball stroke when the cue ball is on the upper angle of the pocket, and yet is not the same kind of stroke from another point on the same of travel to the red, is because when the stroke is played from the upper

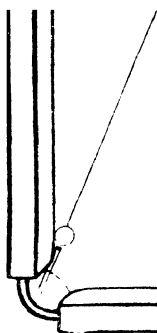
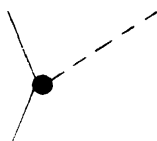


DIAGRAM 428.—The ideal position for the cross in-off with bonzoline balls. Red on the spot. Cue ball touching the top cushion and $4\frac{1}{2}$ inches from the nearest point on the side cushion, the measurement being from the edge of the ball.

angle of the pocket, the cue ball in its longer travel develops more forward rotation than it does when played from the position of the cue ball on Diagram 429. When a ball is struck at the centre, perfect rotation does not immediately set in; in fact during the first inch or two of its journey it hardly rolls forward at all, its movement being more

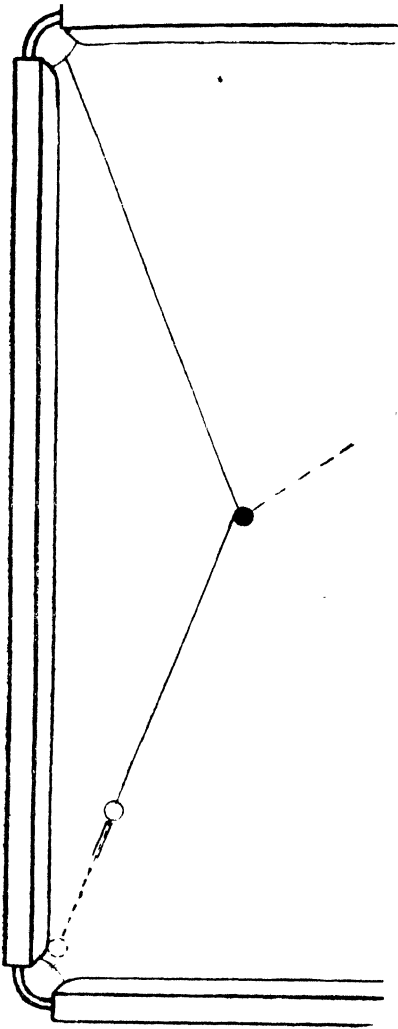


DIAGRAM 429.—The cross in-off cannot be made by means of an ordinary plain half-ball stroke from the position of the cue ball.



DIAGRAM 430.—From the position of the cue ball the cross in-off is possible by means of a half-ball stroke without side provided the cue ball be struck with plenty of top. In the ordinary way, however, this in-off would be played as a fine stroke. Red ball on the spot, cue ball 3 inches from the red and on a line drawn from the centre of a ball situated on the upper angle of the corner pocket to the edge of the red.

sliding than rolling, and a ball has to travel a considerable distance before perfect rotation begins, consequently the angle of deflection for a medium-pace half-ball stroke depends to some extent on the distance between the cue ball and the object ball.

Diagram 430 illustrates an extreme case. Here the cue ball, although still exactly on the line over which it would have to travel for a cross in-off played from the upper angle of the pocket, is only 3 inches from the red. In this position an in-off would ordinarily be played by quite a thin stroke, yet the in-off can be made by means of a half-ball stroke without any side, and such a stroke is not a very difficult one at the hands of a first-class player. Played this way, however, plenty of top must be used, otherwise the cue ball will be thrown right away from the line to the pocket. Struck with top the cue ball travels to the red under the influence of forward rotation in the same way that it does when the in-off is played from the upper angle of the pocket. The in-off is, of course, a less difficult shot when played as a thin stroke than it is as a half-ball stroke with plenty of top, and this latter method of playing the in-off is only given to prove that the in-off is really possible by means of a half-ball contact, from practically any point on a line drawn from the upper angle of the pocket to the edge of the red.

When the cue ball is so favourably situated that the cross in-off is on by means of a plain half-ball stroke, it is said to be *on the line*, but for the reasons already given, the line must not be taken to be a line drawn from the upper angle of the pocket to the inside edge of the red—the intersected line on Diagram 431. With the cue ball placed on *this* line, the in-off is only on as a natural angle half-ball stroke without side, when the cue ball is not more than five or six inches from the pocket. The line for a plain half-ball stroke without side drawn to a considerable distance from the pocket, is shown by the continuous line on Diagram 431, and it will be

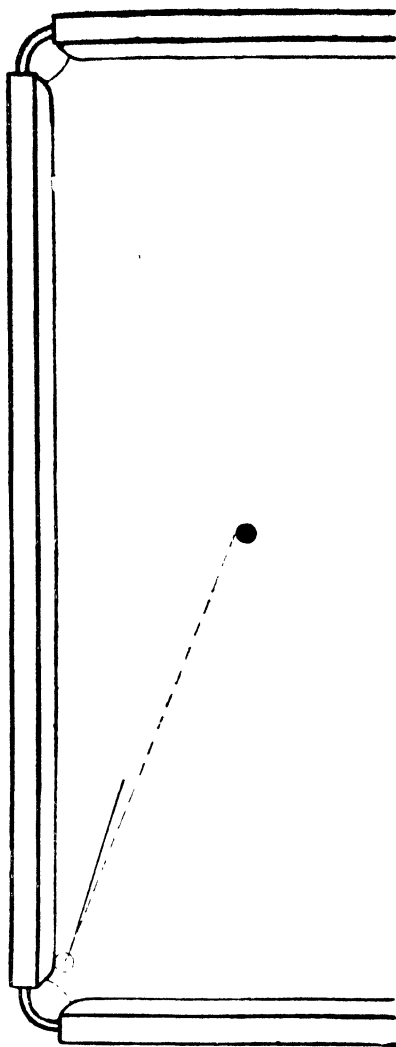


DIAGRAM 431.—The continuous line shows the true half-ball in-off line for cross in-offs with ivory balls. The intersected line is drawn from the centre of a ball situated on the upper angle of the pocket. When the cue ball is exactly on this intersected line and more than 5 or 6 inches from the pocket-end of the line, the cross in-off is not on by means of an ordinary plain half-ball stroke.

noticed that although the two lines are almost coincident for the first few inches, this is not the case farther on.

Diagram 432 shows the cue ball in two different positions. At A it is somewhat badly situated for the in-off and at B the position is still worse. With ivory balls the in-off from A is not a very difficult shot and can be made by means of a half-ball stroke with plenty of check side—right-hand side in the diagram. Without check side the cue ball, as the result of a half-ball contact, would strike the top cushion; in fact, even when the stroke is played with check side, the cue ball immediately after it leaves the red travels in the direction of a point on the top cushion a short distance from the pocket, but under the influence of the side it pulls away from the cushion, as shown by the continuous line on the diagram. With bonzoline balls, however, the shot is an awkward one as the stroke is a very narrow one—too narrow to be played as a half-ball stroke with check side—necessitating the red ball being taken thinner than half-ball. With the cue ball at B the in-off is naturally still more difficult, as not only must a thin stroke be played, but owing to the ball being on the cushion, the butt of the cue has to be elevated a little and this is apt to render correct aim less easy. In fact, with the cue ball at B many good players would prefer playing to pot the red instead of attempting the in-off.

Although all cross in-offs which are a little narrower than natural angle half-ball strokes with ivory balls, are still more difficult with bonzoline balls, no superiority can be claimed for ivory balls for cross in-offs in general, for when it comes to wide cross in-offs the advantage is all on the side of bonzoline balls, and strokes which are very difficult with ivory balls are quite easy with bonzoline balls.

Diagrams 433 and 434 show different ways of playing a cross in-off from exactly the same position. The in-off is a narrow one—too narrow to be possible by means of an ordinary half-ball stroke even if played with as much check side as possible. Diagram 433 illustrates the thin stroke—the stroke generally played in this position. Most players use check side—right-hand side in the

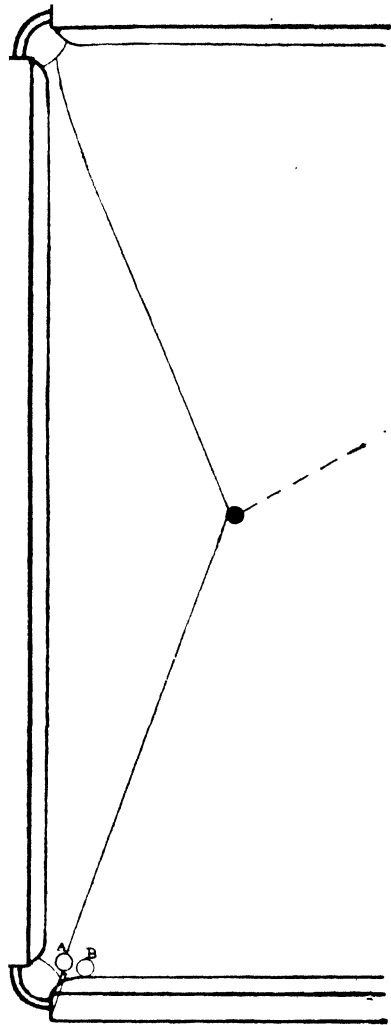


DIAGRAM 432.—A narrow cross in-off. With ivory balls the in-off can be made by means of a check-side half-ball stroke.

diagram—when playing this thin stroke, but the principle is unsound, for the tendency of this side is always to keep the ball out of the pocket, should it strike the side cushion angle which is here the opposing angle. It is true that when playing from A in Diagram 432 check side should be used, but the case is very different, for although the tendency of this side is to keep the ball out of the pocket, should it strike the side-cushion angle, this is far more than counterbalanced by the fact that check side renders the in-off easily possible by means of a half-ball stroke, always the easiest kind of stroke to play, whereas if no side be used the red must be taken just a little less than half-ball—always a nasty stroke to judge. In the case, however, of the in-off illustrated on Diagram 433, the stroke has to be played as a thin one whether check side be used or whether a plain-ball stroke be employed. If check side be used, it is true that the contact has not to be quite as thin as when no side is used, but this does not make the stroke any easier. The difficulty in the stroke does not lie in taking the red thin enough—it is very easy to take the red much too thin—and thus it is no more difficult to play the in-off as a thin stroke without side than to take the red a shade less thin with check side. As the tendency of check side in all cross in-offs is always to keep the cue ball out of the pocket should it strike the opposing angle, the ball has to travel more truly to the pocket when check side is used than when the in-off is played without side. Hence the superiority of the plain-ball thin stroke for the in-off shown on Diagram 433.

A totally different way of playing this narrow in-off is by a kind of half-massé stroke. The butt of the cue is elevated to an angle of about 30 degrees, the cue ball is struck on the side—right side in Diagram 434,—aim is taken to *just miss* the red ball on the inside and the stroke is played with a little more strength than is used for an ordinary half-ball cross in-off. Played in this way, the cue ball instead of travelling in a straight line to begin with, will describe a slight curve at first—as shown on Diagram 434—and thus instead of missing the red or just

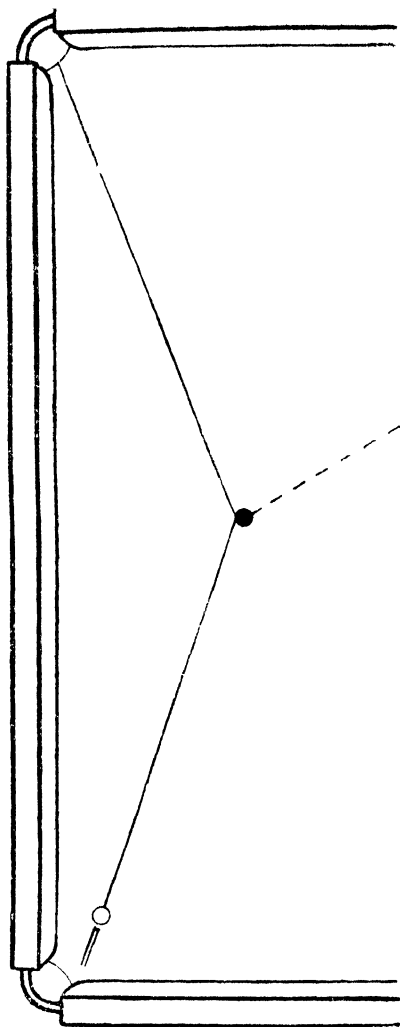


DIAGRAM 433.—A narrow cross in-off. Red on the spot. Cue ball $3\frac{1}{2}$ inches from the top cushion and $6\frac{3}{4}$ inches from the side cushion. When the in-off is played as a thin stroke no check side should be used.

grazing it, it will—when the stroke is well played—take it about half-ball, and the effect will be as though the stroke had been played as an ordinary half-ball stroke with side from the jaws of the pocket. In the diagram, the farther part of the line which denotes the path of the cue ball up to its contact with the red will be seen to coincide with a line drawn from the jaws of the pocket to the red ball. For an ordinary player the in-off is difficult enough when played by the thin stroke already described, and the alternative method of playing the stroke is quite beyond his compass, but any player who is sufficiently advanced to make an occasional forty or fifty break ought to be able to get the in-off by this tilting stroke after very little practice. Confidence plays a great part in such a stroke, and when trying it the player must not forget that he has to aim as though to just miss the red. Unless he does this, the cue ball will take the red too full and run through it. This method of playing the in-off has one great advantage over the thin stroke, for by catching the red ball half-ball good direction is given to it—the direction given to the red ball is the same as when the in-off is played as a half-ball stroke from the jaws of the pocket—whereas when the in-off is played as a thin stroke, the red is cut right down to the centre pocket, frequently to leave good position but as often to leave very bad position. Sometimes the red will stop right over the centre pocket, but at other times it will remain touching or nearly touching the side cushion, a little above or below the centre pocket, and often and often it will fall into the pocket, and this may easily mean the termination of a break.

When playing the in-off shown on Diagram 434, the reason that the cue ball should be struck with a little more strength than when playing ordinary half-ball cross in-offs is because owing to the butt of the cue being elevated, the stroke is partially a downward one and the ball is, as it were, slightly pinched between the cue and the table and consequently does not travel forward with the full force of the blow.

Diagrams 435 and 436 illustrate wide cross in-offs—a strong contrast to the

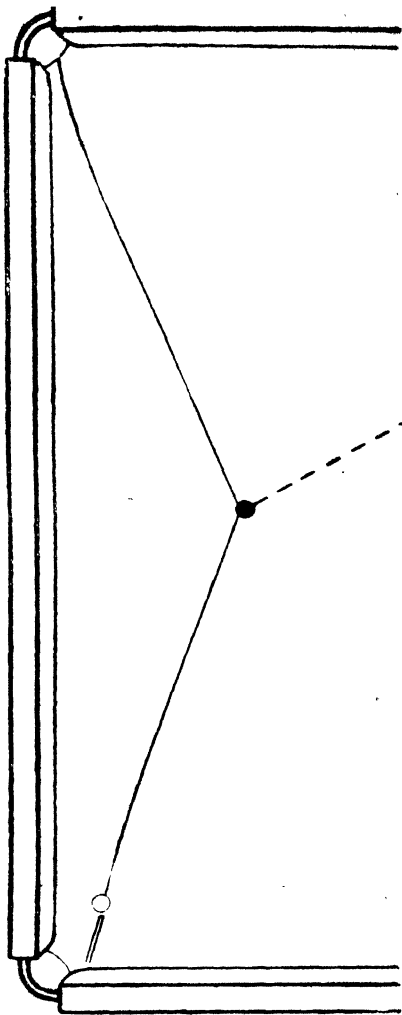


DIAGRAM 434.—A narrow cross in-off played by means of a partial massé stroke. The position is exactly the same as the one shown on Diagram 433.

narrow in-offs just described. Just as the narrow in-offs are easier with ivory balls than with bonzoline balls, so these wide in-offs are easier with bonzoline balls than with ivory balls.

With bonzoline balls, the in-off on Diagram 435 should present no difficulty to any moderate player, for all that is required is a medium-pace half-ball stroke played with plenty of running side—left-hand side in the diagram. The side pulls the ball to the pocket and the ball will enter the pocket even should it strike the angle of the side cushion—here the opposing angle—quite a little distance from the pocket, for in all cross in-offs running side is pocket side off the opposing angle. In fact, in these running-side cross in-offs the ball will often enter the pocket after striking the top cushion very close to the pocket—this can never happen with a check-side cross in-off—for when it strikes the top cushion very close to the pocket it rebounds on to the side-cushion angle, from which the tendency of the running side is to pull it into the pocket. With ivory balls, the in-off is too wide to be made by means of this medium-pace half-ball stroke with running side and it would have to be played either as a forcing stroke or by means of a partial *massé* presently to be described. Needless to say, neither of these strokes can compare in simplicity with the medium-pace half-ball stroke with running side, besides which the after-position that results from the forcing stroke is largely a matter of chance.

Diagram 436 illustrates an in-off still wider than the one shown on Diagram 435. Even with bonzoline balls, let alone with ivory balls, this in-off cannot be made by means of an ordinary medium-pace half-ball stroke with running side, and it must be played either as a forcing stroke, or by means of a partial *massé*. The forcing stroke is the stroke for the ordinary player, for the other is beyond his powers. As a rule, however, the ordinary player overforces the stroke when he plays a forcing cross in-off. As much side as possible—left-hand side in the diagram—should be used, for the pocket is a comparatively blind one and the ball has to enter it

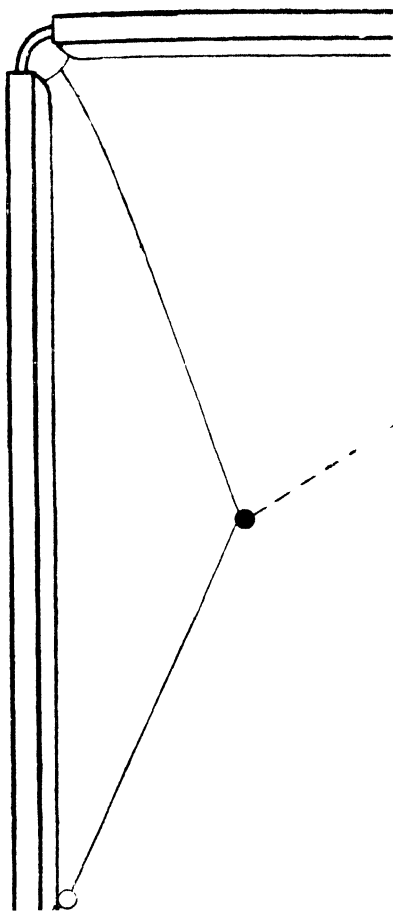


DIAGRAM 435.—A wide cross in-off. Red on the spot. Cue ball touching the top cushion and $8\frac{1}{4}$ inches from the nearest point on the side cushion. With bonzoline balls the in-off is an ordinary running-side half-ball stroke. With ivory balls the in-off can only be made by means of a forcing stroke or a partial *massé* stroke.

at a high pace. When the pockets are pretty easy, these running-side forcing strokes are not difficult, but when the pockets are very tight they are often almost impossible, for the speed at which the cue ball strikes the opposing angle prevents it from entering the pocket, notwithstanding the spin on the ball, which is so powerful a factor in causing the ball to enter the pocket when the opening is not very small.

No really good player ever plays a cross in-off by means of a forcing stroke when the in-off is reasonably on by means of a partial *massé* stroke, for whereas this stroke sends the red into good position, the forcing stroke may send it almost anywhere. Even when the red escapes the angles of the centre pocket, the after-position resulting from the forcing stroke may easily be a bad one. Very often, however, the ball will catch an angle of the centre pocket, and when it strikes the lower angle—the angle nearer to baulk—at a considerable distance from the pocket—that is to say, that part of the cushion where the angle just begins—the ball will generally enter baulk and remain there.

When the stroke is played by a partial *massé*, the butt of the cue should be elevated to an angle of about thirty degrees, the cue ball should be struck on the side—left-hand side in Diagram 436—aim should be taken *quite full* on to the red ball, and just a little more strength should be used than when playing ordinary half-ball cross in-offs. Struck this way, the cue ball instead of travelling in a straight line to begin with, will first describe a slight curve—as shown on Diagram 436—and thus instead of hitting the red full in the face, will—when the stroke is well played—take it about half-ball, and the effect will be as though the in-off had been played as an ordinary half-ball stroke with side, from a point on the top cushion not very far from the pocket. In the diagram, the straight portion of the line from the cue ball to the red will be found to coincide with the line from the cue ball to the red shown on Diagram 435.

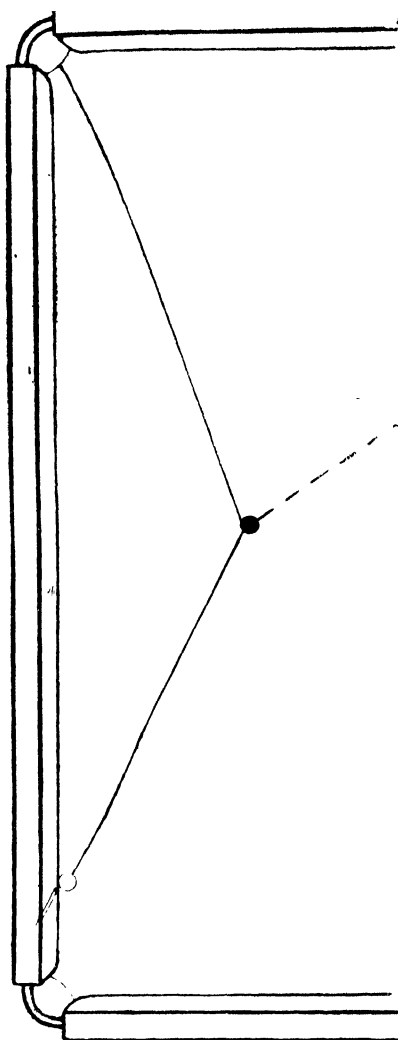


DIAGRAM 436.—A very wide cross in-off. Red on the spot. Cue ball touching the top cushion and 11 inches from the nearest point on the side cushion. The in-off can only be made by means of a forcing stroke or a partial *massé*, but is easier with bonzoline balls than with ivory balls.

The position of the cue ball on Diagram 436 does not mark the limit for cross in-offs by means of this partial *massé* stroke. Even with ivory balls the stroke is possible with the cue ball still a little farther along the cushion than shown on Diagram 436, and with bonzoline balls about two inches farther than with ivory balls. Generally speaking, an allowance of about half a ball's diameter has to be made for the curve, and that is the reason that in order that the contact with the red may be a half-ball one, aim has to be taken *full* on to the red. In extreme cases, however, even a full aim on to the red will not be a sufficient allowance for the curve, consequently it is sometimes necessary to aim as though to hit the red slightly on the far side. On the other hand, when only a slight *massé* is required—this is the case when the in-off is only just a little too wide to be on by means of a half-ball stroke with plenty of side—aim must be taken as though to hit the red ball about three-quarter-ball, instead of full ball, and the butt of the cue must not be elevated as much as when a full aim on to the red has to be taken.

Diagram 437 shows another cross in-off. It can be played either as a very fine stroke or as a run-through. The fine stroke is a difficult and uncertain one as a very thin contact with the red is necessary, and accurate thin contacts are anything but easy when the cue ball is some distance from the object ball. If, however, the in-off be played as a thin stroke, the cue ball should be struck without any side.

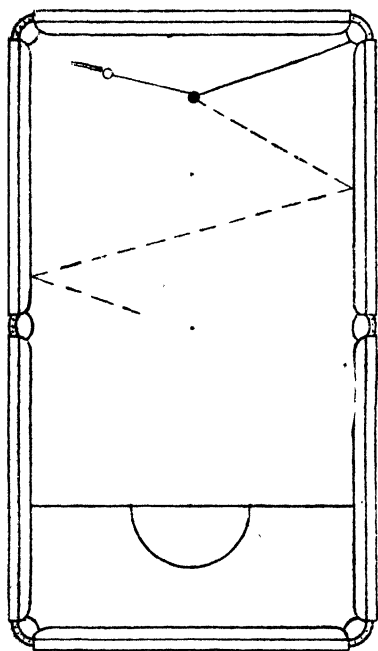


DIAGRAM 437.—A running-side run-through cross in-off. Red on the spot. Cue ball 8 inches from the top cushion and $19\frac{1}{2}$ inches from the side cushion.

The alternative method of playing the in-off, that is by means of a run-through stroke is, generally speaking, the sounder game with the balls in the position shown on Diagram 437. The cue ball is far enough from the side cushion to allow of the bridge hand being comfortably placed on the cloth and thus the stroke is rendered much less difficult than it would otherwise be. Aim should be taken about three-quarter ball on to the red, or perhaps a shade fuller and plenty of running side—left-hand side in the diagram—should be used, as this will be the side to carry the ball into the pocket should it strike the side-cushion angle, which is here the opposing angle. As in all run-through strokes, care should be taken that the cue follows on smoothly after striking the cue ball. Any jerkiness in the stroke will in all probability mean its failure.

With the balls in the position shown on Diagram 437, another good stroke to play would be a pot to leave position for an in-off from the red on the spot. This stroke, which has already been described in the chapter on **POTTING THE RED BALL**, is, however, not by any means an easy

Sometimes, after potting the red in a top pocket with the intention of remaining in good position for the cross in-off, a player will find that he is angled at the red. Such a leave very rarely happens with good players, but it will sometimes result from a careless stroke. Should the cue ball be very badly angled—this is the case when the red ball cannot be hit at all—the position is well-nigh hopeless unless the object white happens to be favourably placed. The cue ball may, however, be only partially angled; that is to say, although it may not be possible to hit the red on the side for the cross in-off, it may be easily possible to hit it on the other side—perhaps even to take it full ball.

Diagram 438 shows such a position. The cue ball is so placed that whilst it can be played full-ball on to the red, it cannot take the red half-ball for the cross in-off. Naturally, this position is better than when the ball is so angled that it cannot hit the red at all. Nevertheless, to most players there would be little to choose between the two positions, for when no score seems at all on, there is not a great deal gained by merely being able to hit a ball. With

bonzoline balls, however, quite an easy stroke is on with the balls as shown on Diagram 438, and one that any moderate player can get time after time, viz., an in-off into the opposite centre pocket. There is no difficulty whatever about the shot, for the in-off is a natural-angle one and consequently all that is required is a medium-pace half-ball stroke without side. With ivory balls, however, the stroke is a very different one. A medium-pace plain half-ball stroke would cause the cue ball to strike the side cushion a considerable distance from the pocket, and even if side be used—check side for the ball to pull against the nap of the cloth—the stroke is practically impossible, for in the first place the side cannot pull the ball sufficiently, and secondly, as the cue cannot be held horizontally owing to having to play over the pocket, the ball will be slightly massed by reason of its being hit away from the centre.

The in-off is, however, quite possible with ivory balls by means of a forcing stroke, but such a stroke is a difficult one, for owing to the pocket being rather blind, the cue ball has to travel very true to it, otherwise its pace will keep it out.

If the cue ball be placed touching the top cushion, in the position indicated by the x on Diagram 438, the centre-pocket in-off is a medium-pace plain half-ball stroke with ivory the game.

In the diagram, the intersected line shows how good position may be left as the

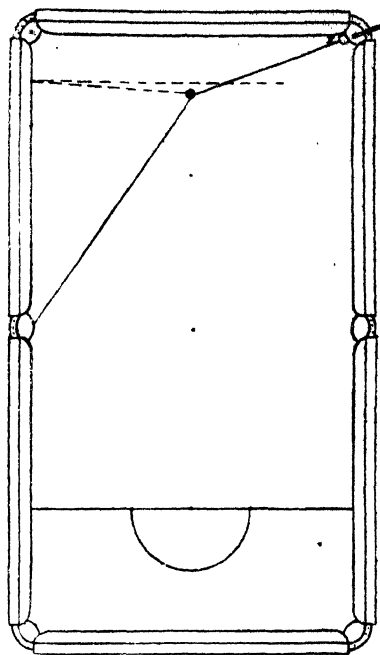


DIAGRAM 438.—A centre-pocket in-off from the red on the spot which is a plain half-ball stroke with bonzoline balls. Cue ball touching the cushion, and just angled for the cross in-off.

result of the centre-pocket in-off played with bonzoline balls, as already described.

When playing cross in-offs which are half-ball strokes, the red should always come into position for a centre-pocket in-off from the D. The stroke is nearly the same on any kind of table for the resiliency of the cushions does not make any very great difference to this stroke. In the first place the ball only strikes one cushion, and secondly, the difference between fast and slow cushions is not nearly so marked when the cushion is struck at a decided angle, as it is when the cushion is struck full or nearly full in the face.

Diagram 439 gives an idea of how the red ball should be left after a cross in-off, played from the upper angle of a top pocket. The three different lines of

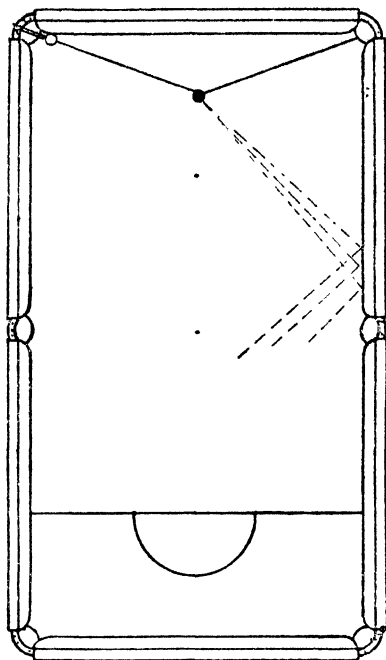


DIAGRAM 439.—The intersected lines illustrate the varying directions in which the red ball travels as the result of ordinary half-ball cross in-offs from the red on the spot. In half-ball strokes the object ball is seldom taken *exactly* half-ball and a slight variation in contact appreciably influences the direction given to an object ball without sensibly affecting the path of the cue ball.

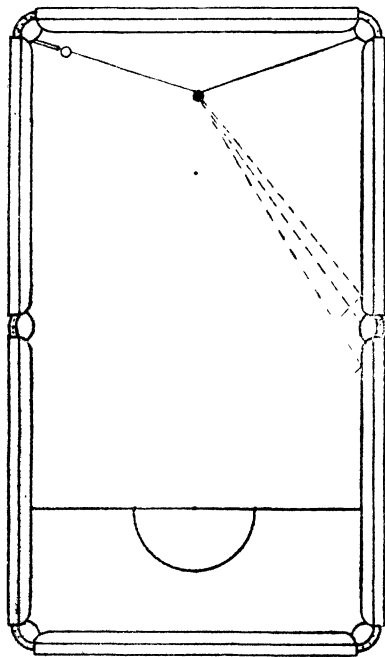


DIAGRAM 440.—The intersected lines illustrate the varying directions in which the red ball travels as the result of cross in-offs of varying degrees of thinness.

direction result from a half-ball contact, a contact a shade fuller than half-ball and a contact a shade thinner than half-ball. Similar lines of direction will also generally be given to the red ball as the result of the partial-massé cross in-offs already described, for although in these strokes aim is not taken half-ball on to the red, the actual contact in successful ones is as a rule a half-ball one.

Diagram 440 gives an idea of how the red ball may travel as a result of a cross in-off played by means of a thin stroke. Naturally, the thinner the stroke, the more the red will be cut down the table. When the stroke is a thin one, though not extremely thin, the red, should it

travel far enough,* will come into contact with the side cushion a few inches above the centre pocket. In playing strokes of this nature, a fair amount of pace should therefore be used, in order that the red ball may rebound some little distance from the cushion, for should it only just reach it or stop short of it by several inches—this is bound to happen if the strength of the stroke is only the same as rightly employed for a half-ball cross in-off, for the thinner contact imparts less pace to the object ball than it receives from a half-ball contact—the leave will be a very bad one as far as the red is concerned.

When the cross in-off is a still thinner stroke, the red ball will be cut still farther down the table and may come to rest right over the centre pocket. When this happens the leave will, of course, be a good one, but instead of remaining over the pocket, the ball will often enter the pocket, and in this event, unless the object white be favourably situated the leave will be a bad one. When the cross in-off is an extremely thin one, the red may come to rest touching or nearly touching the side cushion *below* the centre pocket—that is, on the baulk side of the pocket—and thus in this case also, the leave may easily be a very bad one. The great superiority of the half-ball cross in-off over the thin cross in-off is thus easily apparent, for in the one case unless the strength is very poor indeed, the making of the stroke automatically ensures good after-position, whereas in the other case the after-position may easily be very good or very bad.

The cross in-offs already described are, of course, almost invariably off the red ball, but occasionally the white will happen to be right on or exceedingly close to the spot, and the red may be so situated that a very good game to play is to pot the red to leave a cross in-off from the white. Diagram 441 illustrates such a position. Were a six shot possible this would be a very good game to play, for the red would then go on the pyramid spot—and the next stroke would be a set in-off from the D. On Diagram 441 the six shot is, however, not on, but by potting the red with left side on the cue ball, good position can be obtained for an in-off from the white, and then from the D there will be the choice of either a top-pocket in-off from the red or a centre-pocket in-off from the white.

Diagram 442 shows a position in which, although the red is on the spot and the cue ball is on the upper angle of the pocket, the cross in-off is not possible owing to the object white covering the red. Such a position is sometimes formed by a careless player potting the red with the intention of leaving a cross in-off, without first making sure that the cue ball will have a free course to the red, after this ball

DIAGRAM 441.—A pot to leave a cross in-off from the white.

has been potted. A player should therefore never attempt to leave position for a cross in-off without first ascertaining that the red when it goes on the spot will not be masked by the object white.

Diagram 443 illustrates another case in which a cross in-off is not possible owing to the way to the pocket being



DIAGRAM 443.—A position that occasionally arises with careless players through their having failed to notice that a cross in-off would not be possible after potting the red owing to the object white barring the way from the red to the opposite pocket.



DIAGRAM 442.—A position that sometimes arises with careless players, through their having failed to notice that a cross in-off would not be possible after potting the red owing to the location of the object white.

barred by the object white. This position now and then arises with careless players by reason of their having failed to notice that the position of the object white prevents a pot into the corner pocket from being followed by a cross in-off.

CHAPTER XX.

IN-OFFS FROM THE RED ON THE SPOT.

Besides the cross in-offs there are the in-offs from the red on the spot when the cue ball is at the other side of the red. These in-offs are generally played after potting the red in a centre pocket, but often the position for the in-off is the result of potting the red in a corner pocket and at the same time bringing the cue ball to the vicinity of a centre pocket. All these strokes, as regards getting position for the in-off, have already been described in the chapter on **POTTING THE RED BALL**, and many of the in-offs themselves have been fully discussed in the chapter on **FORCING**



DIAGRAM 444.—A narrow in-off from the red on the spot played by means of a partial massé. Cue ball $1\frac{3}{4}$ inches from the side cushion and $55\frac{1}{2}$ inches from the top cushion

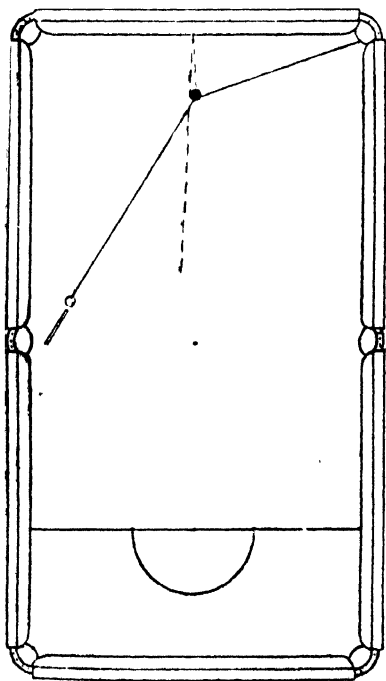


DIAGRAM 445.—A somewhat wide in-off from the red on the spot played with running-side. Cue ball $3\frac{1}{2}$ inches from the side cushion and $5\frac{1}{2}$ inches from the centre of the pocket at the fall of the slate.

STROKES. Further examples of these in-offs differing from those already treated in detail, are illustrated on Diagrams 444 and 445.

Diagram 444 shows what is generally termed a narrow in-off, the position being such that the in-off is not possible by means of an ordinary half-ball stroke with side. As in cross in-offs which are somewhat narrow, there are two ways of playing this in-off. The first method is by aiming for a thinner than half-ball contact and the second is by the partial massé stroke. When the in-off is played as a thinner than half-ball stroke, plenty of check side—left-hand side

in the diagram—should be used, for this will be pocket side off the angle—here the opposing angle. Should the in-off be played by the partial massé stroke, aim must be taken as though to just miss the red, the butt of the cue must be elevated, and the cue ball must be hit on the side—the left side in the diagram. Played in this manner, the action of the cue ball will be exactly the same as in the narrow cross in-off—shown on Diagram 434—played by means of a partial massé, with the exception that the check side imparted to the ball will help to carry the ball into the pocket should it strike the side-cushion angle—the opposing angle—whereas in all cross in-offs, check side, though it may have to be used for the stroke, tends to keep the ball out of the pocket should it strike the opposing angle.

Diagram 445 illustrates what is generally termed a wide in-off from the red on the spot. Here again there are alternative ways of playing the in-off, for it can either be made by means of a mild forcing stroke or by means of a medium-pace half-ball stroke with running side—right-hand side in the diagram. If the in-off be played by the latter stroke—and better control of the red ball can be had by this method of play—aim should be taken as though to hit the ball a trifle fuller than half-ball, for the side on the cue ball will pull the ball slightly out of the line of aim—as explained in the chapter on SIDE—before it reaches the red. When playing strokes of this nature with running side, the cue ball has to go pretty truly to the pocket, for should it strike the side-cushion angle—here the opposing angle—the tendency of the side will be to keep the ball out of the pocket.

With bonzoline balls the in-off shown on Diagram 445 is a plain half-ball shot or at most requires only a little running side. When the in-off is wide enough to require plenty of running side with bonzoline balls, a forcing stroke is required with ivory balls.

CHAPTER XXI.

CENTRE-POCKET IN-OFFS.

As already illustrated on Diagram 439, the ordinary half-ball cross in-off, unless played with very poor strength, always leaves the red in good position for a centre-pocket in-off. Position for a centre-pocket in-off can also generally be obtained as the result of an in-off from the red on the spot, played from the vicinity of a centre pocket. When so obtained it is generally as the result of a half-ball stroke played at medium pace, but even a faster stroke which drives the red in and out of baulk may still leave excellent centre-pocket position.

Diagrams 446 and 447 are examples of such strokes.

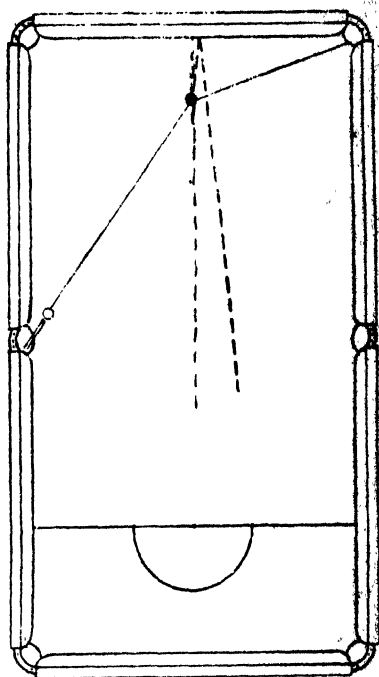


DIAGRAM 446.—An ordinary half-ball in-off from the red on the spot to leave a centre-pocket in-off.

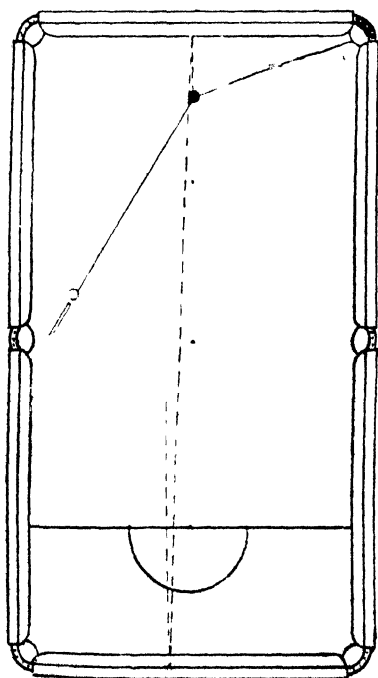


DIAGRAM 447.—A fast in-off from the red on the spot, driving the red in and out of baulk to leave a centre-pocket in-off.

In Diagram 446 the intersected lines show how the red ball must travel down the table to leave position for a centre-pocket in-off. When the ball travels on or close to the central line of the table—as shown by the thin intersected line—either centre pocket is optional for the next stroke. Often, however, without the in-off from the red on the spot being missed, the red ball will travel down the table decidedly to the right or the left of the central line of the table—the result of a fuller or thinner than half-ball stroke. The thick intersected line indicates the direction that may be given the red ball as the result of a fuller than half-ball contact. When the contact is

remain in baulk, so he hits it hard enough to cause it to travel right up to the top cushion. With the balls situated as shown on the diagram, splendid position for a centre-pocket in-off from the D can be left provided that the strength of the stroke is such, that though the red is brought well out of baulk, it does not travel as far up the table as the centre pockets.

Diagram 450 shows two further locations of the balls from which position for a centre-pocket in-off from the D can easily be left. In position A, the in-off can be made either by means of a thin stroke or by a run-through stroke. A thin stroke can, however, leave nothing, whereas the run-through stroke, if played at anything like correct strength, will leave the red well situated for an in-off from the D.

In position B, the red ball is right on

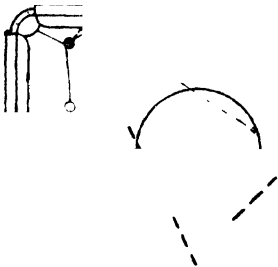


DIAGRAM 450.—Two easy in-offs to leave position for a centre-pocket in-off from the D. In Position B, with the red ball right on the angle, the in-off should be played with a moderate amount of pace in order not to leave the object ball too near the pocket for the ensuing in-off.

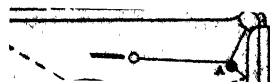
the angle and the cue ball is on a line between the centre pockets. The in-off is a thin stroke but quite an easy shot owing to the cue ball being comparatively near the object ball. A slow stroke will leave the red quite near the pocket, but if, instead the in-off be played with a moderate amount of pace, the red ball will travel out into the table and towards baulk, as shown by the intersected line on the diagram, and perfect position may thus be left for a centre-pocket in-off from the D. A very slow stroke would also leave position for an in-off from the D, but when playing the in-off game it is better to have the object ball well away from the pocket, than quite close to it.

Diagram 451 illustrates two more

DIAGRAM 451.—Two in-offs from which position for a centre-pocket in-off can easily be obtained.

from which position for a pocket in-off can quite easily be obtained. Both are very simple strokes, but it is these simple strokes that are so often played carelessly. Owing to the red ball being so near the pocket the in-off in either position can be made by very different kinds of contact, but too thin a contact will cause the object ball to travel with very bad direction—one such direction is shown by a thin intersected line. The good position that can be left as the result of correct contact combined with good strength is indicated by a thick intersected line, and in either of the positions shown on Diagram 451 such a stroke is not at all a difficult one to play.

Diagram 452 illustrates two further strokes from which position for a



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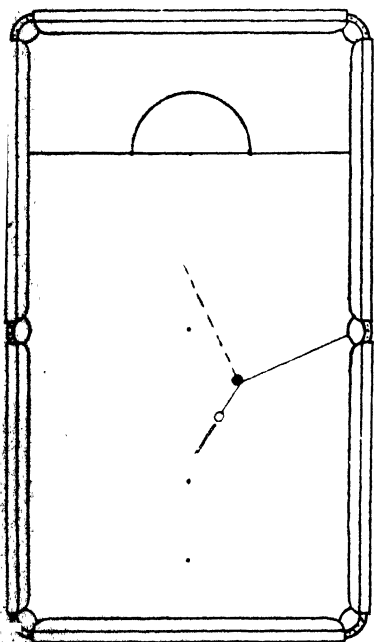


DIAGRAM 453.—A thin centre-pocket in-off. Red ball $23\frac{1}{4}$ inches from the side cushion and 55 inches from the top cushion. Cue ball $28\frac{1}{4}$ inches from the side cushion, and 8 inches from the top cushion and 8

DIAGRAM 452.—Two in-offs from which position for a centre-pocket in-off can be obtained. The use of the rest is required for the in-off—a run through—in Position B.

centre-pocket in-off can be gained. The stroke shown at A is quite a simple one, but it requires playing with a fair amount of pace in order that the object ball may travel right across the table and then rebound from the cushion well into the open.

The stroke shown at B—a run-through in-off—should present little difficulty to any fair player, but unless it is played with a fair amount of pace, the object ball will not travel far enough to leave a centre-pocket in-off to continue with.

Diagram 453 illustrates a very pretty though somewhat difficult stroke, to leave the red in position for a centre-pocket in-off from the D. The stroke is a thin in-off, but unless it is played with a fair amount of pace the object ball will not travel far enough down the table (that is towards baulk) to leave a centre-pocket in-off from the D to

continue with. Of course, in this case position for an in-off into a top pocket would be left, but top pockets are never quite as desirable as centre pockets for in-offs played from the D, and the player who wisely makes the in-off game the backbone of his play is always striving for centre-pocket position from the D.

Having both in this chapter and in the preceding one given typical examples of various strokes from which good position for centre-pocket in-offs from the D can be most easily gained, the best methods of playing these in-offs will next be discussed. The area or zone for positions from which a centre-pocket in-off is a more or less easy stroke is a very considerable one, and consequently, the number of positions from which a centre-pocket in-off may be played from the D is extremely large.

Fortunately, however, all these very numerous positions can, as regards the best way of dealing with them, be grouped into a comparatively small number of different classes and thus an exposition of the correct method of playing one typical example of each different class will serve for every possible position that can occur.

There are two different methods of illustrating and expounding the in-off game. One is by describing stroke by stroke an actual well-played break off the red, the other—the one adopted in this and the following chapter—is by taking typical examples of every kind of in-off position that can occur and treating each example separately. Provided that a continuous break is large enough and varied enough to embrace all the different kinds of centre-pocket and top-pocket positions that can occur, both these methods serve the same purpose.

The continuous method is no doubt the more fascinating of the two, for it is a break as contrasted with a number of isolated and disjointed strokes. It is, however, perhaps the less logical, for in the first place centre-pocket and top-pocket in-offs have to be treated together, in that a big break off the red almost always contains a number of top-pocket in-offs interspersed between the preponderating centre-pocket in-offs, and secondly, with all its charm, a big break expounded stroke by stroke is, so far as instruction goes, really nothing more than a collection of miscellaneous and promiscuous strokes, inasmuch as no player, not the best in the world, could copy stroke by stroke—the strokes being varied—a well-played break off the red that does not exceed say thirty, let alone one that reaches three figures,

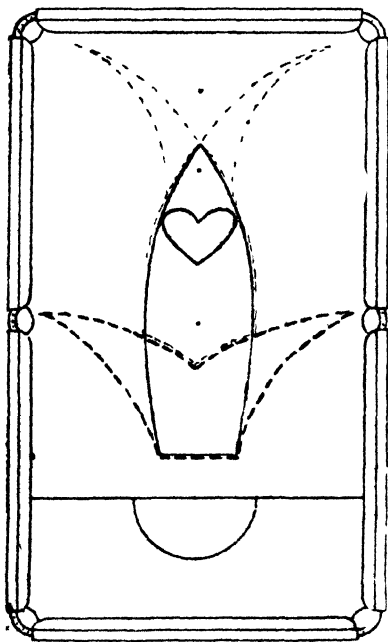


DIAGRAM 454.—The zones for centre-pocket and top-pocket in-offs. The thin intersected lines enclose the area for ordinary top-pocket in-offs and the thick intersected lines the area for ordinary centre-pocket in-offs. The projectile-shaped figure encloses the choicest part of both zones. The heart-shaped figure encloses the four-shot or six-shot area.

Indeed, it is very unlikely that even a player like Inman could, with any certainty, play two short breaks of half a dozen in-offs in—comparatively speaking—exactly the same way.

Diagram 454 is intended to show the zones for centre-pocket and top-pocket in-offs as regards ordinary strokes and excluding jennies, run-throughs, strong screws, and forcing strokes. The thin intersected lines enclose the area for top-pocket in-offs and the thick intersected lines that for centre-pocket in-offs. A projectile-shaped figure—the apex of which lies just beyond the pyramid spot and the base of which is about nine inches from the D line—is also shown on Diagram 454. This figure it will be seen embraces the greater part of both the in-off zones, and with the exception of the area enclosed by the heart-shaped figure which indicates the four-shot and six-shot zone, the part so embraced is, as it were, the choicest portion of these zones, for although an in-off is an easy enough stroke when the object ball is *anywhere* within the zones, it is, as a rule, much easier to keep the ball within the in-off area when it is in the projectile-shaped part of it than when it lies anywhere in the remaining portion of these in-off zones.

Generally speaking, when playing a centre-pocket in-off from the D, the aim of the player is to bring the object ball down the table again for another centre-pocket in-off, but the good player always endeavours to keep the object ball somewhere near the central line of the table or at least well away from the side cushion, so that in the event of the ball not coming far enough down the table to leave position for a centre-pocket in-off, position for a top-pocket in-off will be left instead. In fact, the whole secret of the in-off game lies in this keeping of the object ball well away from the side cushions.

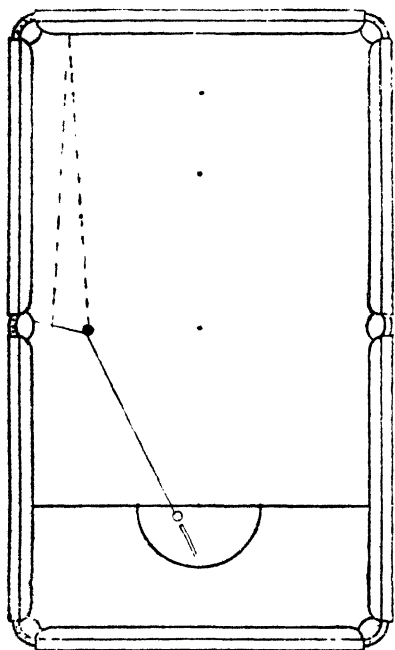


DIAGRAM 455.—An easy centre-pocket in-off and the wrong way of playing the stroke. Should the red on its return journey stop short of the pocket or travel a short distance it, position is at once lost. Red ball takes from the nearest point on the side

of the cushion.

Most centre-pocket in-off positions from the D that ordinarily occur in a game present no difficulty whatever to any moderate player, when the only thought is for the in-off itself. The ordinary player always plays these in-offs by the easiest kind of stroke; for example, when a half-ball stroke will serve he never uses any other, and when the angle is too narrow—as it is generally termed—to allow of a half-ball stroke being used, he always plays the in-off by means of a thin stroke. It cannot, however, be too often emphasized that the easiest way of playing a stroke, is seldom the way to play it if any thought is to be given to after position, and perhaps to no branch of the game does this apply more forcibly than to centre-pocket in-offs

from the D. Very seldom indeed can the best possible direction be the object ball by means of a half-ball contact, when playing a centre in-off with a view to a continuance of the in-off game. In the majority of cases the in-off has to be made somewhat more difficult, and occasionally much more difficult than it need be just as a stroke, in order that the object ball may be given good direction.

Diagrams 455 and 456 illustrate different strokes played from exactly the same location of the red ball. In Diagram 455 the object ball has been given very bad direction, and though it may possibly come to rest just over the centre pocket, as shown by the intersected line, it is easy to see what little latitude there is for good position in a stroke played in this manner. Should the ball stop short of the pocket, or travel past the pocket, further scoring as far as this ball is concerned would in all probability be very problematical. Yet many a player constantly plays strokes similar to the one shown on Diagram 455, and when the red happens to stop right over the pocket he is under the impression that he has played a very perfect stroke, but when the red comes to rest close to the cushion just above or just below the pocket, as it often will, he wonders whether any other player ever experienced such hard lines.

