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THE MARGIN OF PROFITS

HOW IT IS NOW DIVIDED

WHAT PART OF THE PRESENT HOURS OF LABOR CAN NOW BE SPARED

BY

EDWARD ATKINSON

"Mankind is as lazy as it dares to be"

—R. W. EMERSON, quoted by President GARFIELD

AN ADDRESS

DELIVERED BEFORE THE CENTRAL LABOR LYCEUM
OF BOSTON, ON SUNDAY EVENING
MAY 1, 1887

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INTRODUCTION.

At one of the Sunday evening meetings of the Central Labor Union of Boston, one of the speakers, Mr. N. E. Chase, expressed a wish to debate the eight-hour question with the mayor of the city or with myself.

As I have always believed it to be a true method to meet the complaints of workmen, of injustice in the distribution of wealth, by plain and simple arguments based on facts, rather than by alleging that workmen ought to be contented with their condition and to be satisfied with the abundance of the means of subsistence which is at their disposal in this prosperous country, I very gladly accepted this invitation.

The discussion was therefore appointed for Sunday evening, May 1st, under the auspices of the Central Labor Lyceum.

Mr. E. M. Chamberlin was designated to reply to me, and in order that he might have full opportunity to state the views of those who advocate eight-hour legislation, a copy of my address was furnished him two days in advance of the meeting.

By his consent his reply is incorporated in this little volume, together with my rejoinder.

In this, as in other meetings of workmen which I have addressed, I have always secured the most earnest attention, and have received the utmost courtesy. I trust that this example may be followed, and that in place of bitter contention there may be friendly discussion of all the subjects which are at issue under the general term of the Labor Question.

To those who are somewhat too apt to deny that there is any such question, I may suggest that they had better try an experiment. Find something to do which is as monotonous as the work of the mule spinner, walking many miles a day with the head bent over the mule carriage, mending the ends of broken threads; work ten continuous hours on some little part which constitutes perhaps the sixtieth part of a complex machine; pay a part of the extreme penalty which the modern division of labor has imposed as the price of abundance; try the work of the factory and the life of the tenement house for a single year,—then one may be qualified to look upon life with the longing for more leisure, for more variety, and for better opportunity which lies at the bottom of the struggle for shorter hours of work, however misdirected the efforts may be of those who now subject themselves to the arbitrary methods of Labor Associations as now organized. Yet, in this very effort to organize,

have we not the promise of progress in the more intelligent study of problems which will force every thoughtful man to give them attention, long after those who are now beginning to seek their solution have found leisure and rest in the life which is to come.

EDWARD ATKINSON.

THE MARGIN OF PROFITS.

LADIES, GENTLEMEN, AND FELLOW-WORKMEN:

I am very glad to meet you on the evening of a day which is, or ought to be, to all of us, whatever our faith may be, a day of rest and of re-Creation. It is my purpose to show you how the great forces—the higher laws which govern the relations of men, to which all the statutes or laws of the State and all the rules or by-laws of your labor associations must of necessity be adjusted, if they are to have any duration—are steadily, surely, and slowly working to the benefit of the great mass of the people who do the actual work of life either with their heads or with their heads and their hands combined, or however they get their living; slowly but surely securing to them in this free country, whatever the case may be in others, a constantly larger and increasing share of a larger and larger annual product.

Even to those who make the Sunday more of a holiday than a holy day, I may give a text to this sermon on labor: Do justly. Love mercy. Walk humbly. These are the laws of humanity, however

they originated. There are none who need to think of them more than some of you who try to prevent other men from getting their living in their own way —who would deprive them of their liberty of action, and who put a bad name upon them if they don't do what you undertake to tell them to do.

To such as these I commend the middle part of my text—Love mercy. I commend the whole text to those who say that life is a contest between labor and capital.

Look at the picture upon the wall, in which you see so much deep red. It looks like the flag of the Commune. It is the flag of a kind of communism which is justified by science. It indicates the results which come from the peaceful development of order and industry, or which will grow out of a true regard to the harmony of interest between capital and labor. These lines in different colors carry with them the promise of a time, not now very distant, when a good living will be so sure to him or her who has fair ability, good health, and a true character, with moderate aptitude for the work which is always waiting to be done—I say it gives the promise of a time when it may not pay to be rich, if one is content with cómmon comfort and common welfare. I shall try to give you a study of life and work in a few plain, short words.

I must tell you who I am before I begin my talk. I am not a Knight of Labor, but a Squire of Work;

and, if I am not wrong, the squires will get ahead of the knights in the long run.

Not long since, Mr. Chase spoke to you upon the subject of making a day's work eight hours. He said he would like to debate this question with Mayor O'Brien or with me; and for that reason I am here to speak to you. I shall speak on a broader question than that of eight hours, for that is only a small part of the whole subject which is before you.