Diagram 456 shows the correct way of playing the in-off. The cue ball is

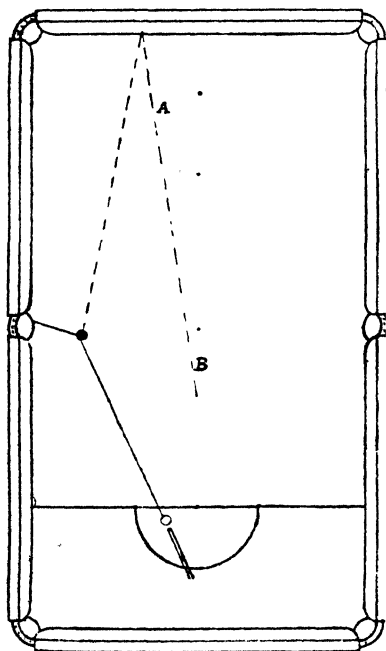


DIAGRAM 456.—An easy centre-pocket in-off and the correct way of playing the stroke. Very soon after leaving the top cushion the ball enters the zone for top-pocket in-offs and does not leave it until it enters the zone for centre-pocket in-offs. Red ball situated exactly as in Diagram 457.

spotted for a contact slightly less than half-ball and the object ball is thus thrown away from the side cushion. In this way, it is given good direction and enters the in-off zone very shortly after it leaves the top cushion. Thus in the stroke shown on Diagram 456, should the red only travel as far as A, an in-off into the left top pocket will be left to continue with, and should the ball stop anywhere on the line between A and B one of the top pockets—and in some positions either—will be available for the next stroke. When the ball travels past B it enters the zone for centre-pocket in-offs. Of course, it would be impossible to make the object ball travel down the table to any given direction, but this is not at all essential. So long as it strikes the top cushion at all near the point shown on the diagram, its line of rebound will be a favourable one. In playing this stroke, therefore,—and this applies to most centre-pocket in-offs from the D—the player must decide as to which is the best direction to be given to the object ball and the cue ball must be so spotted, that the contact which is necessary to give the object ball the desired direction will also be the correct contact for the pocket.

Diagram 457 shows a stroke often

played by moderate players. * With the red situated according to the measurements given, an in-off from the D can be quite easily made by means of a plain half-ball stroke and the ordinary player always spots for this half-ball contact. When the in-off is played in this manner, however, the stroke has to be played with very exact strength to leave another in-off to continue with. As shown by the intersected line, the half-ball contact throws the red from one side of the table to the other, and very soon after the ball leaves the top cushion it is out of play—as regards in-offs—all the way down the table, until it arrives opposite the centre pocket. On the diagram, the intersected line—terminating as it does opposite the pocket—illustrates the

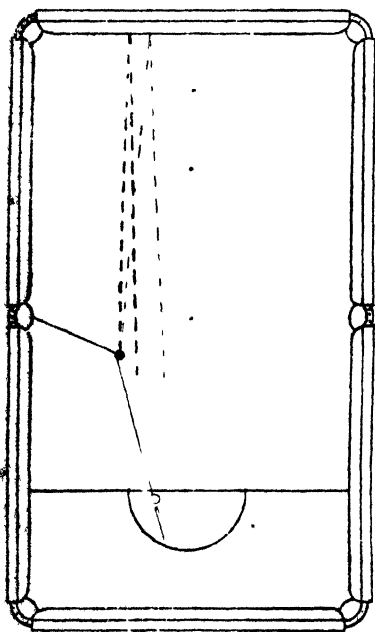


DIAGRAM 458.—An easy centre-pocket in-off and the correct way of playing it. Should the ball on its return journey stop a few inches short of the centre-pocket, an ordinary top-pocket in-off will be left to continue with. Position of the red as on Diagram 457.

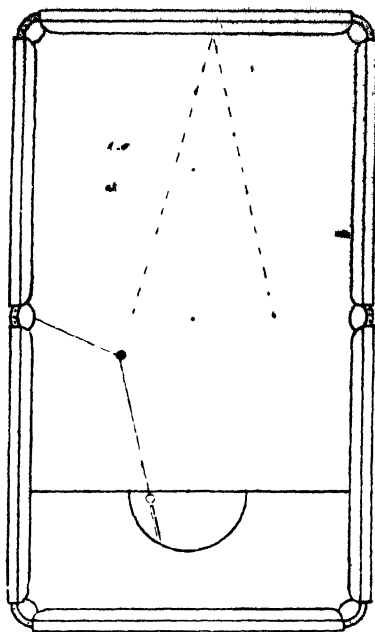


DIAGRAM 457.—An easy centre-pocket in-off and the wrong way of playing it. Should the ball on its return journey stop a few inches short of the centre-pocket no top-pocket in-off will be left. Red ball $22\frac{1}{2}$ inches from the side cushion and 58 inches from the baulk cushion.

very exact strength required for a favourable leave. When the ball either stops a little short of the pocket, or travels some little distance past the pocket, the leave will likely be a bad one.

Diagram 458 shows the red in exactly the same position as on Diagram 457, and also the correct way of playing the in-off. The cue ball is placed a little farther from the end of the D line in order to make the in-off a partial run-through, instead of a half-ball stroke. In this way, as the object ball is taken fuller than half-ball, it is not thrown across the table as in Diagram 457, but travels down the table on a line which is somewhere near the central line of the table, or at least well away from both side cushions. In playing this partial

run-through in-off, no very exact contact with the red is required. The player has only to make sure that he directs the ball to a point on the top cushion which will allow of the rebound being on a line not very far from the middle of the table. On Diagram 458 two different rebounds are shown as the result of two different contacts—the thick intersected line, of course, being the result of the fuller contact—but the direction in both instances is very good, for should the ball not travel quite far enough down the table to leave another centre-pocket in-off, position for a top pocket in-off will be left instead.

As soon, however, as the ordinary player attempts to play centre-pocket in-offs by a partial run-through stroke he misses them and often loses heart, but unless he perseveres he will never make a decent break off the red, even though favoured with the greatest of luck. In any large break off the red, most of the strokes are centre-pocket in-offs and the majority of these in-offs are partial run-throughs. In fact, the red is perhaps best situated for a centre-pocket in-off to leave another centre-pocket in-off, when its position is such that the desired leave can only be obtained by means of this partial run-through stroke. Any good player when playing these run-through in-offs—unless the run-through is of a very pronounced nature, and such a stroke will be discussed later on—hardly feels that he is playing a run-through at all, for in the majority of these

partial run-through in-offs, the contact has only to be slightly fuller than half-ball—roughly speaking about five-eighths-ball, that is half way between half-ball and three-quarter-ball. A slight difference in the degree of contact makes a very marked difference in the direction given to the object ball, and thus the good player makes the line of the object ball's travel his chief care.

One thing must always be remembered when playing these partial run-through in-offs, and that is, that a fuller than half-ball contact imparts more pace to the object ball than a half-ball contact does, and consequently the strength of the stroke must always be regulated to the kind of contact played for. As a rule, these partial run-throughs are generally played with check side—right-hand side in Diagram 458; this causes the ball to run as it were narrower, but the use of side is not by any means essential.

Diagram 459 shows the red ball at either side of the table, but in identical positions as regards a centre-pocket in-off. The stroke on the right side of the table is one that is often played by very moderate players. The in-off is played at slow pace, to send the red up the table to leave a top-pocket in-off, as shown by the intersected line. Such a stroke

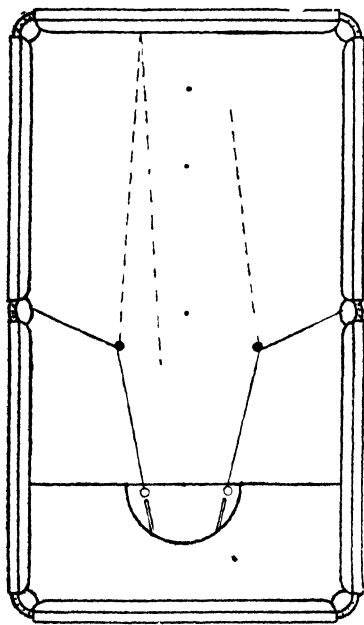


DIAGRAM 459.—A simple centre-pocket in off and the right way—as shown by the stroke into the left pocket—and the wrong way—as shown by the stroke into the right pocket—of playing it. Red ball—on either side of the table—16½ inches from the side cushion and 58 inches from the baulk cushion.

is, of course, not a very difficult one, but it is a very unsound one, as the strength has to be well judged owing to there being very little latitude for error. Let the red only stop a little short of, or travel a little beyond the termination of the intersected line and position is at once lost. And even when the stroke happens to be played with perfect strength and the easiest of top-pocket in-offs is left to continue with, it cannot for a moment compare with the correct method of playing the in-off, as shown, into the left centre pocket on Diagram 459. Here, the contact has been practically the same as before—or at most only a shade fuller—and thus the red has travelled up the table with much the same direction, but as the result of a stronger stroke it has come well down the table again, to leave another centre-pocket in-off, as shown by the intersected line. Not only this, but owing to the ball's good direction all the way down the table, short strength for the centre pocket would have meant that an ordinary long in-off into the right top pocket would have been left to continue with. The contact for the in-offs shown on Diagram 459 is about a half-ball one.

Diagrams 460 and 461 show totally different ways of playing an in-off from the D—the red being in exactly the same position in both instances—and very good position can be left as the result of either stroke. The cue ball is placed in different positions in the D and from one position the in-off is played by a thinner than half-ball stroke, and from the other, by a fuller than half-ball stroke. Diagram 460 illustrates the thinner than half-ball stroke. Here, the red ball is thrown away from the side cushion more or less as shown by the intersected line, and thus should the ball, after its rebound from the top cushion, not travel far enough down the table to leave another centre-pocket in-off, a top pocket in-off will be left instead. The in-off by this thinner than half-ball stroke—often a quarter-ball stroke—requires good handling, however, for in order to bring the object ball well down the table again a fast stroke must of necessity be employed—the cue ball imparts much less of its pace to the object ball when the contact is a thin one than it does when the contact is half-ball or fuller than half-ball—and this, of course, means that the cue ball has to enter the pocket at high pace. A fast ball in order to enter a pocket has to travel very true to it and in the stroke under discussion should the cue ball strike the upper angle, even quite close to the pocket, it may easily be thrown away instead of falling into the pocket as it would with a slower stroke. Another point to remember is that it is never as easy to control

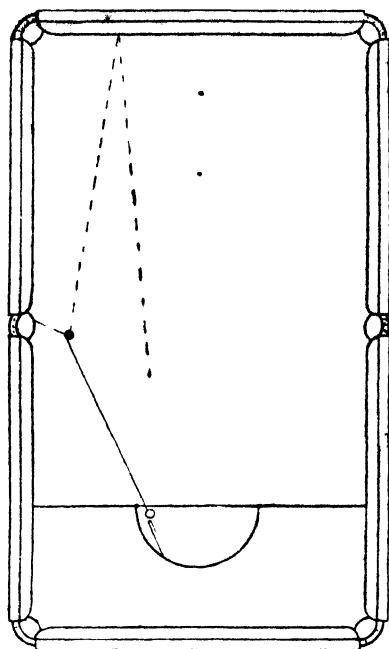


DIAGRAM 460 —A very easy centre-pocket in-off. Cutting the ball away from the side cushion and bringing it down the table with *good direction* to leave another centre pocket in-off. An alternative way of playing this in-off is shown on Diagram 461. Red ball $10\frac{1}{2}$ inches from the side cushion and $64\frac{3}{4}$ inches from the baulk cushion (measured from the edge of the ball).

the running of the object ball when a fast stroke is played as it is when the stroke is a medium-pace one, and the stroke shown on Diagram 460 has to be played with plenty of pace, otherwise the red ball will not travel far enough down the table to leave another centre pocket in-off. Running side—left-hand side in the diagram—is always advantageous in this fast thin in-off, for should the cue ball strike the upper angle of the pocket, the tendency of the spin on the ball will be to cause it to enter the pocket.

Diagram 461 shows the alternative method of playing this in-off. Here, the stroke is a run-through—the contact being about three-quarter-ball—and the red is thrown on to the side cushion, whence it rebounds on to the top cushion, and then takes good direction down the table as shown by the intersected line on the diagram. Naturally, as the contact with the side cushion varies, so will the object ball's direction down the table vary, but good direction down the table can result from quite different contacts with the side cushion, so that no very exact hitting of the red is necessary to ensure good after-position. As the ball has to strike two cushions before it can travel down the table again, a fair amount of strength must be used for the stroke. On the other hand, it must not be forgotten that as the contact between the balls has to be considerably fuller than half-ball, the greater part of the cue ball's pace is imparted to the object ball. For this reason also, the cue ball travels to the pocket with much less speed than it does when the in-off is played by the thinner than half-ball stroke already described.

Although no very exact contact with the red is required in order to ensure good after-position when playing the in-offs shown on Diagrams 460 and 461, a careless stroke can, in either case, very easily give the red bad direction, with consequent loss of position.

Position A on Diagram 462 illustrates a possible result from a careless stroke when playing the in-off by the thinner than half-ball method, and position B a possible result when carelessly playing the in-off by the fuller than half-ball method. In position A, although the cue ball finds the pocket, the contact has not been thin enough to throw the ball away from the side cushion and its line of travel down the table is very similar to its path up the table. When this is the case, the ball generally comes into baulk, for firstly it has less distance to travel before it reaches the baulk line when it is not thrown away from the side cushion, and secondly, the strength that would only be sufficient to bring the

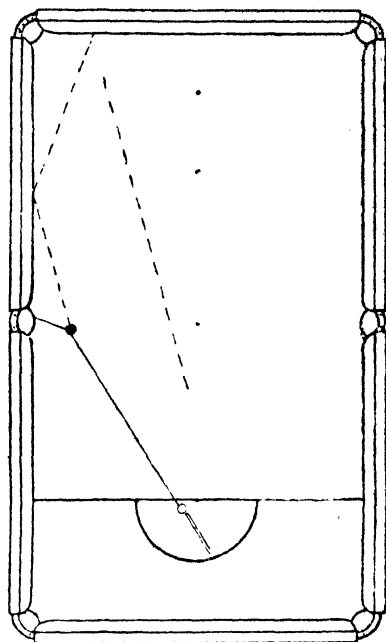


DIAGRAM 461.—An easy centre-pocket in-off. Getting pretty full on to the red, throwing it on to the side cushion and bringing it down the table with *good direction* to leave another centre-pocket in-off. Red ball situated exactly as on Diagram 460.

ball down to the centre pockets when the contact is a thin one, is too great when the contact is fuller than intended. In the stroke shown at B on Diagram 462, the cue ball has not taken the red full enough to throw it on to the side cushion. When this is the case, the red can go almost anywhere. It may go into baulk after striking the top cushion, it may go into the top pocket—a wretched stroke this—or it may catch the angles of the top pocket—an awful stroke—and travel across the table, as shown by the intersected line on the diagram, and finally come to rest in some very safe place.

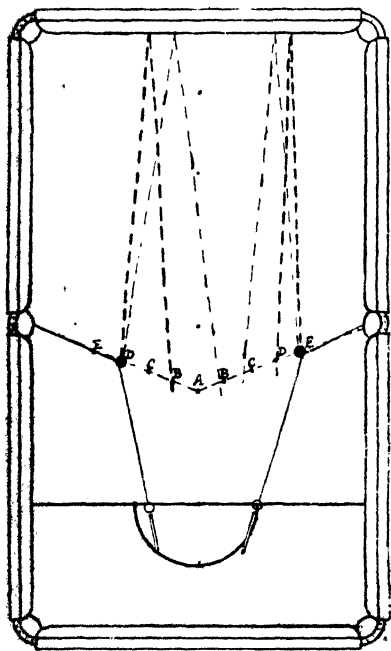


DIAGRAM 463.—Two easy centre-pocket in-offs. In the position for an in-off into the right centre pocket a half-ball or a slightly less than half-ball stroke will impart good direction to the red ball. In the position for an in-off into the left centre pocket the same result will be attained by means of a half-ball or a slightly fuller than half-ball stroke. Red ball at E 11½ inches from the side cushion and 62 inches from the baulk cushion—at D 16½ inches from the side cushion and 59 inches from the baulk cushion.

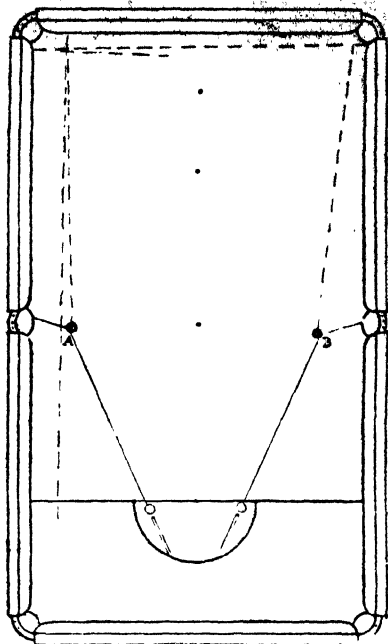


DIAGRAM 462.—The bad position that may result from incorrect contact with the object ball when playing an in-off with the intention of cutting the ball away from the side cushion as on Diagram 460, or of driving it on to the side cushion as on Diagram 461.

Diagram 463 shows lines drawn from a point on the central line of the table 22 inches from the baulk line, towards the centres of the middle pockets. These lines A, B, C, D, E, one on each side of the central line of the table, are intended to be 26 inches long, and for the sake of convenience are divided into equal sections. When a ball lies on any part of these lines it is in ideal position for a centre-pocket in-off, both as regards the actual stroke and the ease with which good position can be left for the ensuing stroke. On Diagram 463 the red ball is shown on the right side of the table at E, the termination of the 26-inch line, and also on the left side of the table at D—a point 6½ inches from E. With the red ball at E, the in-off the easiest of strokes, for all necessary is to place the cue ball

left extremity of the D and use a plain half-ball stroke. When the stroke is correctly gauged, the red will travel down the table, as the thick intersected line, to leave another centre-pocket in-off. In particular stroke a half-ball contact throws the red slightly towards the centre of the table, so that when it comes to rest it is farther from the side cushion than it was previous to the stroke being played. The line of travel down the table as shown by the thick intersected line is, however, not so good as it might be, for the ball has to travel down the table nearly to the centre pocket before a top-pocket in-off can be on. If, however, the red be taken just a shade less than half-ball it will be thrown farther away from the cushion, as shown by the thin intersected line on the right side of the table. In this way, position for a top-pocket in-off commences much sooner. A contact considerably thinner than half-ball will also give the object ball good direction, for in this way it may be thrown right into the middle of the table, or even a little to the other side of the table, but there is no advantage in playing such a stroke, for as soon as the contact is appreciably less than half-ball, considerably more strength has to be used to bring the ball far enough down the table to leave another centre-pocket in-off—always the aim of the good player when such a stroke is not too difficult—and the greater the strength of a stroke the greater the difficulty in controlling the object ball.

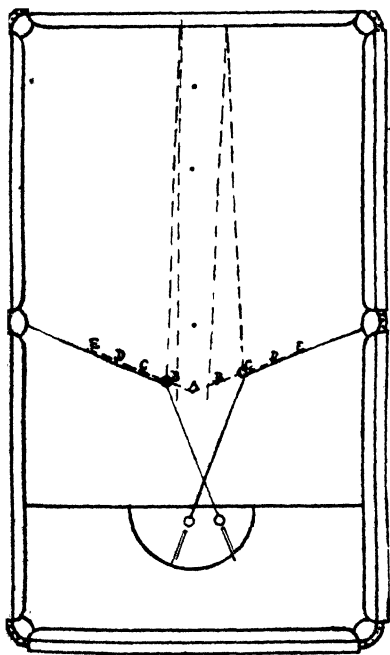


DIAGRAM 464.—Two centre-pocket in-offs. Red ball at C, 23 inches from the side cushion and 56½ inches from the baulk cushion. At A, 28½ inches from the side and 53½ inches from the baulk

With the red ball at D (shown on the left side of the table), the in-off is again quite a simple stroke. All that is necessary is to place the cue ball on a spot on the D line about five inches from the left extremity of the D and aim for a contact either half-ball or just a shade fuller than half-ball. The thin intersected line shown on the left side of Diagram 463 roughly shows the direction that will be given the red as the result of a half-ball stroke, and the thick intersected line the way the ball may travel when it is taken just slightly fuller than half-ball. In either case the red travels with splendid direction and top-pocket positions begin very shortly after it leaves the top cushion.

Diagram 464 shows the red ball on the same line from the centre pocket as on Diagram 463, but nearer to the central line of the table. With the ball at C, as shown on the right side of the table, the in-off is practically as easy as before, but a half-ball stroke will throw the red a little too much to the other side of the table and though a good-strength stroke would leave the ball well placed for an in-off into other centre pocket, it is play to bring the ball down

centre of the table, for not only does this ensure more top-pocket possibilities when the strength of the stroke has not been very good, but it often leaves a choice of either centre pocket for the ensuing stroke, when, by reason of good strength, the ball travels a short distance past the centre pockets. On Diagram 464 the intersected line shows the good direction that may be given to the object ball when the in-off—red ball at C—is played by means of a slightly fuller than half-ball stroke.

With the red ball at B, as shown on the left side of the table on Diagram 464, the in-off is very similar to the one just described with the ball at C. A slightly fuller than half-ball contact will keep the red near the centre of the table, as shown by the intersected line on the diagram.

Diagram 465 shows the red ball exactly on the central line of the table, the spot it occupies being 22 inches from the baulk line—position A on Diagrams 463 and 464.

The in-off from this location of the red is almost as easy as the ones just described, but a half-ball stroke would give the object ball bad direction for it would travel as shown by the thin intersected line. The contact must therefore be somewhat fuller than half-ball, in order to keep the ball as near as possible to the central line of the table. The ball will but seldom travel exactly on this line, but provided that it keeps near it, good in-off position will always be left for the next stroke. As a matter of fact it is better when the red, though keeping near the central line on its return journey, does not travel exactly on it, for when on this line the red has to be considerably nearer to baulk for a centre-pocket in-off to be on, than when it lies a few inches to the right or left of it.

In the in-offs shown on Diagrams 463, 464, and 465 the positions are such that no difficult stroke is required in order to give the object ball good direction. Centre-pocket positions constantly, however, occur that are of such a nature that although the in-off, just as a stroke, may present little or no difficulty, good direction can only be given the object ball by a stroke which makes the in-off far more difficult than when played by a stroke which gives the object ball bad direction.

Diagrams 466, 467, and 468 show a series of such positions. In these diagrams a line is drawn towards the centre of the middle pocket from a point on the central line of the table 14 inches from baulk. This line ABCDE is intended to be 24 inches long, and for the sake of convenience is divided into four sections of 6 inches each. With a ball anywhere on this line ABCDE, as shown on Diagrams 466, 467, and 468, an in-off which gives the red good direction is a totally different stroke from the in-offs shown on Diagrams 463, 464,

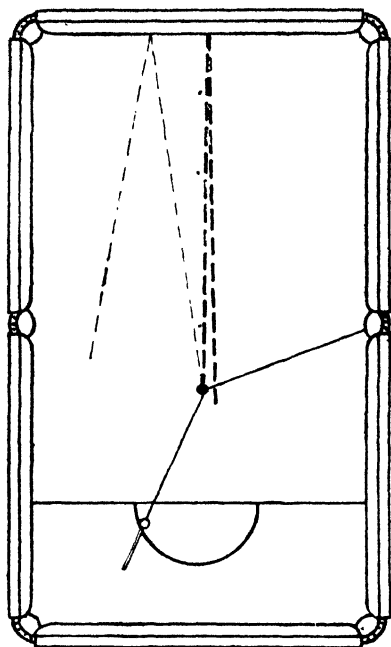


DIAGRAM 465.—A centre-pocket in-off. Red ball on the central line of the table and on a spot 22 inches from the baulk line. The thick intersected line shows a good line of travel for the red ball and the thin intersected line a bad line of travel.

and 465, for whereas in these positions already discussed the contact with the red has at most only to be slightly fuller than half-ball in order to give the object ball good direction up and down the table, in the positions shown on Diagrams 466, 467, and 468 only by a contact which is very considerably fuller than half-ball can the same result be attained.

In Diagram 466 the red ball is shown at E and at D, two points 6 inches apart on the line ABCDE, the location of which has already been given. With the ball at E, the in-off is not possible by means of a half-ball stroke and can only be made by a thinner or fuller than half-ball stroke. Good in-off position can be left as the result of either method of play, but as the thin stroke—which will be discussed a little later on—only leaves top-pocket position it is not as sound a stroke as the fuller than half-ball stroke which brings the red down the table again for another centre-pocket in-off when the strength is good, and which when the strength is insufficient still leaves top-pocket position, owing to the good direction with which the red ball travels down the table. In playing this in-off, the cue ball should be spotted at

the extreme end of the D and the red should be taken about three-quarter ball. When the in-off is made by this run-through stroke, a good line of travel is bound to be given the object ball, for the contact that gives good direction to the object ball is the only one by which the in-off can be made; in fact, the in-off and good direction to the object ball are the complement of each other.

This run-through in-off will appear a very difficult stroke to the ordinary player, and though any fair player ought to be able to get it after a few tries, it requires very constant practice to be able to get it time after time with certainty and ease. Although this run-through in-off can be made easily enough without side, the use of check side—left-hand side with the red ball on the right side of the table—somewhat simplifies the stroke, for this side makes the cue ball run narrow. On the diagram, an idea of the direction that the red ball will take is given by the intersected line. The ball may, of course, travel either to the right or the left of this line but only within fairly narrow limits, for though the contact has not to be an absolutely exact one in order for the in-off to be made, there is not much latitude for difference in contact when playing these particular run-through in-offs.

When the red is at D—as shown on the left of Diagram 466—the in-off can be got quite easily by means of a half-ball stroke, but such a stroke would give the object ball the worst possible direction. Its path would be more or less as shown

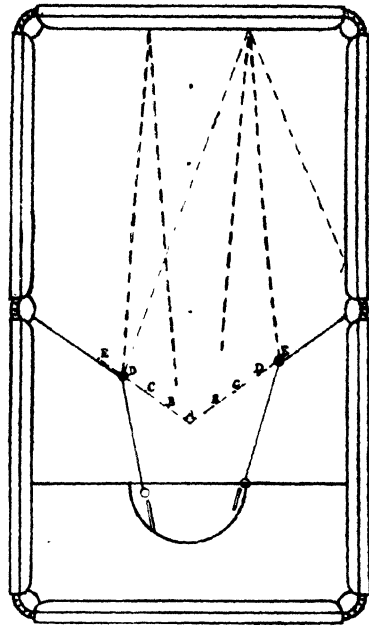


DIAGRAM 466.—Two centre-pocket in-offs. Red ball at E, $15\frac{1}{2}$ inches from the side cushion and 57 inches from the baulk cushion. At D, $20\frac{1}{2}$ inches from the side cushion and 53 inches from the baulk cushion.

by the thin intersected line. It might come to rest close to the side cushion or it might even enter the centre pocket, and a stroke that left the red over this pocket would be a very lucky one. The only stroke that can bring the red down the table with good direction is a run-through, and for this the cue ball should be spotted on the D line about $3\frac{1}{2}$ inches from the extremity of the D—or farther back in the D but still forming the same angle—and the red should be taken about three-quarter ball. The thick intersected line illustrates the good direction that may be given the object ball as the result of this three-quarter-ball contact. The stroke is best played with check side as this side helps to make the cue ball run narrow.

When the red is at C or B, as shown on Diagram 467, the in-off can again be made by means of a half-ball stroke, but

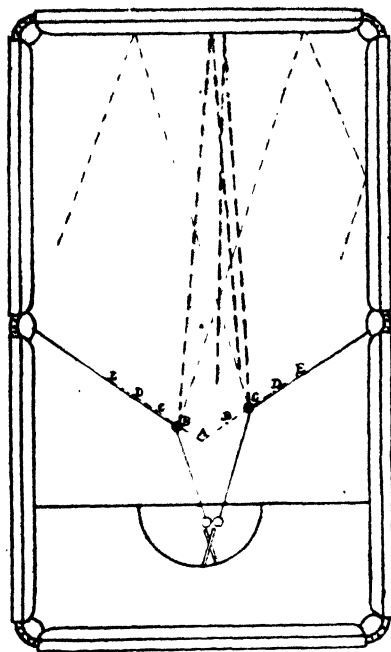


DIAGRAM 467.—Two centre-pocket in-offs. Red ball at C, 25 inches from the side cushion and $49\frac{1}{2}$ inches from the baulk cushion. At B, $29\frac{1}{2}$ inches from the side cushion and 46 inches from the baulk cushion.

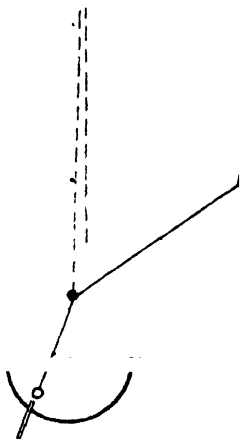


DIAGRAM 468.—A centre-pocket in-off. Red ball on the central line of the table on the D line— $29\frac{1}{2}$ inches from the baulk line—position A on Diagrams 466 and 467.

the thin intersected lines show the very bad direction in which the red ball must travel as the result of half-ball contacts. In order to bring the object ball down the table well away from the side cushion, both these in-offs must be played by means of three-quarter-ball run-through strokes. The thick intersected lines illustrate how by means of these run-through strokes, the red ball may be brought down the table to leave—according to the strength of the stroke—either a centre-pocket or top-pocket in-off to continue with. These run-through in-offs should be played with check side, as this side helps to make the cue ball run narrow.

When the red is at A, as shown on Diagram 468, the in-off is very similar to the ones shown on Diagram 467. As

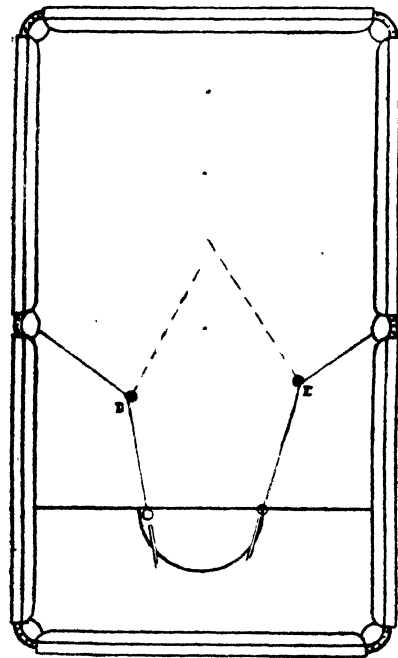
before, the half-ball stroke is of no use whatever, and only by means of the fullish run-through in-off can the object ball be made to travel with good direction up and down the table. The three-quarter-ball run-through in-off shown on Diagram 468 is, however, perhaps still more difficult than the ones shown on Diagram 467, for in run-through strokes, far more than in half-ball strokes, the farther the cue ball has to travel after contact with the object ball, the more difficult the stroke. For the in-off on Diagram 468 the cue ball should be spotted on the D line about seven inches from the end of the D—or farther back in the D at the same angle—and the stroke should be played with check side. The intersected line on the diagram indicates the good direction that may be given the red ball as the result of a three-quarter-ball contact.

As stated before, these three-quarter-ball run-through centre-pocket in-offs require a great deal of practice before a player is able to play them with certainty and ease. The positions, however, occur so constantly, that it is safe to say that no player can ever make a big break off the red which is devoid of luck, unless he be proficient in them.

Diagram 469 shows the red ball in exactly the same positions as on Diagram 466, but illustrates a different method of playing the in-offs. Although in these positions, as already shown, the red ball can only be brought

down the table for another centre-pocket in-off by means of a three-quarter-ball run-through stroke—anything but an easy stroke for a moderate player—it can, by means of a fairly simple stroke, be left in the upper half of the table, in good position for a top-pocket in-off. With the red situated at E, a somewhat thin in-off will cut it out into the middle of the table, and there is a fair amount of latitude for strength, for should the red ball travel a little farther than or not quite so far as shown by the intersected line, top-pocket position will still be left. Nor need the red travel exactly as shown by the intersected line. It can travel to the right or the left of this line—within narrow limits, of course—and still leave a top-pocket in-off from the D.

When the red is at D, as shown on the left of Diagram 469, the stroke to leave a top-pocket in-off is still easier than with the red at A, for all that is necessary is a very slow half-ball stroke. The intersected line shows the direction that the object ball will take as the result of a half-ball contact. Very similar position may be left by playing the in-off by means of a slow, thinner



Means to leave the object ball in position for a top-pocket in-off. Red ball at E, 15½ inches from the side cushion and 57 inches from the baulk cushion. At D, 40 inches

from the side cushion and 53 inches from the baulk cushion.

spotted just a little farther from the end

of the D than when playing the in-off by means of a half-ball stroke.

Diagram 470 shows the red in the same positions as on Diagram 467 but illustrates an alternative method of playing the in-offs. With the red at C, a very slow half-ball in-off will leave it in good position for a top-pocket in-off. The cue ball must, however, travel with little more than sufficient speed to reach the pocket otherwise the object ball will travel too far up the table. The thick intersected line indicates roughly the distance the ball should travel. In half-ball strokes, both balls travel with about the same speed after contact, so that in this in-off should the cue ball reach the pocket with very little to spare, the red ball will travel very little farther than the cue ball travels after hitting the red. A very similar after-position can be obtained by playing the in-off by means of a slow thinner-than-half-ball stroke.

Also, by means of this thin stroke the red can be sent to the vicinity of the top pocket, as shown by the thin intersected line—and position for a simple in-off may often be left. Such a stroke is, however, generally speaking an unsound one, for though the resultant position may easily be good, it can nearly as easily be bad. For example, the red may remain touching or nearly touching the top cushion, or it may not travel quite far enough up the table to leave an in-off, or it may rebound from the top cushion too far to leave anything but a difficult pot. In fact, there is very little latitude for good strength. Under certain conditions, however, this particular way of playing the stroke may be a very sound one indeed. The three-quarter run-through stroke already discussed may be of no use owing to the situation of the object white being such that a kiss between the object balls would occur. This would be the case with the white at W, as shown on the diagram. With the white so situated, a thin in-off from the red, cutting the red up to the vicinity of the corner pocket, would be a very good stroke to play for irrespective of the chance of an in-off from the red being left, there would always be a simple ball-to-ball cannon off the white to continue with.

With the red at B, position for a top-pocket in-off is best obtained by means of a slightly fuller than half-ball stroke played with very little pace. The intersected line gives an idea of the red ball's line of travel when the contact is just a shade fuller than half-ball. Position for a top-pocket in-off can also be obtained by means of a thin slow in-off, but owing to the distance of the red from the pocket this thin in-off is not an easy stroke, besides which the top-pocket

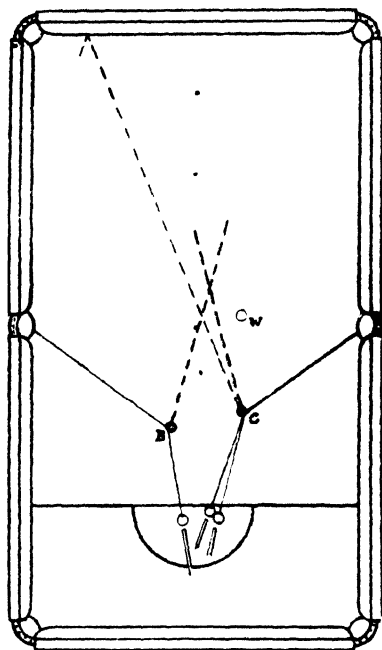


DIAGRAM 470.—Two centre-pocket in-offs. In either case a slow stroke will leave the object ball in position for a top-pocket in-off. Red ball at C, 25 inches from the side cushion and $49\frac{3}{4}$ inches from the baulk cushion. At B, $29\frac{1}{4}$ inches from the side cushion and 46 inches from the baulk cushion.

in-off which it leaves—when the stroke has been well played—is about the most difficult of all half-ball strokes, for the location of the object ball will in all probability be a few inches below the centre spot and close to the central line of the table. The thin, moderately fast stroke, driving the red up the table to the vicinity of the top pocket, can also be played with the red at B, but it is not an easy one owing to the distance of the red from the pocket.

Diagram 471 shows the red in the same position as on Diagram 468, but illustrates methods of playing the centre-pocket in-off alternative to the one already described. The easiest way of getting the in-off is by means of a half-ball stroke—shown into the right pocket. Such a stroke may leave a top-pocket in-off, if the red rebounds just a little way from the top cushion—as shown by the thick intersected line—or if it stops just a little short of the cushion. There is, however, very little latitude for good strength, and unless the object white is also in good position for an in-off, or is so placed that an easy cannon would be on should the red not come to rest in position for an in-off, this half-ball in-off would be a very unsound stroke to play. A thin in-off—also shown into the right pocket—although a more difficult stroke is a better positional one. A thin contact imparts very little pace to the red ball, provided a slow stroke is used, and consequently it travels very little distance up the table—the thin intersected line shows the red ball's line of travel—and thus a top-pocket in-off is left for the next stroke. In playing this slow thin stroke, the red ball should not travel many inches higher up the table than the centre pockets, and when the stroke is a good one the ball may not travel quite as high up the table as the pockets. In fact, it is quite possible by spotting for a very fine contact with the red, to leave the ball in very good position for a centre-pocket in-off, but such a stroke is too difficult a one to be played with certainty and it is never the game to make a stroke very difficult, when good position can be obtained by means of an easier stroke.

In the strokes shown on Diagrams 469, 470, and 471 the centre-pocket in-off only leaves a top-pocket in-off, whereas from exactly the same positions another centre-pocket in-off can be left as the result of the strokes illustrated on Diagrams 466, 467, and 468, and as centre-pocket in-offs from the D are generally speaking not only easier, just as strokes, than top-pocket in-offs, but also guarantee the retention of good position much more surely than the long in-offs do, the strokes shown on Diagrams 466, 467, and 468, which bring the red into position for another centre-pocket in-off, are superior to those illustrated on Diagrams 469, 470, and 471, which leave a top-pocket in-off to continue with.

DIAGRAM 471.—A slow centre-pocket in-off. Red ball on the central line and on a spot 14 inches from the baulk line. The cue-ball is shown spotted for a half-ball in-off and also for a thin in-off.

Diagram 472 shows the red on the central line of the table and on a spot 9 inches from the baulk line. Owing to the ball being so near baulk, a thin in-off to leave another centre-pocket in-off is a much less difficult stroke than it is with the ball situated several inches farther up the table as on Diagram 471. Should this thin in-off be played with a little too much pace, the object ball will travel too far up the table to leave another centre-pocket in-off, but when this happens position for a top-pocket in-off may be left instead. This thin stroke therefore gives the object ball very good direction, for unless played with altogether too much pace, the object ball is never sent into a bad position. The moment it is no longer well situated for the centre pocket it is in good position for a top pocket. Of course, the stroke that leaves the ball well placed for a centre-pocket in-off is an infinitely better one than the stroke that only leaves a top-pocket in-off to continue with. This thin stroke is one that is well worthy of practice, for not only does it leave ideal centre-pocket position when it is well played, but the position is one that with slight variations constantly occurs. In playing a series of centre-pocket in-offs, a good player, though giving the object ball perfect direction each time, will every now and then play a stroke with a little too much strength and, as a consequence, bring the object ball farther down the table than he intended. In the diagram the thin intersected line shows how centre-pocket position can be left for the next stroke, as the result of a slow thin stroke.

Although with the red ball a few inches higher up the table and still on the central line, as on Diagram 468, a good player would play the in-off by means of a run-through stroke in order to bring the object ball down the table for another centre-pocket in-off, when the ball is as near the baulk line as shown on Diagram 472 the run-through method of bringing ball into position for another centre-pocket in-off would make the stroke too difficult to be a reliable one, and the gentle thin stroke becomes imperative.

Of course, with the red situated as shown on Diagram 472 it could be quite easily potted into either centre pocket, and by causing the cue ball to follow on to the vicinity of the pocket, position for an in-off from the red on the spot would be obtained. Good players, however, seldom resort to this method of play when it can easily be avoided, for though the in-off from the red on the spot may be easy enough as a stroke, unless it is a plain half-ball stroke the after-position may not always be good.

DIAGRAM 472.—A gentle thin centre-pocket in-off to leave another centre-pocket in-off. Red ball on the central line and on a spot 9 inches from the baulk line.

There is a peculiarity about this slow thin in-off—and in fact about all slow strokes in which the cue ball has a considerable distance to travel *diagonally* to the nap of the cloth—that is quite unknown to many good players. A ball which is travelling very slowly across the nap does not move in quite a straight line even though quite devoid of any spin whatever, for the nap of the cloth has a slight effect on a centrally-struck ball when the stroke is a gentle one, and this effect is somewhat pronounced during the last twelve inches or so of the ball's run. This pull of the nap on a slowly-travelling ball that is under the influence of no spin whatever has to be reckoned with when playing strokes at all similar to the thin in-off shown on Diagram 472. Playing from the D for an in-off into either centre pocket the pull is *always up the table*, so that the effect is as though a small amount of check side has been imparted to the ball. If, when playing the in-off shown on Diagram 472 by means of quite a slow stroke, the cue ball as it leaves the red is making straight for the centre of the pocket, the pull caused by the nap of the cloth will cause the ball to touch the upper angle before entering the pocket and may even prevent the in-off being made. In order that the cue ball may enter the pocket at the centre it must, as it leaves the red, be making for the lower angle of the pocket. On reference to Diagram 472 it will be seen that the line from the red to the pocket is slightly curved at the end and that were it not for this curve it would impinge on the lower angle of the pocket. If the cue ball as it leaves the red is travelling in a straight line to the lower angle

of the pocket it will, as it approaches the pocket—provided it is travelling very slowly—pull to the pocket and finally enter it. Often, when playing this stroke it will appear to the player as though the ball is going to strike the angle, for the pull is only really noticeable just at the end.

The pull of the nap on a ball travelling slowly and diagonally to the table, varies, of course, according to the kind of nap, but about half a ball may be reckoned as the average pull in these slow in-offs, with the object ball near the baulk line. This pull, although it has to be reckoned with, is so slight that it is difficult to counteract it by the use of side, for even a small amount of side may be too much.

In playing thin centre-pocket in-offs with the object ball as near the baulk line as on Diagram 472, it is better to spot the cue ball an inch or two from the baulk line instead of on it, for the correct angle is found with less difficulty when the cue ball is not too near the object ball.

Diagram 473 shows the red ball the same distance out of baulk as on Diagram 472, but some considerable

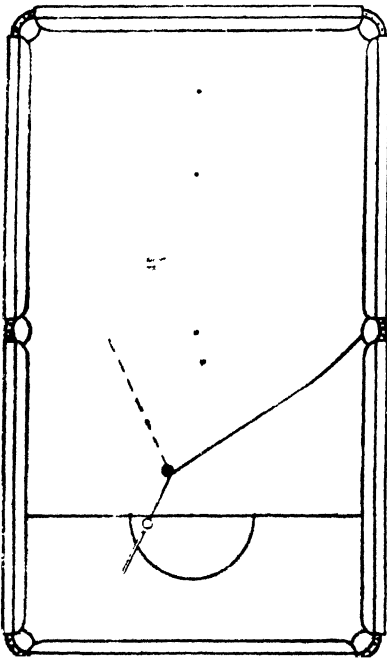


DIAGRAM 473.—A gentle thin centre-pocket in-off to leave another centre-pocket in-off. Red ball 29 inches from the side cushion and $37\frac{1}{2}$ inches from the baulk cushion.

distance from, instead of on the central line of the table. There is a good deal of difference between the two positions, for on Diagram 472 the stroke is the same no matter which centre pocket be selected for the in-off, whereas on Diagram 473, although an in-off into either pocket is quite possible, an in-off into the right centre pocket is very much easier than an in-off into the other pocket, owing to the right centre pocket being so much more open than the left pocket. In these thin in-offs, when either pocket is optional, the more open pocket should always be selected when making a break off the red ball. In the position shown on Diagram 473, the difference between the pockets as regards the in-off is very marked, but when the ball is only two or three inches from the central line of the table the difference is not nearly so noticeable although it still affects the stroke.

The position on Diagram 473 differs from that on Diagram 472 in another very material point, for when playing the in-off into the more open pocket, unless the stroke be played slowly enough to leave the red well located for an in-off into the other centre pocket, position will be lost, whereas in the position shown on Diagram 472 owing to the object ball's line of travel commencing at the central line of the table the ball can travel a little past the centre pocket and still remain in the zone for top-pocket in-offs.

In Diagram 473 the cue ball should be spotted two or three inches behind the D line. The slight pull due to the nap of the cloth will be about the same in this stroke as in the one illustrated on Diagram 472, for the pull commences just before the ball reaches the pocket.

Diagram 474 shows the red ball the same distance from the central line of the table as on Diagram 473, but only an inch or two out of baulk. Here, several different strokes are on. The ball can easily be potted into either centre pocket, a screw in-off into the nearer baulk pocket is not very difficult just as a stroke—though it requires well handling to leave position—and finally there is the thin in-off shown on the diagram. This last stroke is one that is not very often played, but it is no more difficult than the screw in-off, and it is a stroke that leaves splendid position when the strength is good. In playing this thin in-off, the cue ball should be placed nearly as far away from the red as the D will allow, in order that the angle may be the more easily judged.

Diagram 475 shows another thin centre-pocket in-off. This position is

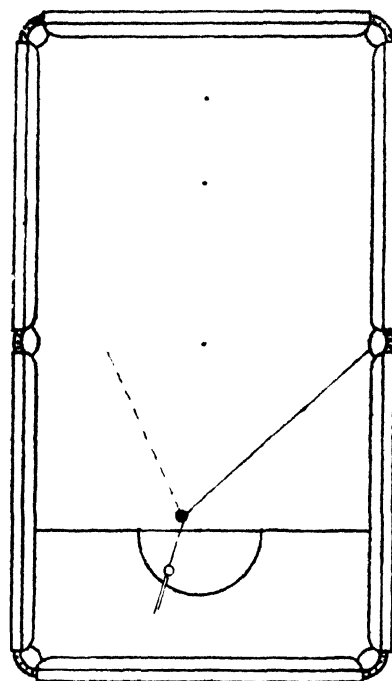


DIAGRAM 474.—A thin centre-pocket in-off to leave another centre pocket in-off. Red

different from the thin in-offs already described, in that the in-off is only on into one pocket. The cue ball should be spotted at the extreme end of the D and the strength of the stroke should be such that the cue ball travels with very little more than sufficient speed to reach the pocket. Played this way, the object ball will not travel more than 15 inches or so, and as its line of travel will be as shown by the intersected line on the diagram, perfect position for an in-off into the same pocket will be ensured for the following stroke. If, however, the strength of the stroke be not as gentle as is required to leave another centre-pocket in-off, with the result that the object ball travels considerably farther than intended—even two feet farther—position for a top-pocket in-off will be left to continue with, for the object ball enters the zone for ordinary

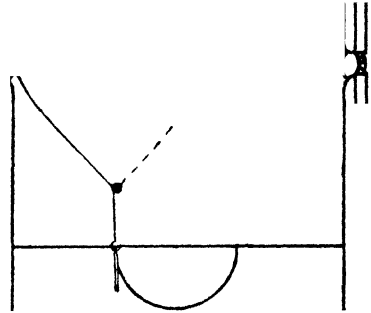


DIAGRAM 475.—A thin centre-pocket in-off. Red ball $22\frac{3}{4}$ inches from the side cushion and 40 inches from the baulk cushion.

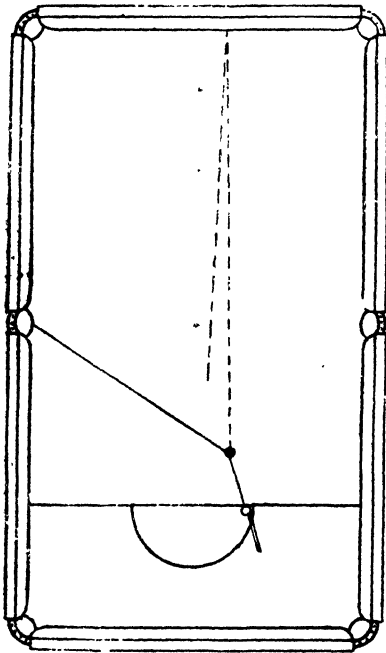


DIAGRAM 476.—A run-through centre-pocket in-off. Red ball on a spot 7 inches from the central line and 10 inches from the baulk line.

top-pocket in-offs as it leaves the zone for centre-pocket in-offs. No side is required for the stroke, but check side—right-hand side in the diagram—will help to make the cue ball run narrow.

Diagrams 476 and 477 show the red in exactly the same position. As a rule, when a ball is less than a foot from the baulk line it is not advisable to play a centre-pocket in-off by means of a run-through stroke, as played in this way the in-off becomes a very difficult stroke. When, however, the ball is well to one side of the table—as is the case on Diagram 476—and a run-through in-off is quite on, this stroke is a very good one to play, owing to the pocket being a pretty open one. On Diagram 476 the intersected line illustrates the good direction that may be given the red ball as the result of a run-through stroke.

Diagram 477 illustrates the in-off made by a slow thin stroke and the intersected line shows how the object ball may be left in good position for an in-off into the other centre pocket.

There is not a great deal to choose between the two totally different methods of playing this in-off, but the run-through is perhaps the sounder stroke for the distance of the red from the pocket makes the thin stroke—played as it has to be with gentle strength—a somewhat difficult one to gauge owing to the extreme accuracy of contact that is required.

Diagram 478 is illustrative of positions that often occur. Two positions are shown. In the one on the left, the red is at A and the object white at B, and in the other, the red is at C and the white at D, the cue ball in both instances being in hand. In either position the cannon is an easy stroke, although it requires screw or force.

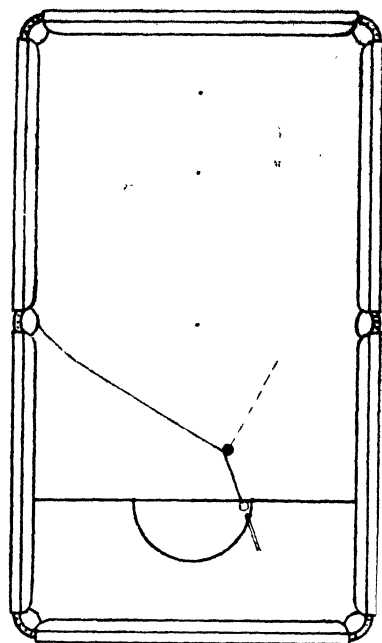


DIAGRAM 477.—A thin centre-pocket in-off. Red ball on a spot 7 inches from the central line and 10 inches from the baulk line.

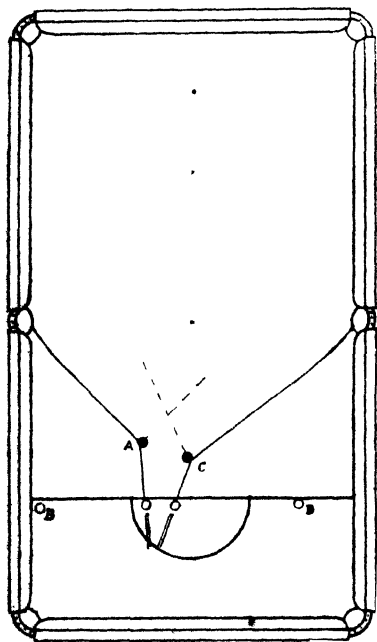


DIAGRAM 478.—Positions which give a choice of a centre-pocket in-off or a cannon.

Perhaps the player, when confronted with a position like either of these, has already made a number of in-offs from the red and at last has the chance of rescuing the white from baulk and bringing it into play again. The cannon in such a position is called *the game* by many players for whom it most certainly is not the game. For a really first class player the cannon is, of course, the correct stroke and it may also be the right stroke for a moderate player, for if such a player cannot play the in-off from the red he may as well score by means of the cannon and trust to luck for something being left after a smashing shot. A player has, however, to be very capable indeed before he can play a cannon in either of the positions shown on Diagram 478 in such a manner as to be moderately sure of and many a good

amateur who understands the theory of, and plays the in-off game very well indeed, too often finishes a good break off the red, when, with a position similar to either of those shown on Diagram 478 he plays the cannon instead of keeping to the red.

Diagram 479 shows a very wide centre-pocket in-off, the red ball being exactly on the central line and on a spot $26\frac{3}{4}$ inches from the baulk line. This wide in-off has already been mentioned in the chapter on *SIDE*, but some further reference to it may not be out of place. With the red ball in this position, the in-off is not possible with ivory balls except as a forcing stroke or by the aid of screw. With bonzoline balls, however, all that is necessary is a half-ball stroke with plenty of running side—right-hand side in the diagram—and the stroke can be played quite slowly, or with sufficient strength to bring the ball down the table again, as shown by the intersected line on the diagram. If the in-off be played in the same manner with ivory balls, the cue ball will strike the upper angle too far from the pocket to allow of the in-off being made. The

position given on Diagram 473 with the ball on the central line of the table is not by any means the only one that can occur from which a centre-pocket in-off is easily on by means of an ordinary half-ball stroke with side, when playing with bonzoline balls, though not on by the same kind of stroke when using ivory balls. Another similar position occurs when the object ball is on a spot $8\frac{3}{4}$ inches from the central line of the table and $34\frac{1}{2}$ inches from the baulk line, and very many others could be given. In fact, whenever a centre-pocket in-off is just not on with ivory balls by means of an ordinary half-ball stroke with running side, it is easily on by this stroke with bonzoline balls and when just possible with ivory balls though not an easy stroke, it is a very ordinary stroke with bonzoline balls. These positions are of constant occurrence, for often and often when playing to bring the red ball down the table for a centre-pocket in-off it will not travel far enough down, although just another inch or so would have made all the difference. When this happens, and the ball is near the middle of the table, a top-pocket in-off has to be played, and although such a stroke is not by any means a difficult one, it is never quite as certain, even at the hands of a good player, as a centre-pocket in-off, besides which it is never quite as easy to leave good position from a top-pocket in-off, as it is from a centre-pocket in-off. Even with bonzoline balls, it will, of course, often and often happen that the red ball does not travel far enough down the table to leave a centre-pocket in-off, but not nearly so often with bonzoline balls as with ivory balls. The fact that positions constantly occur that present easy centre-pocket in-offs with bonzoline balls, but

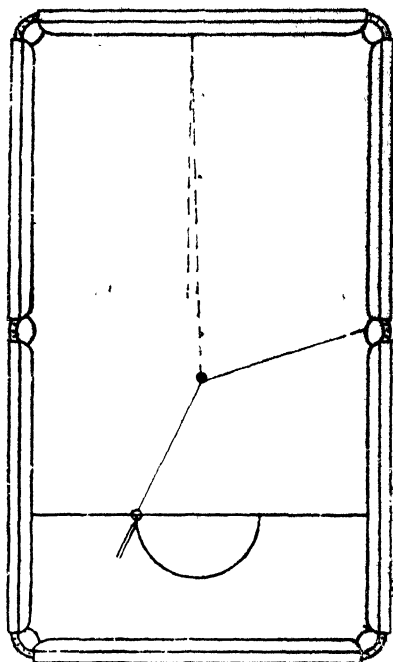


DIAGRAM 479.—A very wide centre-pocket in-off. Red ball on the central line and on a spot $26\frac{3}{4}$ inches from the baulk line.

only top-pocket in-offs with ivory balls, proves in no uncertain manner how vastly superior bonzoline balls are to ivory balls when playing the in-off game, which after all is, and must always be, the backbone of an amateur's game; more especially as no position can occur in which a centre-pocket in-off is easily on with ivory balls, that is not also easily on with bonzoline balls. All this is, of course, quite apart from the great virtue that bonzoline balls possess, viz., beautifully true running, though only in comparatively rare cases can the running of ivory balls be depended on.

Positions also constantly occur from which a top-pocket in-off can be easily made by means of a half-ball stroke with running side when playing with bonzoline balls (an example will be given in the next chapter on TOP-POCKET IN-OFFS), but from which the in-off is only possible with ivory balls by means of a forcing stroke—always a more difficult stroke and one which gives a player very little control of the object ball. Indeed, it is questionable whether the advantage which a player gains from the use of bonzoline balls is not even greater when playing top-pocket in-offs, than it is with centre-pocket in-offs, and it is an indisputable fact that the player who habitually uses bonzoline balls will make much bigger breaks off the red ball, than he would with ivory balls.

Diagram 480 shows the red so placed that no centre-pocket in-off from the D is on by a medium-pace stroke even with running side. The correct game is the top-pocket in-off, but top-pocket in-offs with the object ball below the centre pockets are never exactly easy, and even good players sometimes fight shy of them. An alternative stroke is a forcing in-off into the centre pocket, as shown on the diagram. By spotting the cue ball a little away from the end of the D and taking the red ball just slightly less than half-ball, this ball can be given good direction. This forcing in-off is an easy enough stroke owing to the pocket being so open, but owing to the pace at which it must be played it is difficult to control the running of the object ball. A better way of playing the centre-pocket in-off is by means of a screw, spotting the cue ball very much squarer with the red and the pocket. Such a stroke is more difficult than the forcing stroke, but owing to less pace being required the object ball is under better control. An example of this centre-pocket screw in-off has already been illustrated on Diagram 211 in the chapter on SCREW AND REVERSE ROTATION.

Diagram 481 shows the red ball very well situated for a centre-pocket in-off. In the ordinary way, should the player desire to bring the red down the table again for another centre-pocket in-off, the ball should be given a direction more

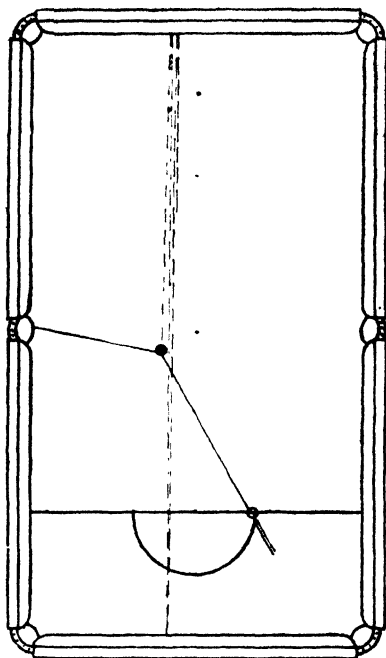


DIAGRAM 480.—A forcing centre-pocket in-off. Red ball $23\frac{1}{2}$ inches from the side cushion and 36 inches from the baulk line. With the cue ball spotted at the end of the D the object ball can only be given good direction by a considerably thinner than half-ball stroke.

or less similar to that indicated on the diagram by the thin intersected line. With the object white situated, however, as shown on the diagram, or anywhere near the red ball's ordinary line of travel for this particular in-off, the method of playing the in-off must be quite altered, otherwise the red may easily hit the white, either as it travels up the table or on its return journey. In certain positions it may be the game to cause a kiss to take place when playing a centre-pocket in-off, but generally speaking it is a very badly-played in-off which causes the second object ball to be disturbed. Sometimes, the position which results from a kiss will be an exceptionally good one, at other times it will be as exceptionally bad; in fact, when the second object ball is disturbed in positions similar to the one illustrated on Diagram 481, the value of the after-position is entirely relegated to chance.

Many players when playing centre-pocket in-offs do nothing to avert these position-destroying kisses. When the position is such that a kiss can easily occur, they *risk* the kiss and often enough avoid it. Methodless play like this, of course, means courting disaster, but when the disaster comes, as come it every now and then inevitably must, the player simply laments what he calls his ill luck.

In order to avoid the possibility of a kiss in the position shown on Diagram 481, the in-off should be played as a partial run-through, the red being taken full enough to cause it to pass the white with about a foot or so to spare. In playing strokes of this nature, it does not do to try and play one ball past another with only just a few inches to spare. The very best players, even when playing easy centre-pocket in-offs, do not always give the object ball quite the direction they intended, and thus by playing to avoid the kiss with plenty of room to spare, a larger amount of latitude is given for incorrect striking. On Diagram 481 the thick intersected line illustrates how the red ball may travel—as the result of a fullish contact—to leave another in-off. Should the ball, travelling in the direction indicated by this line, not come far enough down the table for another centre-pocket in-off, a simple ball-to-ball cannon will be left instead.

Diagram 482 shows another position in which a kiss may easily take place, when the centre-pocket in-off is played without a thought being given to the red ball's line of travel. In this position the kiss may be prevented with certainty by taking the red ball appreciably fuller than half-ball—as shown by the thick intersected line—or thinner than half-ball—as shown by the thin intersected line. When the in-off is played by means of the thinner stroke, more pace is required to bring the object ball down the table again than is necessary with



DIAGRAM 481.—An easy centre-pocket in-off. Unless a considerably fuller than half-ball stroke be played a kiss between the object balls can easily occur.

the fuller stroke, for the speed with which an object ball travels is always dependent upon how full or otherwise it has been hit by the cue ball.

By either of the methods of play shown on Diagram 482, position for a cannon will be left should the red ball not travel quite far enough down the table to leave another centre-pocket in-off.

Diagram 483 shows the red once more well situated for a centre-pocket in-off, but here again with the object white where it is a misjudged stroke might easily cause a disastrous kiss. By means of a thinner than half-ball stroke, the red ball could be cut past the white, that is to say it could be made to pass to the left of the white, but in order to ensure the red passing the white with a sufficient margin to spare it would have to be thrown right into the centre of the table, and this would

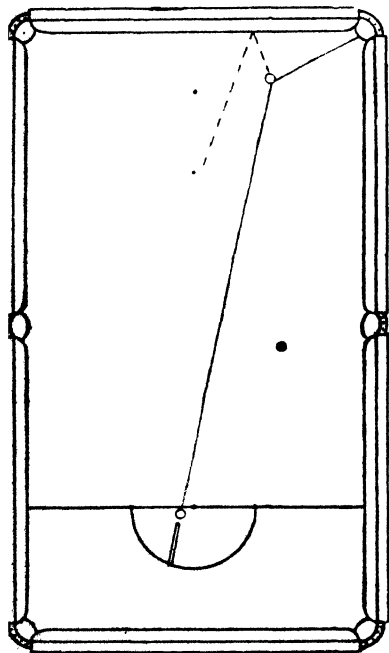


DIAGRAM 483—An in-off from the white in order to remove the white from the possible path of the red when playing the centre-pocket in-off.

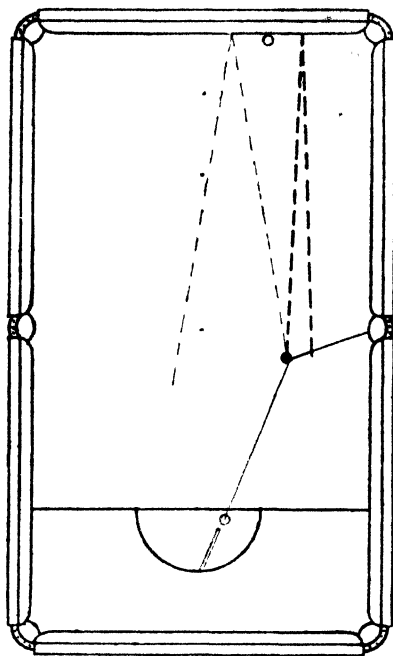


DIAGRAM 482.—An easy centre-pocket in-off. The red must be taken either fuller or thinner than half-ball to prevent its kissing the object white.

mean that it would travel down the table after its rebound from the top cushion with bad direction. On Diagram 483 the object white is, however, so situated that it presents the easiest of top-pocket in-offs. By playing this in-off first, a free course is left for the red, when the centre-pocket in-off is subsequently played.

Diagram 484 shows the red again in position for a simple centre-pocket in-off, but owing to the location of the object white a kiss will take place as the result of the in-off. It is true that it is possible to avoid the kiss, but though good position for a cannon may be left when a kiss is avoided, a thin stroke would have to be played and this would make the in-off a much more difficult stroke. Instead, owing to the object balls being so near each other and well away from the cushion good use may be made of

a kiss, provided that the in-off be played at gentle strength. Such a stroke will cause the red to travel on to the object white without much speed and almost any kind of contact between the object balls will leave a simple cannon to continue with, besides which an ordinary half-ball top-pocket in-off will generally be left as well. On the diagram, the intersected lines convey an idea of the positions the object balls may take up as the result of a three-quarter-ball kiss, and also illustrate how a top-pocket in-off from the white may be left for the next stroke in addition to a simple ball-to-ball cannon. In the event of the red taking the white dead full, no ball-to-ball cannon will be left for the next stroke, but on the other hand the red will remain in position for a top-pocket in-off.

DIAGRAM 484.—A slow in-off from the red causing a gentle kiss between the object balls. Red ball $13\frac{1}{2}$ inches from the side cushion and $64\frac{1}{2}$ inches from the baulk cushion. Object white about 6 inches above the red.

Diagram 485 shows another position in which a stroke that causes a kiss to take place between the object balls may be a very useful one to play. The red is touching or nearly touching the side cushion some distance past the pocket and the object white presents the easiest of in-offs from the D. The in-off can be made by means of a thinner than half-ball stroke, or a fuller than half-ball stroke. By the former stroke the object ball is kept away from the side cushion and comes down the table again *via* the top cushion only, whereas in the ordinary way with the latter stroke the ball takes the side and top cushions before it comes down the table again. By means of this fuller than half-ball contact, the white ball, in the position shown on the diagram, can be thrown on to the red, and if the stroke be played

DIAGRAM 485.—An in-off from the white taking the object ball about three quarter ball and throwing it on to the red, and thus removing the red from the cushion.

without much strength an easy cannon will often be left to continue with, and in this way the red may be brought into play again.

Diagram 486 shows a somewhat peculiar position which—with slight variations—occasionally occurs. The red ball is well situated for an easy centre-pocket in-off and the position of the object white, right behind the red and only about a quarter of an inch from it, is such that were the red not in the way, an in-off from the white, playing from the D, would be quite a simple stroke. With the balls situated as shown, no matter how the in-off from the red be played another centre-pocket in-off from the red will be left. If the stroke be played gently, the red will stop dead, or practically so, the very moment it hits the white and the white will travel just a little way up the table. Even if the stroke be played with a fair amount of pace, provided the contact between the balls is a full one, the red will come to a full stop the moment it hits the white, just in the same manner that it does when the stroke is played with gentle pace. In fact, the red will stop dead when it catches the white *full*

in the face, even though the in-off be played with banging pace. The explanation of this is as follows: When a ball is struck at the centre, whether with the point of the cue or by another ball—except in the case of a jump a ball can only be struck by another ball at the centre—it does not immediately roll forward. For the first inch or two it simply glides or slides along the cloth and were it not for the friction between the ball and the cloth it would never roll at all. The friction, however, quickly causes the ball to begin rolling but perfect rotation does not set in until a centrally-struck ball has travelled six inches or more.

In the position shown on Diagram 486 the red ball is quite close to the white consequently it has no time to begin rolling before it hits the white, and as it is so near the white it must necessarily catch it full or nearly full, and when it catches it quite full it is bound to stop dead at the moment of contact. What really happens is that the red ball stabs the white. When medium pace is used and the contact between the object balls is not quite full the red ball may travel an inch or two towards the pocket or away from it, according to which side of the white is hit by the red. When plenty of pace is used the red ball may travel a considerable distance, but it can never follow through the object white and no matter on which side it catches the white it will still come to rest in position for another in-off, for it will come off the white very squarely.

When the red ball stops dead practically the very moment it touches the white it is bound to be in good position for another in-off, for it will not be quite a

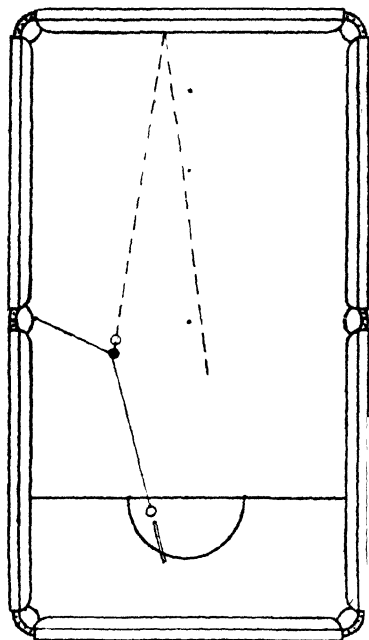


DIAGRAM 486.—A simple in-off from the red which leaves the red in position for another centre-pocket in-off. Object white a quarter of an inch from the red.

high up the table as the white originally was. In fact, the white could be so situated that, with the red away, an ordinary half-ball in-off would be just not on, and yet the red by stopping dead, in front of the white, would still be in the zone for ordinary half-ball in-offs.

As, with the balls in the position shown on Diagram 486, the strength at which the in-off is played does not affect the after-position of the red—always provided that the contact between the object balls is a full one—a good stroke to play is one of sufficient strength to bring the object white far enough down the table to leave a centre pocket in-off—as shown by the intersected line on the diagram—playing at the same time to cause the red ball to take the white quite full, an easy enough matter with the object balls so near each other. The strength necessary to bring the second object ball the correct distance down the table is practically the same as is required to bring an object ball down the table when playing an ordinary centre-pocket in-off, for when two object balls are quite near each other, and the cue ball causes the first one to hit the other quite full, practically all the speed communicated to the ball struck by the cue ball is immediately transferred to the second object ball.

Diagram 487 shows the red ball and the object white nearly touching again. From the D, an easy in-off from the red would be on, and with the red removed, an in-off from the white would also be quite a simple stroke. With the cue ball situated, however, as shown on the diagram, an in-off from the red cannot be made by means of a half-ball stroke. The in-off can, however, be made by quite a moderate player by means of screw. Very little strength is necessary for this stroke and if the contact between the red ball and the object white is a full one—and this should be played for—the red will stop dead practically the very instant it hits the white and will thus be held in perfect position for a centre-pocket in-off from the D.

Diagram 488 shows a location of the balls from which top-of-the-table position can be obtained in two strokes. The red ball and the object white are a quarter of an inch or less apart and are pointing to that part of the top cushion which lies right behind the spot. From the position of the cue ball the centre-pocket in-off is the easiest of strokes. Moreover, the object white prevents the red from travelling up the table so that it is held practically where it was previous to the stroke being played, or it may even travel a short distance towards the pocket. By playing the in-off with sufficient strength to make the object



DIAGRAM 487 —A screw in-off from the red which leaves the red in position for a centre-pocket in-off from the D. Object white behind the red and almost touching it.

white travel up to the top cushion, as shown by the intersected line on the diagram, perfect top-of-the-table position can be gained next stroke as the result of a centre-pocket pot of well-judged strength. If the in-off shown on Diagram 488 be played from the D, the same result can be obtained as when playing from the position shown on the diagram. When playing from the D, however, care must be taken that the red catches the object white pretty full, otherwise the red may easily follow the cue ball into the pocket.

In the strokes shown on Diagrams 486, 487, and 488 the object balls are only about a quarter of an inch apart, but even should they be two inches apart the first ball will stop dead practically at the very moment it touches the other, provided that the contact between the balls is a full one. In these centre-pocket in-offs it is naturally, however, much easier to ensure a full contact between the object balls when the balls are very close to each other than when they are a couple of inches or so apart. In fact, when the balls are only a quarter of an inch apart and situated as shown on Diagrams 486, 487, and 488, the in-off cannot be made without a very nearly full contact taking place between the object balls.



DIAGRAM 488.—An in-off from the red driving the object white up to the top cushion behind the spot. The red may be left for a centre-pocket pot or in-off. The intersected line drawn at right angles to the direction in which the object balls are pointing shows the direction in which the red ball will travel—either to the right or left—when it does not take the object ball quite full.

CHAPTER XXI.

TOP-POCKET IN-OFFS.

A break off the red ball, when it reaches any respectable dimensions, is almost always composed of both centre-pocket and top-pocket in-offs. It is true that the in-offs into the centre pockets generally far outnumber those into the top pockets, but no matter how good the player may be, his centre-pocket play is bound to be varied by occasional top-pocket strokes when his attention for any length of time is confined solely to the red ball. Indeed, during the course of a break off the red it will sometimes happen that a good player has to play three or four consecutive top-pocket in-offs before he can bring the ball once more into the zone for centre-pocket in-offs. Generally speaking, good players when playing a top-pocket in-off during a break off the red ball play to leave the red in the zone for centre-pocket in-offs. Sometimes, however, such a stroke is not easily possible, but when this is the case the in-off can generally be played in such a manner as to leave the ball in position for another top-pocket in-off. In this chapter on TOP-POCKET IN-OFFS typical

examples of both kinds of strokes will therefore be discussed, but before proceeding with these, a few examples of more or less simple strokes to leave top-pocket positions will first be illustrated.

Diagram 489 shows position for a centre-pocket in-off. This in-off can be made quite easily by a thinner than half-ball stroke, but such a stroke would give the red ball very bad direction. If, however, the in-off be played by means of a run-through stroke, the red ball will rebound from the cushion into the open, and provided that good strength be used it may be left near the central line of the table—as shown by the intersected line on the diagram—in good position for a top-pocket in-off from the D.

Diagram 490 illustrates how by means of a thin in-off into the centre pocket the red ball can be left near the central line of the table in good position for a top-pocket in-off from the D. No side is required, but the stroke must be played without much pace, otherwise the object ball will travel too far to leave any in-off to continue with.

Diagram 491 illustrates how by means of a thin in-off into a top pocket the red may be left in close proximity to the central line of the table, and thus well

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DIAGRAM 489.—A centre-pocket run-through in-off to leave a top pocket in-off.

situated for a top-pocket in-off from the D. As in the stroke shown on Diagram 490, this in-off must be played without much pace in order that the red may travel but a short distance.

Diagram 492 shows simple in-offs to leave another in-off into the same pocket. In both cases the contact with the red has to be a thin one, but it is easily judged owing to the cue ball being so near the object ball. These strokes must, however, be played quite gently, otherwise the red ball will rebound too far from the cushion to leave another in-off. No side is necessary for these in-offs. The rest is required for the in-off into the left pocket, but this should not really make the stroke any more difficult.

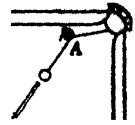
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DIAGRAM 490.—A thin centre-pocket in-off to leave the object ball in position for a top-pocket in-off. Red ball on the central line of the table and 54 inches from the top cushion. Cue ball $28\frac{1}{2}$ inches from the side cushion and $55\frac{1}{2}$ inches from the top cushion

Diagram 493 shows similar-looking positions to the ones shown on Diagram 492, but there is a considerable difference between these positions, for whereas the only sound way of playing the in-offs on Diagram 492—when playing to leave another in-off—is by means of a gentle thin stroke which hardly moves the red, the in-offs on Diagram 493 may either be played by quite a gentle stroke to leave the red ball close to the pocket—as illustrated by the in-off into the right pocket—or by means of a medium-pace stroke to bring the ball into the centre of the table, as illustrated by the in-off into the left pocket. In Diagram 493 the cue ball, in both positions, is much nearer the side cushion than it is in the positions shown on Diagram 492 and this allows

DIAGRAM 491.—A thin top-pocket in-off to leave the object ball in position for another top-pocket in-off. Red ball $32\frac{1}{2}$ inches from the top cushion and 32 inches from the side cushion. Cue ball $32\frac{1}{2}$ inches from the top cushion and $27\frac{1}{2}$ inches from the side cushion.

of the red ball being steered into the middle of the table, provided the contact between the balls is not too full. In the positions shown on Diagram 492 the red ball cannot be directed to the centre of the table.



Although in the positions shown on Diagram 493 there is a choice of either a gentle stroke or a medium-pace stroke, there is not much to choose between the strokes. The gentle stroke it is true leaves a certainty to continue with, but long-distance strokes with the object ball near the pocket, however easy just as strokes, do not always lead to good after-position, unless the player is very capable. In playing from the distance of the D, many players although they get the in-off all right, often

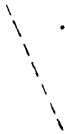


DIAGRAM 492.—Two very gentle top-pocket in-offs to leave the red in position for another in-off from the D. Position A—Red ball 1 inch from the top cushion and 11 inches from the side cushion. Cue ball $12\frac{1}{2}$ inches from the top cushion and 20 inches from the side cushion.

catch the object ball fuller or thinner than they intended, and thus give it a line of travel totally different from the one played for. Also, they often bring the ball much farther down the table than they want to, or else err the other way and hardly bring it down at all. Thus, through various reasons, bad position may result from a long-distance in-off into a top pocket when the object ball is near the pocket.

When playing the in-off with medium pace, as illustrated by the in-off into the left pocket on Diagram 493, it is easy to control the running of the red ball by reason of the cue ball being so close to it, and for the same reason, it is much easier to ensure a correct contact than when playing from the distance of the D. The intersected line on the diagram

DIAGRAM 493.—Two simple top-pocket in-offs. The red can either be left close to the pocket or else brought down the centre of the table. Position A—Red ball 2 inches from the top cushion and 5 inches from the side cushion. Cue ball 18 inches from the top cushion and $5\frac{1}{2}$ inches from the side cushion.

shows how good direction may be given the object ball, and how position may be left for a top-pocket in-off from the D. When the stroke is played in this manner, even should the strength be somewhat badly judged, with the result that the red travels considerably farther than intended, position for a centre-pocket in-off will in all probability be left, provided that the ball does not travel very much past the centre pockets and provided also that it travels on or close to the intersected line shown on the diagram.

Diagram 494 shows a couple of simple strokes to leave position for a top-pocket in-off. The stroke into the left pocket requires just sufficient strength to cause the object ball to rebound about 10 or 12 inches from the side cushion, but though the stroke is

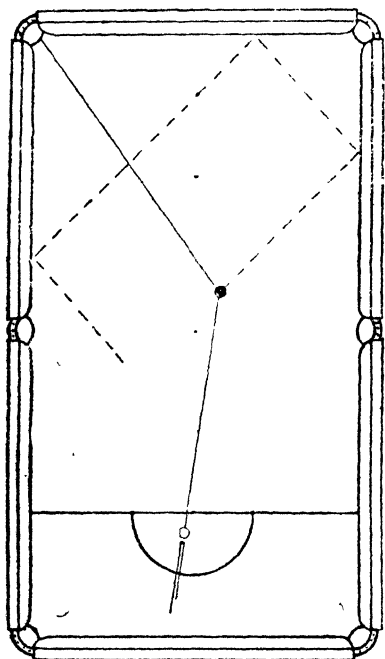


DIAGRAM 495.—An ordinary long top-pocket in-off from the D showing the red ball taking the side cushion a long way from the top pocket.

DIAGRAM 494.—Two easy top-pocket in-offs. The one into the left pocket requires pretty exact strength to leave another in-off.

easy enough, it requires playing with care, for should the ball remain too near the cushion, or rebound too strongly, position will be lost, and not much latitude exists for good strength.

The in-off into the right pocket illustrates how by means of good strength the object ball may be sent to the vicinity of the central line of the table, and far enough down the table to leave position for a top-pocket in-off from the D. With the balls as shown on Diagram 494, the in-off is a simple half-ball stroke without side, and the angle is such that the object ball can easily be made to travel in the direction indicated by the intersected line.

When playing a top-pocket in-off from the red, a good player (assuming that the object white is in baulk or has been lost) generally plays to bring the ball down the table to leave a centre-pocket

in-off to continue with. Especially is this the case when the in-off is of such a nature that the object ball must strike two or more cushions before it can come into position for a centre-pocket in-off.

Diagram 495 illustrates an ordinary long half-ball top-pocket in-off from the D, and the intersected line shows the manner in which the object ball will travel as the result of a half-ball contact. Plenty of pace is required for this long in-off even on a fast table, for before the object ball can travel into position for a centre-pocket in-off it has to strike three cushions, and each contact considerably reduces its speed. In playing this in-off the cue ball should be struck above the centre and no side should be used.

Diagram 496 illustrates another top-pocket in-off. Here, it will be noticed the object ball strikes the side cushion

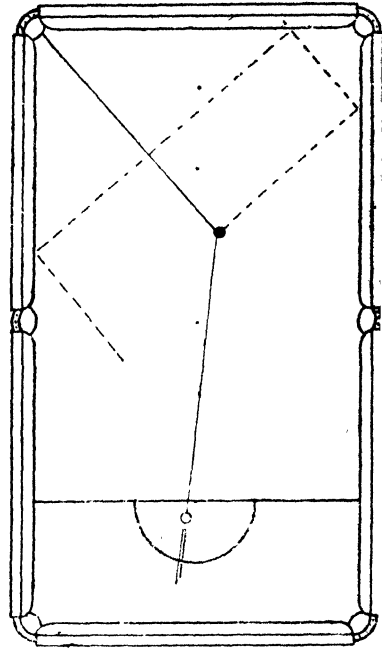


DIAGRAM 496.—An ordinary long top-pocket in-off from the D showing the red ball taking the side cushion pretty high up. Compare the area enclosed by the red ball's line of travel with the similar area on Diagram 495.

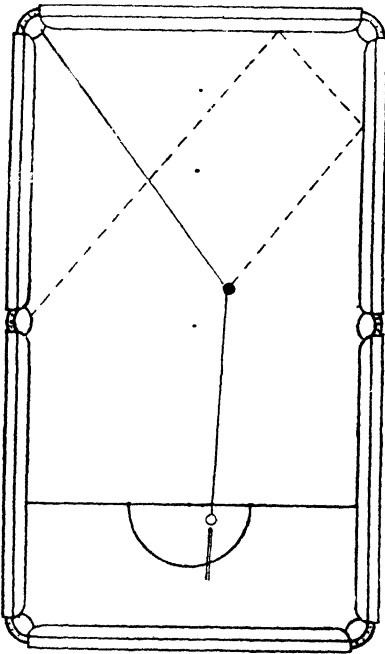


DIAGRAM 497.—A long top-pocket in-off from the D which may result in a six-shot being made. Red ball 24 inches from the side cushion and $63\frac{1}{2}$ inches from the top cushion.

considerably higher up than in Diagram 495, but as it also strikes the top cushion considerably nearer the pocket, its line of travel is such that perfect position for a centre-pocket in-off can be left as the result of a good-strength stroke. As before, the cue ball should be struck above the centre and without any side, and plenty of pace must be used in order to bring the object ball into position for a centre-pocket in-off.

Diagram 497 shows how a six-shot will sometimes result when playing to bring the red down the table for a centre-pocket in-off from the D. This six-shot is, as a rule, only on when the red ball takes the side cushion pretty high up, though from many positions the object ball may strike the side cushion high up and yet not go anywhere near the centre pocket. Very few players—good

amateurs included—ever seek to avoid this insidious six-shot, for the simple reason that it does not frequently take place. In the position shown on Diagram 497 the in-off might be played as a half-ball stroke twenty times without the red ball once entering the centre pocket, even though the red ball be so situated that a *true* half-ball stroke may at any time result in a six-shot being made. When playing half-ball strokes—especially with the cue ball a long way from the object ball—the object ball is very seldom indeed taken exactly half-ball and very slight differences of contacts appreciably alter the direction given to the object ball, and contacts with cushions still further alter the ultimate direction of the object ball. Slight differences of contact when playing half-ball strokes do not, however, appreciably affect the path of the cue ball. In fact, an object ball can often be taken appreciably fuller or thinner than half-ball without an in-off being missed although the object ball will be given a line of direction totally different from that which results from a true half-ball stroke. Again, a stroke that would result in a six-shot on one table may not result in a six-shot on another table, even though played from exactly the same position of the cue ball and object ball and by means of exactly the same contact. This is owing to the cushions of different tables throwing different angles, especially when plenty of pace is used. Further, a position that may result in a six-shot being made with ivory balls is not likely to result in a six-shot with bonzoline balls, and *vice versa* a position that may result in a six-shot being made with bonzoline balls is not likely to result in a six-shot with ivory balls. This is because the bonzoline half-ball angle for top-pocket in-offs from the D with the object ball a long way from the pocket is different from the ivory half-ball angle, and consequently the spotting of the cue ball in the D is not the same with both balls.

In the position shown on Diagram 497 all danger of a six-shot may be averted by playing what may be termed a thinnish half-ball stroke and by this means causing the object ball to strike the side cushion farther from the top pocket than it would as the result of a half-ball stroke. When the stroke is played this way just a little running side should be used to counteract the slightly less than half-ball contact. Played by means of this running-side thinnish half-ball stroke the in-off is, however, made considerably more difficult than the ordinary plain half-ball stroke, and generally speaking it is perhaps as well to take the risk of the six-shot—even though the double stroke may mean bad position to continue with—owing to the odds always being very greatly against its being made. The six-shot may, of course, always be avoided by using a much slower stroke than when playing to bring the object ball into position for centre-pocket play. If the strength is well judged, the object ball may be left in the upper half of the table in good position for a top-pocket in-off. Such a stroke, however, requires well handling.

As a rule, when an object ball is driven round the table to leave a centre-pocket in-off as the result of a long top-pocket in-off, the ensuing in-off is into the centre pocket on the same side of the table as the pocket into which the long in-off has been made. Diagrams 495 and 496 are typical examples of this. When, however, the top-pocket in-off is played from an object ball very low down the table—that is for a top-pocket in-off—especially if the ball is on or close to the central line of the table, the resulting position is different, and if the object ball is brought far enough down the table to leave a centre-pocket in-off, the in-off will generally be into the centre pocket on the opposite side of the table to the top pocket into which the long in-off has been made.

Diagram 498 is an example of such a top-pocket in-off. Here, the red ball is on the central line of the table and on a spot four inches above the centre spot. Owing to its being so low down, the half-ball in-off throws it on to the side cushion quite a long way from the top cushion, and in consequence of this the other side cushion is struck at a point quite a long way from the centre pocket, and this precludes the possibility of an in-off into this pocket being left to continue with. When, however, the object ball travels as far as shown on the diagram, an ordinary in-off into the *other* centre pocket will be left. But in order to bring the object ball into position for this centre-pocket in-off, the top-pocket in-off has to be played with plenty of pace even on a fast table,

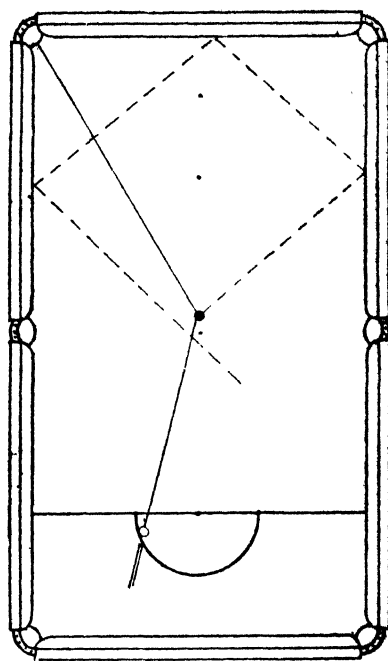


DIAGRAM 498.—A long top-pocket in-off from the D. Red ball on the central line of the table and on a spot 4 inches above the centre spot.

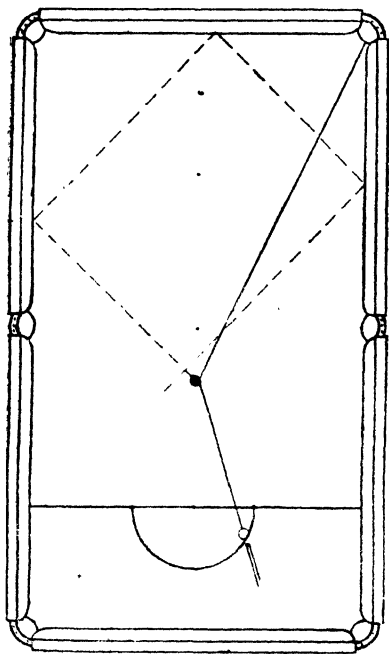


DIAGRAM 499.—A difficult long top-pocket in-off from the D. Red ball on the central line of the table and on a spot 13 inches below the centre spot. The red ball is just a little the table for a centre-pocket in-off.

owing to the distance which the object ball has to travel. In this stroke, too, the contact with the side cushions checks the speed of the object ball to a somewhat greater extent than is the case with the in-offs illustrated on Diagrams 495 and 496; this is, owing to the angle at which the object ball strikes the side cushion being less acute in the former case than it is in the latter. On a slow table it is impossible to bring the object ball far enough down the table to leave a centre pocket in-off to continue with, unless resort is had to banging pace, and banging pace may easily result in the stroke being missed. This in-off should be played with plenty of top and the cue ball should be spotted as far back in the D as the angle will allow. Spotting as far as possible from the object ball makes it easier to judge

the angle whenever the distance the cue ball has to travel after its contact with the object ball is considerably greater than the distance it has to travel previous to the contact. The stroke should be played without any side.

Diagram 499 shows a top-pocket in-off of a similar nature to the one shown on Diagram 498. This in-off is, however, considerably more difficult owing to the object ball being so much nearer to baulk. In fact, the limit of nearness to the D for a top-pocket in-off is almost reached here, for with the object ball another inch nearer the D line a centre-pocket in-off would be on with bonzoline balls by means of a half-ball stroke with plenty of running side, though just not on with average ivory balls. Like the in-off illustrated on Diagram 498, this in-off should be played with plenty of top and without any side and the cue ball should be spotted as far back in the D as the angle will allow. A fast stroke is necessary to bring the object ball well down the table again. Both this in-off and the one shown on Diagram 498 will often result in a very similar position being left for the next stroke.

Owing to the red ball being situated on the central line of the table in the strokes shown on Diagrams 498 and 499 the in-off is, of course, exactly the same kind of stroke for either top pocket. When, however, the object ball, though very low down the table for top-pocket in-offs, is not on the central line though still near it, the top-pocket in-offs—when both are on—are of a somewhat different nature.

Diagram 500 will help to make this clear. If the left top pocket be chosen for the in-off the cue ball must necessarily be spotted on or close to the extreme end of the D, and consequently the angle cannot be judged nearly as well as when the cue ball is spotted at a greater distance from the object ball. On the other hand the in-off into the right top pocket admits of the cue ball being spotted on the semicircle of the D at a considerable distance from the D line. Again, an in-off into the right top-pocket is into a slightly more open pocket than an in-off into the left top pocket. Thus in every way the in-off into the right pocket is less difficult than the one into the left pocket.

In-offs of the nature of the ones shown on Diagrams 498, 499, and 500 are seldom made by the ordinary player. Failure more often than not arises from making the angle too "narrow" as it is generally termed. The proof of this is that when the in-off is missed the cue ball generally meets the side cushion before the top cushion. Therefore, when playing any of these long in-c-

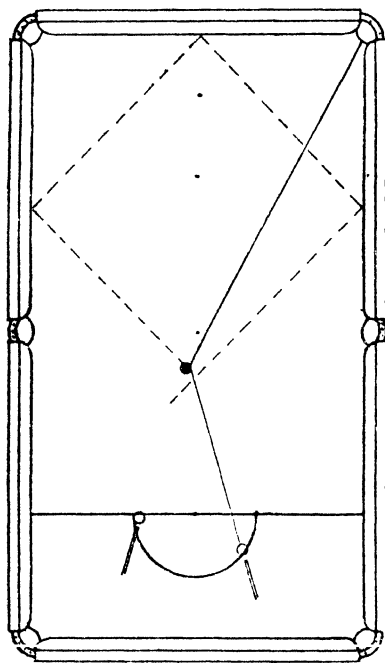


DIAGRAM 500.—A difficult long top-pocket in-off from the D. Red ball 31 inches from the side cushion and 59 inches from the baulk line. The in-off is on into either top pocket, but the angle for the right top pocket can be more easily judged owing to this angle allowing of the cue ball being placed at a greater distance from the object ball than is the case with the angle for the left top pocket.

if any uncertainty exists as to correct spotting for the cue ball, it is as well to spot on the wide side. When these strokes are played at a fast pace—as they must be, if the object ball is to be brought down the table again—plenty of top is essential, else the pace of the stroke may easily throw the cue ball off too much. Without top, these in-offs approximate to forcing strokes.

In all the top-pocket in-offs so far described the object ball is thrown on to the side cushion and must strike three cushions before it can come far enough down the table to leave position for a centre-pocket in-off. When, however, the top-pocket in-off is of such a nature that the object ball strikes the top cushion before the side cushion, only

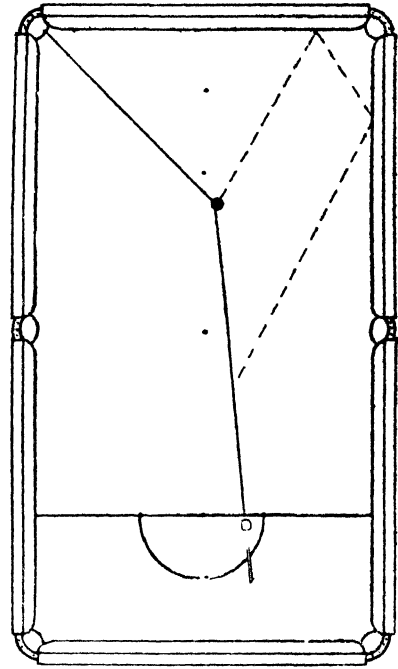


DIAGRAM 501.—A top-pocket in-off from the D. The object ball by reason of its striking the top cushion before the side cushion only strikes two cushions before coming into position for centre-pocket play.

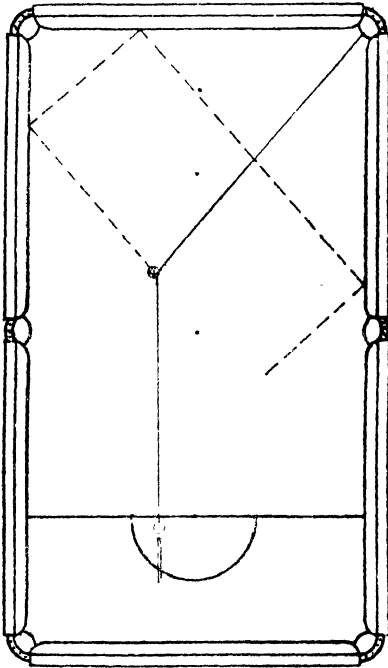


DIAGRAM 502.—An ordinary long top-pocket in-off from the D illustrating the distance that the object ball has to travel before it comes into position for centre-pocket play. Compare this stroke with the one illustrated on Diagram 503.

two cushions are struck and the object ball has far less distance to travel before it comes into position for centre-pocket play than is the case with the three-cushion strokes.

Diagram 501 illustrates one of these top-pocket in-offs—quite a common stroke—wherein the object ball only strikes two cushions. Not only has the object ball far less distance to travel before it enters the zone for centre-pocket in-offs, when it strikes two cushions instead of three, but its speed is naturally less checked by two contacts with a cushion than it is when three cushions are struck, consequently considerably less strength is required to bring the ball into position for a centre-pocket in-off when playing an in-off of the nature of the one shown

on Diagram 501 than when playing an in-off in which the object ball strikes the side cushion before the top cushion.

Many fair players play—or rather try to play—all long top-pocket in-offs with the same strength, quite regardless of whether the stroke will throw the object ball on to the side cushion or the top cushion first, and are often surprised when the object ball happens to come into baulk. Diagrams 502 and 503 show long in-offs into the right top pocket, but the strength that is perfect for the in-off on Diagram 502 is much too great for the in-off on Diagram 503. In fact, the object ball has to travel considerably less distance to enter baulk in the stroke shown on Diagram 503 than to come into position for a centre-pocket in-off in the stroke shown on Diagram 502. This can be easily proved by measuring and comparing the total length of the intersected line on

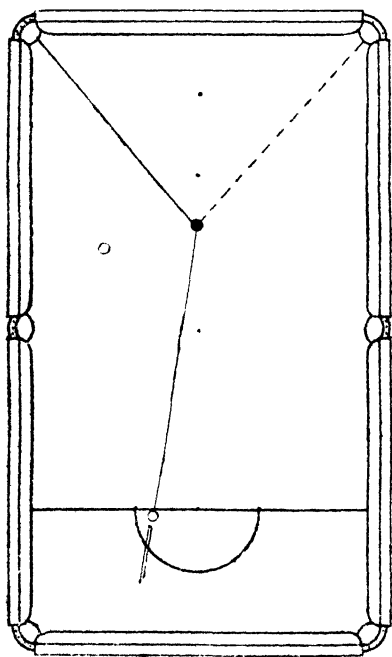


DIAGRAM 504.—A six-shot which leaves position for a simple ball-to-ball drop cannon.

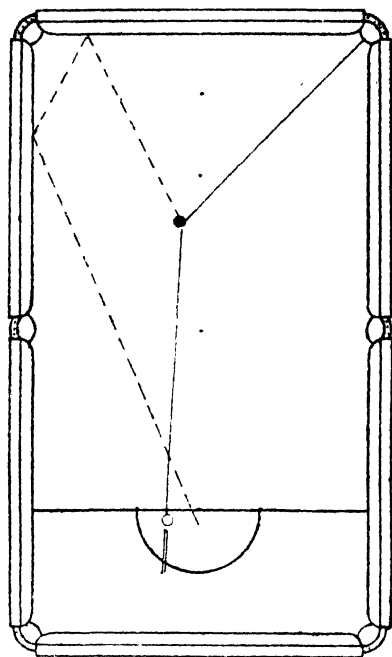


DIAGRAM 503.—An ordinary long top-pocket in-off from the D, illustrating how the object ball may easily travel into baulk unless much less strength is used than when playing top-pocket in-offs which cause the object ball to take the side cushion before the top cushion. If the intersected line be measured, its length will be found to be less than that of the one on Diagram 502.

these diagrams. The good player, therefore, does not play all long top-pocket in-offs with the same strength, but regulates the strength of the stroke according to whether the object ball will strike the side cushion or the top cushion first.

Positions for top-pocket in-offs from the D are often of such a nature that if the in-off be played as an ordinary half-ball stroke the possibility always exists of the object ball entering the other top pocket. When the in-off is from the white ball care must, of course, always be exercised to prevent the double shot. This saving of the object white is really high-class play and has already been fully dealt with in these pages. When

the red is the object ball, a six-shot may result in very bad position being left for the next stroke, or, on the other hand, the leave may be a splendid one. When the double shot would leave bad position care must be taken to prevent the red from going down, but when it would leave excellent position the necessity of trying to keep the red out of the pocket vanishes in a great degree.

Diagram 504 illustrates how a six-shot may leave perfect position to continue with, as with the red on the spot an easy drop cannon would be on from the D. In all these six-shot positions, however, even though the in-off be made, the red ball will not always enter the pocket. Sometimes it will go in, but often it will strike the top cushion or the side cushion. When no attempt is made to prevent a six-shot, if the red does not

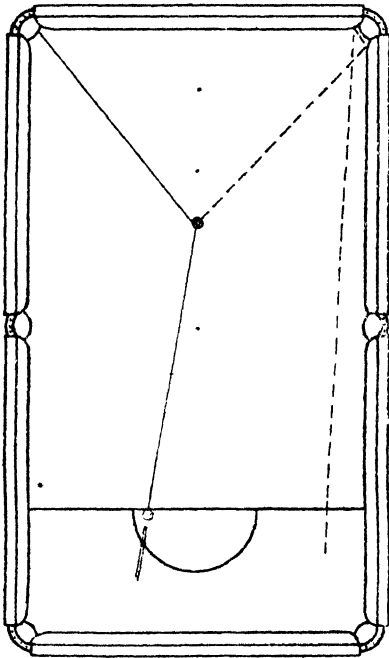


DIAGRAM 506.—A six-shot position. When the object ball instead of entering the pocket catches the lower angle of the pocket it is thrown on to the upper angle whence it travels down the table towards baulk.

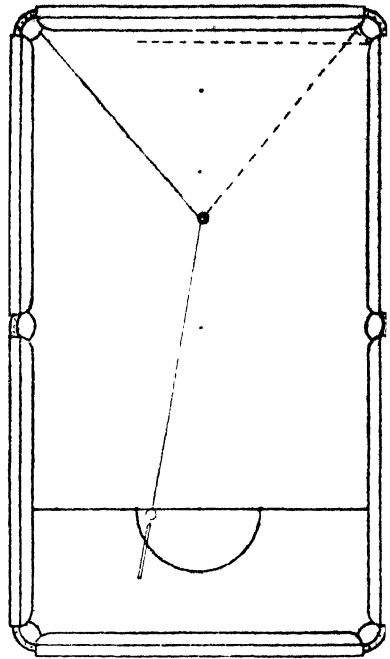


DIAGRAM 505.—A six-shot position. When the object ball instead of entering the pocket catches the upper angle of the pocket it is thrown on to the lower angle whence it is thrown across the table. The intersected line gives an idea of the object ball's line of travel and is not intended to denote the distance the ball travels, as this depends on the strength of the stroke.

enter the pocket it will generally strike the cushion very close to the pocket, often catching the angles, though by good play it can always be kept a safe distance from the pocket. A danger lurks in all these six-shot positions when no attempt is made to avoid the double shot, for when the red catches the angles of the pocket the result may be a very bad leave.

Diagram 505 shows how the red may travel when the top cushion angle is taken first. The ball rebounds on to the side cushion angle and is then thrown across the table.

Bad enough as it may be when the top-cushion angle is taken first, the result is often still more disastrous when

the object ball takes the side-cushion angle before the top-cushion angle.

Diagram 506 illustrates this and shows how the object ball is thrown from one angle to the other and then down the table. As these in-offs are generally played with a fair amount of speed the object ball nearly always goes into baulk when it strikes the side cushion angle first, notwithstanding the check to its speed which it receives from the contact with the angles of the pocket. The line of the ball's travel to baulk may vary considerably from that shown on Diagram 506, different lines of travel resulting from contacts with different points on the top-cushion angle.

In playing the in-off shown on Diagram 504 even though playing for the six-shot and not trying to avoid it, it is as well to play the stroke without very much pace in order to avoid the possibility of the red entering baulk should it happen to catch the angles of the pocket.

Diagram 507 shows the red in position for a top-pocket in-off from the D and the object white in position for the easiest of shots into the centre pocket. With the balls so located—and the position with slight variations is a constantly recurring one—the moderate player plays the centre-pocket in-off. The good player, on the other hand, plays an in-off from the red, and his reason for doing so is because with a ball well situated near a centre pocket he has a strong reserve capital to fall back upon in time of need. When playing top-pocket in-offs with the object ball situated well below the pyramid spot there is not very much choice as to the direction that can be given to the ball. It is true that a good player may give the object ball a different direction than it will take as the result of a half-ball stroke by purposely taking it slightly fuller or thinner than half-ball, but to do this he has to make the stroke much more difficult than a plain half-ball stroke and at the most the latitude that exists for giving the object ball different directions of travel is not very great. When, however, a ball is situated near a centre pocket, as shown on Diagram 507, it can be sent almost anywhere without making the in-off at all difficult. If desired, it can be kept on the same side of the table on which it lies previous to the playing of the stroke, or it can be thrown into the middle of the table or right to the other side of the table; all that is necessary to give the object ball these totally different directions of travel being different kinds of contact, varying from one considerably fuller than half-ball to one considerably thinner than half-ball accompanied by slightly different spottings of the cue ball in the D. Sometimes it may happen that it is not practicable to cause the object ball, from which the centre-pocket in-off is played, to travel to a particular part of the table in one stroke, but when this is the case the desired position can always be obtained as the result of two or three

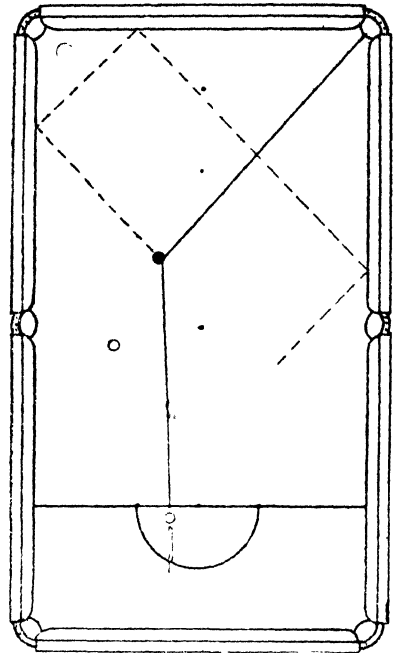


DIAGRAM 507.—A long top-pocket in-off from the D, instead of a simple centre-pocket in-off from the white.

consecutive centre-pocket in-offs. Then again, by varying the strength of the stroke at which a simple centre-pocket in-off is played, the object ball can either be brought down the table again for another centre-pocket in-off or else it can be left at the top of the table or at some intermediate position between the centre pockets and the top of the table. Thus, should the in-off from the red into the top pocket, though successful as a stroke, result in the object ball coming to rest in a very bad position either by reason of incorrect contact or of poor strength, good position can be quite easily recovered by the medium of the centre-pocket in-off from the white. In fact, a centre-pocket in-off position from the D may be likened to a trump card at solo whist or bridge, for the billiard player regains position by this in-off just as the card player takes the lead again with a trump. Card playing is, however, entirely mental and a really good player can play hour after hour without making a single mistake, but he has absolutely no control over the cards which he receives, and whether he gets good or bad cards is a circumstance which is entirely relegated to chance. So much so is this the case, that a poor player who sits down to a game of cards will get up a winner provided fortune has favoured him with a long run of good cards, whereas a good player will get up a loser after an equally long run of bad hands. In billiards it is quite different, for though it is a *sine qua non* that a player must have a very sound knowledge before he can become a really expert cueist, ability to make all kinds of strokes is the chief factor in the game. A card player with a bad hand is absolutely helpless. He looks at the cards and knows at once that he must pay. A billiard player with the balls very badly situated may bring off some brilliant stroke and then make a big break. On the other hand, a billiard player, no matter how expert he may be nor how thorough is his knowledge of the game, cannot play stroke after stroke with perfection for any length of time. The better a player is, the fewer faulty strokes will he make, but absolute perfection must always represent the unattainable. Stevenson makes a few 500 breaks every season, but were he a perfect player he would make 500 or more every time his opponent left him good position and on every occasion when he succeeded in working the balls into good position from an indifferent leave. Even when by superb play he does make a great break it almost always happens that he has at least once or twice during the break to contend with some awkward position which has resulted from a previous imperfect stroke, and quite irrespective of these bad positions which are apparent to every spectator in the room there are other and more numerous occasions when Stevenson does not get a stroke in quite the manner he intended, and thus he is frequently aware that his stroke has not been a perfect one judged by the high standard of his own play.

With amateurs the bad strokes—only taking into account actual scoring strokes—are as a rule more numerous than the good ones, and even amateurs who play well enough to occasionally reach three figures rarely make a hundred break that does not contain several shots that are very faulty as regards the strength of the stroke or the direction imparted to the object ball or balls. When, however, a ball has been sent into some safe place as the result of a poorly-played in-off, good position can, as a rule, be easily recovered when the other object ball is well situated for a centre-pocket in-off. It no doubt requires a certain amount of courage to play a long top-pocket in-off when an easy centre-pocket in-off also presents itself, but provided that a player is sufficiently capable to play long in-offs with a fair amount of certainty he will gain far more than he will lose by playing the top-pocket in-off in preference to the centre-pocket in-off—more especially will this be the case when the red ball is in

position for the top-pocket in-off and the white ball for the centre-pocket in-off. Often, as the result of playing a top-pocket in-off in preference to a centre-pocket in-off a player will get ideal position with both balls well situated for centre-pocket play.

Diagram 508 shows how an object ball that has been sent into some very bad location can be brought into play again by the agency of a centre-pocket in-off. An object ball may travel into the position occupied by the red ball on Diagram 508 as the result of a top-pocket in-off, owing to its having come into contact with the angles of the pocket (see Diagram 506).

Sometimes it will be inexpedient to try and get a badly-positioned ball into play again as the result of a single centre-pocket in-off, but when this is the case the desired recovery can always be effected by means of two or three of these in-offs. In Diagram 508 if the position of the object white were such that to cut it to the other side of the table as well as bring it nearly down to the baulk line would mean making the in-off a difficult or an uncertain stroke, all that should be played for ought to be to bring the ball far enough down the table for another centre-pocket in-off. Then by means of a second in-off it may be quite easy to give the object ball the desired direction of travel. A very good axiom in billiards is: *Never try and obtain by means of one difficult stroke a position that can be obtained by means of two simple strokes.*

A stroke that not infrequently has to be played is an in-off from the red on the pyramid spot. Whenever the red after being potted cannot be placed on the billiard spot owing to the object ball being either on or close to this spot it has to go on the pyramid spot.* Thus when the object white happens to be very near the billiard spot, the careful player, if he is going to play to pot the red, always first ascertains whether it can afterwards go on the spot, or at least forms an opinion as to whether it can or cannot go there. If the red clearly cannot be placed on the spot and at the same time no six-shot is on, the only game to play for, as a rule, is to leave position for a cannon or else to leave the cue ball well situated for an in-off from the white. Should the object white happen to be right on the billiard spot or almost on it—preferably below the spot than above it—and the pot is into a top pocket, it is often quite a simple stroke to leave the cue ball well situated for a cross in-off from the white. When a six-shot is quite an easy stroke it is always a good one to play, for the following stroke is a simple top-pocket in-off from the red on the pyramid spot.

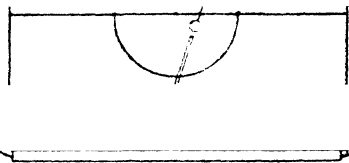


DIAGRAM 508—A centre-pocket in-off from the white, bringing the white down the table to the vicinity of the red in order to bring the red into play.

* When the red cannot be placed on either the billiard spot or the pyramid spot it goes on the centre spot.

This in-off from the red on the pyramid spot is described in books on billiards as a half-ball stroke—with ivory balls—from the extreme end of the D, and from this it might easily be inferred that unless the cue ball be spotted at the extreme end of the D the in-off cannot be made by means of a plain half-ball stroke. Were it only possible to get the in-off by means of a plain half-ball stroke from the end of the D line it would be a somewhat strange coincidence that two arbitrary positions on the table—for both the pyramid spot and the end of the D line could conceivably occupy different positions (and as a matter of fact the D line was not always its present length)—should form the exact angle with a corner pocket for a half-ball in-off. The extreme end of the D line is, however, not the only position from which an in-off from a ball on the pyramid spot may be made by means of a half-ball stroke. If the cue ball be placed on the baulk line on a spot quite an inch from the end of the D and outside the D, it will be found on trial that with average ivory balls the in-off is still a plain half-ball stroke, and a trial will also demonstrate that if instead the cue ball be placed on the D line two inches from the extremity of the line, the in-off is still a half-ball stroke. The

question may at once be raised as to how can a top-pocket in-off, with the object ball so far from a pocket, be a half-ball stroke from each of two positions three inches apart on the baulk line. The answer is that the corner pocket exactly faces the pyramid spot and therefore an in-off from a ball situated on this spot is into a perfectly open pocket and this allows of a considerable amount of latitude in the cue ball's line of travel to the pocket. The ball may travel direct to the centre of the pocket or it may enter the pocket after striking the top-cushion angle or the side-cushion angle. This latitude for the cue ball's line of travel to a pocket exists to a greater or less extent in all in-offs, but is always greatest when the pocket is as open as it is possible for it to be.

Diagram 509 shows half-ball in-offs—with average ivory balls—from the red on the pyramid spot, from two spots on the baulk line three inches apart. In one case the cue ball is on a spot on the D line two inches from the end of the D, and in the other case on a spot on the baulk line—outside the D—one inch from the end of the D line ($2\frac{1}{8}$ in. balls placed on these spots will be $\frac{1}{8}$ in. apart). For the reason already given the in-off is a simple half-ball stroke from either position of the cue ball, and to the striker it may appear that the ball goes cleanly into the pocket from either spotting of the cue ball. True half-ball contacts played at the same pace must,

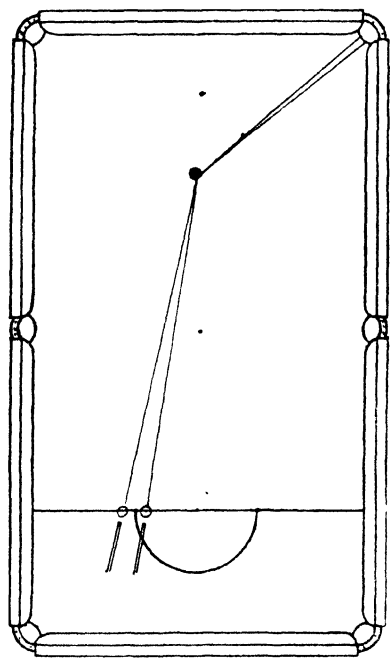


DIAGRAM 509.—An in-off from the red on the pyramid spot. This in-off can be made by means of a plain half-ball stroke with average ivory balls, whether the cue ball be spotted on the baulk line on a spot one inch from the end of the D and outside the D, or whether it be spotted on a spot on the D line two inches from the end of the D, or on any intermediate place between these two extremes.

however, give the cue ball different lines of travel when played from different spottings of the cue ball, and a close examination would prove that even when the ball does not touch either angle of the pocket it is much nearer one angle than the other at the moment that it falls into the pocket. On Diagram 509 two considerably different lines of travel to the pocket are shown.

Diagram 510 shows the object ball's line of travel as the result of a half-ball in-off from the red on the pyramid spot played from the extreme end of the D. Good strength will bring the ball down to the vicinity of the centre pocket and either an in-off or a pot may be left to continue with. It is of course impossible to give the red ball an exact direction owing to the impossibility of ensuring an *exact* half-ball stroke. The very best players cannot do this. A good player could easily get this in-off twenty times consecutively, but there would be a considerable variation in the red ball's line of travel if the results of these twenty strokes were compared, and it is quite possible that no two results would be exactly alike though several would be very similar. When the in-off from the red on the pyramid spot is played from the extreme end of the D, as shown on Diagram 510, the object ball does not, as a rule, travel down the table after its contact with the top cushion with the best possible direction, and unless it should come to rest rather near the pocket there will often only be a pot to continue with, notwithstanding that the stroke has been played with good strength. When the red comes into position for a pot a six-stroke can often be played, and such a stroke, of course, means that the player continues with another in-off from the red on the pyramid spot. Occasionally, it may happen that the second in-off from the ball on the pyramid spot may be followed by a second six-shot and these two strokes may even be repeated a third time, but this kind of play though very telling in the score cannot be relied upon and can only last for a few strokes.

If instead of spotting at the extreme end of the D for the in-off from the red on the pyramid spot, when playing with ivory balls, the cue ball be placed on a spot on the D line three inches from the end of the line, as shown on Diagram 511, the in-off will still be a half-ball stroke, provided it be played with a little running side—right-hand side in the diagram. There is a decided advantage in spotting well away from the end of the D line when playing this in-off from the red on the pyramid spot, for a half-ball stroke will cause the object ball to strike the top cushion at a point nearer the corner pocket than it does as the result of a half-ball stroke played from the end of the line. The nearer to the pocket that the top cushion is struck, the higher up the table will

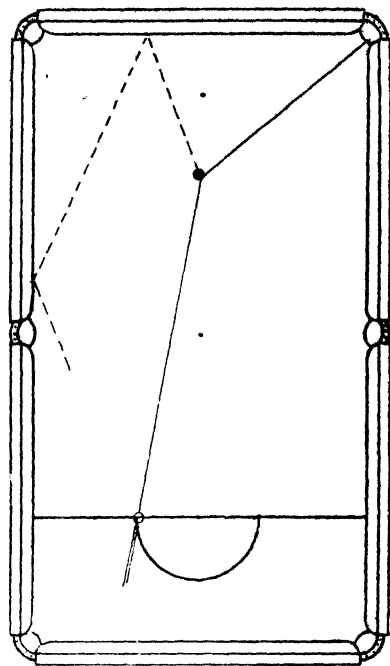


DIAGRAM 510.—An in-off from the red on the pyramid spot played from the extreme end of the D—with average ivory balls.

the side cushion be taken, and the higher up the table the side cushion is taken the better will be the direction with which the object ball will travel down the table. In Diagram 511 the red ball strikes the top cushion about 18 inches from the pocket and takes the side cushion high up the table and travels down the table with good direction to leave a centre-pocket in-off to continue with.

When playing with bonzoline balls, if the cue ball be spotted about three inches from the end of the D line, as shown on Diagram 511, the in-off from the red on the pyramid spot is an

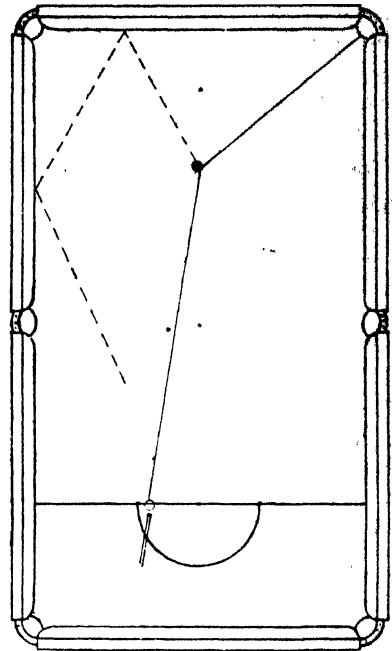


DIAGRAM 511.—An in-off from the red on the pyramid spot with ivory balls—played with running side. Cue ball on the D line on a spot 3 inches from the extreme end of the D. By spotting some distance from the end of the D a half-ball stroke gives the red ball a better line of travel than is the case with a half-ball stroke played from the extreme end of the D.

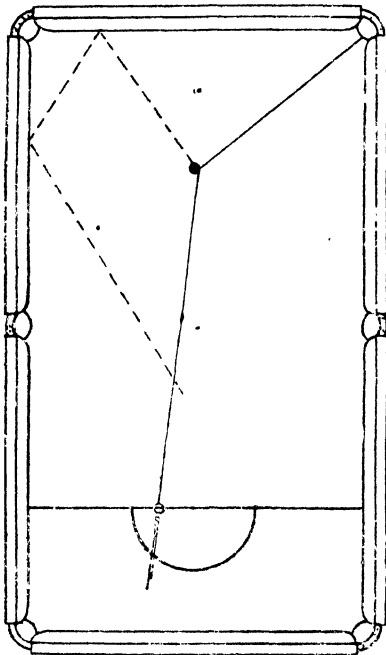


DIAGRAM 512.—An in-off from the red with bonzoline balls—played with running side. Cue ball on the D line on a spot 6 inches from the extreme end of the D. The farther the cue ball is spotted from the end of the D the better the red ball's line of travel as the result of a half-ball stroke, consequently it is easier to get good position for a centre-pocket in-off as the result of an in-off from the red on the pyramid spot with bonzoline balls than it is with ivory balls.

ordinary half-ball stroke without side, consequently a plain half-ball stroke with bonzoline balls will give the object ball a better line of travel than if the same stroke be played with ivory balls. It is true that the same position that is obtained by means of a plain half-ball stroke with bonzoline balls can be obtained with ivory balls by spotting three inches from the end of the D line and using running side as already described, but a half-ball stroke that has to be played with side is never quite as easy as a plain half-ball stroke, consequently it is a simpler stroke to bring the red into good position for a centre-pocket in-off when playing an in-off from the red on the pyramid spot with bonzoline

balls than it is when playing with ivory balls.

Diagram 512 shows still another spotting for the cue ball when playing the in-off from the red on the pyramid spot. Here the cue ball is placed on a spot on the D line six inches from the extreme end of the line. From this position the in-off is an ordinary half-ball stroke with running side when playing with bonzoline balls. In fact the stroke is exactly the same as the running side in-off with ivory balls illustrated on Diagram 511. It has already been demonstrated that by spotting three inches from the end of the D the object ball is given a better line of travel than is the case when the in-off is played from the extreme end of the D, and for the reasons already given, the object ball travels with still better direction when the in-off is made as the result of a true half-ball stroke played from a spot on the D line six inches from the end of the D. This running-side in-off with the cue ball spotted as shown on Diagram 512 is only practicable with bonzoline balls. It is true it might be made with ivory balls by means of a slow stroke played with extreme running side, but such a stroke is a difficult one and the strength at which it would have to be played would mean that the object ball could not be brought into position for the centre-pocket in-off from the D, and consequently such a stroke may be ignored.

When playing an in-off from the red on the pyramid spot care must be taken not to take the object ball too full, else, even without the in-off being missed, the ball may travel down the table with very bad direction, more or less as shown on Diagram 513, and this notwithstanding that the cue ball may have been spotted a considerable distance from the end of the D line. When the stroke is played with running side the in-off will often be made even though the contact is nearly three-quarter ball, for the fuller the contact the more powerfully will the side on the cue ball assert itself and the more will the ball pull to the pocket. Even without side the pocket can be gained by varying kinds of contacts, and perhaps in no long in-off from the D is the fact, that thinnish half-ball contacts and fullish half-ball contacts—as they may be termed—throw the cue ball off at almost the same angle, more conclusively demonstrated.

In top-pocket in-offs from the D just as in centre-pocket in-offs an unlooked-for kiss between the object balls will generally be attended with disastrous results. Sometimes the after-position may happen to be very good, but when this is so it is purely a matter of luck. When playing for a centre-pocket, if the ordinary way of playing the in-off is likely to cause a kiss to take place between the object ball, the kiss can generally be avoided by playing to take

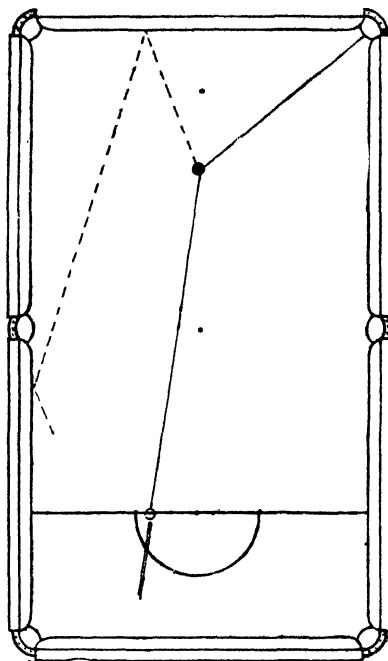


DIAGRAM 513.—An in-off from the red on the pyramid spot. The intersected line shows the bad line of travel which may be given the red ball as the result of a fuller than half-ball stroke.

the object ball either fuller or thinner, as already described in the chapter on CENTRE-POCKET IN-OFFS. When playing top-pocket in-offs with the object ball a long way from the pocket this method for avoiding a kiss is no longer practicable, for top-pocket in-offs from the D with the object ball well in the open necessitate half-ball contacts, or at least contacts which do not differ very greatly from half-ball ones, and recourse cannot be had to the very thin or very full contacts which are so often used by good players for centre-pocket in-offs.

Diagram 514 shows an ordinary long top-pocket in-off from the red and the intersected line illustrates how the object ball—with nothing to intercept it—may be made to travel round the table to leave a centre-pocket in-off to continue with. It will often happen, however, that the second object ball lies on or close to the first object ball's probable line of travel, and when this is the case a kiss is always likely to occur. On Diagram 514 the object white is shown near the side cushion and so situated that an in-off from the red will in all probability cause this ball to kiss the white. It is quite possible to avoid the kiss, but to attempt to do this would mean playing a difficult and uncertain stroke, and if after all a kiss took place as the result of a stroke played to bring the red ball into position for a centre-pocket in-off, the after-position would be entirely relegated to chance. The best way to play the in-off shown on Diagram 514 is by means of quite a slow stroke in order that the red may travel on to the white without much pace and in this way ensure a gentle kiss between the object balls. A gentle kiss will leave the object balls pretty near to one another and thus there will be a very fair likelihood of an easy cannon—often a simple ball-to-ball one—being left to continue with. A good alternative stroke to play is a cannon off the side cushion.

With the balls in the position shown on Diagram 514 it ought to be easily apparent to any moderate player that an in-off from the red will in all probability cause a kiss to take place between the object balls, but sometimes the position is such, that although an in-off is very likely to cause a kiss between the object balls, the likelihood of a kiss is not quite so apparent as it is in the stroke already discussed.

Diagram 515 shows such a position. With the white ball out of the way a half-ball in-off from the red into the left top pocket, played with sufficient strength to leave a centre-pocket in-off to continue with, will cause the red ball to travel more or less as shown by the intersected line, but with the white

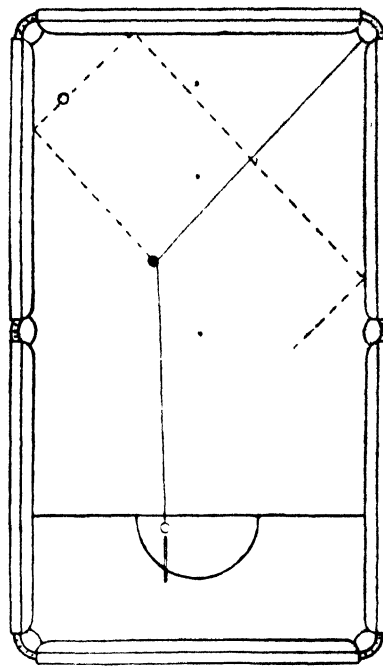


DIAGRAM 514.—A long in-off from the D. The intersected line illustrates the manner in which the red ball would travel round the table were the object white not in the way. As, however, the red will kiss the white, it cannot be driven round the table to leave a centre pocket in-off.

situated as shown on the diagram a kiss can easily occur. It is true that a kiss will not always occur, for often the red ball will pass in front of or behind the white even though the stroke be always played the same way. When these position-destroying kisses are likely but not certain to take place, many players do nothing to avoid them but simply trust to luck and take all risks. When loss of position occurs through one of these kisses, the player considers that he has experienced very bad luck, though he seldom thinks of his good luck when no kiss takes place. With the balls situated as shown on Diagram 515, all risk of a kiss is at once avoided by playing the in-off at much less pace than when playing to bring the object ball into position for a centre-pocket in-off from the D.

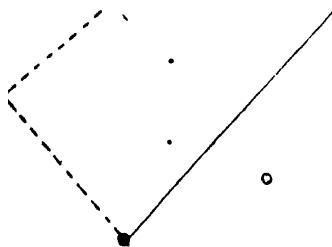


DIAGRAM 516.—A slow long in-off to leave a cannon. Object balls situated exactly as on Diagram 515.

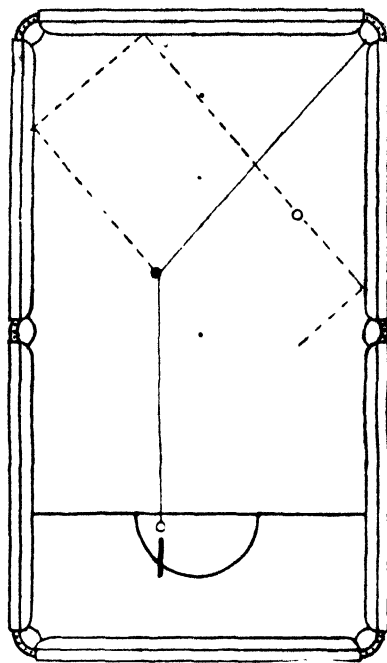
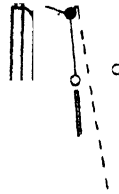


DIAGRAM 515.—A long in-off from the D. The intersected line illustrates the manner in which the red would travel round the table in the ordinary way. With the object white situated where it is a kiss, though not a certainty, may easily occur.

This alternative stroke is shown on Diagram 516, and is a good positional stroke, for if the strength is at all good an easy cannon—often a ball-to-ball cannon—will be left and sometimes besides the cannon an easy in-off will be left as well. The intersected line on Diagram 516 illustrates how position may be left for a cannon.

Diagram 517 shows a simple in-off from the red, but although a kiss between the object balls can quite easily be avoided, a careless stroke may cause the red to hit the white, and a kiss that is not wanted should always be prevented from happening when this is easily possible. In the position shown on Diagram 517, a somewhat fuller than half-ball contact will prevent any possibility of a kiss.

Diagram 518 shows a screw in-off from the red. With the object white where it is a kiss between the object balls may easily take place and be attended with disastrous results. The kiss is, however, preventable by taking the red either appreciably fuller than half-ball or somewhat thinner than half-ball. In the latter case more screw must be used to compensate for the thinner contact.



WIDE TOP-POCKET IN-OFFS.

Diagram 519 shows what is generally termed a wide in-off when playing with ivory balls, that is to say the angle of deflection from the line of aim has to be considerably wider than the ordinary plain half-ball angle to allow of the in-off being made. There are two ways of playing this wide in-off, viz., by a forcing stroke or by a half-ball stroke



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DIAGRAM 517.—An in-off from the red, using a fullish stroke in order to prevent the red from kissing the object white.

with running side. The forcing stroke in this position is an unsound one, for in the first place it is no easy matter to gauge the strength required for the angle—and thus too much strength or not enough strength may easily be employed—and secondly, the pace at which the stroke must in any case be played renders it impossible to control the running of the object ball. The only sound way of playing this in-off is by means of a half-ball stroke with running side. The spin on the cue ball will cause it to pull to the pocket after its contact with the object ball as already explained in the chapter on *SIDE*. Of course, the amount of side has to be nicely regulated and too much side—especially when the stroke is played without much pace—will cause the in-off to be to the

ball pulling it on to the side.

Still, there is a fair amount of latitude

using a fuller or thinner than half-ball stroke in order to prevent the red from kissing the white.

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for variations in the amount of side in these wide in-offs, for if the ball instead of going straight into the pocket should strike the top-cushion angle the spin on the ball will always tend to pull it into the pocket.

The in-off shown on Diagram 519 although a wide one with ivory balls—and consequently requiring running side—is just an ordinary plain half-ball stroke with bonzoline balls (or at most requires very little side), and is thus a considerably easier stroke with these balls than it is with ivory balls. But although this in-off is just an ordinary half-ball stroke with bonzoline balls, positions constantly occur wherein the in-off is a wide one and one that requires running side even when using bonzoline balls.

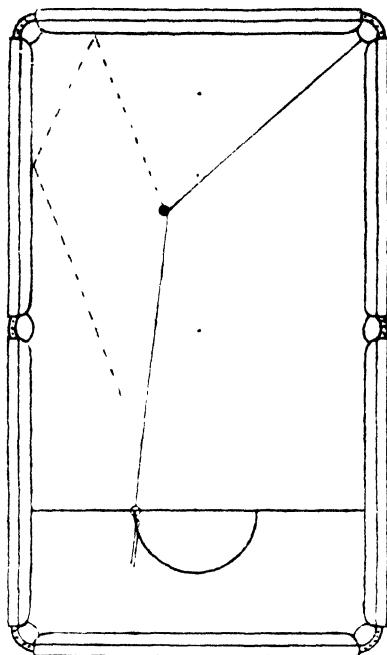


DIAGRAM 519.—A wide top-pocket in-off from the D—with ivory balls. Red ball 40 inches from the top cushion and $28\frac{1}{2}$ inches from the side cushion. Cue ball extreme end of the D.

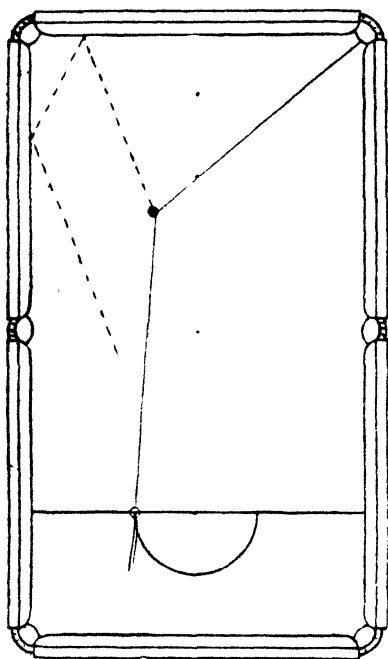


DIAGRAM 520.—A wide top-pocket in-off from the D—with bonzoline balls. Red ball 40 inches from the top cushion and $27\frac{1}{2}$ inches from the side cushion. Cue ball extreme end of the D. With ivory balls this in-off is a forcing stroke.

Diagram 520 shows one of these positions. With ivory balls the in-off could only be made by means of a forcing stroke, but with bonzoline balls the in-off is a half-ball stroke if played with plenty of running side. The fact that positions constantly occur from which an in-off is quite on as a half-ball stroke with running side when playing with bonzoline balls, and from which an in-off cannot be made by the same method of play with ivory balls, is a most convincing proof of how immeasurably superior bonzoline balls are for in-off play, which as already stated is, and must ever remain the backbone of the ordinary amateur's game. More especially is this the case when it is remembered that ivory balls have no compensating advantage over bonzoline

balls when it comes to very thin strokes. Any thin stroke—no matter how thin—which is possible with ivory balls is just as possible with bonzoline balls, for the thinner the contact between the cue ball and the object ball, the less is the difference between the throw-off angle of ivory balls and bonzoline balls, until in extremely fine strokes the difference altogether disappears. It can easily be understood that if the cue ball grazes the object ball so finely that it hardly moves it, the cue ball's deflection from the line of aim will be just as slight with bonzoline balls as with ivory balls; in fact, were the contact as fine as theoretically possible—in this case the contact would not be visible to the eye nor audible to the ear—the cue ball would not be deflected from the line of aim at all or at least the deflection would only be theoretical and neither visible nor measurable. A contact has, however, not to be by any means as thin as this in order that all difference between bonzoline balls and ivory balls, as regards the throw-off angle, may disappear, and thus extremely thin strokes are no more difficult with bonzoline balls than with ivory balls. Again, when an in-off is a very thin one, there is often a possibility that thin as the contact has to be, the stroke may be missed by reason of the contact being *too* thin, and thus a thin stroke is often very difficult, not because the contact has to be a very thin one, but because it has to be a very exact one. An in-off into a top pocket from the D by means of a thin contact, is, when the object ball is a long way from the pocket, far too difficult a stroke to be played by any player, and even though in such a stroke the cue ball's angle of deflection from the line of aim

might be slightly less with ivory balls than with bonzoline balls this would not make the stroke any easier with one kind of ball than with the other, for the difficulty of such a stroke lies not in taking the object ball thinly enough, but in ensuring an extremely exact contact. As regards the in-off game therefore—and this is the game of the good amateur as well as of the ordinary amateur—the superiority of bonzoline balls over ivory balls cannot be seriously questioned, for against the tremendous advantage which the bonzoline ball has over the ivory ball for all wide-angle strokes, the ivory ball cannot claim anything like an equal advantage in thin-stroke positions.

Diagram 521 illustrates a still wider in-off than the one shown on Diagram 520. Here, even with bonzoline balls, the in-off cannot be made by means of a running-side stroke, and a forcing stroke must be resorted to. This in-off by means of a forcing stroke is not exactly a difficult one, but it is always an uncertain one owing to the difficulty of correctly gauging the strength required. No side should be used as side does not pull the cue ball at all when it is travelling at high pace. By

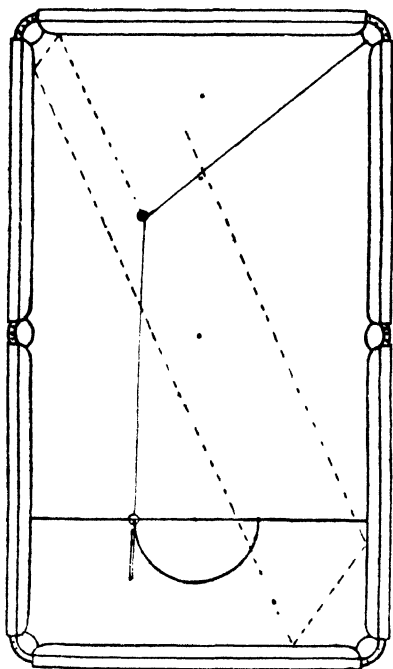


DIAGRAM 521.—A forcing in-off from the D. Red ball 40 inches from the top cushion and 10 inches from the side cushion. Cue ball at or near the end of the D.

playing without any side it is far easier to ensure the half-ball striking which is so necessary in strokes of this nature. Owing to the pace at which the stroke must be played it is impossible to control the running of the object ball, nevertheless the stroke will often result in the ball coming to rest in the open part of the table and with it there, an easy in-off from the D will generally be on.

Diagram 522 illustrates a top-pocket in-off played in such a manner as to leave an easy centre-pocket in-off for the next stroke. Such a stroke, though it cannot really be called a difficult one, is one over which many very fair amateurs often come to grief. They, of course, get the in-off—which is quite simple just as a stroke—all right, but



DIAGRAM 522.—An easy top-pocket in-off. Played as a half-ball stroke very exact striking and strength are necessary to ensure good after-position. Diagram 523 illustrates what may happen when through a slight error in aim the red is taken thinner than half-ball, and Diagram 524 illustrates the better way of playing the in-off. Red ball $17\frac{1}{2}$ inches from the top cushion and the same distance from the side cushion.



DIAGRAM 523.—An easy top-pocket in-off. Red ball situated exactly as on Diagram 522. The intersected lines illustrate how the red may run into a bad position when though trying for a half-ball contact, the object ball is taken somewhat thinner or considerably thinner than half-ball.

often and often the object ball runs into some safe position. In playing to bring the ball into position for a centre-pocket in-off by means of a half-ball stroke, not only is very exact strength required but what is still more important very exact striking is necessary. What very often happens with this stroke is shown on Diagram 523. The strength used has been fairly correct, but the object ball has been taken a little thinner or considerably thinner than intended. The error in contact may make no difference as regards the getting of the in-off, but it very appreciably alters the object ball's line of travel. The intersected lines illustrate how the object ball may travel when the contact between the balls

is a little thinner or considerably thinner than intended. Not only is the object ball thrown more to the side of the table—by reason of a thinner contact—than on Diagram 522, but the thinner contact imparts correspondingly less pace to the ball, and thus the ball may not travel far enough down the table to leave any in-off position to continue with.

Diagram 524 shows the red in exactly the same position as in Diagram 523, but illustrates an alternative and sounder way of playing the in-off. Instead of spotting for a half-ball stroke, the cue ball is spotted for a partial run-through, that is to say for a contact considerably fuller than half-ball. This naturally makes the in-off somewhat more difficult than a plain half-ball stroke, but as already stated several times—and this point cannot be too often emphasised—the easiest way of playing a stroke is seldom the best way if the after-position is to be considered at all, and the player who just plays for each stroke as it presents itself and lets the after-position look after itself will never make large breaks, no matter how good he may be at individual strokes.

In Diagram 524 the intersected line shows how the object ball may be kept in the open part of the table—and thus in the in-off zone—by means of a fullish stroke played without much pace. Such a stroke should be played with plenty of drag and when the angle is made narrow, check side—left-hand side in the diagram—should be used. When the in-off is played in this manner, should the object ball be brought farther down the table than shown by the intersected line it will still remain in the zone for an ordinary top-pocket in-off—unless it travels past the centre pockets—provided always that its line of travel corresponds with, or is at least very little different from the path indicated by the intersected line on the diagram. Should the ball come to rest just after it has passed the centre pockets, a centre-pocket in-off will be on from the D, but in attempting by means of this fuller than half-ball stroke—which causes the ball to strike the top cushion only—to bring the object ball far enough down the table to leave a centre-pocket in-off it is very easy to make the mistake of bringing it too far past the pocket to leave the in-off. In playing such a stroke, there is very little latitude for error in strength owing to the object ball's line of travel being pretty diagonal to the table. In fact, when the cue ball takes the object ball pretty full, the latter ball may, on a fast table, easily enter baulk, even though the player may seemingly not have struck his ball very hard. By reason

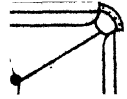


DIAGRAM 524.—A top-pocket in-off by means of a fuller than half-ball stroke. Red ball situated exactly as on Diagrams 522 and 523. The fullish contact keeps the object ball in the middle of the table, and thus in the zone for top-pocket in-offs until it reaches the centre pockets. Should it pass the centre pockets it enters the zone for centre-pocket in-offs.

of the fullish contact, most of the ball's pace is imparted to the object ball, which afterwards has only one cushion to strike. The use of plenty of drag will, however, allow of the cue ball being struck with a fair amount of strength without its imparting much pace to the object ball.

Diagram 525 shows a top-pocket in-off that is sometimes played to leave an in-off for the other top pocket. The stroke is a half-ball one, played with plenty of drag. It requires very well playing for there is very little latitude for error in strength. Should the object ball travel only a few inches farther than shown by the intersected line on the diagram the leave will be a very bad one. When the stroke is played with good strength, the leave will occasion-

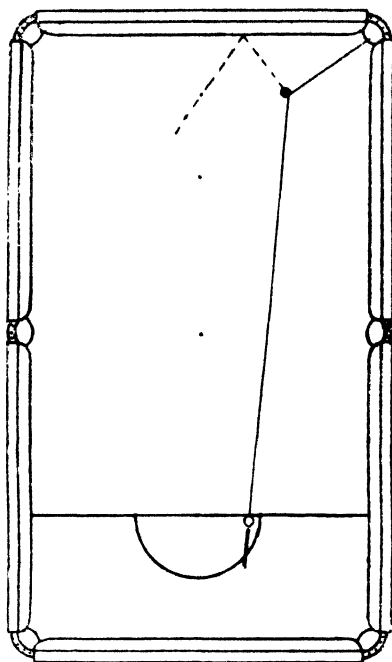
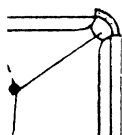


DIAGRAM 525.—A simple top-pocket in-off from the D. Red ball 17 inches from the top cushion and 17 inches from the side cushion. By means of a slow half-ball stroke position for an in-off into the other top pocket can be left to continue with. A sounder way of playing this in-off is shown on Diagram 526.

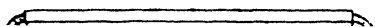
ally be of such a nature that exactly the same kind of stroke may be employed for the in-off into the other pocket. To try and play to leave an in-off first for one top pocket and then for the other is, however, not sound billiards, for it is almost impossible to successfully do this for more than two or three strokes, and therefore it is much better to bring the object ball farther down the table, keeping it in the open part of the table by means of a fullish contact.

Diagram 526 illustrates this alternative method of playing the in-off. The position of the red ball is exactly the same as on Diagram 525, but by taking

ting slightly narrower to compensate for the fuller contact—it can be brought well

DIAGRAM 526.—A top pocket in-off from the D by means of a fuller than half-ball stroke. Red ball situated exactly as on Diagram 525. Compare the object ball's good line of travel here with its line of travel on Diagram 525.

down the table to leave a top-pocket or a centre-pocket in-off to continue with. This partial run-through in-off, whilst not being by any means a difficult stroke, is not quite as easy as a half-ball in-off, but whereas the half-ball in-off illustrated on Diagram 525 has to be played with very exact strength to leave another top-pocket in-off, there is a great amount of latitude for good strength when the in-off—from the same position of the object ball—is played by a fuller than half-ball stroke as illustrated on Diagram 526. When the object ball's line of travel is at all similar to that indicated by the intersected line on this diagram, the ball enters the zone for ordinary half-ball top-pocket in-offs very shortly after it passes the billiard spot, and once in the zone it does not leave it until it enters the zone for centre-pocket in-offs. In Diagram 526 the intersected line represents the object ball coming to rest a little short of the centre pocket. Here, it would be well situated for an in-off from the D into the right top pocket. Higher up the table, and still on the intersected line, the ball would be well situated for a top-pocket in-off, and should the ball, instead of coming to rest a short distance above the centre pocket, travel a little past it, an in-off into this pocket would be on from the D. Thus, it will be seen that the fullish contact keeps the object ball in the



in-off zone unless the strength is very poor indeed, and the stroke just described once again emphasises how much sounder as a rule it is to play to give good direction to the object ball, than to attempt to get position by means of a stroke which requires very exact strength.

Diagram 527 shows a simple in-off played in such a way as to leave an in-off from the D into the other top pocket. The stroke is a half-ball one, and owing to the cue ball being so near the object ball and also having such a short distance to travel to the pocket, it is not difficult to play the stroke with the correct strength required to leave an in-off from the D into the other top pocket. It is a very different thing playing strokes with correct strength when the cue ball is near the object ball from what it is when the cue ball has a long distance to travel before it reaches the object ball. The in-off shown on the diagram can also be played as a partial run-through stroke—using running side in order to enlarge the pocket—and provided that the contact is full enough, the object ball may be brought down the table to the vicinity of the pyramid spot, and thus position for an in-off into either top-pocket may be left, or the ball may be brought far enough down the table to leave a centre-pocket in-off to continue with. Care must,



DIAGRAM 527.—A simple half-ball in-off to leave the red ball in position for another in-off. Red ball 11 inches from the side cushion and $15\frac{1}{2}$ inches from the top cushion; cue ball $25\frac{1}{2}$ inches from the top cushion and 9 inches from the side cushion. Owing to the cue ball being so near the red it is comparatively easy to play the good-strength stroke which is required to leave another in-off.

however, be taken that the contact with the object ball is not too full, otherwise the in-off will fail.

Diagram 528 shows the object balls an eighth of an inch apart, the red being in position for a simple in-off from the D. The object white is intended to be right in the path that the red ball would take as the result of a half-ball stroke. Situated as the balls are, an ordinary in-off from the red, played from the D, will cause this ball to take the object white full. As already explained, when an object ball after travelling only a very short distance takes another object ball *quite full*, it stops dead at the moment of contact irrespective of the pace at which it has been thrown on to it, consequently in the in-off shown on Diagram 528, if the red takes the object white quite full it will remain in position for another in-off into the same pocket.

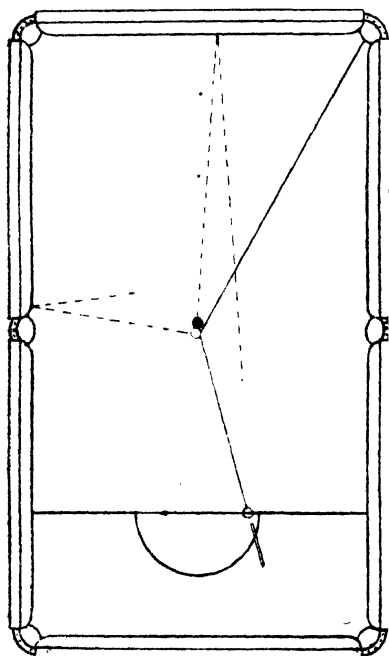


DIAGRAM 528.—A top-pocket in-off from the red. Object balls only one-eighth of an inch apart. Red ball 24 inches from the side cushion and $23\frac{1}{2}$ inches from the top cushion. Object ball 25 inches from the side cushion and $21\frac{1}{2}$ inches from the top cushion. If the red takes the object white quite full it will stop dead at the moment of contact and will thus remain in position for another in-off. The object white may also be brought into position for an in-off, as shown by the intersected line.

Even should the red ball not take the object white quite full—the contact between the object balls must always be very nearly full or the in-off will be missed—it will travel only a very short distance if the stroke has been played without much strength. If the strength of the stroke be well judged, the object white can be brought into position for an in-off as shown on Diagram 528, and sometimes the stroke will result in a simple ball-to-ball cannon being left to continue with.

Diagram 529 shows the white ball on the centre spot and the red ball behind the white and touching it. The in-off

DIAGRAM 529.—An in-off with the object balls touching. Object white on the centre spot. The cue ball must be spotted for a wider throw-off angle than the normal one.

from the white shown on the diagram is quite different from what it would be were the object balls not touching. When the cue ball comes into contact with one of two touching balls the effect is as though it had struck a ball somewhat heavier than itself. In playing the in-off shown on Diagram 529 allowance must therefore be made for a considerably wider angle of deflection. The necessary allowance for this particular stroke is about $1\frac{1}{2}$ inches at the distance of the D line, but the allowance for a half-ball stroke off a ball that is in contact with the other object ball depends on the distance that the cue ball has to travel before and after contact with the object ball. If the in-off shown on Diagram 529 is played with ivory balls the cue ball should be placed on the D line on a spot about $2\frac{1}{2}$ inches from the end of this line; if with bonzoline balls, on a spot about $1\frac{1}{2}$ inches from the extremity of the line.

It is only when the two object balls are touching that the cue ball is thrown off at a wider angle than the normal one. If they are only $\frac{1}{3}$ rd of an inch apart or even less the angle of deflection for a half-ball stroke is the ordinary one. This is because the cue ball only feels the weight of one ball. It is away practically at the very instant of contact, and is quite clear of the object balls before they meet.

Not only has an allowance to be made for a wider angle of deflection when playing a half-ball stroke from the D off a ball that is in contact with the other object ball, but also when playing a stroke from any part of the table off an object ball in contact with the other ball. A stroke that would be a half-ball one in the ordinary way, becomes a thinner than half-ball stroke when the object balls are touching, and a thin stroke becomes still thinner; an in-off or a cannon that in the ordinary way would be too wide for a half-ball stroke, may become just a plain half-ball stroke, and an in-off or a cannon that would require screw or plenty of strength when the ball played at is not in contact with the other object ball will require less strength or screw when the object balls are in contact with each other.

Diagram 530 shows the plain half-ball cross in-off from the red described at the beginning of the chapter on CROSS IN-OFFS, the cue ball being either on the upper angle of the pocket or about 2 inches farther along the cushion, according to whether ivory or bonzoline balls are being used. When, however, the object white is touching the red, as shown in the diagram, the in-off that is a plain half-ball

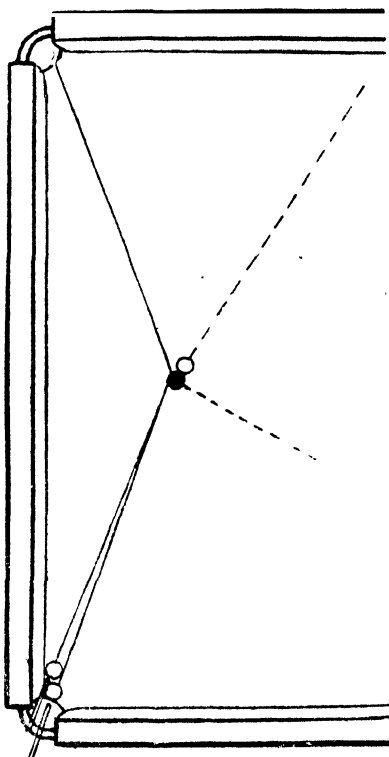


DIAGRAM 530.—A cross in-off with the object balls touching. Red ball on the spot. Cue ball—with ivory balls—on the upper angle of the pocket; with bonzoline balls— $2\frac{1}{2}$ inches farther along the top cushion. Were the object balls not touching the in-off would be a plain half-ball stroke. With the object balls touching, the in-off becomes a thinner than half-ball stroke or a half-ball stroke with check side.

stroke with object white not touching becomes changed and can only be made by means of a somewhat thinner than half-ball stroke, or a check-side half-ball stroke. This is because the cue ball is thrown off at a wider angle when the object balls are touching than is otherwise the case.

Diagram 531 shows a touchy little screw off the red. This in-off cannot be made without screw, but even with the object white away it is very easy to overdo the screw, owing to the cue ball being so near the ball from which the in-off is played. As already explained in the chapter on SCREW AND REVERSE ROTATION, the nearer the cue ball is to the object ball, the greater is the effect of screw. The reverse or retrograde rotation imparted to the cue ball by means of a low hitting suffers little diminution by reason of the friction between the ball and the cloth when the cue ball has only a very short distance to travel before it comes into contact with the object ball. When the two object balls are touching, as shown on Diagram 531, the amount of screw that would be correct were the ball from which the in-off is being played not in contact with the other object ball, will be too much when the object balls are touching, consequently less screw must be used when playing the stroke illustrated on Diagram 531 than would be necessary for the in-off with the object white out of the way.

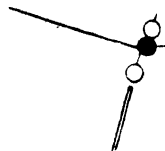


DIAGRAM 531.—A screw in-off with the object balls touching. Less screw is required than would be the case were the object balls not touching. Red ball 4 inches from the top cushion and 12 inches from the side cushion. Cue ball $1\frac{1}{2}$ inches from the red and $11\frac{1}{2}$ inches from the side cushion.

CHAPTER XXIII.

CANNONS TO LEAVE AN IN-OFF.

Generally speaking, it is far easier to get position from an in-off than from a cannon, for when playing an in-off the player has only to control the running of one object ball, and in addition to this the extent of the D affords a tremendous assistance, inasmuch as after an in-off has been made the cue ball may be spotted anywhere in the D or on the D line or semicircle. On the other hand, when playing a cannon the running of all three balls has often to be controlled and even when the control of only one of the object balls is necessary some control of the cue ball is almost always imperative, for after a cannon has been made the next stroke must always be played from the cue ball's new position. Good position can often be more relied upon as the result of potting the red than as the result of a cannon, for although as in the case of a cannon the resting place of the cue ball after the stroke has been made defines the position from which the next stroke must be played, the red ball goes on the billiard spot and thus the cue ball is the only ball the running of which has to be controlled.

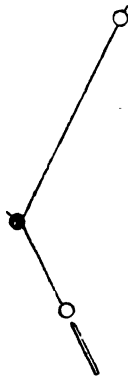


DIAGRAM 532.—A cannon to leave position for an in-off from the white.

When a cannon is a simple ball-to-ball stroke with all three balls near to one another, or when the cannon is of such a nature that the red ball can be dribbled up to a pocket it is as a rule no difficult matter to ensure good position being left for the next stroke. When, however, the balls are not close to one another, or when the red ball cannot be dribbled to a pocket, even a simple ball-to-ball cannon requires to be played very correctly to ensure good after-position. Very often the position is of such a nature that though the cannon itself is the easiest of strokes, the ordinary player has not the slightest idea of what his next stroke is going to be and consequently does not look beyond the cannon, but trusts to providence to leave him some scoring position to continue with. One of the most common instances of the ordinary player not knowing what to do with a simple ball-to-ball cannon position, beyond getting the stroke, is when the position is such that a good player would cannon off the red on to the white in such a manner as to leave an in-off

from the white for the ensuing stroke. As these strokes are as a rule by no means very difficult and are often quite within the compass of the moderate player, several examples of them will be given in this chapter.

Diagram 532 shows a position that with slight variations frequently occurs. This cannon though an absolutely simple stroke will generally leave bad position if played without any ulterior object. Position for a subsequent in-off from the white can, however, be gained by cannoning at gentle strength full or nearly full on to the white. When the cue ball does not cannon quite full on to the white it must not take the white on the inside—the part which is farthest from the cushion—otherwise position will be lost. When

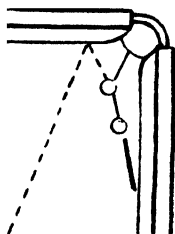
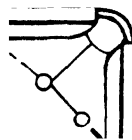


DIAGRAM 533.—A screw in-off from the white. This position is often left after playing the cannon illustrated on Diagram 532.

the cannon has been perfectly played the ensuing in-off will be the easiest of strokes. No player can, however, always play this cannon with absolute perfection, but if it is at all well played the in-off that will be left will not be a difficult stroke.

Diagram 533 shows the white balls in position for a gentle screw in-off as the result of the cannon, and Diagram 534, with the balls in position for a run-through in-off, further illustrates how the cannon may lead to a favourable placing of the balls for the ensuing stroke. Should the cannon cause the object white to travel too far away from the top cushion to leave a gentle screw in-off a poor stroke has been played, and the same is the case when the object white by keeping too close to the

DIAGRAM 534.—A run-through in-off from the white. This position is often left after playing the cannon illustrated on Diagram 532.

top cushion allows of no run-through in-off for the next stroke or at the best only a difficult one.

Diagram 535 is a further illustration of a cannon played to leave an in-off from the white. Here, unlike in the position shown on Diagram 532, it is quite easy to leave the red in good position somewhere near the top pocket. This is all that many very fair players ever attempt to do in this and similar positions. As a result of only thinking about the red, the object white frequently runs into very bad position, very often coming to rest quite close to the brink of the corner pocket and sometimes even entering the pocket. If, however, the cannon is played in such a way that the cue ball takes the object white full in the face, position for an in-off from the white can be left for the next stroke provided that the strength of the stroke is nicely gauged. Of course, the player must at the same time play to send the red up to the pocket, but the correct strength necessary for this is just the strength that has to be employed to place the object white in a favourable position. In many positions it is not

wise to try and control the running of *both* object balls for to do this may mean making the stroke too difficult and the result of such an attempt often is that everything goes wrong, whereas it might have been no difficult matter to have left one object ball well placed had nothing more than this been attempted. When, however, attempting to leave both object balls well placed does not make the stroke itself any more difficult and at the same time does not at all endanger the correct placing of one object ball, the player should undoubtedly play to leave both balls well situated. In the position shown on Diagram 535 playing to get full on to the white in order to leave position for an in-off from this ball—not necessarily to be played the next stroke even though the position be gained—does not make the ball-to-ball cannon any less simple, nor does it make it any more difficult to send the red up to the pocket. The great advantage of getting the object white into position for an in-off is that the player has this ball to fall back upon in the event of the red not travelling quite as desired. Sometimes, in playing to send the red up to the pocket the ball will enter the pocket as the result of a stroke which, whilst not a very correct one, is not a very faulty one. Or again, in the cannon illustrated on Diagram 535 the red may come to rest touching the top cushion, and though it may be only a short distance from the pocket it may present nothing at all easy from the new position of the cue ball.

Owing to the three balls being much nearer to one another on Diagram 532 than they are on Diagram 535 it is much easier to ensure the

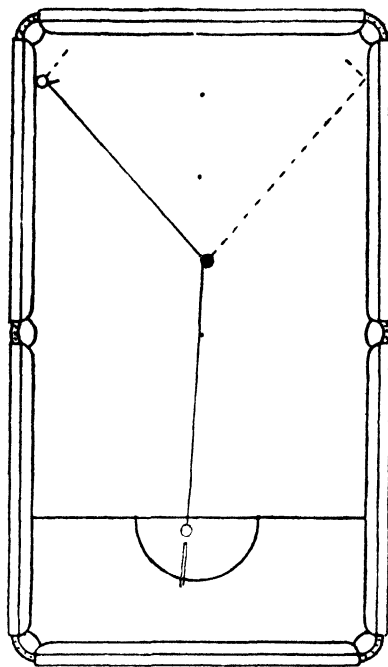


DIAGRAM 535.—A cannon to leave the red near the pocket and the white in position for an in-off.

THE STROKES OF THE GAME.

correct contact with the object white in the former case than it is in the latter. In the former case it is absolutely necessary to leave position for an in-off from the white, whereas in the latter case the leaving of this in-off is a safeguard in the event of the red not running well. Positions for a simple ball-to-ball cannon from the D, however, often occur in which the red cannot be made to travel to the vicinity of a corner pocket and in such positions, if the object white is on the side cushion high up the table and the cannon is from the red on to the white, the player should always endeavour to leave an in-off from the white for the next stroke.

Diagram 536 shows such a position. By cannoning gently and full on to the object white this ball will come off the cushion a little—more or less as shown by the intersected line—and thus an in-off will be left to continue with.

When in the cannons illustrated on Diagrams 535 and 536 the contact with

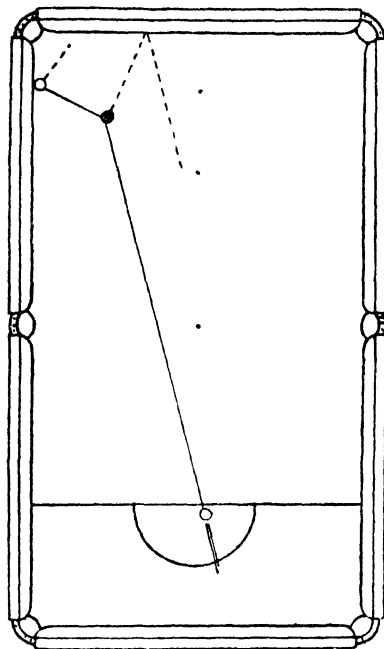


DIAGRAM 536.—A cannon to leave an in-off from the white.

the object white is a good one and is made at correct strength, position for an in-off from the white will always be left though the nature of the in-off will vary. Sometimes it may be made by means of a plain half-ball stroke or by a half-ball stroke with side, at other times a thin stroke or a run through stroke may be necessary and finally the in-off may be a screw.

Diagram 537 illustrates how position for a centre-pocket in-off from the white may be left as the result of a simple ball-to-ball cannon played from the D. By falling gently and full on to the object white this ball will come a few inches away from the cushion and in this way position for an in-off will be left. As a rule the in-off will be a screw—if the cannon has been well played only gentle screw will be necessary—for owing to the construction of the centre pockets being quite different from that of the corner pockets,

DIAGRAM 537.—A cannon to leave a centre pocket in-off from the white.

positions for a half-ball, a run-through, or a thin in-off do not result in quite the same way that they do when playing this kind of cannon—with the object white dead on the cushion—to leave an in-off from the white into a corner pocket.

Diagram 538 shows another position—a modification of the one illustrated on Diagram 532—from which, by means of a well-played cannon, position for an in-off from the white may be left for the next stroke. This stroke, to leave the white in position for an in-off, whilst not exactly a difficult one for any fair player, is one that requires good handling, for not only must the strength be well gauged but the cue ball's contact with the object white must also be very correct, otherwise position will be lost.

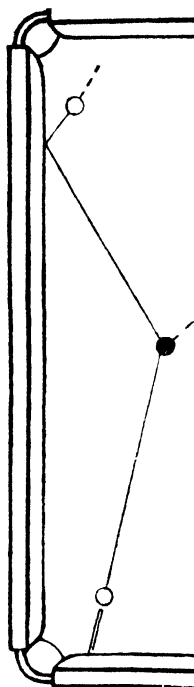


DIAGRAM 538.—A cannon off the cushion getting full on to the white to leave an in-off.



DIAGRAM 539.—A gentle ball-to-ball cannon getting nearly full on to the white to leave an in-off.

For example, should the cue ball after leaving the cushion take the object white rather thinly on the side which is near the cushion, instead of full or nearly full, position for an in-off will not be left. If, on the other hand, the cue ball after its contact with the cushion drops gently and full or nearly full on to the object white position for an in-off will be left to continue with. As a rule, the in-off will be a screw.

Diagram 539 shows a position which is typical of many others that occur at the top of the table. The cannon is a simple ball-to-ball stroke, but the only leave to play for is position for an in-off from the white. In order to get this position, very accurate contact with the object white is necessary. When the stroke has been well played—and gentle strength is a *sine qua non*—the object ball travels more or less in the direction

indicated by the intersected line stopping short of the side cushion, and the cue ball travelling only a short distance after its contact with the object white comes to rest in a good position from which to play an in-off from the white.

Diagram 540 shows a position very similar to the one shown on Diagram 539, but instead of the cannon being an ordinary half-ball stroke it is here quite a thin one. The stroke is, however, quite an easy one owing to the cue ball being so near the first object ball and owing also to the second object ball being close at hand. The cannon should be played in a similar manner to the one illustrated on Diagram 539, that is to say the cue ball should fall gently on to the object white and the contact should be such that the object white travels in the direction indicated by the intersected line, stopping short of the side cushion. When the stroke is played in this manner, the cue ball will only travel a short distance owing to its fullish contact with the white and will consequently come to rest in good position for an in-off from this ball. In playing this thin cannon, to leave an in-off from the white, it should not be forgotten that the thin contact with the red ball takes very little pace out of the cue ball, consequently less strength should be used than when playing the half-ball—or approximately half-ball—cannon shown on Diagram 539.

The positions illustrated on Diagrams 539 and 540 occur more frequently at the top of the table than anywhere else, but they—and variations of them—may occur in relation to the baulk cushion and a baulk pocket, or in relation to any of the four side cushions and a corner pocket, just as they occur in relation to the top cushion and a corner pocket. When the positions are in relation to the baulk cushion and a baulk pocket—that is to say when in playing the cannon the cue ball has to travel *across* the table in the same way as in Diagrams 539 and 540, the cannon—unless a *very* thin one—should be played exactly as already described, for the stroke which leaves position for an in-off from the white also sends the red ball out of baulk, unless the contact with the red is too thin to cause this ball to travel far enough to cross the baulk line. When the cannon to leave an in-off from the white is such a thin one that playing it means leaving the red in baulk another method of play must be resorted to in order to retain the object balls in good position, and examples of such strokes will be given in a later chapter.

When the position to leave an in-off from the white is similar to those shown on Diagrams 539 and 540 except that it is in relation to a side cushion—that is to say when in playing the cannon the cue ball has to travel lengthways of

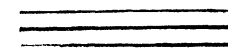
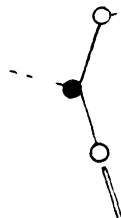
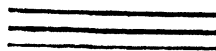


DIAGRAM 540.—A gentle thin ball-to-ball cannon getting full on to the white to leave an in-off.

the table instead of across the table—the correct kind of stroke depends to a very great extent upon whether a cannon played to leave an in-off, would leave—as the result of a well-played stroke—an in-off into a top pocket or into a baulk pocket. When the in-off from the white would be into a top pocket the cannon to leave this in-off is the correct stroke to play. When the in-off from the white would be into a baulk pocket it all depends as to whether or not the cannon would send the red out of baulk. When the position is such that the cannon that leaves the white well situated for a subsequent in-off also sends the red out of baulk this cannon is the correct stroke to play. When, however, the position is such that the cannon which will leave position for a subsequent in-off from the white will not or may not—for sometimes the position is such, that it is a very close thing as to whether the red will or will not travel out of baulk as the result of a stroke of correct strength in relation to the object white—send the red over the line, then another method of play—reference to which will be made in a later chapter—must be adopted in order to retain position.

Diagram 541 illustrates how position for an in-off from the white may be obtained as the result of a run-through cannon. In order to obtain the desired position the cue ball must cannon full on to the white.

When this position, or a similar one, occurs lengthways of the table as on Diagram 542 the run-through cannon to leave an in-off from the white is still

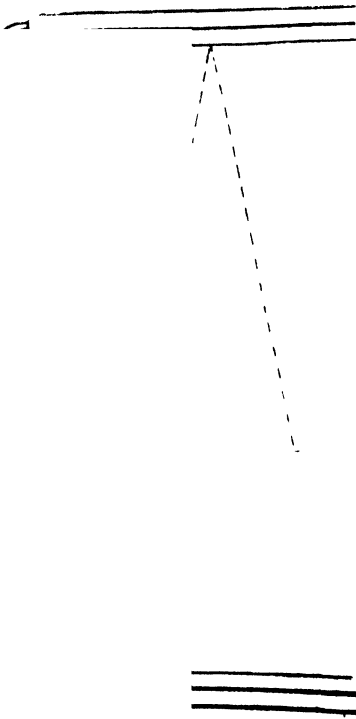


DIAGRAM 541.—A run-through cannon to leave position for an in-off from the white. A good-strength stroke will also leave the red in position for an in-off from the D.

the correct game to play, for whether the ensuing in-off from the white will be into a top pocket or into a baulk pocket the red will remain out of baulk if the cannon is played at correct strength. The intersected line drawn from the red indicates the manner in which, in the position shown on Diagram 542, the red may, by means of a good-strength stroke, be left well situated for centre-pocket play, so that even should the in-off from the white which follows the cannon be badly played, as regards strength or direction given to the object ball, there will be the red ball to fall back upon. When playing the cannon shown on Diagram 542, the cue-ball's contact with the object white will sometimes be a bad one, and when this is the case, although an in-off from the white may still be on for the next stroke, the stroke may be a very nasty one to play and of such a nature as to preclude the possibility of anything like exact control of the object ball. When this is so, the value of leaving the red well placed for centre-pocket play is very strongly emphasised. Even should the run-through cannon shown on Diagram 542 cause the red ball to travel considerably higher up the table than indicated by the intersected line, it will still come to

rest in good position, for owing to the good direction in which it travels, it keeps in the in-off zone—entering the zone for top-pocket in-offs as it leaves the centre-pocket in-off zone—all the way up the table to the pyramid spot and even beyond it.

Diagrams 543 and 544 show positions which are practically the same as regards the cannon but which differ greatly as regards the after-position. In Diagram 543 the run-through cannon—which is the only stroke to play—should be played in such a way that an in-off from the white will be left to continue with. Played this way the red will travel out of baulk, as shown by the intersected

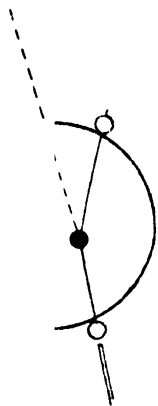


DIAGRAM 543.—A run-through in-off in baulk, to leave position for an in-off from the white. Red ball 24 inches from the baulk cushion and $31\frac{1}{2}$ inches from the side cushion. Object white 24 inches from the baulk cushion and 24 inches from the side cushion. Cue ball 23 inches from the baulk cushion and $22\frac{1}{2}$ from the side cushion.

DIAGRAM 542.—A run-through cannon to leave position for an in-off into the baulk pocket. A good-strength stroke will also leave the red well placed for a centre-pocket in-off from the D. Red ball 8 inches from the side cushion and 21 inches from the baulk cushion. Object white $5\frac{3}{4}$ inches from the side cushion and $9\frac{1}{2}$ inches from the baulk cushion. Cue ball $7\frac{1}{2}$ inches from the side cushion and just outside baulk.

line. In Diagram 544 the run-through cannon leaves the red in baulk, so that a cannon followed by an in-off from the white would be a poor game. In this position, therefore, the player must play the cannon in such a manner that the next stroke does not leave the red in baulk, and the desired result can be attained by playing to double the red across the table to the vicinity of the corner pocket, as shown by the intersected line, and at the same time getting full enough on to the white to leave it well situated for an in-off. By potting the red the next stroke, and then

object balls will be out of baulk for the fourth stroke, and the player will be in

hand. This cannon to leave both the red and the object white well situated, whilst not exactly a difficult stroke, requires well handling and a careless stroke may easily result in bad position. In fact, whenever a cannon position is of such a nature that control of *both* object balls is a *sine qua non* if good position is to be retained, extra care should be taken over the stroke. When a player begins to look two strokes ahead in playing a cannon—which though simple enough as a stroke separates the balls—he is making rapid strides in the game.

Diagrams 545 and 546 show another run-through cannon, the placing of the

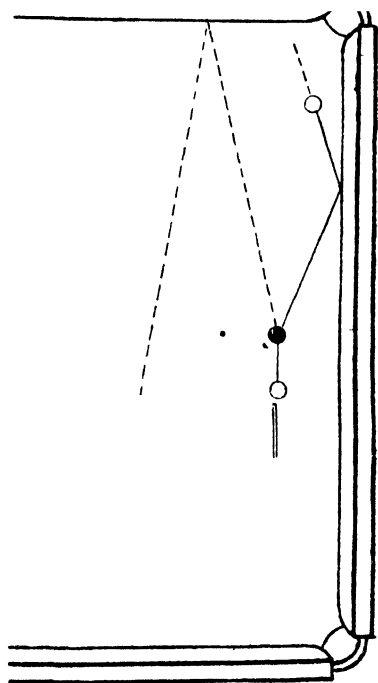


DIAGRAM 545.—A run-through cannon off the cushion, to leave position for an in-off from the white. Red ball 6 inches from the top cushion and right behind the spot. Object white 3 inches from the top cushion and $7\frac{1}{2}$ inches from the side cushion. Cue ball 6 inches from the top cushion and 27 inches from the side cushion.

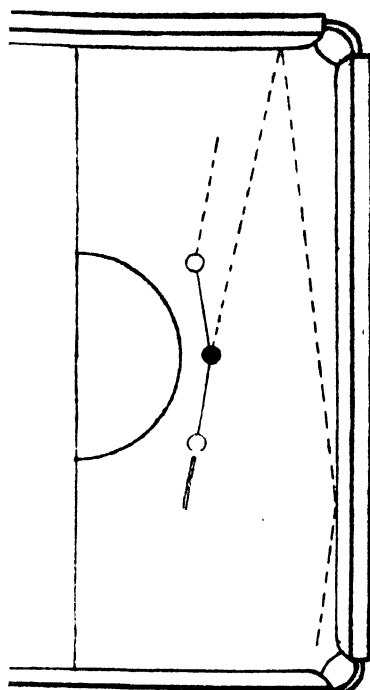


DIAGRAM 544.—A run-through in-off in baulk, to leave position for a pot to be followed by an in-off from the white.

balls being identical in both illustrations. Diagram 545 shows how, by means of a good stroke, position for an in-off from the white may be left to continue with. This run-through cannon to leave the in-off requires very careful handling, but as the position given is typical of positions that commonly occur at the top of the table, mastery of the stroke improves one's game very considerably indeed. The correct way to play this cannon is to run through the red in such a manner that the cue ball strikes the cushion a considerable distance from the object white, and then travelling at an acute angle to the cushion—as the result of strong running side—takes the white very full. The stroke must, however, be played with very little more strength than is necessary to enable the cue ball to reach the white, otherwise the white

will be driven too far to leave an in-off, notwithstanding that the cue ball may have taken it correctly after striking the cushion, in the manner shown on Diagram 545.

Diagram 546 illustrates what generally happens when in playing this run-through cannon to leave an in-off from the white, the cue ball strikes the cushion too near the white. The cue ball taking the object white less than full ball travels to the cushion again and the object white travels away from the cushion. The continuous and the intersected lines on Diagram 546 give an idea of what the after-position may be like when the cue ball after striking the cushion near the object white takes this ball less than full. Even should the cue ball, after striking the cushion as near the object white as shown on Diagram 546, take the object white quite full this ball will be sent down the table, and should it travel any considerable distance no in-off or at best only a very difficult one will be left. When, however, the contact with the object white is a very gentle one, even though the cue ball may have struck the cushion as near the object white as shown on Diagram 546 an in-off may still be left, provided the cue ball takes the white full or very nearly full, for by reason of the gentle contact the object white will only travel a few inches, and the cue ball stopping almost immediately after its full contact with the white will remain close to the white, and thus, although in all probability the ensuing in-off from the white will be a screw stroke it may not be a difficult one.

Sometimes, in playing the run-through cannon to leave an in-off from the white illustrated on Diagram 545 the cue ball will catch the object white a little less than full and on the side away from the cushion; when this happens an in-off may still be left, for the object white will travel towards the pocket and the cue ball will travel down the table. When, however, an easy in-off happens to be left by such a stroke the position is a very lucky one. Such a position could not be obtained with any certainty by the best of players, whereas good position for an in-off from the white is nearly always obtained by good players by means of the stroke already described, in positions at all similar to the one shown on Diagram 545.

Diagram 547 shows a constantly occurring position near the top cushion. The cannon is quite an easy stroke, but it may easily lead to bad position unless the strength of the stroke be well judged. The only leave to play for is an in-off from the white, but too much strength will cause the white to travel too far down the table and too gentle strength will leave it so near the cushion that

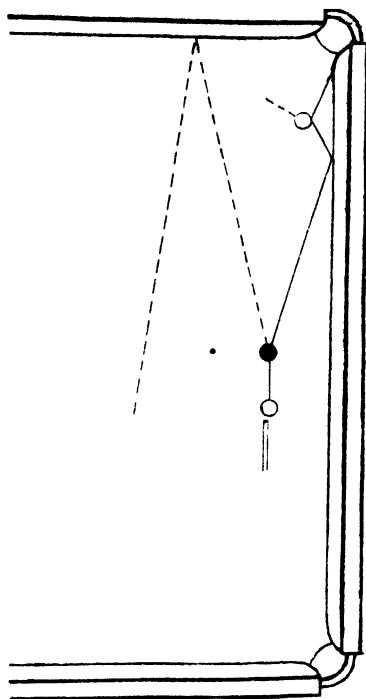


DIAGRAM 546.—A run-through cannon off the cushion, illustrating how position may be lost by reason of incorrect contact with the second object ball. The position of the balls is exactly the same as on Diagram 545.

at best only a run-through in-off along the cushion or a very thin in-off will be left to continue with. Good strength as indicated by the intersected line on the diagram will, however, leave an easy in-off, often a simple half-ball stroke, and even when the white ball does not travel quite far enough to leave a half-ball in-off—and the stroke is a much better one when the white ball does not travel quite far enough than when it travels too far to leave a half-ball in-off—the run-through or thin in-off that will be left instead will be an easier stroke than the same kind of stroke with the object white very near the cushion, for in the former case the in-off is into a less blind pocket than it is in the latter case.

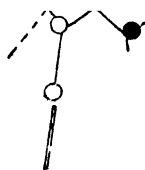


DIAGRAM 547.—A gentle cannon to leave position for an in-off from the white.

Diagram 548 shows a position very similar to the one illustrated on Diagram 547 with the exception that instead of the balls being near the top cushion and a corner pocket they are near a side cushion and a centre pocket. Here again, an in-off from the white can be left as the result of a cannon, but in order to get the desired leave a much more perfect stroke is required than is the case with the balls in the position shown on Diagram 547. In playing the cannon shown on Diagram 548 the object white should be taken about half-ball, and the strength of the stroke should just be sufficient to cause it to reach a spot about 10 or 12 inches from the pocket. With the red situated where it is, running side must be used, otherwise the cannon cannot be made at the gentle strength with which the stroke must be played in order to leave position for an in-off from the white. In playing for this leave, care must be taken not to cannon full on to the red, nor on to the side of the red near the cushion, for either of these contacts will cause the cue ball to come to rest very near the cushion and this will generally mean that the ensuing in-off from the white—if at all on—will be a difficult stroke, probably a screw into a blind pocket. When the cue ball takes



DIAGRAM 548.—A gentle cannon to leave position for a centre-pocket in off from the white. Red ball $3\frac{1}{2}$ inches from the side cushion and 43 inches from the top cushion. Object white $2\frac{1}{2}$ inches from the side cushion and $57\frac{1}{2}$ inches from the top cushion. Cue ball 22 inches from the side cushion and $59\frac{1}{2}$ inches from the top cushion.

the red about half-ball on the side away from the cushion it will travel after contact more or less as shown by the continuous line on Diagram 548, consequently even should the ensuing in-off require screw the stroke will be a much easier one than with the cue ball close to the cushion and the white some distance from the pocket.

Diagram 549 illustrates a position that with slight variations constantly occurs. The player is in hand and a cannon is quite an easy stroke, just as a stroke, but it requires handling very well indeed to ensure any favourable position being left to continue with. As the result of the cannon the red ball



DIAGRAM 549.—A cannon from the D to leave position for an in-off from the red into the baulk pocket. Red ball 30 inches from the baulk cushion and $3\frac{1}{2}$ inches from the side cushion. Object white 45 inches from the baulk cushion and 4 inches from the side cushion.



550.—A slow-screw cannon to leave an in-off from the white. Red ball 19 inches from the side cushion and $30\frac{1}{2}$ inches from the baulk cushion. Object white $8\frac{1}{2}$ inches from the side cushion and $17\frac{1}{2}$ inches from the baulk cushion. With the balls placed to these measurements it will be found that no ball-to-ball cannon is on from any part of the D without screw or force.

must go into baulk, and should it come to rest close to the baulk cushion the probability is that as far as this ball is concerned the resultant position will be a very safe one. If, on the other hand, the strength of the stroke is so well judged that the red ball only travels about as far as indicated by the intersected line on Diagram 549, position for an in-off may be left provided that the cue ball after cannoning on to the object white travels about the distance indicated by the continuous line on the diagram. Even when the cannon has been well played, as regards the after-position, the in-off into the baulk pocket will seldom be just a plain half-ball stroke, but of course any player who is sufficiently advanced to play for position

with the balls situated as shown on Diagram 549 can generally get an in-off when reasonably on, though not on by means of a plain half-ball stroke.

Diagram 550 shows a position that with slight variations occurs every now and then. With the cue ball in hand a cannon can be made easily enough off the side cushion by playing from somewhere near the centre of the D line, and it is quite possible to get position for an in-off from the white by means of this cannon, but there must always be an uncertainty about the leave when this cannon is played off a cushion owing to the difficulty of getting on to the object white with sufficient accuracy to leave an in-off. An alternative and for good players a better way of playing to leave position for an in-off is by means of a slow screw full on to the object white, the cue ball being spotted at or near the end of the D as shown on the diagram. If the angle can be made a right angle the cue ball can be made to cannon full on to the object white by means of a half-ball or slightly fuller than half-ball stroke with screw. When the object white is taken quite full the cue ball will remain very near the spot previously occupied by the white and this ball will travel as indicated by the intersected line to leave good position for an in-off, provided that the strength of the stroke has been well judged.

This screw cannon to leave an in-off from the white requires extremely good handling and even good players often fail to obtain the position played for, by reason of their not getting sufficiently full on to the white. Nevertheless, there is a greater likelihood of getting position for an in-off from the white when playing this cannon by a ball-to-ball screw than by playing it off the side cushion. When playing the cannon by a ball-to-ball screw position for an in-off will sometimes be left even though the cue ball takes the second object ball quite differently from what was intended. No player can, however, rely upon getting position in this manner, and when he does, it is the result of luck and not of skill.

Diagram 551 shows another screw-cannon position. The cannon presents very little difficulty for any fair player just as a stroke, but it requires very well playing to ensure good after-position. Instead of screwing direct on to the object white the cue ball should be made to take the cushion just before it reaches this ball, as shown by the continuous line. Also, the stroke must be a slow screw, otherwise the object white will travel too far to leave any in-off to continue with. The intersected line on the diagram indicates the direction in which the object white will



551.—A screw cannon off the side cushion to leave an in-off from the white. A difficult stroke. Red ball 17½ inches from the baulk cushion and 26 inches from the side cushion. Object white 2 inches from the baulk cushion and 12½ inches from the side cushion. Cue ball 13 inches from the baulk cushion and 20½ inches from the side cushion.

travel when the cue ball strikes the cushion at the correct distance from it, and the length of this line shows the distance the white should travel as the result of a perfect-strength stroke.

Diagram 552 shows position for a cannon off the side cushion. With the balls placed exactly to the measurements given under the diagram the cannon can be made quite easily by means of a plain half-ball stroke. Here again, the leave to play for is an in-off from the white into the corner pocket, but unless good strength be used the cannon will result in the object white travelling too far to leave this in-off. In plain half-ball strokes the cue ball and the object ball travel with about the same speed from the moment of contact, and thus they travel approximately the same distance, reckoning from the point of contact, consequently as in the stroke illustrated on Diagram 552 both balls strike the side cushion at very nearly the same angle, they must both rebound from the cushion with approximately the same speed, and as in order that position for an in-off from the white may be left for the next stroke, the white must not travel any farther than indicated by the intersected line on the diagram, the cue ball must rebound from the cushion with very little more speed than is necessary to cause it to reach the red. If the strength of the stroke has been correctly gauged the cue ball will not travel more than an inch or two after reaching the red provided that it cannons full on to it, and not more than a few inches should it take it about half-ball on either side. The nature of the ensuing in-off from the white will, of course, vary with every variation of the cue ball's contact with the red, but provided that the object white travels very nearly as indicated by the intersected line on the diagram, and that the cue ball cannons gently on to the red ball, the in-off will always be a fairly easy stroke and often quite a simple one.

Diagram 553 shows position for a very simple cannon off the red on to the white. If, however, the cannon is made by a ball-to-ball stroke the object white will in all probability fall into the pocket, and even should it not do so it will, as a rule, remain so close to the pocket that it will enter it the next time it is hit. If, instead, the cannon is played off the top cushion, as illustrated by the continuous line on the diagram, the object ball cannot enter the pocket and if the strength of the stroke be so well judged that the cue ball rebounds off the cushion with little more pace than is required to reach the white, position for an in-off from the white will often be left to continue with. When an in-off is left it will sometimes be quite an easy stroke, at other times

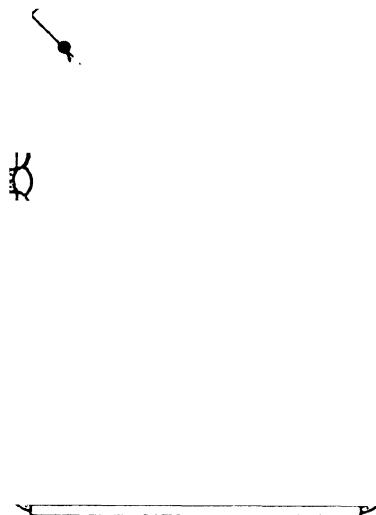


DIAGRAM 552.—A cannon off the cushion to leave an in-off from the white. Red ball $7\frac{1}{2}$ inches from the side cushion and $37\frac{1}{2}$ inches from the top cushion. Object white 7 inches from the side cushion and $24\frac{1}{2}$ inches from the top cushion. Cue ball $29\frac{1}{2}$ inches from the side cushion and $28\frac{1}{2}$ inches from the top cushion.

it will be a difficult stroke—perhaps a touchy little screw—but in any case it is better to have something to play for than practically nothing at all. When the cannon under discussion is played with good strength, the red travels to the vicinity of the other corner pocket as shown by the intersected line on the diagram, so that the stroke that leaves position for an in-off from the white will generally also leave position for an in-off from the red or a pot. Further, when the cannon, though played at good strength, fails to leave position for an in-off from the white, owing to the fact that the cue ball has rebounded from the cushion too full on to the object white, the leave may still be just as good, for provided that the red travels into position for an easy pot, the pot can generally be followed by an in-off from the white owing to this ball not having been

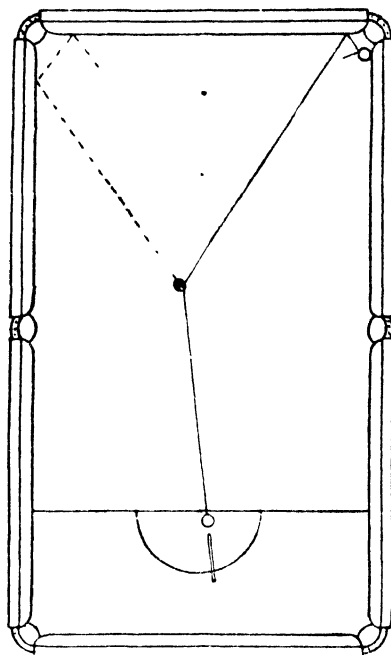


DIAGRAM 553.—A cannon off the cushion instead of a ball-to-ball stroke. Position for an in-off from the white may be left by a good-strength stroke. White ball touching the side cushion and two inches from the brink of the pocket.

sent very far from the pocket by the gentle-strength cannon.

Diagram 554 shows a position wherein the only stroke to play is a very thin cannon off the white. Owing, however, to the cue ball being in such close proximity to the white the cannon is quite an easy stroke. Here again, by playing a gentle stroke, position for an in-off from the white can be left to continue with. A gentle thin stroke will only move the object white an inch or two and thus it is bound to remain well situated for an in-off provided that the cue ball takes the red about half-ball on the inside—that is on the side away from the top cushion. In the diagram the balls are so situated that a cannon on to the outside of the red or even full on to it, even though it only slightly moved the white, could only leave position for a forcing

DIAGRAM 554.—A gentle thin ball-to-ball cannon to leave an in-off from the white.

or screw in-off from the white, but by getting on to the inside of the red the cue ball will travel a little farther into the open and in this way the in-off that should follow will be rendered much less difficult, and may even be made quite a simple stroke. When, on the other hand, the position of the cue ball and the object white is such that a cannon full on to the red, made by a stroke which only slightly moves the white, can only leave a thin in-off to continue with, the cannon must be played in such a way that the white is moved some little distance. This is, of course, easily effected by using a little more pace. An alternate way of getting good position for the in-off, when a gentle cannon full on to the red can only leave a very thin in-off, is by playing the cannon very gently on to the outside of the red so that the cue ball after reaching this ball may travel towards the cushion.

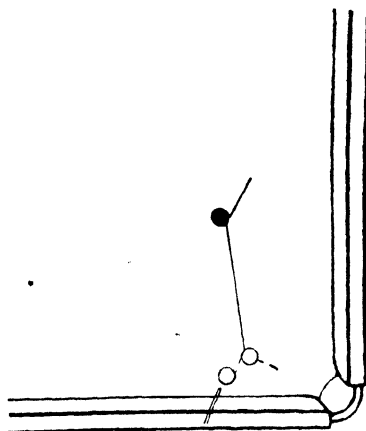


DIAGRAM 555.—A thin cannon taking the red on the inside to leave an in-off from the white.

Diagram 555 shows a variation of the position illustrated on Diagram 554. The situation of the object balls is very similar as regards the nature of the cannon, but the stroke is down the table instead of across it and the cue ball is outside the object white and the pocket instead of being between them. Here again, a gentle stroke which hardly moves the white and which causes the cue ball to cannon pretty full on to the red will leave good position for an in-off from the white. Should the position be such that a gentle stroke which hardly moves the white, and which causes the cue ball to cannon full on to the red, will only leave position for a very wide in-off from the white, the red ball instead of being taken full must be taken on the outside, and in this way the in-off from the white which should follow will be less wide than it would otherwise have been and may even be a simple half-ball stroke. A slightly faster stroke which still causes the cue ball to cannon full on to the red, but which moves the object white more than the gentle stroke does will also often bring about the same result. Sometimes a combination of the two methods may be advantageously employed. When the position is such that however slightly the object white may be moved, a full or nearly full contact with the red can only leave a narrow in-off from the white, the red must be taken on the inside, for by taking the red on the inside the cue ball will travel towards the side cushion and this will cause the subsequent in-off from the white to be less narrow than it would otherwise have been even when it does not make it quite a simple stroke.

Diagram 556 shows a position for a thin ball-to-ball cannon. A gentle stroke which causes the cue ball to cannon full or nearly full on to the object white will generally leave position for a centre-pocket in-off from the white, though when the contact is not quite full the centre pocket into which the in-off must be played will depend upon whether the red has been taken to the right or to the left. When the cannon is played with gentle strength, position for an in-off from the white will very often be left even though this ball may be taken

much less than half-ball. A thin contact will hardly move the white and thus the cue ball will come to rest at a point lower down the table—that is nearer to baulk—than the white, often to leave quite an easy stroke for the centre pocket. Even should the in-off which is left require quite a thin stroke, such a stroke will not be a very difficult one, for in the first place the cue ball will not be far from the white, and secondly the in-off will be into a very open pocket.

Diagram 557 shows a very good position which is typical of positions that often occur. The best way of playing the cannon here is by means of a stroke which will leave an in-off from the white to continue with and which will also send the red towards the pocket. Position for this in-off will be ensured

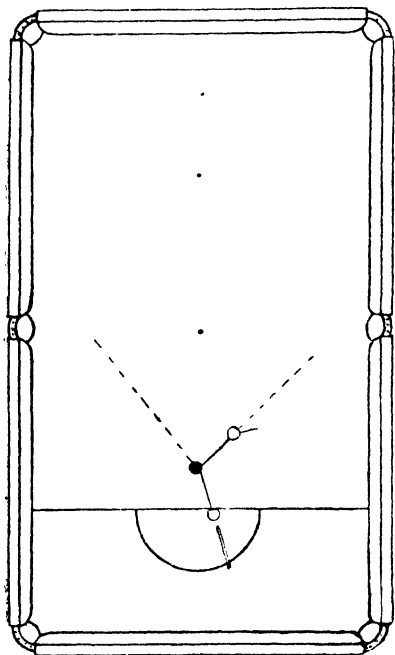


DIAGRAM 557.—A simple cannon from the D. Red ball on the central line of the table and 37 inches from the baulk cushion; object white 27 inches from the side cushion and 22 1/2 inches from the baulk cushion. By following almost run on to the white position may be left for an in-off.

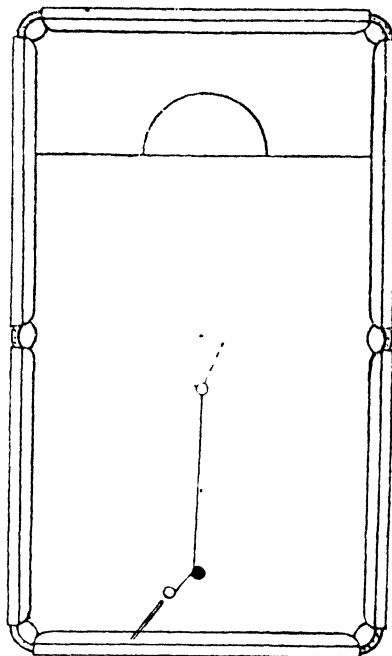


DIAGRAM 556.—A thin ball-to-ball cannon. Red on the spot; object white on the central line of the table and about 12 inches above the centre pockets. Cue ball 7 inches from the top cushion and 29 1/2 inches from the side cushion. Position may be left for a centre-pocket in-off from the white.

by means of a stroke which causes the cue ball to cannon almost full on to the white, provided that the strength at which the stroke is played is only sufficient to cause the object white to travel the short distance shown by the intersected line on the diagram—say about two feet. With the balls in the position shown on the diagram the cue ball should be spotted for a half-ball cannon, for by playing the cannon by means of a half-ball stroke, the strength which is correct to leave good position for an in-off from the white, as the result of a cannon very nearly full on to this ball, will also leave the red very well situated for centre-pocket play from the D. In playing the cannon shown on Diagram 557 no attempt should be made to drive

the red close up to the pocket. The great thing is to get correctly on to the white so that an in-off from this ball may be left for the next stroke.

With the balls situated somewhat differently from the position shown on the diagram, but still presenting much the same kind of cannon it may be necessary to take the object white somewhat less than full in order to leave an in-off from this ball for the next stroke. Also it may be necessary to play the cannon by means of a somewhat thinner or fuller than half-ball stroke in order to leave the red ball well situated for a centre pocket in-off from the D. When the cannon is off the red ball on to the white, in positions at all similar to the one shown on Diagram 557, it is always possible by means of a well-played stroke to leave the cue ball and the white well placed for an in-off and the red well situated for a centre-pocket in-off from the D, and as a rule it should not be beyond the skill of any fair player to place both object balls in the desired positions.

Diagram 558 shows the object balls close together and about 9 or 10 inches from the baulk line. Here, playing from the D, a very good player might make quite a number of cannons before separating the balls, but it requires very great skill to make a number of close cannons with the object balls well away from a cushion, more especially when the cue ball is not quite close to the object balls previous to playing the first cannon. With the object balls situated as shown on Diagram 558 very few players can make more than three cannons without separating them and the ordinary player will find that if his first stroke

does not separate the balls the second one generally will. Even pretty fair players will find that it will pay to break up such a position straight away instead of attempting to make a number of close cannons. Unless a player is very skilful, a few close cannons with the balls away from the cushion generally lead to a cover. Again, if a player cannot keep the balls together for a few cannons he will find that even when the stroke which breaks up the close-cannon position leaves an easy cannon for the next stroke—by reason of the object balls still being fairly close together—the cannon will, as a rule, be of such a nature as to require very good handling indeed to ensure further good position. When playing from the D with the object balls as shown on Diagram 558 it is therefore as well to play to separate the balls at once, for by spotting the cue ball in a suitable place one or both of the object balls can be placed in position for a centre-pocket in-off. If the cue ball be spotted as shown on the diagram the red ball can—as the result of a half-ball stroke—be made to travel as indicated by the intersected line and in this way if the strength

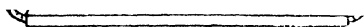
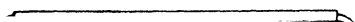


DIAGRAM 558.—Separating the object balls and directing them to the vicinity of the centre pockets.

of the stroke be well judged—and it is not at all difficult to play a good-strength stroke when the cue ball is so short a distance from the object ball and when in conjunction with this the object ball has to be taken about half-ball—position for an in-off or a pot will be left for the next stroke. Also, by the same stroke which sends the red up to the centre pocket, the object white can often be sent up to the other centre pocket and in this way there is a double chance of an in-off being left.

CHAPTER XXIV.

CANNONS IN BAULK.

Positions constantly occur with both object balls in baulk. Sometimes, the position will be such that though a simple in-off is on, any other stroke is out of question, and when this is the case the player has no other alternative but to play the in-off and leave one of the object balls in baulk. At other times, with both object balls in baulk the position may be such that in order to have any reasonable chance of scoring, the player must play to pot the red. When the pot is an easy stroke it often affords a means of getting position for an in-off from the white, and thus it will frequently be possible to get both object balls out of baulk in two strokes. Very often, however, when both object balls are in baulk the only stroke at all on is a cannon, but the position may be such that although both object balls can easily be driven out of baulk by means of a stroke played with a fair amount of pace, such a stroke would mean leaving the after-position to chance. When this is the case no attempt must be made to drive the object balls—or at least not both of them—out of baulk by means of the first stroke. Sometimes, the best stroke to play will be a cannon which, though it must result in both balls remaining in baulk, leaves position for another cannon. At other times, by means of a cannon one object ball can be placed out of baulk and the other in position for an in-off into one of the baulk pockets, and thus by means of two strokes—the cannon being followed by an in-off—instead of one, both balls can be removed from baulk and with the cue ball in hand after the second stroke the probability is that the player will be able to continue scoring.

In the preceding chapter on CANNONS TO LEAVE AN IN-OFF various examples of cannons off the red on to the white were given, the object of the stroke in every case being to leave position for an in-off from the white. Of course, the reason that the cannon, in the examples referred to, is from the red on to the white is because when the cannon is on to the white it is no use leaving the white in position for a pot, whereas when the cannon is on to the red it is often quite as good a game to leave the red for a pot as to leave it for an in-off, and in many of the positions referred to whereas it would be quite a simple stroke to leave the second object ball in position for a pot, position for an in-off can only be obtained by means of a well-played stroke. In very many cases when both object balls are in baulk the first object ball can be sent out of baulk and the second object ball can be placed in position for an in-off by means of one or other of the cannons already described in the preceding chapter, and whenever this double result is possible the stroke that can accomplish it is a very sound one to play. When the red is the second object ball it may be easily possible by means of a cannon to place the white out of baulk and the red in position for a pot into one of the baulk pockets, but provided that it is possible to place the red for an in-off instead of for a pot, the in-off position should as a rule be played for, because an in-off into a baulk pocket generally gives a better after-position than is obtained from a pot into the same pocket, owing to the player being able to spot his ball anywhere in the D after getting the in-off, instead of being compelled to play from the position that the cue ball takes up as the result of the pot.

Baulk-positions, however, constantly occur which neither admit of both balls being sent out of baulk as the result of a cannon—except by playing the cannon at a speed which allows little or no control over the balls—nor of one object ball being placed out of baulk and the other in position for an in-off into one of the baulk pockets. In some of these positions a cannon is quite an easy stroke, and when this is the case position for another simple cannon can often be gained as the result of the first cannon, and the second cannon may open up a way by which both balls in one or two strokes may be released from baulk without loss of position. When, however, the first cannon does not easily lead to position for another easy cannon it can often be played in such a way that although it still leaves both balls in baulk, the result of the stroke is that the red is placed in position for a pot and the white for an in-off to follow the pot, and thus by means of two further strokes the player can be in hand with both object balls out of baulk, and provided that the in-off from the white has been at all well played he will have good position to continue with.

Diagram 559 illustrates one of these baulk cannon-positions which, at the hands of a player who can look two strokes ahead, can easily be resolved into the pot and in-off position which admits of both object balls being placed out of baulk as the result of two further strokes. By cannoning full or nearly full on to the red, a good-strength stroke will leave the red in position for a simple pot and the object white in position for an in-off, as shown by the intersected lines on the diagram. In order that the in-off from the white may be an easy stroke *after* the red has been potted, it may be necessary to use side when playing the pot. This, however, can only be determined after the cannon has been made, it being, of course, quite impossible to get all three balls in any exact position, as the result of a stroke played from a set position.

Diagram 560 shows position for a run-through cannon, and the intersected lines show how, by means of a good-strength stroke, the red may be left in position for an easy pot and the object white in position for an in-off after the red has been potted. In order that the white may be left favourably placed as the result of the cannon, the cue ball should cannon gently on to the white. Accuracy of contact with the object white is not so essential as when the cannon has to be followed by an in-off from this ball, for the pot—when the red is left in position for an easy stroke—will, as a rule, afford a means of getting position

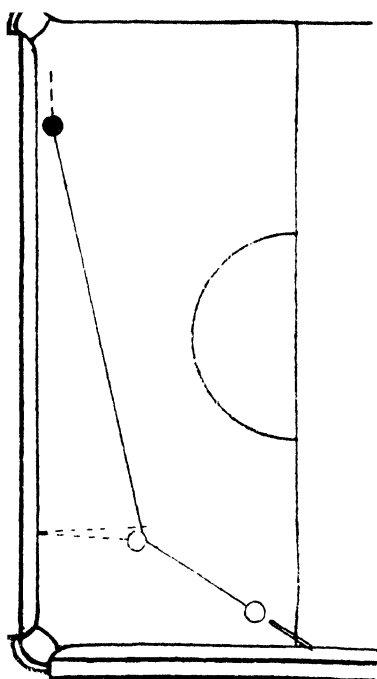


DIAGRAM 559.—A cannon to leave a pot, to be followed by an in-off from the white. Red ball 11 inches from the side cushion and half-an-inch from the baulk cushion. Object white 11 inches from the side cushion and 11 inches from the baulk cushion. Cue ball 2 inches from the side cushion and 23 inches from the baulk cushion.

for an in-off from the white, irrespective of the manner in which the cue ball has taken this ball—provided always that the contact with it, in the cannon which preceding the pot, has been a gentle one. Notwithstanding, however, that accuracy of contact with the object white is not absolutely essential when playing the cannon under discussion, and that the important thing in this stroke is to leave the red close to the pocket, the player should attempt to cannon full or nearly full on to the white. Sufficient strength must, of course, be used to cause the red to travel across the table to the opposite corner pocket, but as with the same strength of stroke the cue ball will, after its fullish contact with the red, travel on to the white with much more pace when it has been struck high up than when it has been struck only a little above the centre, it is possible, in strokes of the same strength, to regulate the pace at which the cue ball will cannon on to the white, by the height above the centre at which the cue ball is struck. In fact, when the cue ball is a considerable distance from the first object ball it will follow on after a full or nearly full contact, notwithstanding that it may have been struck at the centre or—when the stroke has been played without very much pace—even well below the centre. But though a run-through stroke can be played without any top, and even with bottom, when the cue ball is not too near the object ball, the cue ball will not for the same strength of stroke follow through the object ball with nearly as much speed when hit below the centre as it will when hit above the centre, so that in many positions it is quite possible to make the first object ball travel a considerable distance and yet at the same time only cannon gently on to the second object ball.

Diagram 561 shows the balls in position for a simple ball-to-ball cannon. Such a stroke, although it could leave the cue ball and the object white well situated for an in-off, would cause the red to rebound too far from the bottom cushion to leave a pot. If instead of playing the cannon by means of a direct stroke it is played as a cushion stroke—as shown by the continuous line on the diagram—the contact with the red has to be very much thinner than half-ball, consequently very little pace need be imparted to it, and thus it is quite easy to leave it well situated for the pot which should follow the cannon. When this cushion cannon is played with correct strength the cue ball will not drive the object white as far as the side cushion, and provided that it takes it

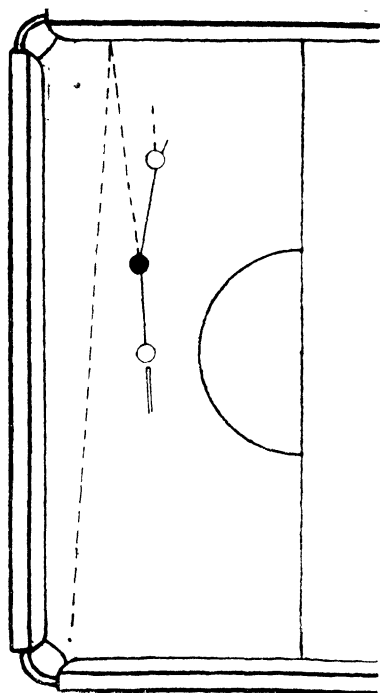


DIAGRAM 560.—A run-through cannon doubling the red across the table to the vicinity of the pocket, to leave a pot, to be followed by an in-off from the white. Red ball 11 inches from the baulk cushion and $23\frac{1}{2}$ inches from the side cushion. Object white $13\frac{1}{2}$ inches from the baulk cushion and 13 inches from the side cushion. Cue ball on the central line of the table and 12 inches from the baulk cushion.

full or nearly full—and this full contact should be played for—position for a subsequent in-off will be left. Should the cue ball take the object white differently from what was intended, the red ball will often afford the player the means of getting position for an in-off from the white, so that correct contact with the object white is not nearly so essential when the cannon has to be followed by a pot as it is when it has to be followed by an in-off from the white.

Diagram 562 shows all three balls in baulk again. Here, the cannon although a very thin one is not at all difficult owing to the cue ball being so close to the red. To ensure good after-position, however, gentle strength must be used. A well-played stroke will

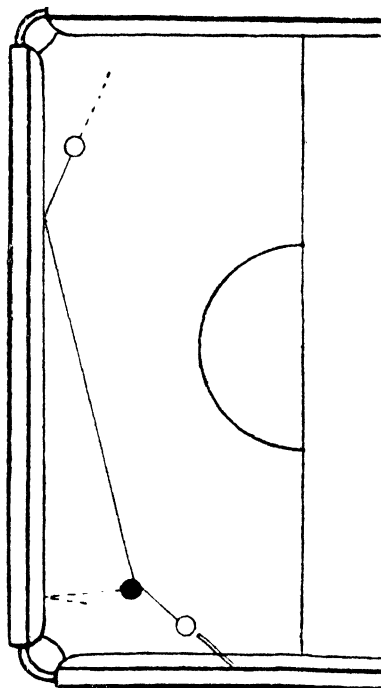


DIAGRAM 561.—A thin cannon off the red leaving the red close to the pocket for a pot, and the white in position for an in-off. Red ball $5\frac{1}{2}$ inches from the side cushion and $10\frac{1}{2}$ inches from the baulk cushion. Object white $16\frac{1}{2}$ inches from the side cushion and $2\frac{1}{4}$ inches from the baulk cushion. Cue ball 1 inch from the side cushion and $17\frac{1}{2}$ inches from the baulk cushion.



2.—A thin ball-to-ball cannon off the red to leave the red in position for a pot. An in-off from the white should follow the pot.

leave the red well situated for a pot and the white in position for an in-off with which to follow the pot. Thus, by means of three strokes—a cannon, a pot, and an in-off—both object balls may be released from baulk, and as the player will be in hand after the third stroke he can, to a very great extent, make his own position for the next stroke, by reason of the latitude which the D affords for totally different spottings of the cue ball.

Diagram 563 shows the balls in position for the simplest of cannons, but unless both object balls are controlled when making this cannon the

after-position may very easily turn out none too good. It is true that it is easy enough to send the red to the vicinity of the corner pocket and thus ensure either a pot or an in-off being left for the next stroke. If, however, the pot cannot be followed by an in-off from the white, the break will very likely end with the pot. If instead of a pot, an in-off from the red follows the cannon the after-position will, as a rule, be very much better than that which would result from a pot which cannot be followed by an in-off from the white, for in the former case the in-off from the red can often be followed by further in-offs from this ball. When, however, the cannon under discussion is followed by an in-off from the red, the object white remains in baulk, and unless the red comes to rest in good position for an in-off or a pot from the D any further score will be very problematical. In playing the cannon shown on Diagram 563 the player should, therefore, not only play to leave the red ball close to the pocket, but should also attempt to leave the object white so situated that it can be brought out of baulk by means of an in-off after the red has been potted. The intersected lines on the diagram show how by means of a stroke which causes the cue ball to take the object white quite full the desired position can be obtained as the result of a good-strength stroke.



DIAGRAM 563.—A ball-to-ball cannon sending the red into position for a pot. The pot can be followed by an in-off from the white when this ball has been placed in a good position as the result of a well-played cannon. Red ball $26\frac{1}{4}$ inches from the side cushion and $20\frac{1}{4}$ inches from the baulk cushion. Object white on the central line of the table and on the D semicircle. Cue ball $24\frac{1}{4}$ inches from the side cushion and on the D line.

CHAPTER XXV.

CANNONS OFF THE RED ON THE SPOT.

When the red is on the spot and the object white is in baulk, the only strokes at all on, if the player is in hand, are a screw into one of the top pockets or an all-round cannon. The screw in-off is seldom played, for it is an uncertain stroke, no matter how good the player may be, and to many ordinary players it is an almost impossible one. When the object is well away from either baulk pocket the all-round cannon is a very uncertain stroke, and generally speaking it is under such conditions sounder billiards to play for safety than to go out for the cannon. When, however, the object white is situated somewhere near a baulk pocket—more especially if a few inches from the side and baulk cushions—the all-round cannon is a fairly easy stroke and one quite within the compass of a very ordinary player.

Diagram 564 shows this cannon and it will be noticed that the cue ball is spotted a considerable distance from the end of the D. The cannon can be made from the left end of the D by means of half-ball or perhaps slightly less than half-ball stroke without side, but when played from the end of the D there is always the risk of a kiss spoiling the cannon. A kiss may take place between the cue ball and the red before the cue ball has time to reach the object white, or the red ball may kiss the white and prevent any possibility of the cannon being made. By spotting the cue ball some distance from the end of the D the red ball is thrown more to the side of the table by the same kind of contact and thus the likelihood of a kiss is greatly lessened. When the cue ball is spotted well away from the end of the D for this all-round cannon, as shown on the diagram, aim should be taken for a half-ball stroke and just a little running side should be used. This slight amount of running side will act as compensation for spotting the cue ball some distance from the end of the D. It is almost always advisable to use a little running side when playing an all-round cannon, for in this way all possibility of imparting any check side to the cue ball is prevented. Any check side on the cue ball is nearly always fatal when playing an all-round cannon, and unless a player can strike a very true ball—and the ordinary player as a rule does not do so—the possibility of unintentionally imparting check side

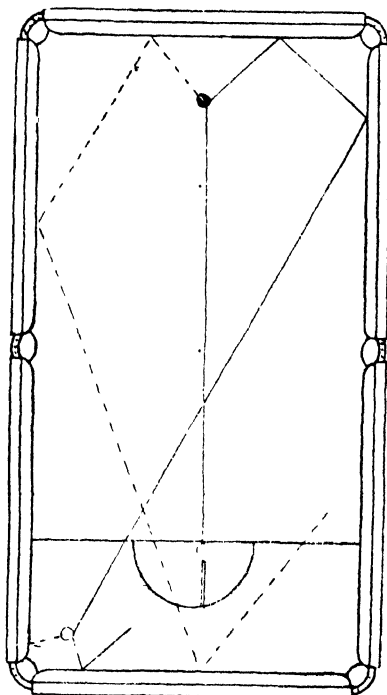


DIAGRAM 564. — An all-round cannon from the red on the spot, played from the D.

to the cue ball when playing a plain-ball stroke always exists. The cue ball should not be hit high up as an extreme amount of top will quite alter the rebound angle off the top cushion.

The reason that the cannon illustrated on Diagram 564 is a fairly easy stroke is because it can be made in quite a number of slightly different ways. Diagram 565 illustrates three different ways in which the cue ball can cannon on to the object white, when playing the all-round cannon illustrated on Diagram 564, viz., direct, off the side cushion, or off the baulk cushion, and Diagram 566 illustrates how the cue ball can reach the object white *via* the side and baulk cushions, or *via* the baulk and side cushions. Also, the cannon may still come off even should the cue ball come into contact with one or both angles of the pocket. In fact, if the cue ball enters the area enclosed by the

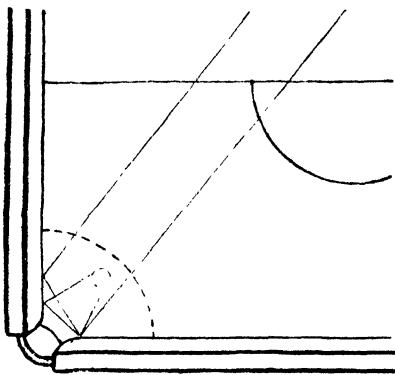


DIAGRAM 566.—The continuous lines indicate how the cannon illustrated on Diagram 564 may be made off the side and baulk cushions or off the baulk and side cushions, instead of direct on to the object white or off the baulk or side cushion only, as illustrated on Diagram 565. When the object white lies anywhere in the area enclosed by the intersected segment of a circle—especially if well away from the cushions—it is therefore favourably placed for the all-round cannon.

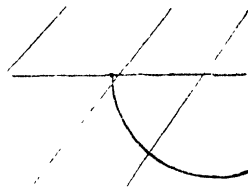


DIAGRAM 565.—The continuous lines illustrate three different ways in which the cannon shown on Diagram 564 may be made, viz., direct on to the object white or off the side cushion or the bottom cushion. Other ways in which the cue ball can cannon on to the object white are shown on Diagram 566.

intersected line on Diagrams 565 and 566 the cannon will generally be made, and as this area is very considerable and can be entered by very different lines of travel, it is easily apparent that considerable latitude exists as to how full or otherwise the red may be taken without the cannon being missed.

This all-round cannon should be played without any great amount of strength. When played with a great amount of pace the angles of rebound from the top and side cushions are different from those of a slower stroke. More especially is this the case when the cushions are very resilient. Again, although no player can tell what after-position will be left as the result of the cannon—for not only can the cannon be made in various ways, but also by different kinds of contact as regards the object white—there is far more chance of some position being left when the cue ball cannons on to the white without much pace and thus remains pretty close to it, than when the reverse of this is the case.

Sometimes, with the red on the spot and the object white in baulk the only stroke to play is an in-off from the white, but although the position may be such that whilst the in-off itself is fairly easy,

it is very difficult if not impossible to bring the object ball out of baulk without missing the stroke.

Diagram 567 shows such a position. The in-off from the white, although it requires a very thin contact, is not by any means a difficult stroke owing to the cue ball being comparatively near the object ball. The thin contact must, however, leave the white in baulk and this being the case care must be exercised to place it in as good a position as possible for a subsequent all-round cannon. Too gentle a stroke will leave it quite close to the side cushion and slightly too fast a stroke may cause it to travel into the area which lies between the D semi-circle and the baulk cushion, and in either case a subsequent cannon will be

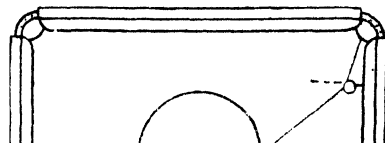


DIAGRAM 567.—A thin in-off from the white. Object white $2\frac{1}{2}$ inches from the side cushion and $10\frac{1}{2}$ inches from the baulk cushion. Cue ball $27\frac{1}{2}$ inches from the side cushion and $31\frac{1}{2}$ inches from the baulk cushion. Red ball on the spot. As the object white cannot be brought out of baulk, the in-off should be played with gentle strength in order to leave position for an all-round cannon.



a far more uncertain stroke than it is when the object white is not very far from a baulk pocket though a good few inches from either the baulk or the side cushion. The intersected line on Diagram 567 gives an idea of the distance the object white should travel in order for it to be in good position for the all-round cannon.

Diagram 568 illustrates another position wherein an in-off from the white, although an easy enough stroke for any fair player, cannot be made without leaving the object ball in baulk. This being the case, the subsequent cannon will be a more or less uncertain and difficult stroke unless the object white

DIAGRAM 568.—A thin in-off from the white bringing the object ball across the table to leave position for an all-round cannon off the red. Position of the white ball as on Diagram 567. Cue ball 14 inches from the side cushion and $51\frac{1}{2}$ inches from the baulk cushion. Red on the spot.

lies somewhere near one of the baulk pockets. In the position shown on Diagram 568 it would be quite possible by means of a slow stroke to move the object white only a few inches, but a gentle stroke from a distance is always very risky when the contact with the object ball has to be a pretty exact one, owing to the possibility which always exists of a slow ball not travelling in an absolutely straight line. Instead, therefore, of playing to leave the object white near the pocket into which the in-off has to be made, the game is to play to bring it right across the table to the vicinity of the *other* baulk pocket, as illustrated by the intersected line on the diagram.

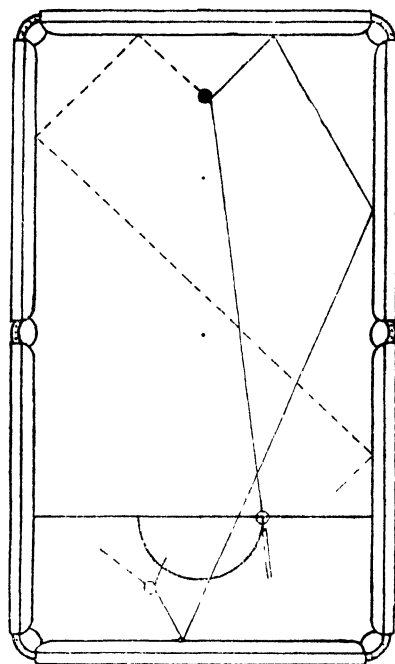


DIAGRAM 569.—An all round cannon from the D. A far more uncertain stroke than the all-round cannon illustrated on Diagram 564.

This can be accomplished by means of a stroke of about medium pace.

Diagram 569 is illustrative of positions which commonly occur. The cue ball is in hand, the red on the spot and the object white is somewhere between the D and the baulk cushion, but well to one side of the central line of the table. Ordinarily, the best game under these conditions is a safety miss, but a cannon off the red although an uncertain stroke at the hands of the best of players is always a possible stroke, and is sometimes made by players very little above the average. For this cannon the cue ball should be spotted at the extreme end of the D line and the red should be taken slightly less than half-ball. For the reasons already explained in the description of the all-round cannon shown on Diagram 564 a little running side should be used,

Diagram 569 is of common occurrence. Red ball on the the spot. Object white 1½ inches from the side cushion and 51 inches from the baulk cushion. Cue ball in hand. The cannon illustrated is the stroke that is generally played in this position. An alternative stroke is illustrated on Diagram 571.

but the cue ball must not be struck high up. There are two chances of getting this cannon, for it may be made as a three-cushion stroke, as shown on the diagram, or off the top and side cushions only. In the diagram the object white is shown well to the left of the central line of the table. When similarly situated to the right of the central line the cannon should be played down the other side of the table, the cue ball being, of course, spotted on the left extremity of the D line.

Diagram 570 illustrates a placing of the balls which is of common occurrence. The red is on the spot, the object ball close to the side cushion about 17 or 18 inches from the centre pocket and the cue ball in hand. Most players when attempting to score from this position by means of a cannon, play off the white. This cannon is, however, always an uncertain one no matter by whom played, as very slight variations in contact and in the amount of side imparted—the stroke must be played with running side—give considerably different results. For this cannon the cue ball should be spotted at or near the far end of the D, aim should be taken for a contact rather fuller than half-ball and plenty of side should be used. There are two chances of getting the cannon, viz., either direct off the side cushion, or off the side and top cushions, as shown on the diagram.

Diagram 571 shows the object balls in exactly the same position as on Diagram 570, but illustrates a cannon off the red instead of a cannon off the white. This stroke although always uncertain is perhaps no more uncertain than the cannon off the white. As shown on Diagram 571 the cue ball should be spotted at the extreme end of the D line and plenty of running side must be used with a half-ball stroke in order to bring the cue ball round the table with the required direction.

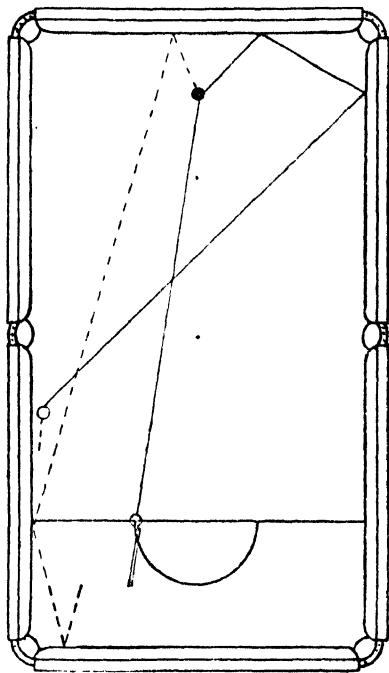


DIAGRAM 571.—A cannon off the red played with strong running side. An alternative stroke to the cannon off the white illustrated on Diagram 570. Position of the balls as on Diagram 570.

CHAPTER XXVI.

CANNONS OFF THE TOP CUSHION.

A stroke that has constantly to be played is a cannon off the top cushion. Sometimes it has to be played from a set position, at other times by being in hand the player may make his own angle up to the extent afforded by the width of the D. Generally speaking a long-distance cannon off the top cushion with both object balls well away from the cushion is easiest when it can be made by means of a plain half-ball stroke, consequently when the cannon has to be played from the D, the player, except in certain positions to which reference will be made farther on in this chapter, should always spot his ball for a half-ball stroke.

Diagram 572 illustrates a commonly occurring position. A ball-to-ball cannon is here impossible—except as a forcing or screw stroke, which need not, of course, be considered—owing to the required angle of deflection being too wide even for a slow half-ball stroke with plenty of running side. By placing the cue ball a short distance from the end of the D, a cannon off the top cushion can be made quite easily by means of a plain half-ball stroke. If a very ordinary player will place the balls in the positions given under Diagram 572 he will find that he can get the cannon time after time. Of course, the whole thing in strokes of this nature is ability to judge the correct spotting for the cue ball. This can only come with practice, but positions so constantly occur wherein the only stroke to play is a cannon off the top cushion, that any player who is poor at these strokes will find that it will be greatly to his advantage to spend a little time in practising them.

When a cannon has to be made off the top cushion it will naturally be an easier stroke when the second object ball is near the top cushion than when it lies a considerable distance from it. On Diagram 572 the red is on the spot

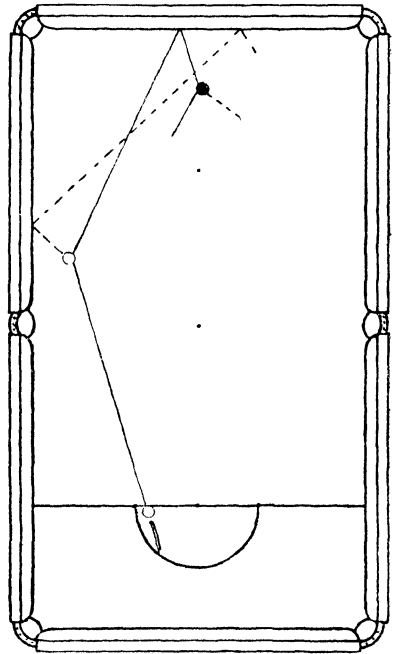


DIAGRAM 572.—A position which with slight variations, as regards the white ball, is of common occurrence. Red ball on the spot. Object white $7\frac{1}{2}$ inches from the side cushion and $5\frac{1}{4}$ inches from the top cushion. Cue ball in hand. A ball-to-ball cannon is not on except by a stroke which scatters the balls. The cannon should be played off the top cushion, by means of a half-ball stroke. The cue ball should be spotted about an inch or an inch and a half from the end of the D. The correct spotting will be slightly different according to whether the stroke is played with ivory balls or with bonzoline balls.

and therefore no very considerable distance from the cushion. Positions, however, constantly occur wherein, though a cannon off the top cushion may be made by means of a plain half-ball stroke from the D, the second object ball lies quite a long distance from this cushion.

Diagram 573 illustrates one of these positions. If the player is in hand a cannon can be made off either ball by means of a plain half-ball stroke. In this position it is true that a cannon could be made in several other ways—and these will later on be described—but, as a rule, when there is a good deal of room round the second object ball—which is the case here—it is very much better to play the cannon off the top cushion only, when this is easily possible by means of a plain half-ball stroke. This plain half-ball stroke off the top cushion is shown on Diagram 573 and it should be played with little more strength than is necessary to cause the cue ball to reach the second object ball, and in order to ensure the true running of the cue ball the stroke should be played with drag. Not only in this stroke, but in practically every cannon off the top cushion, the making of which is not dependent on force or screw, only gentle strength should be used. The very best players, though they may be quite certain of getting a cannon, cannot be quite sure how the cue ball will catch the second object ball when the cannon is off a cushion on to a ball lying a considerable distance from this cushion. The cue ball in such a stroke may take the second object ball quite full, or on either side, and as these different contacts must naturally lead to very different after-positions, even a good player cannot beforehand determine the exact nature of his next stroke. By playing the cannon without much strength, he, however, knows that he will not scatter the balls, also that his ball will come to rest not very far from the ball last hit, and that consequently he will, in all probability, have a scoring position left to continue with.

A commonly occurring position is the red on the spot and the object white close to or touching the side cushion, and is often the result of a badly-played in-off from the white. With the object balls so placed, it is, when playing from hand, as a rule easier to get the cannon by means of a plain half-ball stroke off the red—when possible by this method of play—than by any other kind of stroke. In order, however, for the cannon to be on by means of a plain half-ball stroke off the red when playing from the D, the object white must not be very low down nor very high up the side cushion.

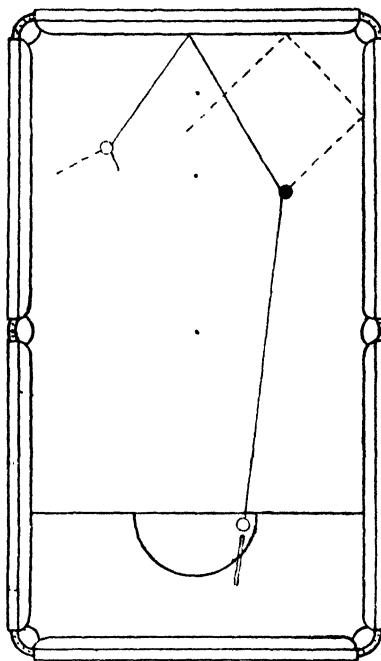


DIAGRAM 573.—A cannon off the top cushion by means of a half-ball stroke. Red ball $14\frac{1}{4}$ inches from the side cushion and $39\frac{1}{4}$ inches from the top cushion. Object white $16\frac{1}{2}$ inches from the side cushion and $23\frac{1}{4}$ inches from the top cushion. Cue ball should be placed about an inch from the end of the D.

Diagram 574 illustrates this half-ball cannon off the red on the spot. The object white which lies on or close to the cushion is about 40 inches from the top cushion, and as in order to get the correct angle for a half-ball stroke without side the cue ball has to be placed at the extreme end of the D line, it necessarily follows that were the object white placed a few inches lower down the table, but still against the cushion, a cannon by means of a plain half-ball stroke would be impossible. With the object white so placed a cannon would, of course, be quite possible either by means of a thinner than half-ball stroke without side or by means of a half-ball stroke with a certain amount of check side. Neither of these strokes can, however, compare for a moment for simplicity with a plain half-ball stroke, consequently a cannon off the red on the spot, played from the D, is a far more difficult stroke when the object white is several inches lower down the table than it is when the ball is situated as shown on Diagram 574.

As already stated, the object white on Diagram 574 is about 40 inches from the top cushion and as the position illustrated on this diagram may be considered, as it were, as one end of a scale of plain half-ball cannons from the D, off the red on the spot on to the object white lying on or quite close to the side cushion, that part of the cushion against which the object white is lying should if possible be definitely fixed in the mind, so that it can be located at a glance in order to enable a player to tell quite easily whether a ball lying against this cushion is above or below this particular part of the cushion.

When a player, just by looking at the side cushion, knows exactly the spot which marks the limit for the half-ball cannons off the red (on the spot) already referred to, he can by means of a very simple if somewhat rough and ready rule at once determine where he should spot his ball for a plain half-ball cannon off the top cushion, when the object white, still against the cushion, is considerably higher up the table than in Diagram 574. The rule is: Spot the cue ball as many inches from the end of the D line as the object white is moved above its position on Diagram 574.

Diagram 575 shows the red ball on the spot and the object white about 28 inches from the top cushion and close to the side cushion. As the object white is here about 12 inches higher up the table than on Diagram 574, the cue ball must be placed on a spot about 12 inches from the end of the D line. On Diagram 575 the cue ball is shown spotted quite close to the centre of the D line for the half-ball cannon. As the D line is 23 inches long the cue ball is on a spot

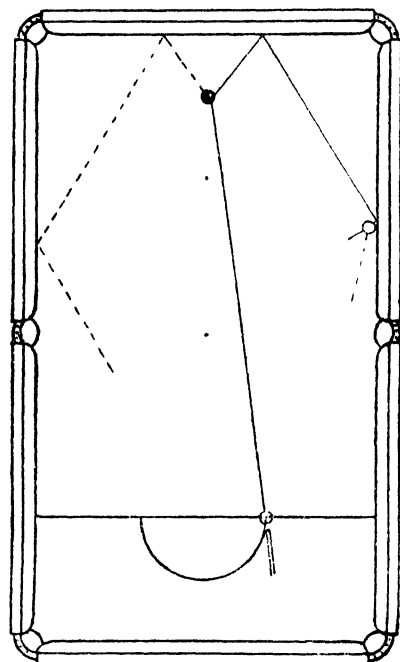


DIAGRAM 574.—A cannon off the top cushion by means of a plain half-ball stroke. Red ball on the spot. Object white touching or nearly touching the side cushion and about 40 inches from the top cushion. Cue ball extreme end of the D.

about 11½ inches from the extremity of the line, but as already stated the above-mentioned rule is only a rough-and-ready one, and it will be found by trial that with the object balls in the position shown on Diagram 575, a cannon will result from a half-ball stroke, whether the cue ball be spotted exactly on the centre of the D line, or slightly to the right or left of this centre.

Diagram 576 shows another variation of this half-ball cannon off the top cushion played from the D. Here, the object white, still close to the side cushion, is about 17 inches from the top cushion, and as it is thus 23 inches higher up the table than on Diagram 574, the cue ball, for a plain half-ball stroke, must be placed on a spot 23 inches from the right end of the D line, or in other words, on the left end of the line.

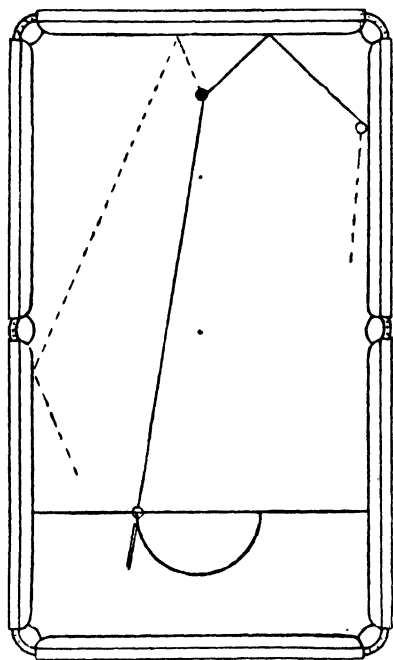


DIAGRAM 576.—A cannon off the top cushion by means of a half-ball stroke. Red on the spot. Object white close to or touching the side cushion and 17 inches from the top cushion. Cue ball extreme end of the D.

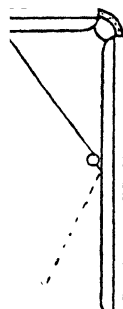


DIAGRAM 575.—A cannon off the top cushion by means of a half-ball stroke. Red on the spot. Object white touching or nearly touching the side cushion and almost 28 inches from the top cushion. Cue ball quite close to the centre of the D line.

Just as the position on Diagram 574 marks, as it were, one end of a scale of plain half-ball cannons off the red on the spot, so the position illustrated on Diagram 576 marks the other end of the scale. With the object white a few inches higher up the table than as shown on Diagram 576 and still close to the cushion, side on the cue ball becomes necessary, or else a forcing stroke or screw must be used, and when the object white is very high up the cushion both side and screw should be used for the cannon.

Although, with the object white situated as shown on Diagram 576, the cannon is a half-ball stroke when played from the far end of the D, it can also be made by means of a half-ball stroke from anywhere on the D line, provided that running side is used.

Diagram 577 shows the cannon played from the near end of the D. Played from here, a moderate amount of side, but nothing like extreme side, must be used. Although the amount of side required has to be correctly judged, this stroke is very little more difficult than the plain half-ball cannon illustrated on Diagram 576, and generally speaking, better direction is given the red ball when these particular cannons are played from the near end of the D line or its vicinity, than when they are played from the other end of the line.

Although many cannons off the red on the spot on to the object white lying close to the side cushion may present little or no difficulty, just as strokes, to any fair player, it is a very different thing when the question of the after-position has to be considered. When no attempt is made to leave some good position as the result of one of these cannons, the after-position will far more often be bad than good, and when it happens to be good the player may consider himself very fortunate. On Diagram 577 the intersected line indicates how the red may be made to travel to the vicinity of the centre pocket as the result of a good-strength stroke. The cannon, however, requires very well handling to obtain this position, and even when the red comes to rest not very far from the pocket the next stroke may not be by any means an easy one, for so much depends upon what angle the cue ball in its new position will make with the red and the pocket. Still, provided the red comes to rest somewhere in the vicinity of the pocket, or at least at no very great distance from it, there will generally be some sort of position for this pocket. Often, an in-off will be left though it may have to be played with screw or by means of a thin or a run-through stroke, and at other times the stroke to play will be a pot of some kind or other.

As the positions illustrated on Diagrams 574, 575, and 577 are, with slight modifications, of constant occurrence, fair players should always play to bring the red down to the centre pocket, otherwise though the cannon may be made, the break will generally come to an end with this stroke.

Diagram 578 shows the red on the spot and the object white a few inches from the side cushion. Playing from the D a cannon off the top cushion can be made taking either the red or the white first. The cannon off the red is very similar to the cannons already described, except that owing to the object white being a few inches from the cushion the cue ball can either cannon direct on to it or off the side cushion. The cannon off the white is a more difficult stroke as it cannot be made by means of a plain half-ball stroke and consequently some running side—right-hand side on the diagram—must be used. The amount of side has, of course, to be judged, for not enough side will cause the

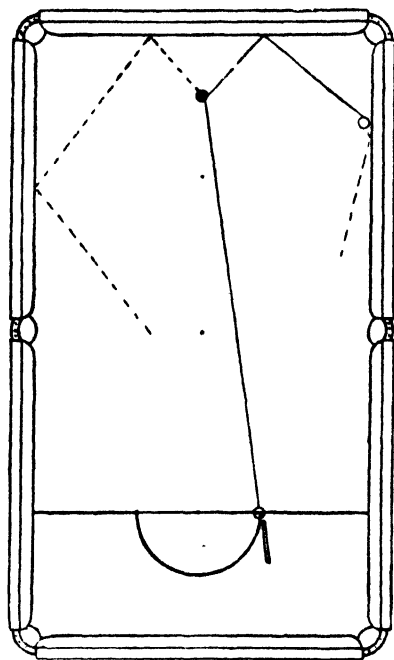


DIAGRAM 577.—A cannon off the top cushion played with running side. Object balls situated exactly as on Diagram 576.

cue ball to pass the red on the inside after leaving the top cushion, and too much side will cause it to pass the red on the outside. Aim should be taken for a half-ball contact with the white, and the stroke should be played with drag as well as side. With the balls in the position shown on Diagram 578 good position far more often results from a cannon off the white, played in the manner just described, than it does from a cannon off the red, for a well-played cannon off the white brings the balls pretty well together owing to the object white crossing the table, as shown by the intersected line, whereas this cannot

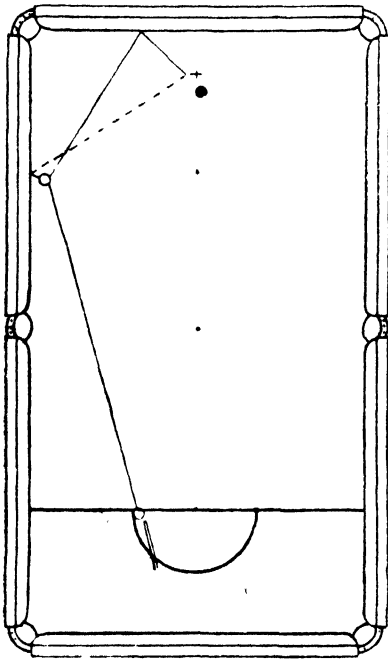


DIAGRAM 579.—An attempted cannon off the top cushion played as a half-ball stroke with side. The cue ball and the object white kiss at the spot marked by the x and the kiss prevents the cannon being made. Red on the spot. Object white $2\frac{1}{4}$ inches from the side cushion and $43\frac{1}{2}$ inches from the top cushion. Cue ball extreme end of the D.

At way of playing the cannon as shown on Diagram 580.

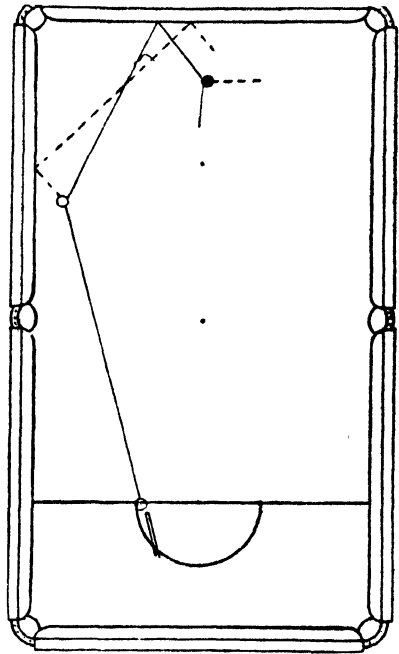


DIAGRAM 578.—A cannon off the top cushion. A half-ball stroke with side. Red on the spot. Object white $4\frac{1}{2}$ inches from the side cushion and $45\frac{1}{2}$ inches from the top cushion.

be the case with a cannon off the red. Although the position which results from a cannon off the white depends upon how the cue ball takes the red, as well as upon the strength with which the stroke has been played, a good-strength stroke will generally leave what will be a scoring position for any fair player, and often the resulting position will be an extremely good one. A cannon off the white is therefore a sounder stroke to play than a cannon off the red, owing to the former stroke leading to better position than the latter.

Diagram 579 shows a location of the object balls which is with slight variations of constant occurrence. This position may appear to be of a very

Diagram 578, but it differs from it in

one exceedingly important detail. In the position shown on Diagram 578 the easiest way of playing a cannon off the white is by means of a half-ball stroke with running side, but in the position shown on Diagram 579, if the cannon is attempted by means of a running-side half-ball stroke, a kiss will probably take place between the cue ball and the object white somewhere between the top cushion and the red ball. Even when the position is such that the kiss is just avoided by a true half-ball stroke it may occur if the contact with the object white is a shade fuller than half-ball, and in playing half-ball strokes—especially when the cue ball is a long way from the first object ball—the contact will very seldom indeed be *exactly* half-ball, no matter how good the player may be. On Diagram 579 the × indicates one spot where the kiss may take place, but often the kiss will take place still nearer the red. Sometimes the cue ball will be knocked away by the object white when it has travelled to within less than an inch of the red and the kiss may even take place at practically the exact moment that the cannon is made. Most players when playing a cannon with the balls in a position at all similar to the one illustrated on Diagram 579 consider that they have had very hard lines when a kiss takes place and prevents the cannon being made just as the cue ball was travelling to the red. If, however, a player invites a kiss by playing a stroke in a way which is likely to bring about a kiss, he cannot fairly claim that he has had bad luck when he gets what he has really, though unknowingly, asked for.

Diagram 580 shows the object balls in exactly the same position as on Diagram 579, and also illustrates the correct way of playing the cannon in order to preclude all possibility of a kiss taking place between the cue ball and the object white. Instead of the object white being taken half-ball the contact must be considerably thinner than half-ball, and the stroke must be played with more side to compensate for the thinner contact. The thinner contact will cause the object white to travel across the table *below* the red—as indicated by the intersected line—instead of above the red as on Diagram 579, and consequently there is nothing to interfere with the cue ball reaching the red after it leaves the top cushion. This thinner-than-half-ball cannon with running side is not an easy stroke, as the contact and the amount of side require well judging. The amount of side that is sufficient for a contact not much thinner than half-ball will not be sufficient for a contact that is only about quarter-ball, and *vice versa*, the amount of side that is correct with a quarter-ball contact will be too

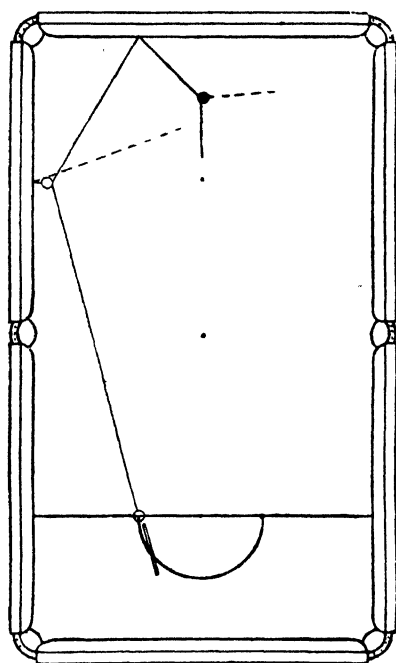


DIAGRAM 580.—A cannon off the top cushion by means of an appreciably thinner than half-ball stroke with side. The thinner than half-ball contact prevents the object ball from crossing the table *behind* the red, and thus the kiss shown on Diagram 579 cannot take place. Position of the balls exactly the same as on Diagram 579.

much with a contact half way between quarter-ball and half-ball. The best way of playing this cannon is by means of a quarter-ball contact and plenty of side. Drag should be used as this will prevent the side pulling the cue ball out of the line of aim, besides which good after-position is more likely to result when this cannon is played in this manner than when no drag is used.

As already stated, when playing a cannon off the top cushion with both object balls a considerable distance from this cushion the most certain way of getting the cannon is by means of a half-ball stroke, provided that the position is such that the cannon is on from some spot in the D by means of a half-ball stroke, and provided also that a half-ball stroke can be played without any fear of a kiss taking place between the cue ball and the first object ball. In many positions, however, although a cannon off the top cushion can be made quite easily from the D by means of a plain half-ball stroke, and although such a stroke cannot possibly cause a kiss to take place between the cue ball and the first object ball, the cannon cannot be played this way without great risk of losing the white when this ball is the first object ball. In some positions a true half-ball stroke would certainly pot the white, and in other positions although a true half-ball stroke would not cause it to enter the pocket, a cannon played as a half-ball stroke without side might easily cause the white to be lost owing to the contact not being a true half-ball one, though to all intents and purposes a half-ball one, especially as judged by the throw-off angle.

Diagram 581 illustrates one of these commonly occurring positions and also illustrates how the white may be lost when the cannon is played off this ball by means of a plain half-ball stroke.

Diagram 582 shows the object balls in exactly the same position as on Diagram 581, and illustrates the correct way of playing the cannon. It will be noticed that the cue ball is spotted very differently, and this alteration of the angle precludes any possibility of a half-ball stroke potting the white. To compensate for the altered spotting of the cue ball the stroke must be played with running side, and drag should also be used in order to check the speed of the cue ball previous to its contact with the white. This cannon can be made by means of a thinner than half-ball stroke with side, but long-distance strokes should never be played in this manner when a half-ball stroke will serve, owing

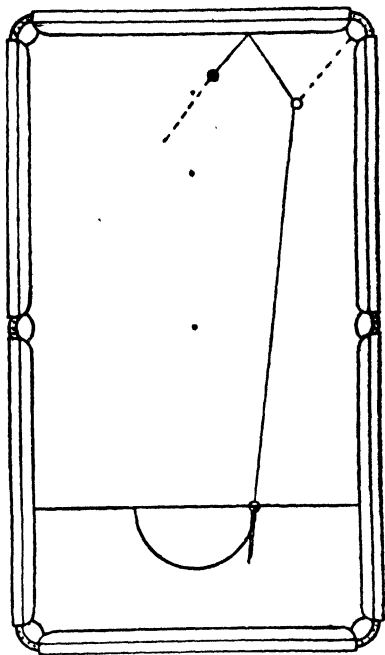


DIAGRAM 581.—A cannon off the top cushion. Red ball 8 inches from the top cushion and $28\frac{1}{2}$ inches from the side cushion. Object white $18\frac{1}{2}$ inches from the top cushion and $12\frac{1}{2}$ inches from the side cushion. The cannon is a half-ball stroke without side from the end of the D, but such a stroke generally causes the object white to enter the corner pocket. The correct way of playing the cannon is shown on Diagram 582.

to the unreliability of thin contacts as compared with half-ball ones. An exception to this rule, of course, occurs when the position is such that a kiss may easily take place as the result of a half-ball stroke.

Diagram 583 illustrates a position that now and then occurs. A run-through in-off is not on owing to the kiss which must occur if this stroke is attempted. A cannon off the top cushion is not a very difficult stroke though the amount of side which must be used requires well judging. Plenty of side must be used otherwise the cue ball will

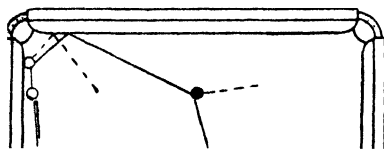


Diagram 583.—A cannon off the top cushion with running side. By taking the object white fuller than half-ball position for an in-off from the white may be left in the event of the cue ball cannoning on to the inside of the red instead of on to the outside as shown on the diagram. Red on the spot. Object white touching the side cushion and 6 inches from the nearest point on the top cushion. Cue ball three-quarters of an inch from the side cushion and $11\frac{1}{2}$ inches from the top cushion.

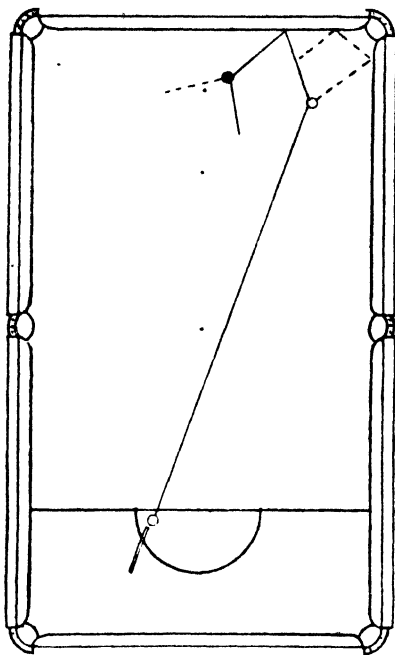


Diagram 582.—A cannon off the top cushion. A half-ball stroke with running side. Object balls situated exactly as on diagram 581. Cue ball a few inches from the far end of the D. A half-ball stroke cannot pot the white.

pass the red on the inside, but extreme side will cause it to pass the red on the outside. The stroke should be played with little more strength than is required to carry the cue ball on to the red. The nature of the after-position which results from a successful stroke will depend to a very great extent upon the kind of contact which the cue ball makes with the red, but good position is more likely to result from a gentle stroke than from a stroke played with a fair amount of pace. A good-strength stroke will sometimes leave the red well placed for a pot and at other times for an in-off. No exact contact with the object white is necessary in order to ensure the cannon being made, for provided that the amount of side is regulated to the fulness or otherwise of

the stroke, the cannon may be made by means of a somewhat thinner than half-ball, a half-ball, or an appreciably fuller than half-ball contact. A fuller than half-ball stroke should, however, always be employed for this cannon, because a fullish contact with the white will bring this ball down from the top cushion—as shown on the diagram—even when the stroke has been played without much strength, whereas a thinner than half-ball contact will leave it near the top cushion, owing to the thinner stroke causing it to travel with less speed than is the case with the fuller stroke, and also because it travels at a more acute angle to the top cushion when taken less than half-ball than it does when taken fuller than half-ball. The advantage of bringing the object white well down from the top cushion is forcibly demonstrated when the cue ball after cannoning on to the red comes to rest as high up the table as the spot, or even higher up than this, as it often will, for with the cue ball high up the table good position for an in-off from the white may easily be left, and in a cannon of the nature of the one illustrated on Diagram 583 it is a great thing to have a chance of a score off the white for the next stroke, in the event of the red not presenting anything favourable. Even when the cue ball after cannoning on to the red travels down the table, as shown on the diagram, the resultant position will generally be

better when the white is a considerable distance from the top cushion than when it lies very near this cushion, for with it well away from the top cushion, should it be possible to pot the red, the pot may often be followed by an in-off from the white, and if instead of the cannon being followed by a pot it can be followed by an in-off from the red, this in-off can often be followed by an in-off from the white from the D.

Diagram 584 shows a location of the object balls which with slight variations often occurs. With the red touching or nearly touching the cushion and the cue ball in hand, a run-through in-off into the top pocket is quite on, but such a stroke is never anything like a certainty even at the hands of extremely capable players. A cannon off the top cushion is a much simpler stroke, for provided the cue ball is spotted correctly the cannon can be made by means of a half-ball stroke. In fact, this cannon is of exactly the same nature as several other cannons already described in this chapter, except as regards the after-position to be played for. With the red only a short distance above the centre pocket, there is a very fair chance of its being left in position for a pot or an in-off, provided that the cue ball cannons gently on to it. Of course, it is impossible to know how the red

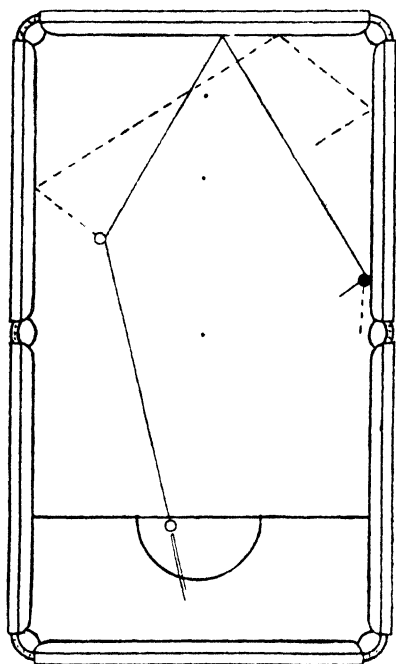


DIAGRAM 584.—A cannon off the top cushion by means of a half-ball stroke. By means of a good-strength stroke the red may be left close to the centre pocket. Red ball touching the side cushion and 9 or 10 inches from the centre pocket. Object white 16 inches from the side cushion and $45\frac{1}{2}$ inches from the top cushion.

THE STROKES OF THE GAME.

ball will be taken when the cannon is made, but there is far more likelihood of good position being left when the cannon is played in the manner described, than when a fastish stroke is used. Besides which the cannon is easier when played with little more strength than is necessary to cause the cue ball to reach the red, than it is when played with plenty of pace, for whereas in gentle to medium-pace strokes, played without side, the angle of reflection is practically equal to the angle of incidence, the same is anything but the case for fast strokes, and on a table with very resilient cushions the angle of reflection is perceptibly altered by increasing the pace of the stroke from medium-pace to half-way between medium pace and fast pace.

Diagram 585 illustrates another cannon off the top cushion, on to the red lying close to the side cushion and a short distance above the centre pocket. This cannon is a difficult one, as it has to be played as a thin stroke with side, and the amount of side required depends upon the degree of thinness with which the object white is taken. When the contact is a very thin one, much less side is required than when the contact is only moderately thin. But although this cannon is not an easy stroke, even for a good player, owing to the nicety of judgment required as regards contact and amount of side, playing it with little more pace than is necessary to cause the cue ball to reach the red makes it no more difficult than it is when a much faster stroke is used. When, however, the slower stroke is used a successful stroke may leave the red quite close to the centre pocket.

Diagram 586 shows a location of the balls which is typical of positions that often occur. When the player is in hand, a cannon off the top cushion can be made by various kinds of strokes as regards the kind of contact and amount of side. For example, if the cue ball be spotted at the far end of the D much less side will be required than is the case with the cue ball spotted say three or four inches from this end, the kind of contact with the first object ball being presumed to be the same in each case. These particular cannons from the D are, however, less difficult when played with plenty of side than when played with only a moderate amount of side, for when the angle is such that only a moderate amount of side is required it is no easy matter to impart just the right amount to the cue ball. If instead of striking the cue ball on the correct spot it is struck only fractionally to the right or left of this spot too much side or too little side will be imparted to it. When, however, the angle is such that a

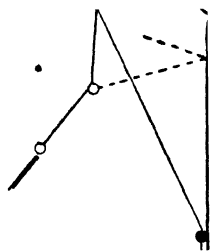


DIAGRAM 585.—A cannon off the top cushion by means of a thin stroke with side. A difficult stroke. A good-strength stroke may leave the red close to the centre pocket. Red ball touching the side cushion and 9 or 10 inches from the centre pocket. Object white 18 inches from the top cushion and $24\frac{1}{2}$ inches from the side cushion. Cue ball on the pyramid spot.

player knows that the amount of side required for the stroke is just about as much or nearly as much as he is able to impart to the cue ball, he is less likely to go wrong than when, though having to play with side, he has not to impart to the cue ball anything like the maximum amount of side which he is able to impart, for in the former case he plays the stroke with as much side as he can, whereas in the latter case he has to gauge the amount. This question of a moderate amount of side as contrasted with plenty of side has its counterpart in screw strokes, for screw cannons or screw in-offs are often much easier when they require plenty of screw, than when, though impossible at moderate strength

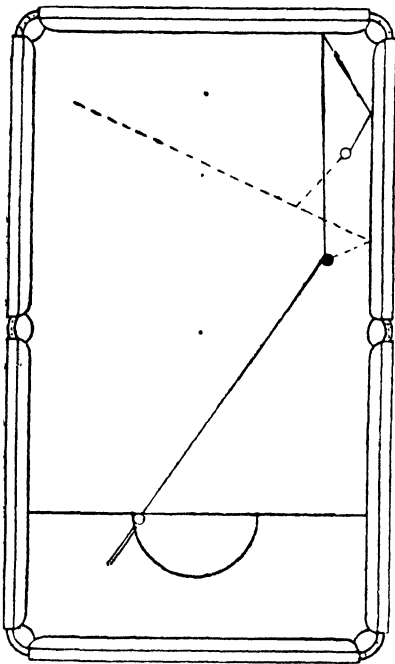


DIAGRAM 587.—A cannon off the top and side cushions played with plenty of side. Red ball 9 inches from the side cushion and 54 inches from the top cushion. Object white 4 inches from the side cushion and 25 inches from the top cushion. Cue ball at or near the extreme end of the D. Position for an in-off from the red may be obtained by means of a good-strength stroke.

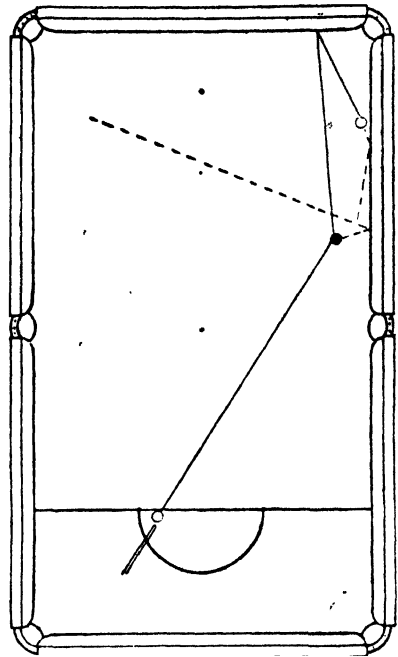


DIAGRAM 586.—A cannon off the top cushion played with plenty of side. Red ball 6 inches from the side cushion and 50½ inches from the top cushion. Object white half an inch from the side cushion and 18 inches from the top cushion. Cue ball 3 or four inches from the end of the D. Position for an in-off from the red may be obtained by means of a good-strength stroke.

without screw, they only require very little screw. The cannon shown on Diagram 586 should therefore be played with plenty of side and the cue ball should be spotted at an angle which will be in accordance with the amount of side with which the stroke is being played. With the object balls situated as shown on Diagram 586 the cue ball should be spotted three or four inches from the end of the D, and from this spotting of the cue ball the cannon can be made by means of a stroke about half way between quarter-ball and half-ball, played with plenty of side. The stroke should be played with drag. The first object ball will cross the table more or less as indicated by the intersected line,

and though the exact direction of its line of travel will depend upon how full or otherwise it has been taken by the cue ball—the fuller the contact the higher up the table will it travel—a good-strength stroke will generally leave position for an in-off into the top pocket.

Diagram 587 shows a variation of the cannon shown on Diagram 586. Owing to the second object ball being several inches away from the cushion the cannon can be made either off the top cushion only or off the top and side cushions. It is, however, better to play this cannon off two cushions than off only one, for when played off two cushions the risk of the cue ball passing between the cushion and the second object ball without touching this ball is very greatly lessened. The cue ball should be spotted at or near the extreme end of the D, and the stroke should be played with plenty of side and drag. A good-strength stroke will generally leave position for an in-off to continue with.

Diagram 588 illustrates an uninviting position that with slight variations occasionally occurs. Average players and even fairly good players, by reason of their spotting the cue ball as shown on the diagram, seldom get a cannon in this position, for provided that the cue ball leaves the top cushion with anything like correct direction for the ball lying near the side cushion in baulk, a kiss almost invariably takes place and prevents any possibility of the cannon being made. The X on the diagram shows how the kiss may take place when the cue ball leaves the top cushion with correct direction for the cannon. If the cue ball be spotted at the extreme end of the D, as shown on Diagram 588, and the stroke be played without side, the contact that will give the cue ball the correct direction as it leaves the cushion will inevitably cause a kiss to take place.

Diagram 589 illustrates a way of avoiding the kiss shown on Diagram 588 even though the cue ball be spotted at the same end of the D. If the object white be taken very thinly, so little pace will be imparted to it that the cue ball will have time to pass the point at which its path and that of the object white intersect each other, before the object white can get there, and consequently no kiss will take place. But as well as taking the object white quite thinly side has to be used. The cannon though quite a possible stroke when played in the manner described is, however, a very difficult shot. Long-distance strokes, even when no side has to be used, are always anything but easy when the contact with the object ball aimed at has to be a thin one, and when in addition

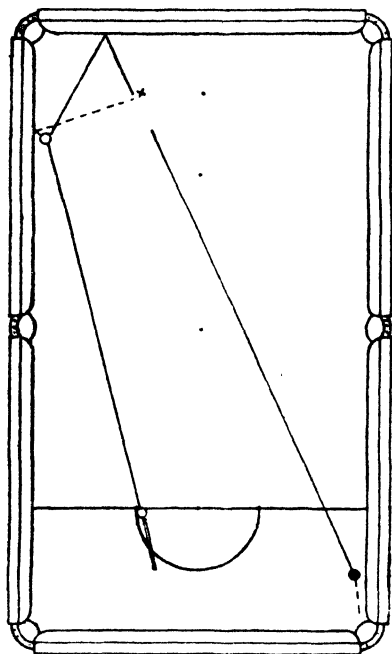


DIAGRAM 588.—A position in which a kiss very often takes place when a cannon is played from the near end of the D. Object white $1\frac{1}{2}$ inches from the side cushion and 23 inches from the top cushion. Red ball $1\frac{1}{2}$ inches from the side cushion and 12 inches from the baulk cushion. The X indicates the spot where the kiss is likely to take place when the cannon is played from the near end of the D.

to having to take the object ball very much thinner than half-ball the cue ball has to be struck with side the stroke is rendered still more difficult.

Diagram 590 shows the object balls in exactly the same position as on Diagram 589 and also illustrates a sounder way of playing the cannon. Instead of the cue ball being spotted at the near end of the D line as regards the object white, it is spotted at or near the far end of the line. In this way the cannon can be played as a *half-ball stroke* with side. It is no easy matter to correctly gauge the amount of side required, but provided that the object white is taken half-ball, and provided also that the amount of side has been nicely gauged, a kiss between the cue

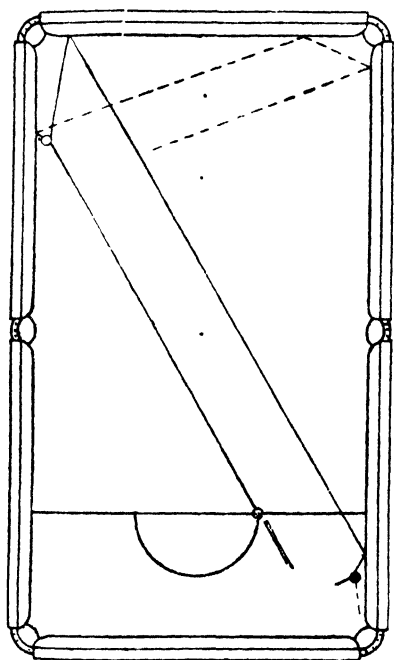


DIAGRAM 590.—A cannon off the top cushion by means of a half-ball stroke with side played from the far end of the D. A sounder stroke than the cannon by a thin stroke shown on Diagram 589. Position of the object balls exactly the same as on Diagram 589.

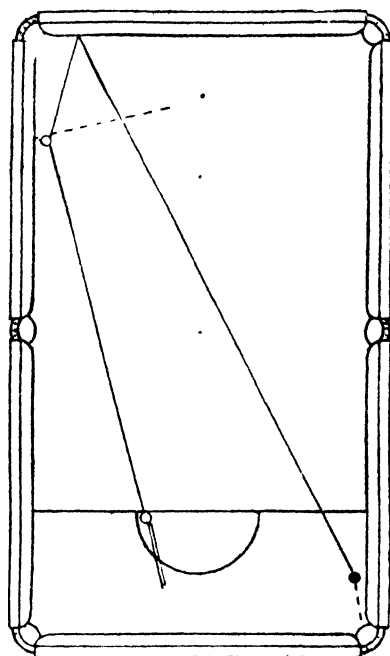


DIAGRAM 589.—Avoiding the kiss shown on Diagram 588 by taking the object white very thinly and using running side. The thin contact causes the object white to travel across the table without much speed and thus allows the cue ball to pass the point at which its path is intersected by that of the object white before the object white can reach this point. Position of the object balls exactly the same as on Diagram 588. A sounder way of playing the cannon is shown on Diagram 590.

ball and the object white will be avoided. Although the cannon is not an easy one, even when played in the manner described, the fact of its being played by means of a half-ball contact with the object white—the easiest of all contacts especially in long-distance strokes—makes it much less difficult than when played by means of a thin stroke as illustrated on Diagram 589. In both cases the amount of side has to be nicely gauged, but in the one instance the desired contact presents no difficulty to any fair player whereas in the other instance the reverse is the case.

Diagram 591 illustrates a very difficult stroke that is sometimes played by good players. A cannon can be made off the top and side cushions, off the top cushion only, or—as shown on the diagram—off the top and baulk cushions. Whether the cannon be played off the top cushion only, or off the top and baulk cushions, the contact with the object ball has to be a very thin one. Check side on the cue ball by altering the angle of rebound off the top cushion would sometimes enable the cannon to be made when the contact with the object white has not been thin enough to admit of the cannon being made by a plain-ball stroke. The use of check side is, however, not advisable in this stroke owing to the great difficulty in imparting just the correct amount. The cue ball after striking the top cushion has to travel practically the length of the table and consequently slight differences in the amount of side imparted to it may produce widely different results, for whilst two different paths from the same point on the top cushion may not be far apart, say a foot or so from this cushion, the space between them at the baulk end of the table may be very considerable. When playing the cannon under discussion, off the top cushion only, it is as well to aim for a contact even thinner than appears to be necessary, for in the first place most

players when failing at a long-distance thin stroke more often fail through not taking the object ball quite as thinly as they intended, than through taking it too thinly, and secondly, because should the object ball be taken too thinly to admit of the cannon being made off the top cushion only, there is always the possibility of its being made off the baulk cushion. With the balls situated as shown on Diagram 591, if as the result of a thin stroke played without side and without very much pace—high pace affects the angle of reflection, especially with very resilient cushions—the cue ball misses the red by about two or three inches as it passes it on the inside—that is to the left, as the player stands facing the top cushion—the cannon will be made off the baulk cushion, as indicated by the continuous line on the diagram. If, however, the cue ball on its way down the table passes the red on the outside, the cannon cannot be made except off the side and baulk cushions, and only by the cue ball travelling very wide indeed of the line of travel played for, can any contact with the side cushion take place at all previous to the cue ball reaching the baulk cushion.

Diagram 592 illustrates another very difficult cannon that is typical of strokes sometimes played by good players. The cannon may be made off the top and

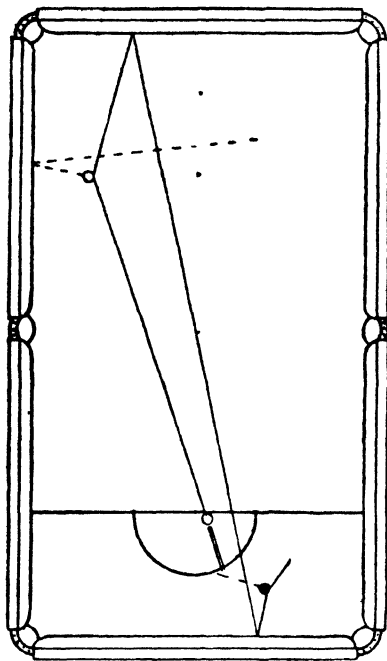


DIAGRAM 591.—A cannon off the top cushion. A thin stroke without side. Object white 13 inches from the side cushion and 36 inches from the top cushion. Red ball 12 inches from the baulk cushion and 19 inches from the side cushion. The cue ball should be spotted a little to the right of the centre of the D line.

side cushions or—as indicated by the continuous line on the diagram—off the top, side, and baulk cushions. The stroke should be played with plenty of check side—left-hand side in the diagram. In this stroke left-hand side though check side off the top cushion—when the cue ball strikes the cushion at the angle shown on the diagram—becomes running side off the side and baulk cushions. What makes the stroke so difficult is gauging the amount of side required. The cannon can be made from different placings of the cue ball and by different kinds of contact, and the position in the D from which the stroke is played, in conjunction with the degree of fulness or otherwise of the contact with the object ball

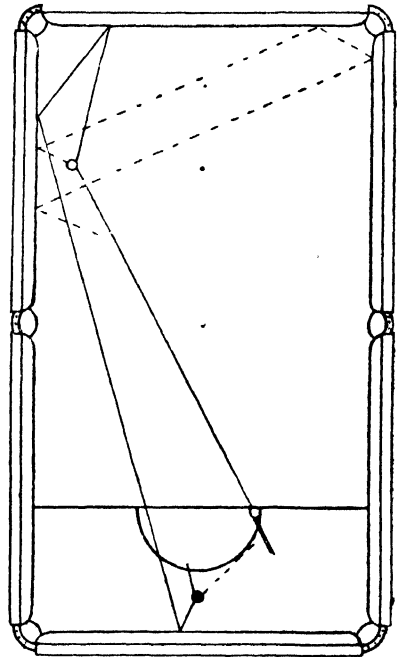


DIAGRAM 592.—A difficult cannon from the D played off the top and side cushions. Object white 6 inches from the side cushion and 35 inches from the top cushion. Red ball 8 inches from the baulk cushion and on the central line of the table. The cue ball should be spotted at or near the end of the D line.

determines the amount of side which is necessary for a successful stroke.

Diagram 593 shows a location of the object balls which with slight variations occasionally occurs. Playing from the D, screw is essential for a cannon. Unless sufficient screw is used the cue ball may catch the upper angle of the centre pocket, and should this happen the stroke is, of course, bound to fail. The ordinary player plays this stroke either without any side or else with running side. Played without side or with running side, however, the stroke must fail should the amount of screw imparted to the cue ball be ever so little too much for a ball-to-ball cannon. Instead, if the stroke be played with

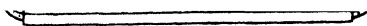


DIAGRAM 593.—A screw-cannon from the D played with side. Red ball 4 inches from the side cushion and 39 inches from the baulk cushion. Object white $3\frac{1}{2}$ inches from the side cushion and 18 inches from the top cushion. Cue ball at or near the end of the D line.

check side—right-hand side in the position shown on the diagram—should too much screw be imparted to the cue ball for a ball-to-ball cannon—and it is very easy to over-screw the stroke—with the result that the cue ball passes outside the second object ball on its journey up the table, a very fair possibility always exists of the cannon being made direct off the top cushion, or—as shown by the continuous line on the diagram—off the top and side cushions.

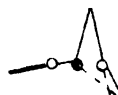


Diagram 594 shows a position that now and then occurs. The three balls are in a line parallel with the top cushion, the red being on the spot and both white balls about seven inches from the red. To the ordinary player such a position generally appears well-nigh hopeless, for a cannon off the top cushion is impossible by the agency of check side only, no matter though extreme side be imparted to the cue ball. As screw is essential for this cannon off the cushion, the ordinary player generally uses a strong smashing stroke and seldom gets anywhere near the cannon. The easiest way of playing this cannon is as follows: Find the point on the cushion which lies exactly midway between the two object balls and then screw from the red on to this point, using a half-ball stroke *without any side*. In this way, the cue ball will rebound from the cushion at practically the same angle at which it strikes it, thus ensuring the success of the stroke. When the stroke is played this way considerable latitude for error in finding the correct spot on the cushion exists without the cannon being missed, for should the cue ball strike the cushion a little in front of the point which is exactly midway between the two object balls it will cannon on to the near side of the second object ball, instead of cannoning full on to it, and should it strike the cushion just a little beyond the point played for it will cannon on to the far side of the second object ball. The after-position that results from a successful stroke depends upon the strength used for the cannon and also upon the manner in which the cue ball takes the second object ball, but generally speaking better position will result from a stroke played without much pace than from a fast stroke.

DIAGRAM 594.—A screw-cannon off the top cushion. Red ball on the spot. Cue ball and object white both 7 inches from the red. All three balls in a line parallel with the top cushion. No side should be used and the red should be taken half-ball.

In the cannon illustrated on Diagram 594 the first object ball—the red—is on the billiard spot, but exactly the same kind of position, as regards the stroke to be played, can occur all round the table and the stroke just described may have to be played even though the balls are slightly nearer to or farther from the cushion than shown on Diagram 594. Nor is it necessary for the requirements of the stroke that the distances between the balls should be exactly the same as in the particular position just discussed. Also, this screw cannon off a cushion may have to be employed even though the three balls are not in a straight line.

When the balls are in a straight line a kiss-cannon is generally a possible stroke—in the position shown on Diagram 594 a kiss-cannon though not a very difficult stroke is a somewhat uncertain one—but the situation of the three balls may be such that a kiss-cannon is quite out of the question owing to their not being in anything like a straight line with each other, and yet at the same time no run-through cannon is possible owing to the second object ball being partially covered by the first one. When this is the case the cannon can only be made off the cushion.



In the position shown on Diagram 594 the screw cannon off the cushion is best played by means of a half-ball contact, for it is much easier to ensure correct contact when using a half-ball stroke than when playing to take a ball thinner or fuller than half-ball. In certain variations, however, of the position shown on this diagram, a half-ball stroke cannot be used as such a stroke would throw the first object ball on to the second one. Diagram 595 illustrates such a position. Here, as a half-ball stroke would cause the red to hit the white, a somewhat thinner than half-ball stroke must be employed

DIAGRAM 595.—A screw-cannon off the top cushion. Red ball on the spot. Cue ball and object white both $2\frac{3}{4}$ inches from the red. All three balls in a line parallel with the top cushion. Unless the red be taken quite thinly it will kiss the object white.

for a cannon off the cushion, and considerably more screw must be used to compensate for the thinner than half-ball contact with the red. In this stroke some check side—left-hand side in the diagram—may be advantageously used in order to cause the cue ball to rebound more squarely from the cushion than it would do as the result of a plain-ball screw. Whereas, however, the half-ball screw cannon off the cushion illustrated on Diagram 594 is an easy enough stroke, and quite within the compass of any moderate player when played in the manner already described, the thinner than half-ball screw cannon to avoid the kiss, as illustrated on Diagram 595, is a difficult stroke, and quite beyond the ordinary player. An alternative stroke to this thinner than half-ball screw off the cushion is a cannon off the top cushion, hitting the cushion first, but such a stroke is also a difficult one owing to the nicety of judgment required as to what point on the cushion to aim at. Other alternative strokes are a steeplechase cannon, a massé cannon, or a pot, but all these strokes are extremely difficult. In the position shown on Diagram 594, the pot is also an alternative stroke to the cannon, but even this pot, whilst not as difficult as a pot with the balls to the measurements given under Diagram 595, is anything but an easy stroke.

Diagram 596 illustrates a position which is typical of positions which often occur. The only stroke at all on is a cannon, but a ball-to-ball cannon is impossible by means of a medium-pace half-ball stroke even with extreme

running side. A ball-to-ball cannon is, however, an easy enough stroke when played as a forcing stroke, and this is the way the ordinary player plays it. Such a stroke, however, sends the balls flying all over the table, and the player who plays the cannon in this manner trusts to fortune for his next stroke. Instead of the cannon being played by means of a banging stroke it should be played off the top cushion, and not much more strength should be used than is necessary to cause the cue ball to reach the second object ball. The moderate player, however, when playing this cannon off the top cushion generally plays it in the wrong way. The position illustrated on the diagram is such that not only is it impossible to cannon direct from one ball on to the other by means of a medium-pace half-ball stroke, but it is likewise impossible to get the cannon off the top cushion by means of a half-ball stroke without side. In fact, were the cannon to be attempted by the latter stroke, the cue ball's line of travel after its rebound from the top cushion would be quite wide of the red. The moderate player recognising this quite easily, aims for a thinnish contact with the first object ball in order to prevent the cue ball going round the second object ball, and also with the same end in view often plays the stroke with some check side. As already explained, however, thinner than half-ball strokes played from a distance are always uncertain strokes owing to the difficulty that exists in taking the object ball as desired, and the use of check side further complicates matters. In fact, should the cannon under discussion be played as a thinner than half-ball stroke it is better to use no side and rely upon correct contact with the object ball. The most reliable, and consequently the correct way, however, of playing this cannon is by means of a medium-pace half-ball stroke with plenty of check side. With the balls placed to the measurements given under Diagram 596 a half-ball stroke will cause the cue ball to strike the top cushion at a point which is practically right behind the red—the exact point of contact with the cushion will vary slightly according to whether the stroke is played with ivory balls or with bonzoline balls—and strong check side will cause the cue ball to rebound from the cushion quite squarely on to the red—as shown by the continuous line on the diagram. Any fair player can be pretty certain of taking an object ball correctly when playing a half-ball stroke, whereas even really good players are often at fault when they have to use a thinner than half-ball stroke, consequently it is easy to understand why in the position shown on Diagram 596 the half-ball stroke with check side is much sounder than the thinner than half-ball stroke

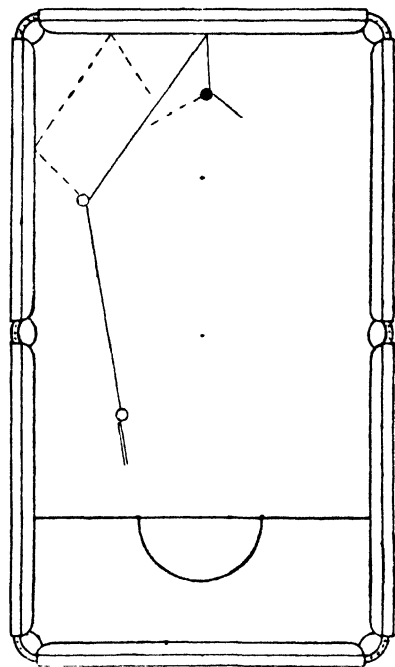


DIAGRAM 596.—A cannon off the top cushion. A half-ball stroke with plenty of check side. Red ball on the spot. Object white 10½ inches from the side cushion and 40 inches from the top cushion. Cue ball 17 inches from the side cushion and 53 inches from the baulk cushion.

with or without check side. Of course, in strokes of the nature of the one under discussion, the amount of check side which must be used with a half-ball contact will not always be the same, but the necessary amount can always be gauged by calculating the point on the cushion upon which cue ball will impinge as the result of a half-ball stroke. This half-ball stroke with check side can often be just as advantageously used for a cannon off the side cushion.

Diagram 597 shows a location of the balls which is typical of constantly occurring positions. A cannon here is the easiest of strokes, but as in many another simple position there is a right and a wrong way of playing the stroke. Most amateurs, not excluding those who often enough make fifties and sixties and occasionally still bigger breaks, play this cannon the wrong way. Of course, it is quite apparent that the stroke must be played in such a manner as to leave the red well placed for a pot or an in-off and consequently not much strength must be used. The position, however, is such that the cannon cannot be made by the use of side only, consequently a little screw must be used. In order, however, to enable the cannon to be made with as



DIAGRAM 597.—A gentle screw-cannon to leave the red over the pocket. A simple stroke. Check side should be used to prevent the possibility of the cue ball coming to rest quite close to the red. Red ball a quarter of an inch from the top cushion and 10 inches from the side cushion. Object white $1\frac{1}{4}$ inches from the top cushion and 18 inches from the side cushion. Cue ball $11\frac{1}{2}$ inches from the top cushion and $16\frac{1}{2}$ inches from the side cushion.

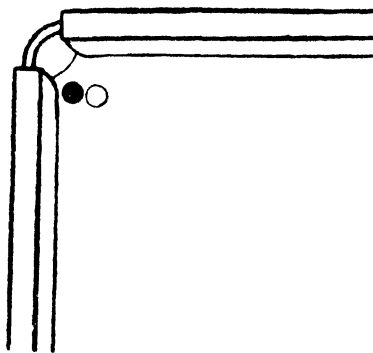


DIAGRAM 598.—An example of the kind of position that sometimes results when the cannon shown on Diagram 597 is played with running side.

little strength as possible the majority of players make the mistake of screwing with running side, whereas although side should be used as well as screw, *the correct side is check side and not running side.* When running side is used the after-position will often enough come out all right, but to play the stroke with running side always means taking a risk, and many a big break has been suddenly terminated through the player's ignorance of the underlying principle which governs strokes of this nature and which is one of the many little niceties in the game of billiards known to and made use of by

all first-class players which, however, on account of their not being easily discernible are wholly passed over by the average spectator of high-class play.

The bad after-position which may sometimes be left as the result of the cannon being played with running side is forcibly demonstrated by a location of the cue ball and the red ball—shown on Diagram 598—which actually resulted from a running-side screw cannon played from the exact position given on Diagram 597. The running side causes the cue ball to rebound from the cushion quite sharply and when the red is caught very full the two balls travel together, the cue ball, as it were, hustling the red—"getting on top of it" was the expression of a well-known professional—and the balls come to rest quite close to one another. When the cue ball and red remain quite near to each other a pot will seldom be on, and an in-off may only be possible by means of a difficult *massé* stroke. When the red presents nothing at all easy there is very little likelihood of any score, for any cannon is almost certain to be a very difficult one and no ordinary in-off from the white is likely to be on. When a position at all like the one shown on Diagram 598 results from any position similar to that illustrated on Diagram 597, a player naturally considers that he has had very

bad luck, but once again it is simply a case of his getting a position which he has himself—unknowingly it is true—invited. When a player gets very bad position as the result of a stroke which presented no difficulty whatever and which could be played if necessary without much strength, it is generally safe to assume that the bad position is the result of a bad stroke, or of lack of knowledge as to how the stroke should have been played. In the position shown on Diagram 597, all danger of the cue ball coming to rest quite close to the red is averted by playing the cannon with check side. The check side causes the cue ball to rebound from the cushion quite sluggishly, and though the stroke be played with sufficient strength to drive the red quite close to the pocket—and this is the aim of the stroke—the cue ball will come to rest quite a long way from the red.

Diagram 599 shows the red on the spot and the object white so situated that the easiest of cannons is on from the D. But though a cannon just as a stroke is so simple that it cannot very well be missed, obtaining good position as the result of a cannon is quite another matter. When the cannon is played by the easiest kind of stroke, viz., a half-ball stroke, from the end, or from a spot close to the end of the D line,

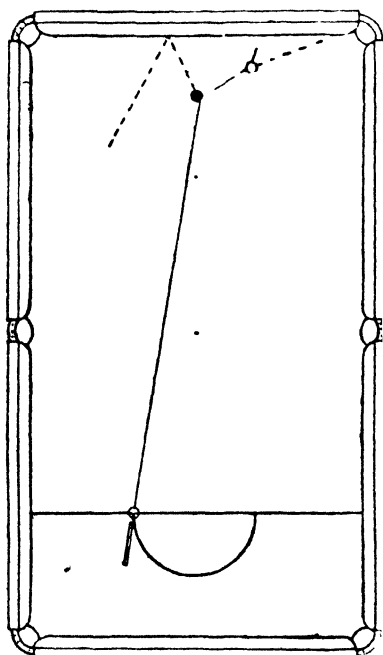


DIAGRAM 599.—A simple ball-to-ball cannon from the D. The after-position resulting from this stroke is generally very easy, even though the cannon may have been played without much strength. Alternative strokes are illustrated on Diagrams 600 and 601. Red ball on the spot. Object white 7 inches from the top cushion and 24 inches from the side cushion. Cue ball left end of the D line.

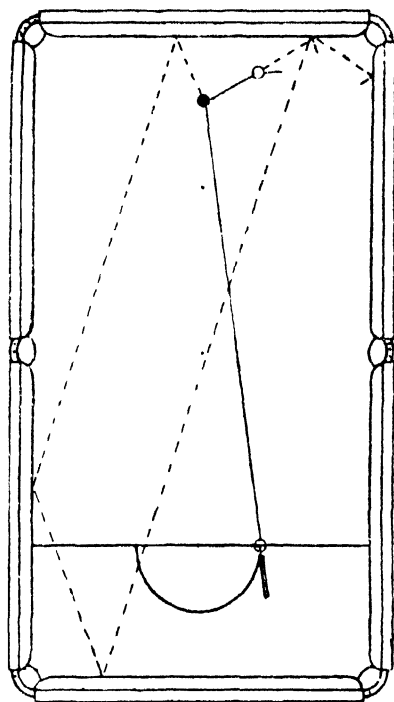
position—as regards the red at any rate—is generally at once lost, for even when a slow stroke has been used the red rebounds from the top cushion too far to leave position for any in-off into the top pocket. The red ball's line of travel is shown by the intersected line on the diagram, and as the cue ball after cannoning on to the white must—when a slow stroke has been played—come to rest pretty close to the top cushion, it is easily apparent that if the red travels any considerable distance after its rebound from the top cushion, position for an in-off into the top pocket cannot be left. It is true that position for an in-off *could* be left as the result of a very gentle contact with the red, but a half-ball cannon played sufficiently gently to leave the red well placed for an in-off is far too unreliable a stroke to attempt from the distance of the D. With so slow a stroke the danger of the cue ball running off a little during its long course up the table is very great, and a very slight deviation from the line of aim might easily cause the cannon to be missed.

Diagram 600 shows the object balls situated exactly as on Diagram 599 and also illustrates how by playing from the right end of the D line the cannon can be made off the top cushion instead of by means of a ball-to-ball stroke. A contact much thinner than half-ball is, however, required for this cannon off the top cushion, consequently the stroke requires well handling. The superiority of this stroke to the ball-to-ball cannon shown on Diagram 599 is demonstrated by a comparison of the after-positions resulting from strokes of about the same strength. In the ball-to-ball cannon even a slow stroke will generally bring the red ball a considerable distance down the table, for when the contact is a half-ball one about one half of the cue ball's pace at the moment of contact is communicated to the object ball. When, however, the cannon is played off the cushion, as shown on Diagram 600, the red ball has to be taken considerably thinner than half-ball, consequently much less pace is imparted to it than is the case with a half-ball stroke played with the same strength. Not only this, but the thinner than half-ball contact throws the red more across the table than the half-ball contact does, so that in two different ways the cannon off the cushion by means of a thinner than half-ball stroke tends to keep the red at the top of the table. Again, when the cannon is played off the top cushion, the cue ball generally travels some little distance down the table after its contact with the second object ball, and as a rule the after-position resulting from a gentle-strength cannon, with the object balls in position shown on Diagrams 599 and 600, will be much better when the cue

DIAGRAM 600.—A cannon off the top cushion. A thin stroke without side. Object balls situated exactly as on Diagram 599. Cue ball right end of the D line. Plenty of drag should be used. Very good position will generally result from a successful stroke.

ball's new position is some little distance from the top cushion than when it lies very near this cushion. Although, when the cannon—with the object balls in the position shown on Diagrams 599 and 600—is played by means of the thinner than half-ball stroke just described, considerably less pace is imparted to the red ball than is the case with a half-ball stroke, it is still very easy to play this cannon off the cushion with too much strength, and in order to check the pace of the cue ball as much as possible the stroke should be played with plenty of drag.

Diagram 601 shows the object balls situated exactly as on Diagrams 599 and 600 and illustrates a third way of playing the cannon. The cue ball is placed at the right extremity of the D line and aim is taken for a three-quarter-ball contact and plenty of strength and screw is used. Played this way the cannon becomes a stun stroke, for the cue ball by reason of its fullish contact with the red travels on to the white without much pace. The red, on the other hand, by reason of the cue ball's fullish impact on to it, travels with plenty of pace, and it is quite possible, by means of a good-strength stroke, to group all the balls together in the vicinity of the top corner pocket. The important thing in this stroke is getting full enough on to the red. When the red is not taken sufficiently full it will not travel round the table as shown on the diagram; nor will the cue ball be sufficiently stunned and consequently it will travel on to the object white with too much speed.



the red pretty run and bringing it to the top of the table again. Excellent position can be gained by this stroke, but accurate hitting of the red combined with good strength is essential, otherwise the red will not travel to, and come to rest in the vicinity of the top pocket. Object balls situated as on Diagrams 599 and 600. Cue ball right end of the D!

CHAPTER XXVII.

CANNONS OFF THE SIDE CUSHION.

A stroke that has constantly to be played is a cannon off the side cushion. Sometimes the stroke is quite an easy one, at other times the reverse is the case, and often the object balls may be so situated that although a player in hand may be able to spot his ball for a simple ball-to-ball cannon, a cannon off the cushion is a much sounder stroke to play. In order to illustrate as fully as possible the various kinds of cannons off the side cushion which are constantly played by all good players, typical examples of positions that are of more or less common occurrence will be presented and discussed in this chapter.

Diagram 602 shows a location of the object balls which is very like many another that constantly occurs. Provided that the player is in hand a cannon is an easy enough stroke and one that even very moderate players find no difficulty in making. With the object balls placed to the measurements given under the diagram, all that is necessary for the cannon is to place the cue ball on or close to the near end of the D line and play a half-ball stroke with a moderate amount of the side which will be running side off the cushion—in the position shown on the diagram this will be right side. But although the ordinary player may find no difficulty in getting a cannon in the position under discussion, he almost invariably plays the stroke with far too much strength, with the result that the after-position is generally bad, and when something good happens to be left the player has been favoured by fortune, inasmuch as the position is not the result of good play, but of chance.

On Diagram 602 the intersected lines indicate how the object balls may travel when the cannon has been played with too much pace, and the bad after-position shown on this diagram is only one of the many equally bad ones that may result from too fast a stroke.

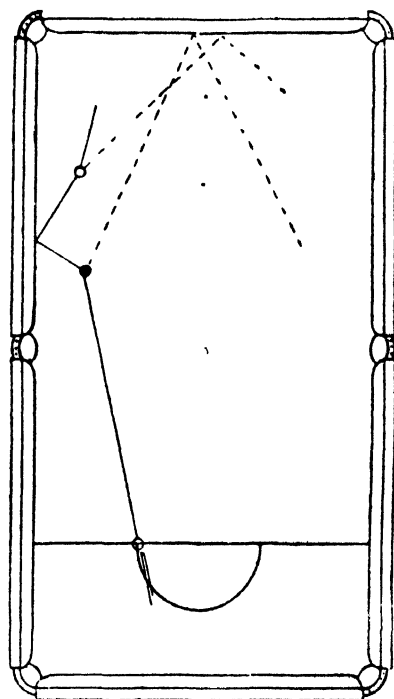


DIAGRAM 602.—A cannon off the side cushion played with running side. Red ball 10½ inches from the side cushion and 58 inches from the top cushion. Object white 9 inches from the side cushion and 37 inches from the top cushion. The cue ball should be spotted at or near the end of the D line. Unless this cannon be played without much pace the after-position will generally be very bad. The intersected lines drawn from the red and the object white illustrate one of the many bad after-positions which may result from a stroke played with too much strength. Diagram 603 illustrates the same cannon played with good strength.

Diagram 603 shows the object balls in exactly the same position as on Diagram 602, and also illustrates how very good position may be left when the cannon is played without much strength. The comparatively fast stroke shown on Diagram 602 brings the red well down the table, whereas the slow stroke shown on Diagram 603 leaves it at the top of the table, and consequently the after-position resulting from the latter stroke will—quite irrespective of the object white—often be very good, for sometimes the cannon can be followed by a simple in-off and sometimes by a pot. In addition to this, a very fair likelihood always exists of position being left for a simple cannon as the result of this gentle-strength cannon off the cushion, for when the cue ball after rebounding

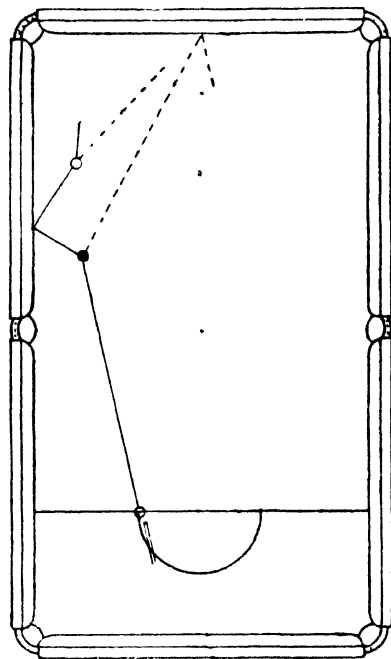


DIAGRAM 603.—A cannon off the side cushion played with running side. Position of all three balls exactly the same as on Diagram 602. Good after-position generally results from this cannon when the stroke is played without much pace.

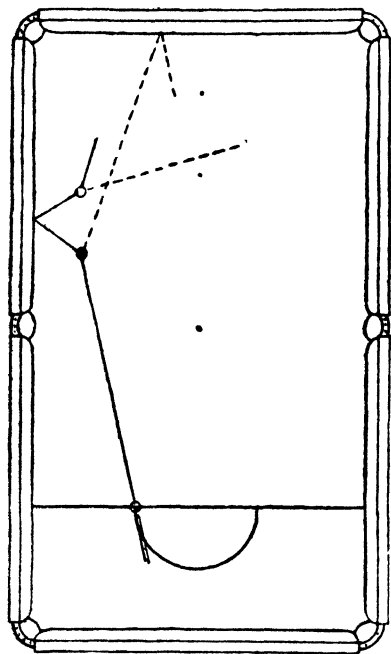


DIAGRAM 604.—A cannon off the side cushion played as a half-ball stroke without side. Red ball $10\frac{1}{2}$ inches from the side cushion and 58 inches from the top cushion. Object white $8\frac{1}{2}$ inches from the side cushion and $44\frac{1}{2}$ inches from the top cushion. Cue ball end of the D line.

from the cushion takes the second object ball pretty full, both object balls will come to rest *in front of the cue ball*. This gentle-strength cannon should be played with plenty of drag in order to ensure true running of the cue ball. Perfect position will often result from a good-strength stroke.

In the position shown on Diagram 603 the use of side is imperative when the cannon is played as a half-ball stroke, and although the cannon can be made by means of a thinner-than-half-ball contact without side, such a stroke would be far more uncertain than the half-ball one owing to the difficulty of taking a distant object ball exactly as desired when playing a thinnish stroke as compared with the much greater simplicity of a half-ball stroke from the same spotting of the cue ball.

Diagram 604 shows a variation of the position shown on Diagram 603. With the object balls situated as shown on Diagram 603 the use of side is imperative when playing the cannon off the side cushion by means of a half-ball contact from the most favourable spotting of the cue ball in the D, whereas with the object balls in the position shown on Diagram 604 the cannon can be made by means of a half-ball stroke without side, and also by means of a half-ball stroke with running side, but of course the spotting of the cue ball in the D for the half-ball stroke with side has to be very different from the

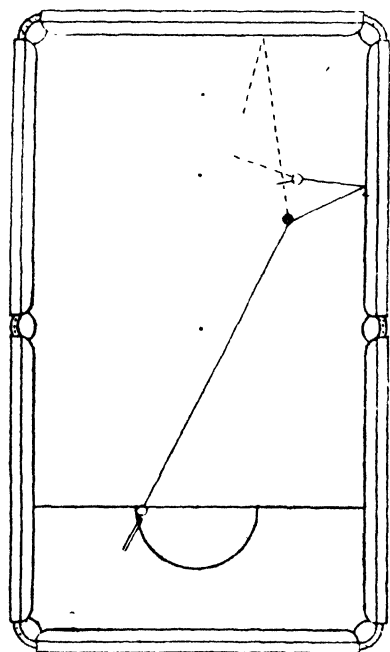


DIAGRAM 606. A cannon off the side cushion which requires check side. Very good after-position can generally be obtained as the result of a stroke played without much pace. Red ball 16 inches from the side cushion and 45 inches from the top cushion. Object white $13\frac{1}{2}$ inches from the side cushion and 34 inches from the top cushion. The cue ball should be spotted at or near the end of the D line.

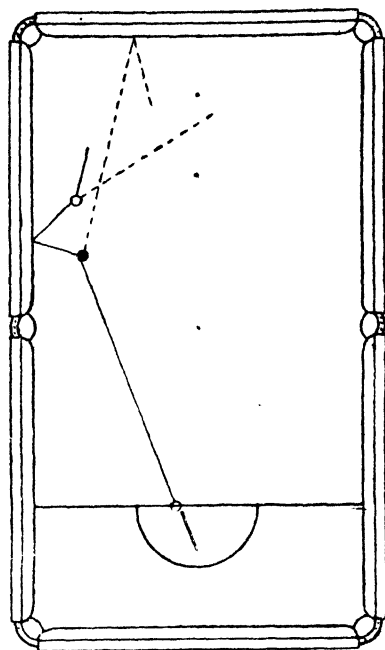


DIAGRAM 605.—A cannon off the side cushion played as a half-ball stroke with running side. Object balls situated as on Diagram 604. Cue ball a few inches from the centre of the D line.

spotting required for the plain half-ball stroke. Diagram 604 shows the half-ball stroke without side and Diagram 605 illustrates the cannon played as a half-ball stroke with running side.

In the examples already given illustrating a cannon off the side cushion, the cannon has either been a half-ball stroke with running side or a plain half-ball stroke. Positions, however, often occur which do not admit of a cannon off the side cushion being made by means of a slow plain half-ball stroke much less by means of a running-side stroke.

Diagram 606 illustrates one of these positions. Here, the cannon may be made by means of a half-ball stroke with check side—right-hand side in the diagram—check side in this case being

the side that is check side off the side cushion. Strokes of this nature are not at all easy as the amount of check side required has to be very nicely gauged. Drag should be used to ensure the true running of the cue ball, and when not much pace has been used very good after-position will often result from a successful stroke.

With the object balls in the position shown on Diagram 606, a cannon off the side cushion could be made from the D by means of a half-ball stroke without side provided a forcing stroke were used, but such a stroke would scatter the balls, and the after-position would to a very great extent be a matter of chance. Sometimes, however, the position is such that a cannon off the side cushion—perhaps the only stroke at all on—cannot be got by means of a slow check-side stroke, and when this is the case the forcing stroke may be of great service.

Diagram 607 shows such a position. Here, a cannon off the side cushion is not possible by means of a slow or medium-pace stroke, for even with extreme check side the cue ball, after rebounding from the cushion, would pass below the second object ball. The cannon is not, however, very difficult when played as a forcing stroke. In the position shown on Diagram 607 if

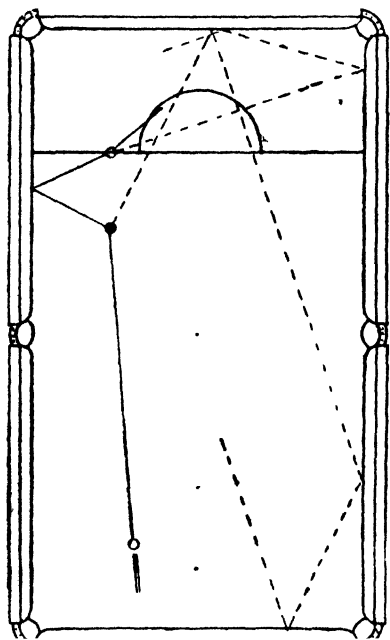


DIAGRAM 607.—A cannon off the side cushion played as a half-ball forcing stroke without side. Red ball 14 inches from the side cushion and 48 inches from the baulk cushion. Object white 14 inches from the side cushion and on the baulk line. Cue ball 24 inches from the side cushion and 20 inches from the top cushion.

the strength is correctly gauged the cannon can be made by means of a half-ball contact without side, and it is a much less difficult stroke when played without side than when check side is used, for in the first place the use of side makes it far less easy to take a distant ball half-ball when using a fast stroke than it is when no side is used, and secondly, when side is used, the angle of reflection off the side cushion may be very different from the angle of incidence, whereas without side the two angles will be very similar—though the speed at which the cue ball strikes the cushion will prevent them from being quite the same.

Diagram 608 illustrates a two-cushion cannon often played by good players. Here, screw should be used and not a forcing stroke. Although the use of side is not absolutely essential, the cannon is an easier stroke when played with plenty of side—running side off the side cushion. When sufficient screw has been used the cue ball will strike the cushion a long way from the baulk line but the running side will cause it to rebound from the cushion at an acute angle, and the cannon may be made off the baulk cushion—as illustrated on the diagram—or off the side cushion only. The object ball should be taken fuller than half-ball, as for the same amount

of screw, much less pace is necessary when the contact is fuller than half-ball than when the contact is only half-ball or less than half-ball. Not only this, but the side imparted to the cue ball is always more pronounced after a fullish contact than after a thinnish contact. Although it is impossible to foretell the after-position which will result from this two-cushion cannon, favourable position will more often be left when the stroke has been played without much pace, than when the reverse is the case.

Diagram 609 shows an awkward position which with slight variations sometimes occurs. An in-off from the white is a very wide forcing stroke and is therefore a very uncertain one, and a cannon is also a difficult stroke. With

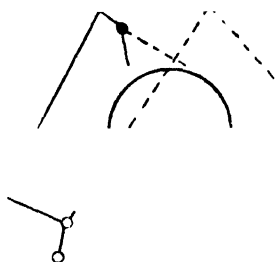


DIAGRAM 608.—A cannon off the side cushion played with screw and running side. Red ball 27 inches from the side cushion and $4\frac{1}{2}$ inches from the baulk cushion. Object white $12\frac{1}{2}$ inches from the side cushion and 49 inches from the baulk cushion. Cue ball 10 inches from the side cushion and 56 inches from the baulk cushion.

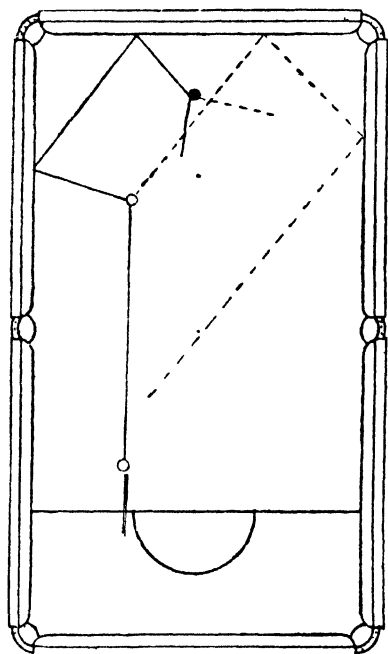


DIAGRAM 609.—A cannon off the side and top cushions played with screw and running side. A difficult stroke. Red ball on the spot. Object white 21 inches from the side cushion and $47\frac{1}{2}$ inches from the top cushion. Cue ball $20\frac{1}{2}$ inches from the side cushion and 40 inches from the baulk cushion.

the balls situated according to the measurements given under the diagram the correct way to play the cannon is to take the first object ball somewhat fuller than half-ball using plenty of screw and running side—right-hand side in the diagram. Taking the object ball fuller than half-ball will cause the screw to be more pronounced than would be the case with a half-ball stroke, and when the cue ball rebounds from the side cushion the side or spin imparted to it by the cue will be more tellingly illustrated after a fullish contact with the object ball, than after a half-ball contact.

Diagram 610 shows another awkward position which with slight variations occasionally occurs. A run-through

THE STROKES OF THE GAME.

cannon is not on, but the cannon can be made if played with screw and running side—left-hand side in the diagram. For the reasons already given in the description of the cannon illustrated on Diagram 608 the object ball should be taken somewhat fuller than half-ball. There are two chances of making this cannon, for it can either be made off the side cushion only, as shown on the diagram, or off the side and top cushions. Very good position will often result from a successful stroke which has been played without much pace.

Diagram 611 shows a run-through cannon off the side cushion often played by good players. Aim must be taken for a contact rather fuller than three-

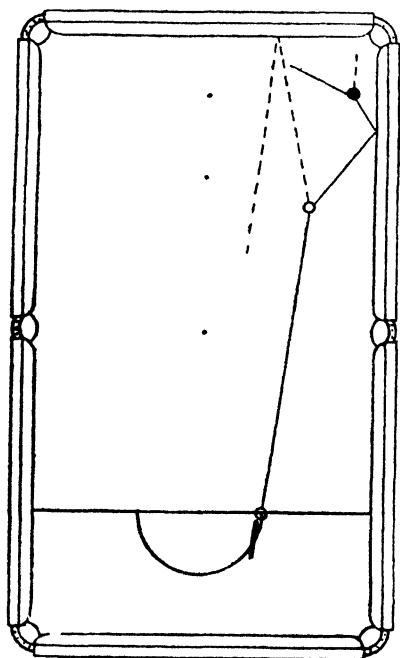


DIAGRAM 611.—A run-through cannon off the side cushion. A difficult stroke. Red ball 3 inches from the side cushion and 13 inches from the top cushion. Object white 12 inches from the side cushion and 39½ inches from the top cushion. The cue ball should be spotted at the end of the D line and the stroke should be played with plenty of running side and drag.

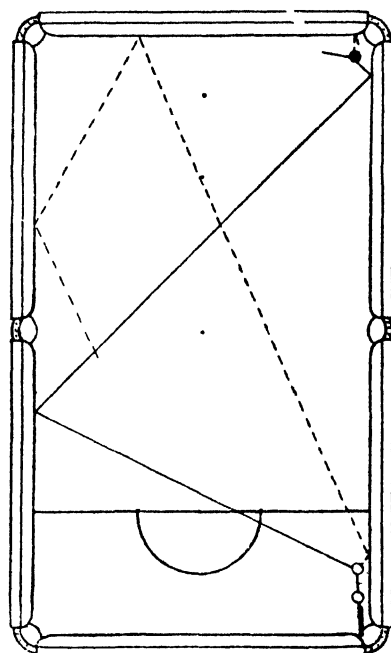


DIAGRAM 610.—A cannon off the side cushion played with screw and running side. Red ball 2 inches from the side cushion and 3 inches from the top cushion. Object white 1 inch from the side cushion and 15 inches from the baulk cushion. Cue ball 1 inch from the side cushion and 8 inches from the baulk cushion.

quarter-ball and the stroke should be played with plenty of drag and side and without much pace. Even when the stroke is played with plenty of drag, the tendency of the side is to pull the cue ball slightly out of the line of aim before it reaches the object ball, consequently, when playing strokes of this nature up the table—that is with the nap of the cloth—the object ball will generally be taken a shade fuller than would be the case with a plain-ball stroke with the same alignment of the cue. Very good after-position can be obtained by means of this cannon but the stroke is a difficult one.

Diagram 612 illustrates a placing of the object balls which is typical of positions that sometimes occur. Here, playing from the D, a cannon may be

made by hitting the cushion first, just a little in front of the object balls, but such a stroke requires very great judgment. The only other stroke at all on, in the ordinary way of speaking, is a cannon off the side cushion, hitting the object ball before the cushion. When, however, this cannon is attempted by the ordinary player, a kiss almost invariably takes place between the object balls, with the result that the stroke is a failure. The kiss can be avoided, but only by taking the first object ball very thinly. With the object balls situated as shown on the diagram the cue ball should be spotted at or near the end of the D. Very exact striking is necessary in this stroke, for should the cue ball deviate only slightly from the correct line of aim the object ball may not be taken quite thinly enough to prevent its kissing the white, or on the other hand it may be missed altogether. In order therefore to ensure a very true running of the cue ball the stroke should not be played very slowly. When a stroke is played with drag the cue ball travels very truly whilst under its influence, but as soon as the drag is exhausted, the cue ball travels as an ordinary rolling ball, and thus even in strokes played with plenty of drag the cue ball may run off a little just before reaching the object ball.

The cue ball can, however, always be depended upon to run truly when the stroke is played with a fair amount of pace and consequently very thin strokes played from a distance are always less difficult when played with a fair amount of pace, than when played with very little pace even though combined with drag. In many placings of the balls loss of position occurs unless a slow stroke is used, but with the balls situated as shown on Diagram 612 very good position will often result from a cannon played at a fair pace, for if the cue ball gets well on to the second object ball both balls will be cut across the table and will come to rest *in front of* the cue ball. With both object balls in front of the cue ball an easy cannon may be on, or an in-off into the corner pocket, or the red may be well situated for a pot. With the object balls placed as shown on Diagram 612 no side is required for the cannon, but in some variations of this position check side is necessary in order to prevent the cue ball from going round the second object ball.

Positions constantly occur from which a cannon may be made by radically different kinds of strokes, viz., by taking the object ball on either side, according as to whether the stroke is played off the top cushion or off the side and top cushions.

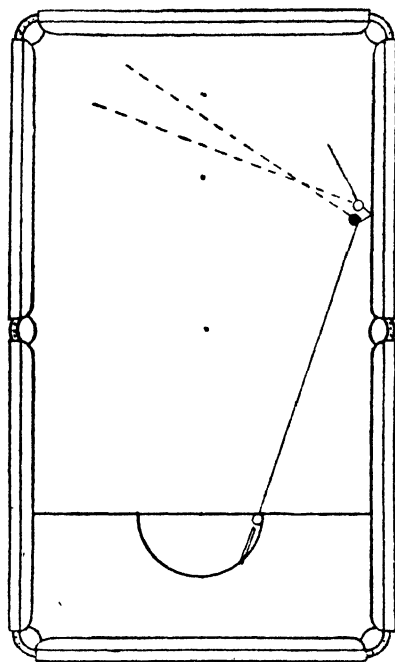


DIAGRAM 612.—A thin cannon off the side cushion. Object white $2\frac{1}{2}$ inches from the side cushion and 42 inches from the top cushions. Red ball $3\frac{1}{2}$ inches from the side cushion and seven-eighths of an inch from the white ball. Unless the red be taken quite thinly it will kiss the white and thus prevent the cannon from being made.

Diagram 613 shows one of these positions. The cannon can either be played off the left side of the object ball and the top cushion, or—as illustrated on the diagram—off the right side of the ball and the side and top cushions. It is an easier stroke off the one cushion than off the two cushions owing to the fact that correct spotting of the cue ball in the D is much more easily judged in the former case than in the latter one. With the object balls situated as shown on the diagram, however, good after-position will more often result from the two-cushion cannon than from a cannon off the top cushion only. On Diagram 613 the intersected line drawn from the red indicates the good line of travel that may be given this ball when, as the result of a stroke played off the side and top cushions, the cue ball takes the red somewhat less than half-ball on the inside. With the object balls to the measurements given under the diagram this cannon off the side and top cushions is a half-ball stroke without side when the cue ball is placed at or near the centre of the D line. The stroke thus becomes easy enough when the cue ball is correctly placed for it, but very good judgment is required for this correct placing of the cue ball. A fair amount of latitude exists, however, as to where the cue ball may be spotted without the cannon being missed, for as the cue ball may take the second object ball on either side it is not

necessary for it to take the top cushion at any very exact spot to ensure the cannon being made.

Diagram 614 shows a position that with slight variations frequently occurs. With the object balls situated exactly to the measurements given, a cannon—the only stroke to play in the ordinary way of speaking—can be made by quite a number of different strokes. A half-ball stroke off either ball and the top cushion will serve, provided that the cue ball is spotted correctly in the D. The cannon can also be made off the top and side cushions and finally off the side and top cushions, taking either ball first. One of these strokes is illustrated on the diagram and will be found to present little difficulty with the cue ball on a spot about 5 or 6 inches from the left extremity of the D line, for from this placing of the cue ball the cannon is a running-side half-ball stroke.

Diagram 615 shows a position which is typical of others which occur with tolerable frequency. The red is too high up the table for a screw into the centre pocket and too far away from the side cushion for a jenny into the top pocket, and thus the only stroke to play is a cannon off the white. The cannon may be made off the left side of the white and the top cushion, or—as illustrated on

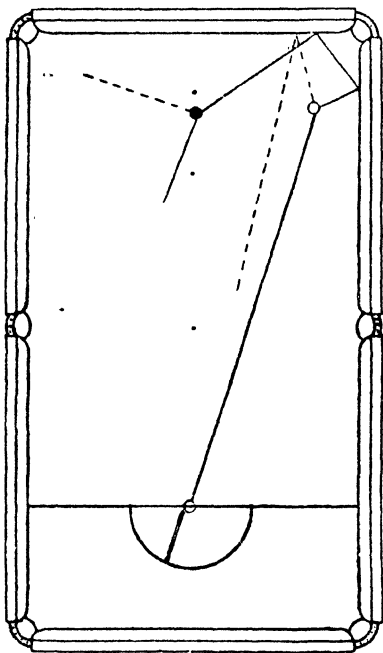


DIAGRAM 613.—A cannon off the side and top cushions by means of a running-side half-ball stroke. Red ball on the central line of the table and $15\frac{1}{2}$ inches from the top cushion. Object white $11\frac{1}{2}$ inches from the side cushion and $14\frac{1}{2}$ inches from the top cushion. The cue ball should be spotted at or near the centre of the D line.

the diagram—off the right side of the white and the side and top cushions. With the object balls to the measurements given under the diagram if the cue ball is spotted at the end of the D line a cannon off the side and top cushions can be made by means of a half-ball stroke played with a moderate amount of running side. As the cue ball can cannon direct on to the red, or off the side cushion, there is a certain amount of latitude as to the direction of the cue ball's line of rebound from the top cushion without the cannon being missed. In addition to this the possibility always exists of the cue ball entering the centre pocket when it passes the red on the outside but only misses the cannon by very little. Such a result, when it happens, can hardly be called a fluke, or at least cannot be included in the same category as ordinary flukes. Very often a good player will play a certain stroke because he knows that if he fails in getting what he played for he may get something else which he recognises is also on. With the object balls in the position shown on Diagram 615 no possibility exists of the cue ball entering the centre pocket when the cannon is played off the top cushion only, instead of off the side and top cushions. This is, of course, because the centre pocket is masked by the red

ball when viewed from the point on the top cushion which is struck by the cue ball when the cannon is played off this cushion only, and even when the entrance to the pocket is not covered, the pocket is much more blind to a ball travelling down the table from a point on the top cushion a long way from the corner pocket, than it is to a ball which rebounds from a point on the top cushion close to this pocket. As already stated, the cannon shown on Diagram 615 is a half-ball stroke with running side, but it can also be made off the side and top cushions from the same spotting of the cue ball by means of quite a thin stroke played with running side. This latter method of playing the cannon is not, however, a reliable one owing to the difficulty of taking the object ball correctly when playing a long-distance thin stroke. With the object white in the position shown on Diagram 615, but with the red ball a good deal higher up than on this diagram, a cannon off the side and top cushions is still quite a possible stroke. The correct spotting of the cue ball for such a stroke would, however, be at, or not far distant from the left end of the D line. By varying the spotting in the D, the cue ball, as the result of an approximately half-ball stroke played with running side, will strike the top cushion—and consequently also the far side cushion—at varying points, thus

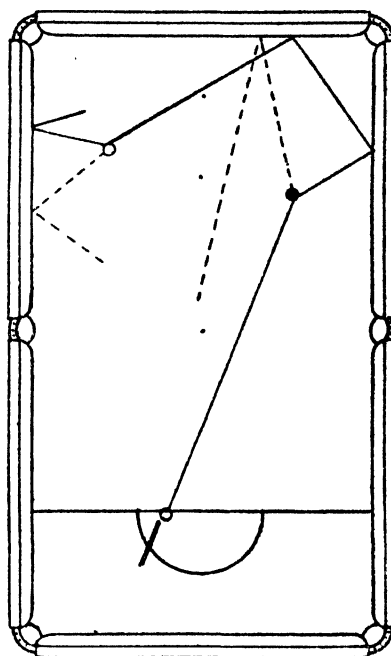


DIAGRAM 614.—A cannon off the side and top cushions by means of a running-side half-ball stroke. Red ball $14\frac{1}{2}$ inches from the side cushion and $39\frac{1}{2}$ inches from the top cushion. Object white $16\frac{1}{2}$ inches from the side cushion and $23\frac{1}{2}$ inches from the top cushion. The cue ball should be spotted about half-way between the centre and the right end of the D line.

with the red as near to the cushion as shown on Diagram 615, but at varying distances higher up the table up to at least a couple of feet above the centre pocket this cannon off the side and top cushions is always quite a possible stroke. The position of the object white may also be varied a good deal without rendering the cannon shown on Diagram 615—or a modification of this cannon—any more difficult.

Diagram 616 shows a placing of the object balls which is typical of others which frequently occur. The only stroke to play is a cannon, but there are two distinctly different ways of playing it, viz., off the left side of the object ball using a half-ball stroke with running-side, or off the right side of the ball using the same kind of stroke.

The former stroke is illustrated on Diagram 616 and the latter on Diagram

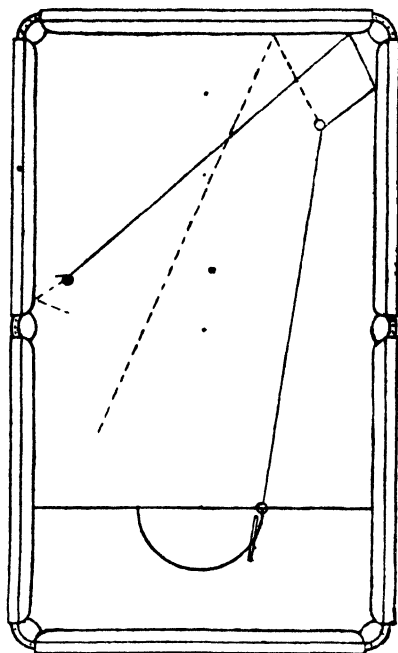


DIAGRAM 615.—A cannon off the side and top cushions by means of a running-side half-ball stroke. Red ball $4\frac{1}{2}$ inches from the side cushion and 56 inches from the top cushion. Object white 11 inches from the side cushion and 25 inches from the top cushion. The cue ball should be spotted at, or near the right end of the D line.

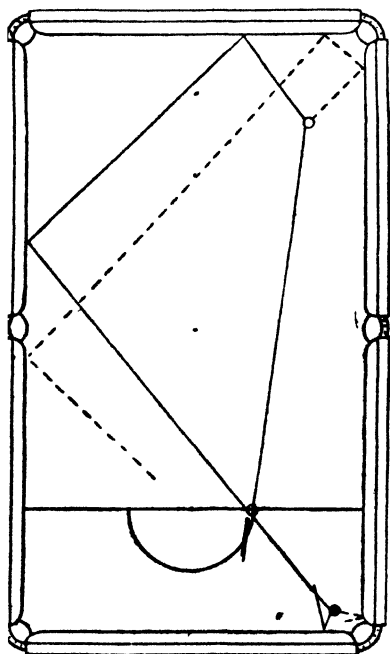


DIAGRAM 616.—An all-round cannon from the D. Object white 11 inches from the side cushion and 25 inches from the top cushion.

AND, AN ALTERNATIVE WAY OF PLAYING A cannon is illustrated on Diagram 617.

617. In the one stroke the cue ball only strikes two cushions—the top and side cushions—before it crosses the baulk line, whereas in the other it strikes three cushions—the side, top and side cushions—before entering baulk. With a position at all similar to the one shown on Diagrams 616 and 617 most players take the object ball on the side away from the cushion and never dream of attempting the cannon off the side near the cushion, yet this latter stroke, which causes the cue ball to strike both side cushions is certainly not more difficult than the other stroke and is, generally speaking, a more reliable one. With the balls to the measurements given under Diagram 616 a cannon off the side, top and side cushions—as illustrated on Diagram 617—can be made quite easily time after time by any fair player.

Diagram 618 illustrates another all-round cannon played off the side, top and side cushions. This stroke is not by any means a difficult one and is quite within the compass of any ordinary player. The ball out of baulk has not to be in any set position for the stroke. It can be higher up or lower down the table, also considerably farther from or nearer to the side cushion than shown on the diagram.

From many very different positions of the ball out of baulk the cannon can be made by the same kind of stroke—an approximately half-ball stroke with running side—from the same spotting of the cue ball in the D. The reason of this is, firstly, that out of say a dozen

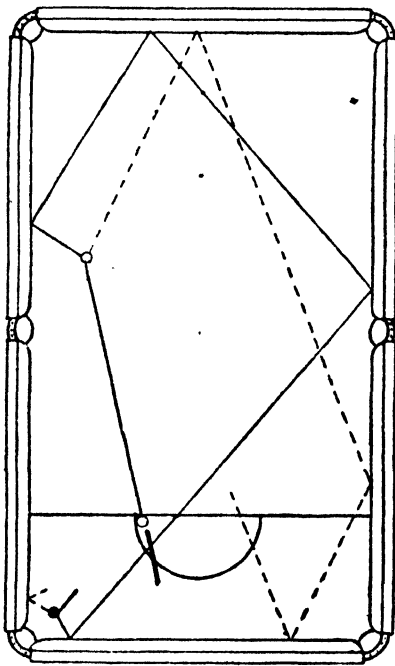


DIAGRAM 618.—A cannon off the side, top and side cushions by means of a half-ball stroke played with running side. Object white 11 inches from the side cushion and 58 inches from the top cushion. Red ball 4 inches from the side cushion and 4 inches from the baulk cushion. The cue ball should be spotted at, or near the end of the D line.

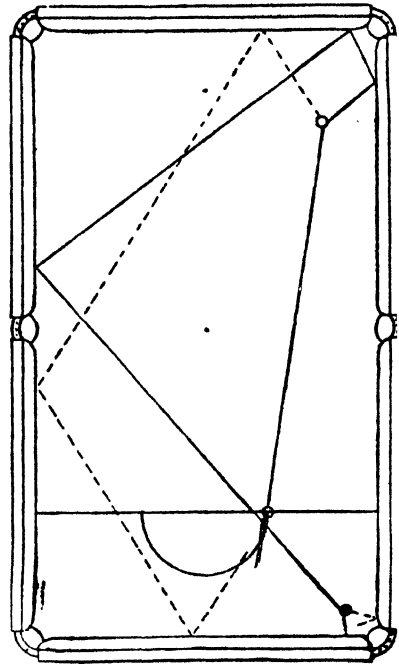


DIAGRAM 617.—A cannon off the side, top and side cushions by means of a half-ball stroke played with running side. Object balls situated exactly as on Diagram 616.

strokes which may be fairly claimed as half-ball strokes, not one may be a *true* half-ball stroke, some being what may be termed fullish half-ball and some thinnish half-ball strokes; secondly, that the amount of side imparted to the cue ball is bound to vary somewhat in different strokes; and lastly, because when a ball travels round the table *via* the side, top and side cushions it can travel by very different routes to the vicinity of a baulk pocket.

Diagram 619 illustrates this very clearly. When the cue ball takes the

pocket, it is thrown on to the baulk cushion, from which it rebounds on to the side cushion, and when, on the other hand, it takes the side cushion a considerable distance from the centre pocket, it is thrown across the table on

to the opposite side cushion, whence it rebounds on to the baulk cushion. In either case, however, it crosses the baulk corner at no great distance from the pocket, hence the very fair chance that always exists of a cannon being made when the second object ball lies in the neighbourhood of the pocket. On Diagram 619 all the strokes are shown played from the extreme end of the D, as half-ball or approximately half-ball strokes. In many positions of the object ball, however, very similar lines of travel will result even though the cue ball be spotted a considerable distance from the end of the D line. In many positions, too, the cue ball will travel round the table with the desired direction as the result of a thinnish stroke, or as the result of extreme side or by reason of a combination of the two. In fact, a

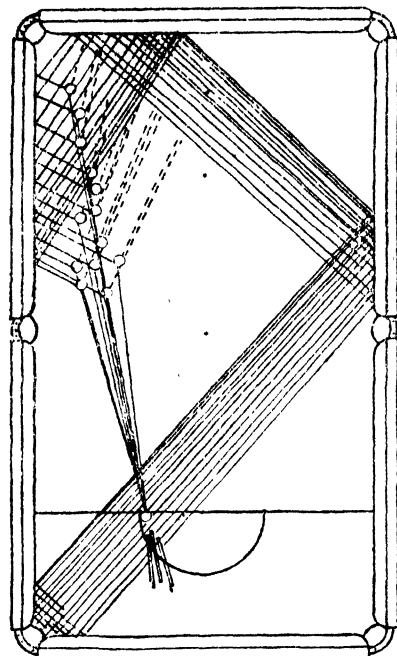


DIAGRAM 619.—The many different path by which a ball can travel round the table via the side, top and side cushions to the vicinity of a baulk pocket.

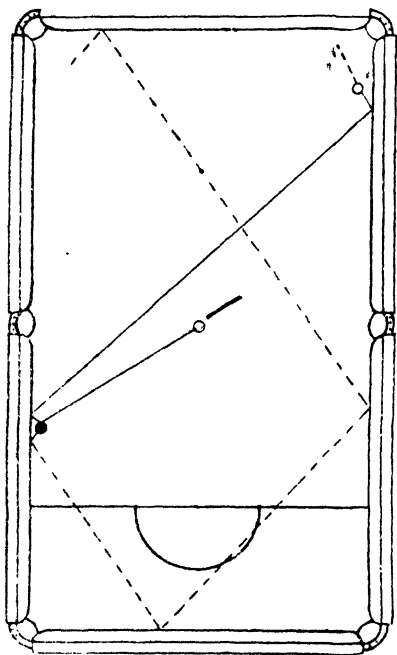


DIAGRAM 620.—A cannon off the side cushion with side and screw. Red ball 1 inch from the side cushion and 45 inches from the baulk cushion. Object white 3 inches from the side cushion and 10 inches from the top cushion. Cue ball on the centre spot.

cannon from the D, off the side, top, and side cushions is almost always on when one ball is near a baulk pocket and the other is some little distance from the side cushion, and above the centre pocket, provided, of course, that both balls are on the same side of the table. In these particular strokes the old saying that "all roads lead to Rome" may almost be paraphrased into "all roads lead to the vicinity of the baulk pocket." These cannons off the side, top and side cushions should always be played with running side, for although side may not always be essential, the use of some running side prevents the possibility of any check side—often unintentionally imparted to the cue ball when playing a plain-ball stroke, and quite fatal in all-round cannons—being used.

Diagram 620 illustrates a screw cannon off the side cushion. Plenty of

running side as well as screw is essential for this stroke, and high pace must be used otherwise the screw will be lost before the cue ball reaches the object ball. The stroke may appear a very difficult one to most players, but whilst not exactly an easy one, it should not be beyond the compass of any fair player.

Diagram 621 illustrates a position that—with slight variations which do not affect the stroke to be played—not infrequently occurs. Playing from the D, the cannon off the side cushion is the same kind of stroke as the cannon shown on Diagram 620, and a combination of high pace, screw and running side is essential for the success of this stroke. This cannon is a difficult one

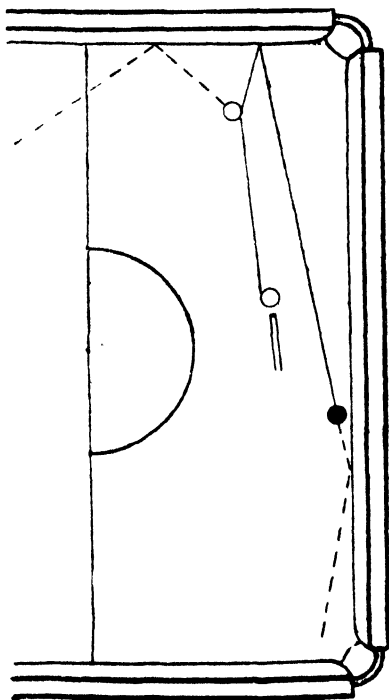


DIAGRAM 622.—A thin cannon off the side cushion played without any side. Object white 10 1/2 inches from the side cushion and 12 1/2 inches from the baulk cushion. Red 1 inch from the baulk cushion and 29 inches from the side cushion.

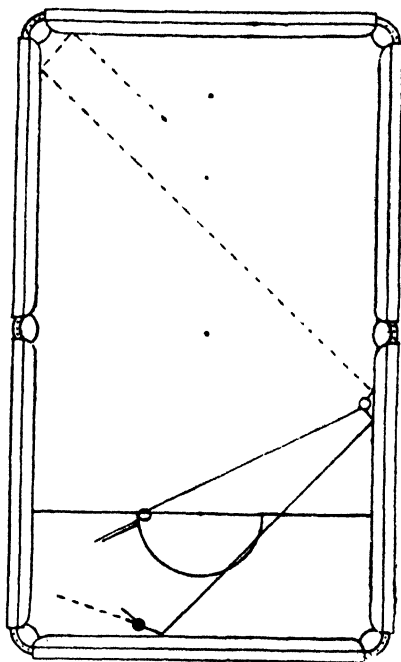


DIAGRAM 621.—A cannon off the side cushion with side and screw. Object white 1 inch from the side cushion and 55 inches from the baulk cushion. Red ball 1 1/2 inches from the baulk cushion and 25 inches from the side cushion. Cue ball at or near the end of the D line.

by reason of the distance from the object ball at which the cue ball has to be placed, in order to make the best angle for the stroke.

Diagram 622 shows a position with all the three balls in baulk. Although quite a thin stroke is necessary for the cannon off the white—the only stroke to play in this position—no side should be used, for although with check side the contact with the object white would not have to be as thin as when no side is used, the use of side would not make the cannon any easier, in fact it would be just the other way. When a cannon is played off one cushion only, the use of check side may simplify the stroke very considerably provided that the second object ball is not very far from the cushion which the cue ball has to

strike, but when the second object ball is a long way from this cushion—as in the position shown on Diagram 622—the use of check side makes the stroke more difficult, owing to the difficulty in gauging how much side must be imparted to the cue ball. The necessary amount of side depends upon the kind of contact which the cue ball makes with the object ball, more and more side being required with every increase in the fullness of this contact. By playing the cannon under discussion without any side at all the player has only to gauge one thing, viz., the proper contact with the object ball. With the balls situated as shown on Diagram 622 the cannon should be played with a moderate amount of pace. When a slow stroke is used the cue ball cannot move the red ball very far, consequently a cannon by a slow stroke will most likely leave indifferent or bad position to continue with. When instead, the cannon is played with a moderate amount of pace, the red ball—provided the cue ball takes it well—will be driven to the vicinity of the pocket, though not necessarily right along the cushion, and in this way the cannon may lead to good after-position. The stroke which drives the red to the pocket will also send the object white well out of baulk.

Diagram 623 illustrates a position which with slight variations often occurs. Here, as the red ball is only a short distance from the pocket, the cannon should be played with little more strength than is required for the cue ball to reach it. A good-strength stroke will dribble the red to the pocket provided that the cue ball gets well on to it, and in this way good position may be left for the next stroke. As in the position illustrated on Diagram 622, this cannon should be played by means of a plain-ball stroke. The kind of contact which is necessary to give the correct angle of incidence and reflection will be determined by the position in which the cue ball is spotted in the D or on the D line. With the object balls to the measurements given under the diagram the cannon is a thin plain-ball stroke, when played from anywhere on or near the D line.

Diagram 624 illustrates another position with one of the object balls out of baulk and the other in baulk, and is typical of positions that not infrequently have to be faced when playing from the D. The cannon off the side cushion shown on this diagram necessitates a very thin contact with the object white when a plain-ball stroke is used, but although the contact has not to be as thin when check side is used, the use of side makes the stroke far more difficult than the very thin plain-ball stroke. The thin plain-ball stroke is difficult, not because the object ball has to be taken very thinly, but because the degree of thinness

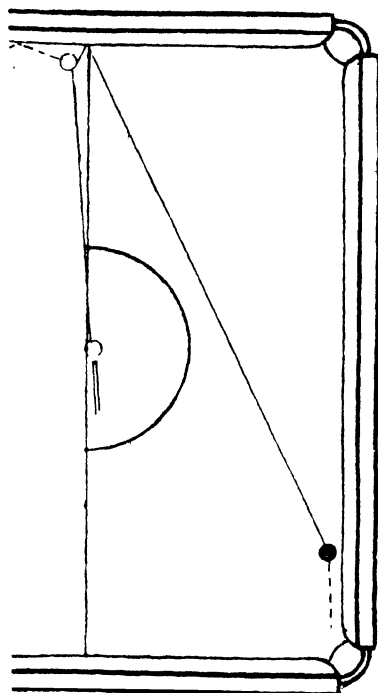


DIAGRAM 623.—A cannon off the side cushion to leave the red close to the pocket. Object white 1 inch from the side cushion and 1 inch from the baulk line. Red ball $\frac{1}{2}$ inch from the baulk cushion and 12 inches from the side cushion. Cue ball on or near the D line.

has to be accurately gauged—thin as the contact has to be it can easily be *too* thin. When a stroke of this nature—with the second object ball a long way from the cushion which the cue ball has to strike—is played with check side in combination with a thin contact, the amount of side imparted to the cue ball has to be very nicely regulated to the contact, and this consequently makes the stroke far more difficult than when only the contact itself has to be gauged, as is the case with the thin plain-ball stroke.

Diagram 625 illustrates a cannon often played by good players. To the ordinary player the position would appear a very nasty one, but with the balls to the measurements given under the diagram the cannon can be made

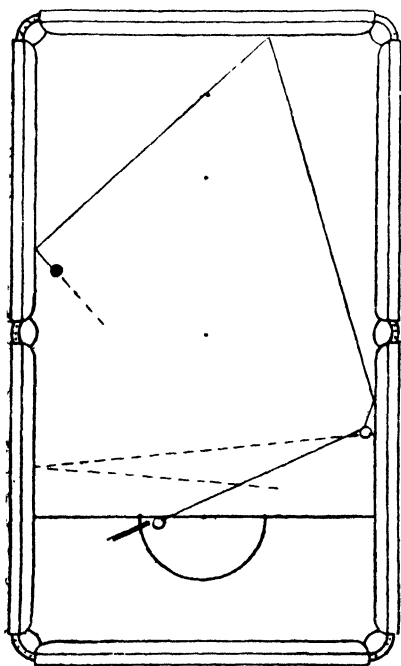


DIAGRAM 625.—A three-cushion cannon. Object white 1 inch from the side cushion and 46 inches from the baulk cushion. Red ball 3 inches from the side cushion and 55 inches from the top cushion. Cue ball 2 or 3 inches from the end of the D.

DIAGRAM 624.—A very thin cannon off the side cushion played without side. Object white $1\frac{1}{2}$ inches from the side cushion and $31\frac{1}{2}$ inches from the baulk cushion. Red ball 23 inches from the baulk cushion and on the central line of the table.

by means of a half-ball stroke provided that the cue ball is struck with plenty of running side. The effect of strong side is not very greatly in evidence when the cue ball strikes the side cushion owing to its taking this cushion at a very acute angle, but when the top cushion is struck the great difference of the angle of rebound from the angle of incidence which results from the cue ball taking this cushion so squarely, forcibly demonstrates the effect of the side imparted to the cue ball. When the second object ball is a short distance from the cushion, a certain amount of latitude exists as to the amount of side which must be imparted to the cue ball. This is, of course,

because the cue ball may—within certain limits—travel from the top cushion by different lines without the cannon being missed. When this particular kind of cannon can be got by means of a half-ball stroke with running side it is never a very difficult stroke, though, of course, the amount of side which must be imparted to the cue ball may have to be very nicely judged.

Diagram 626 illustrates a variation of the stroke shown on Diagram 525. Here, the cannon cannot be made by means of a half-ball stroke even with plenty of running side. Instead, a very thin running-side stroke is required. Strokes of this nature which cannot be made with a half-ball stroke are always far from easy owing to the difficulty of taking an object ball exactly

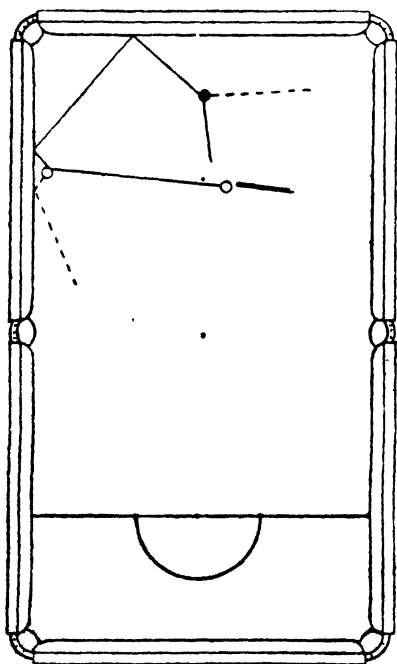


DIAGRAM 627.—A cannon off the side and top cushions. Object white $1\frac{1}{2}$ inches from the side cushion and 30 inches from the top cushion. Red on the spot. Cue ball 29 inches from the side cushion and 35 inches from the top cushion.

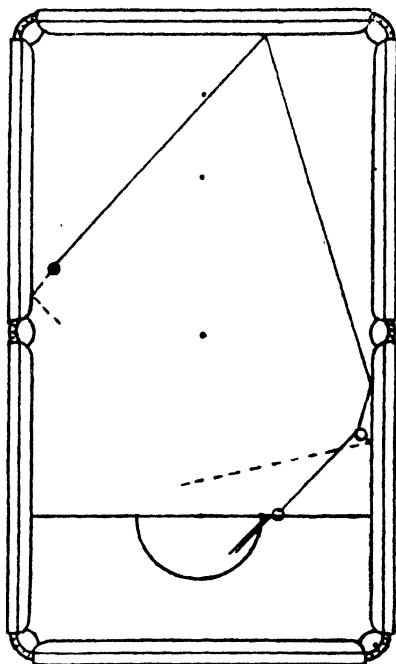


DIAGRAM 626.—A very thin two-cushion or three-cushion cannon. A difficult stroke. Object balls situated exactly as on Diagram 625. Cue ball on the baulk line and 2 or 3 inches from the D.

as intended when the contact is very different from a half-ball one, and when in addition to this the cue ball has to be struck with plenty of side.

Diagram 627 illustrates a position which with slight variations in the situation of the cue ball and the object white now and then occurs. The two-cushion cannon shown on this diagram is a difficult stroke, owing to the nicety of judgment required to gauge the proper contact with the object white, and also to estimate the amount of side which should be used for the stroke. With the balls to the measurements given under the diagram, the object white should be taken rather thinner than quarter-ball and the stroke should be played with plenty of running side. Only moderate strength should be used, in order that the cue ball may cannon

gently on to the red. The after-position resulting from a good-strength stroke is always uncertain as it principally depends upon how the cue ball takes the red, and it will be very different when the contact is a full or nearly full one from what it will be when the red is taken half-ball or thinner than half-ball, and again, different positions must arise accordingly as the cue ball catches the red on the right or on the left. Nevertheless, when the cue ball cannons on to the red without much strength the after-position will often be very good.

Very often indeed the balls are so situated that although a cannon is quite easily on by a ball-to-ball stroke, the better way of playing the cannon

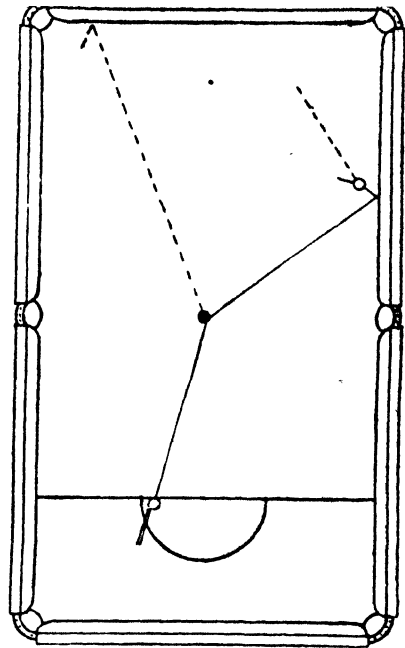


DIAGRAM 628.—A cannon off the side cushion. Red ball on the centre spot. Object white 3 inches from the side cushion and 37 inches from the top cushion. Cue ball an inch or two from the end of the D.

with regard to the after-position is off a cushion.

Diagram 628 illustrates one of these constantly occurring positions. Playing from the D, good position can certainly be gained by means of a ball-to-ball stroke, for as the result of a good-strength stroke the red may be left somewhere near the corner pocket. Leaving the red somewhere near the pocket does not, however, always ensure an easy stroke to continue with. The red may be less than a foot from the pocket, but with the cue ball a considerable distance away and at an unfavourable angle to it and the pocket, no in-off may be on, in the ordinary way of speaking, and a pot may be a very difficult stroke. When the red offers nothing, the likelihood of a score must depend on the situation of

DIAGRAM 629.—A thin ball-to-ball cannon. A better stroke is a cannon off the cushion as shown on Diagram 630. Red ball $13\frac{1}{2}$ inches from the side cushion and $22\frac{1}{2}$ inches from the top cushion. Object white $3\frac{1}{2}$ inches from the side cushion and 22 inches from the top cushion. Cue ball 25 inches from the side cushion and 16 inches from the top cushion.

the white, and with the balls situated as shown on Diagram 628 a ball-to-ball cannon, played to leave the red near the top corner pocket, generally places the object white in a bad position for the next stroke, as regards any cannon off this ball. If, however, in the position shown on Diagram 628 the cannon is played off the side cushion, instead of by means of a ball-to-ball stroke, the object white will—provided that the cue ball gets well on to it—be made to travel partly across as well as up the table, and in this way both object balls will come to rest *in front of* the cue ball and a very good chance of position for a cannon being left for the next stroke always exists. With the object white as near the side cushion as shown on Diagram 628 the cannon off the cushion is almost as easy as the ball-to-ball stroke and as it is no more difficult to send the red up to the corner pocket when playing the cushion stroke than it is when playing the direct stroke, good after-position will more often result from the former stroke than from the latter one.

Diagram 629 shows a common placing of the balls as regards the kind of stroke to be played. The direct cannon here illustrated, although a very thin stroke, is not a difficult one owing to the cue ball being so near the object balls. This thin direct stroke with the balls in the position shown on the diagram may, however, easily lead to an after-position which is none too good, and sometimes to a covering of one object ball by the other.

Diagram 630 shows the three balls in exactly the same position as on Diagram 629, but illustrates the cannon played off the cushion instead of by means of a ball-to-ball stroke. The contact with the first object ball has still to be a thin one, although, of course, not quite as thin as when the direct stroke is played. Some side is essential in order that the cue ball may leave the cushion with the necessary direction for the cannon. Very good position may be obtained by this cushion cannon as the result of a good-strength stroke, for when the cue ball gets well on to the second object ball, both object balls will be left in front of the cue ball, and owing to the cue ball sending the second object ball away from the cushion a cover is prevented.



DIAGRAM 630.—A cannon off the side cushion with side. A better stroke than the thin ball-to-ball cannon shown on Diagram 629. Position of the balls exactly the same

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CHAPTER XXVIII.

CROSS CANNONS.

A stroke that not infrequently has to be played is a cross cannon. That the ordinary amateur has to play this stroke far oftener than the professional player is, of course, simply due to the fact that he has far less control over the balls than the high-class player, and consequently as the result of imperfectly played strokes—which nevertheless may be scoring ones—is constantly leaving the balls badly placed. Occasionally the bad position will be one object ball close to a side cushion and the other object ball somewhere across the table also close to the cushion. When this is the case, a cross cannon, even if quite on, is never an easy stroke owing to the nicety of judgment which is required to correctly gauge how full or otherwise the first object ball must be taken, and, when side has to be used, to correctly gauge the amount in relation to the contact played for.

Diagram 631 illustrates an ordinary cross cannon with the object balls lying close to the cushion on opposite sides of the table. With the balls to the measurements given under the diagram the cannon is not beyond any fair player, yet the stroke is never a certainty even for the best of players. A really good player will frequently fail to score from such a position, although he will seldom miss the stroke by very much. The cannon can be made by varying kinds of contacts, for although in plain-ball strokes different contacts with the object ball would give the cue ball different angles of rebound from the cushion, in strokes with side the same angle of rebound may result from two different contacts, provided that the fuller stroke is exactly compensated for by additional side on the cue ball. With the balls situated as shown on Diagram 631 the cannon may be made by means of a stroke about quarter-ball played with a moderate amount of right-hand side.

Ordinary players generally play cross cannons with far more strength than is necessary and very often strike the cue ball high up as well. High-pace makes a cross cannon a more difficult stroke than it is when played with medium strength, and top when used in conjunction with high pace causes the cue ball,

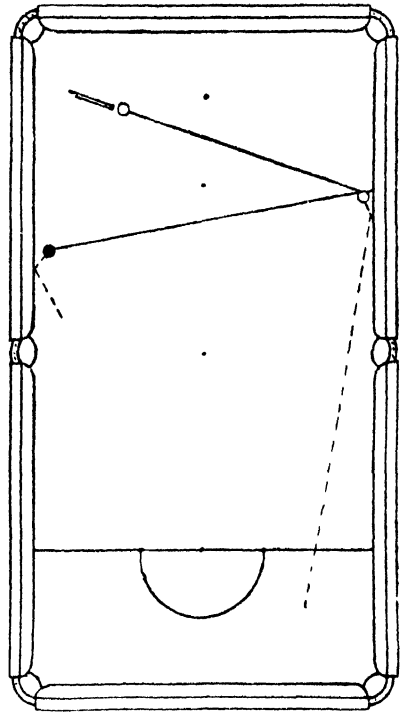


DIAGRAM 631.—A cross cannon. Object white $\frac{1}{4}$ inch from the side cushion and 35 inches from the top cushion. Red ball 2 inches from the side cushion and 47 inches from the top cushion. Cue ball 13 inches from the top cushion and 17 inches from the side cushion.

after striking an object ball very near a cushion, to describe a curve after rebounding from the cushion.

Diagram 632 illustrates the curve which the cue ball may describe when with the first object ball lying close to the cushion the stroke is played with plenty of top and pace.

Diagram 633 illustrates a position which affords a double chance of scoring. The stroke to play for is the cross cannon, but when the cannon is missed through the cue ball not travelling quite high enough up the table the centre pocket may possibly be found instead. Getting the pocket instead of the cannon can hardly be called a fluke, or at any rate such a stroke, if somewhat in the nature of a fluke, cannot be classed in the same category

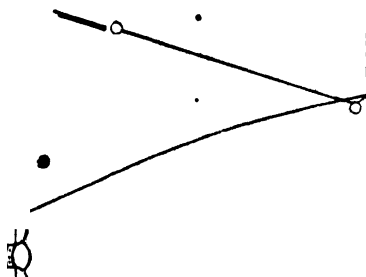


DIAGRAM 632.—The curve that the cue ball may describe when a cross cannon is played with top and high pace.

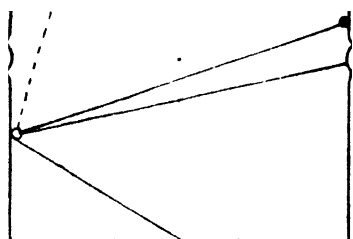


DIAGRAM 633.—A position from which a cross in-off may be made when playing for the cross cannon. Object white touching the side cushion and 47 inches from the baulk cushion. Red ball touching the side cushion and just above the centre pocket.

as ordinary flukes. Positions often occur which, whilst presenting nothing at all easy, offer a chance of a score in a different way from that attempted by the player, provided that the stroke played for is not missed by very much, and good players in many instances go out for a difficult stroke solely on account of the double chance of a score which the position affords.

Diagram 634 illustrates another cross-cannon position. Here, there are three different ways of scoring. The cross cannon may be made by a direct stroke across the table, or, as shown on the diagram, *via* the top cushion, or the cue ball may travel across the table direct to the pocket. Of course, the cannon is the stroke to play and it should be played *via* the top cushion as there is more latitude as regards the direction in which the cue

ball must travel across the table, when the stroke is played this way than there is when the cue ball has to travel straight to the second object ball, after its contact with the side cushion.

Diagram 635 shows a position which with slight variations not infrequently occurs. With the object balls to the measurements given under the diagram a cannon from the D may be made by three totally different strokes, viz., off the red ball and the top cushion, by a screw off the white playing from the left end of the D, and by a cross cannon off the white. The cannon off the red is a very difficult stroke to judge and the after-position resulting from such a stroke is obscure. The screw off the white is also a difficult stroke, and owing to the pace

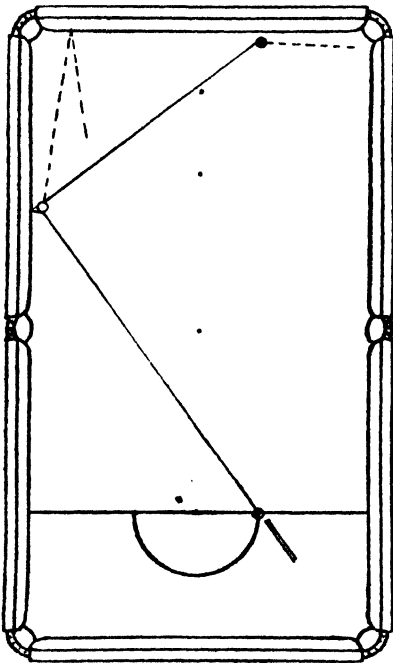


DIAGRAM 635.—A cross cannon by means of a thin stroke played with side. Object white 1 inch from the side cushion and 48 inches from the top cushion. Red ball 1 inch from the top cushion and 20 inches from the side cushion. Cue ball end of the D line.

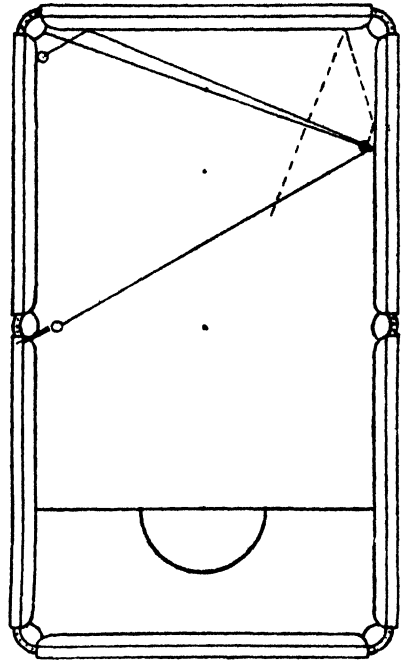


DIAGRAM 634.—A cross cannon or a cross in-off. Red ball 1 inch from the side cushion and 25 inches from the top cushion. Object white touching the side cushion and 48 inches from the top cushion. Cue ball 2 inches from the centre pocket and on the line between the centre pockets.

at which such a stroke must be played, little or no control can be had over the balls. The cross cannon is also a difficult stroke, but provided that it is played without much pace very good position will generally be left when the cue ball gets well on to the red. For this cross cannon the cue ball should be spotted at or near the right end of the D, and aim should be taken for a thin contact with the object white, the cue ball being struck with the side which will be running side off the side cushion. Most players miss this cannon, not because they do not play with enough side, but because they do not take the object ball sufficiently thin. With the balls to the measurements given under Diagram 635 the object

white should be taken about a quarter-ball or even a shade thinner than this.

Diagram 636 illustrates a cross cannon that is only possible with extreme side. With the balls to the measurements given under the diagram the contact with the object ball should be about half-ball. An appreciably thinner contact will cause the stroke to fail and a considerably fuller than half-ball contact will make the stroke a run-through and prevent the cue ball from travelling across the table to the red.

Diagram 637 illustrates an awkward placing of the balls. The only stroke to play is a cannon off the side cushion, and thus the stroke is of the nature of a cross cannon. In the ordinary way, cross cannons with both object balls a considerable distance from the side

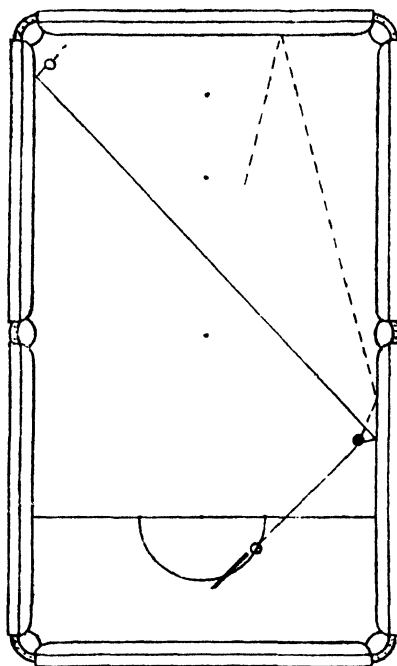


DIAGRAM 636.—A cross cannon played with extreme side. Red ball 3 inches from the side cushion and $45\frac{1}{2}$ inches from the baulk cushion. Object white 3 inches from the side cushion and 6 inches from the top cushion. Cue ball on the D semicircle.

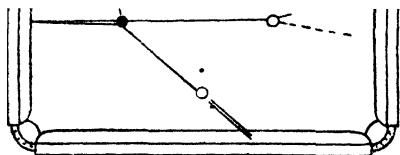


DIAGRAM 637.—A cross cannon by means of a plain half-ball stroke. Object balls 24 inches from the top cushion and 18 inches from a side cushion. Cue ball 8 inches from the top cushion and right behind the spot.

cushions are extremely difficult strokes owing to the very great nicety of judgment required to gauge how full or otherwise the object ball must be taken and also to gauge the amount of side with which the stroke should be played. When, however, both object balls are the same distance from the top cushion, as is the case in the position shown on Diagram 637, the cross cannon is greatly simplified, for the stroke then requires no side, and in fact must be played without side. If a plain-ball stroke is used and the cue ball is made to strike the cushion at a point which is in a line with the two object balls, it naturally follows that the cushion will be struck at a right angle and that the cue ball will rebound from the cushion at the same angle and cannon on to the

second object ball. All that the player has therefore to do is to ensure the cue ball's striking the side cushion at a point which is in a line with the two object balls. With the three balls to the measurements given under Diagram 637 a half-ball stroke will effect this, but with variations of the cue ball's position a thinner than half-ball stroke or a forcing stroke or screw may be required to ensure the right point on the cushion being struck by the cue ball. Whatever kind of stroke has to be used, however, it must be played without any side.

In addition to the cannons in which the cue ball has to travel right across the table, there are the cannons in which the cue ball after striking an object ball lying against, or close to, a cushion has to travel only a short distance across the table in order to reach the second object ball. As these latter strokes are of the same nature as, though far easier than the right-across-the-table cannons, they properly belong to this chapter.

Diagram 638 illustrates one of these short cross-cannons. The position with slight variations is a constantly occurring one and should not present any great difficulty to moderate players.

Diagram 638 illustrates one of these short cross-cannons. The position with slight variations is a constantly occurring one and should not present any great difficulty to moderate players. With the object balls to the measurements given under the diagram the cannon is a half-ball stroke with a little running side—that is with the side which will be running side off the side cushion. Very good after-position can be obtained as the result of this cannon, but in order to ensure this the stroke should be played in a different way when the object ball near the cushion is the white from what is necessary when the red lies there. When the cannon is played quite slowly, the ball near the cushion is dribbled up to the corner pocket. This stroke is shown on Diagram 638 and when the red is the first object ball it is a good enough stroke to play, for provided the red comes to rest quite close to the pocket either a pot or an in-off will be on for the next stroke. If, however, the red should enter the pocket as the result of the cannon the after-position may or may not be good, as it will depend upon how the cue ball has taken the object white. Consequently, when playing to dribble the red up to the pocket care must be taken that it does not fall in. In strokes of this nature, very many good amateurs are quite content to take the risk of the red entering the pocket. On the face of it, it certainly looks a very slight risk to take, for it would be long odds against the red going down if the player played for nothing else than the pot. It is, however, remarkable how often a ball will enter a pocket when in positions of this nature no attempt is made to keep it out. In fact, even when the player has played to prevent it from entering the pocket

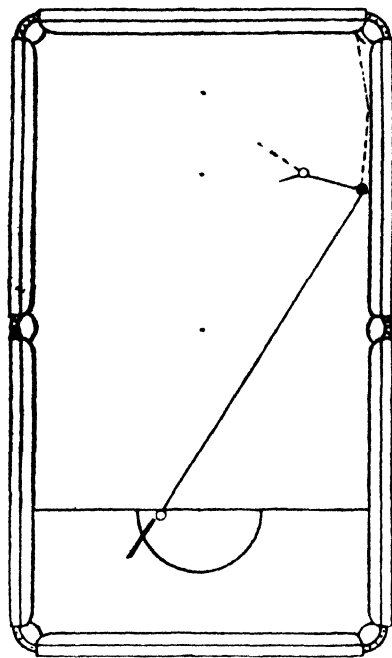


DIAGRAM 638.—A cannon, dribbling the red up to the pocket, played with running-side. Red ball close to the side cushion and 39 inches from the top cushion. Object white 11 inches from the side cushion and 34 inches from the top cushion.

it will often still go in. Just the same thing occurs in top-of-the-table play. The position may be such that a cannon has to be played off the red, but the red must be kept out of the pocket for the sake of the after-position. The pot by itself may not be an easy stroke, yet the player playing to keep the red out often gets the five shot. Even great players like Stevenson and Reece occasionally get a five shot at the top of the table when playing to avoid the pot. A pot, with the object ball a considerable distance from the pocket and with the cue ball at an angle with the object ball and the pocket is a difficult stroke, for the reason that unless the object ball is hit on one particular spot, it must fail. When, however, a cannon is of such a nature that the object ball

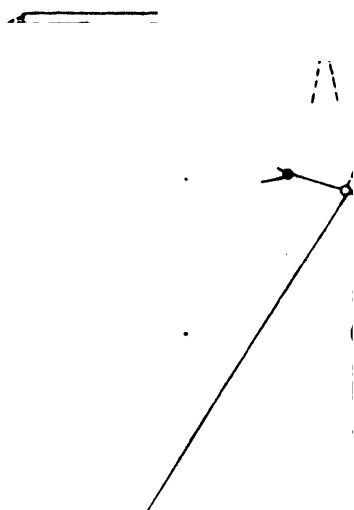


DIAGRAM 639.—A cannon off the side cushion, keeping the object white away from the top pocket. Object white $\frac{1}{2}$ inch from the side cushion and 39 inches from the top cushion. Red ball 11 inches from the side cushion and 34 inches from the top cushion.

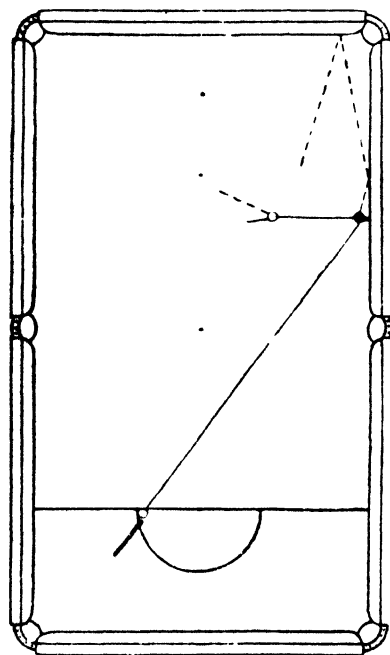


DIAGRAM 640.—A cannon played with check side. Red ball $\frac{1}{2}$ inch from the side cushion and 47 inches from the top cushion. Object white $18\frac{1}{2}$ inches from the side cushion and 47 inches from the top cushion. Cue ball at or near the end of the D line.

must be hit somewhere near what may be called the potting spot, it is easy to understand how a slight error in judgment or in aim may cause the object ball to be hit exactly on this potting spot, with the result that it enters the pocket.

When playing to dribble the red to the pocket, as shown on Diagram 638, drag should be used in order to render a slow stroke a safe one.

Diagram 639 shows the same kind of position when playing from the D as illustrated on Diagram 638, except that the object white has taken the red's place and the red the white's place. Here, the slow stroke to dribble the ball lying near the cushion to the pocket will no longer do, for putting aside the risk of potting the white, such a stroke

might easily result in nothing but a pot being left for the next stroke. The intersected line drawn from the object white indicates the manner in which the cannon should be played. Sufficient strength must be used to bring the white ball some distance down the table again after its contact with the top cushion and care must be taken that the ball does not catch the angle of the pocket, otherwise it may be thrown across the table. The angle of the pocket can easily be avoided by getting pretty full on to the ball. When good strength has been used the after-position will often be very good with both object balls in front of the cue ball.

Diagram 640 illustrates another of these short cross cannons from the D. The cue ball should be placed at or near the far end of the D and a fair amount of right-hand side should be used as check side is required for this cannon, and right-hand side is here check side off the cushion. When the ball near the cushion is the red and the player wishes to dribble it up to the pocket, the cue ball must travel without much pace, consequently the stroke should be played with drag to ensure as far as possible the true running of the ball.

Diagram 641 shows a position that, with variations which do not affect the stroke to be played, often occurs. The cannon off the white is quite a simple stroke, all that is necessary being plenty of strength with some screw, consequently this is the stroke that the ordinary player generally plays when he has this position. The after-position resulting from such a stroke is, however, always very uncertain and will often be very bad indeed. A cannon off the cushion played without much pace is, however, very little if at all more difficult than a strong cannon off the white. With the object balls to the measurements given under the diagram the cannon off the red is a half-ball stroke without any side when the cue ball is spotted at the far end of the D line. The advantage of the slow stroke lies in the control that the player has over the object balls.

Diagram 642 illustrates a position which is typical of similar positions which often occur at the top of the table. The cannon off the cushion presents no difficulty whatever to any moderate player, but many very fair players often make the mistake of playing the stroke very slowly indeed in order not to separate the object balls more than is absolutely necessary. When the object balls are only a few inches apart and the same kind of stroke as the cannon shown on the diagram has to be played, it is the correct game to play with very gentle strength, for in this way several consecutive cannons of the same nature can often be made. Each one of these cannons, however, leaves the object

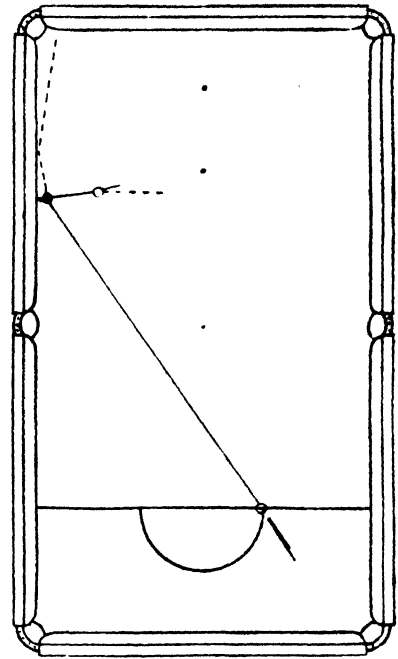


DIAGRAM 641.—A cannon off the side cushion by means of a half-ball stroke without side. Red ball $\frac{1}{2}$ inch from the side cushion and 41 inches from the top cushion. Object white 10 inches from the side cushion and 40 inches from the top cushion. Cue ball at or near the end of the D line.

balls a little farther apart than they were previous to the stroke having been played, and only a very limited number of such cannons can be made, even by good amateurs, before the slow stroke must be abandoned if good position is to be retained. If the cannon shown on Diagram 642 is played quite slowly, the red will only travel a very short distance along the cushion, yet another cannon of the same nature may be a difficult stroke from the cue ball's new position, and with the red most probably presenting nothing at all easy in the way of an in-off, position that was very good may become just the reverse. With the balls situated as on Diagram



DIAGRAM 642.—A cannon off the top cushion, dribbling the red to the vicinity of the pocket. Red ball $\frac{1}{4}$ inch from the top cushion and right behind the spot. Object white 10 inches from the top cushion and right behind the spot. Cue ball 10 inches from the top cushion and 25 inches from the side cushion.



DIAGRAM 643.—A cannon off the side cushion, dribbling the red to the centre pocket. Very exact strength is required for this stroke. Red ball $\frac{1}{4}$ inch from the side cushion and 40 inches from the top cushion. Object white 10 inches from the side cushion and 40 inches from the top cushion. Cue ball 12 inches from the side cushion and 31 inches from the top cushion.

642, instead therefore of playing the cannon quite gently, enough pace should be used to send the red right up to the pocket. In this way a perfect leave may be obtained from the stroke and the break continued. The cannon would be of exactly the same nature, as regards driving the red to the corner pocket, were the balls placed in a similar position near the side cushion at an equal distance from the pocket, and Diagram 642 is therefore given here as another example of the short cross-cannons. The position occurs more frequently at the top of the table than at the side of the table.

Diagram 643 illustrates a cannon of a similar nature to the one shown on

Diagram 642. Whereas, however, it is easy enough to obtain good position as the result of the cannon shown on Diagram 642, only an exceedingly well-played stroke will leave good position when the balls are situated as shown on Diagram 643. When playing to leave the red near the top pocket as the result of the cannon shown on Diagram 642, no very exact strength is necessary. Good position will most likely result even though the red stops short of the pocket six inches or more, and the position will in all probability be equally good if the red travels to the side cushion and rebounds several inches. There is, however, none of this latitude when playing to send the red to the centre pocket, as indicated by the intersected line on Diagram 643. Very exact strength indeed is required for the stroke. A difference of just an inch or two—and often of only half an inch or even less—in the distance which the red ball travels will make all the difference between good and bad position, as regards the red. When perfect strength has been used, the red will be left right over the pocket for a pot, or if sent a shade too far down the table for a pot, an in-off will be on instead, and occasionally the red may present a choice of a pot or an in-off. On the other hand, let the red only travel less

than an inch past the pocket and an in-off may be an impossible stroke, or let it travel short of the pocket by the same narrow margin and the pot may be equally impossible. Of course, the nearer the red is to the pocket prior to the cannon being played the less difficult is it to play with the exact strength necessary to leave the ball over the pocket. Also, the stroke is rendered less difficult when the cue ball is comparatively near the red than when it is some considerable distance from it. Failure to leave the red right over the pocket more often arises from playing the stroke with a little too much pace than from playing it with slightly too little pace. When the red travels just a little past the pocket or when it stops just a shade short of the pocket a cannon off the white may be left, provided that the cue ball has kept above the object white.

Diagram 644 illustrates a cannon from the D—a variation of the stroke shown on Diagram 643. Here again, by means of a good-strength stroke the red can be left close to the pocket. A very slow stroke is required as the red has to travel only a short distance to reach the pocket. Playing from the distance of the D makes the stroke more difficult than it would be were the cue ball only a short distance from the red. The cue ball should be spotted for a thin contact in order that very little of its speed may be imparted to the red. Plenty of side



DIAGRAM 644.—A cannon off the side cushion, dribbling the red to the centre pocket. A difficult positional stroke owing to the very exact strength at which it must be played. Red ball $\frac{1}{2}$ inch from the side cushion and 27 inches from the baulk line. Object white 8 inches from the side cushion and 28 inches from the baulk line.

is required and drag should be used as well. Played in this way, there is always the chance of position being left either for a cannon off the white or for an in-off from this ball when the attempt to place the red right over the pocket does not meet with success.

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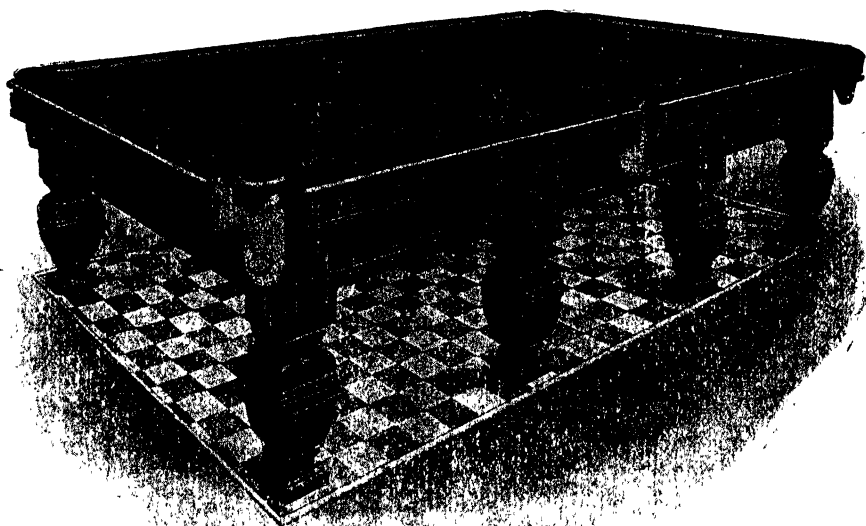
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