A great many of you work too hard and too long. No one can deny that. You don't get as good a living as you might have. There is no doubt about that. You don't want to work more than eight hours a day if you can help it. Neither do I. I don't work more than eight hours a day in order to get a living, and you do. Why should you not control your own time as well as I? You can, if you choose to.

The only thing that all men enjoy alike, the only element of life which is common to every man, woman, and child, and which all share and share alike, is *time*. Why should I be able to get my living in eight hours a day, or less, while most of you work ten hours, some of you twelve, and nearly all your wives fourteen hours a day? I suppose some one will say that I am a capitalist, and that you are workmen; but that is not the whole of it. I am not a capitalist in the sense of being a rich man. To be sure, I have saved some capital, and I am

very glad of it; but I don't live on the income of my capital. I save that, and add it to what I had before. I live on my work. Why should I get more for my work than you do? I work with my head only, and you work with your hands. Some of you work with your heads as well as your hands, and some of you don't use your hands at all; you stand by and watch a machine, and your work only is to see that the machine does its work well.

Now, in what do we differ? I sell my work for what some other men are willing to pay for it. If they don't pay me as much as I think my work is worth, then I say: "Good-by, I will do something else; I won't work for you any longer." You sell your time to another man, and he pays you what your work is worth to him; and if you think it is worth more you can say "Good-by" to him as he can to you; and you can do something else if you know how and have saved some capital to tide over with while you are out of work. Perhaps he would be very glad to pay you more for your work if he could. Why can't he? Because the people who buy the goods you make and which he sells will not pay any higher price for them. It is the price of the product that fixes the rate both of wages and profits. Who are the people who buy the goods at the low price which only gives you small wages? Well, nine-tenths of them are working people just like yourselves. When you put up the price of

what other workmen buy, and do not put up the price of what they make, then you tax them to get a better living yourselves. Is that fair? It is just so about eight hours. If you cut down the work in factories, in workshops, and in the building trades to eight hours, you cut down the product; then there will be fewer goods, fewer stoves, fewer tools, fewer houses, and that means a higher price and a higher rent; because, if you count all the mechanics and all who work in the factories, whose time can be shortened by rule, there are only about 200 in each 1,000 of those who work. Who are the rest? Why, the farmers, the railroad men, the shopkeepers and their clerks, and also the wives of all the mechanics who have never been counted. Can you reach them by any eight-hour law? Who proposes an eight-hour law for women in the work of their own households?

Is it a fair deal, when you make a law of the State, or a by-law of the trades-union, or in any other way, that makes the many work harder in order that the few may work less? That is not what you mean, but that is what you do, or would do if you could. You say there is enough product made now in eight hours to give every one a good living, if it were only divided on the square. Some of you say that if you could get hold of what capitalists get out of the product and divide it among workmen, eight hours' work, or less, would give you

just as good a living, or a better one, than you get now.

Well, that is a question of fact. It either is so, or it isn't. I say it isn't, and I am going to prove it.

I tell you the waste by capitalists is nothing compared to the waste by workmen; and so far as I can see there is no way in which to shorten the hours of labor except to do more or to make more in less time; because labor now consumes so nearly the whole of what there is, that if all the waste of rich men, or by rich men, were taken from them and divided among the workmen, it would not make a difference of fifteen minutes a day. If it were divided in money, it would not give the whole body of the workmen the price of an extra glass of beer a day. If it were not divided even, then the deal would be no more fair than it is now—would it? Lastly, if by taking away the profits from capital you lost the service of rich men, you would be compelled to work a great deal harder and a great deal longer than you do now in order to get as much.

I tell you, my friends, when you are talking about the wages due to laborers, you had better measure the wages due to capitalists, to inventors, to men of science, to the men who work with their heads. It is to them you owe the fact that you can now get twice as much out of ten hours' work as men and women could get fifty years ago out of twelve, thirteen, and fourteen. Labor, without capital, counts one in

production, and with capital it sometimes counts 100. Can the 100 manage the capital as well as the one? No. If they could, you would all work on the co-operative plan. The reason that you do not co-operate now is that you cannot in that way get as much out of your work as you do now out of your wages.

All this talk about wage slavery is nonsense. There is no slave labor, no compulsion in this country now, unless it is the compulsion of the Knights of Labor, and that is pretty much played out already.

You see I talk plainly; that's what you want, isn't it?

You want facts, and I am going to give them to you. Some of my friends began to chaff me the other day when they heard I was coming here to speak, and one said I wouldn't dare tell you the truth. I said I would. I told that man he was a condemned fool if he hadn't sense enough to see that what workmen want more than any other class of men is solid truth and hard facts, no matter where they hit. Isn't that so? If not, I had better go home.

Now, I am not a big capitalist; but let us suppose that I were one. Suppose I did own a big cotton mill that would cost a million dollars. Suppose that I owned the whole of it, and suppose you were cotton mill hands; let's start square on that. I wish I did own such a cotton mill; I would run it just as the mills are run to-day by other people; and I

will soon show you how much better that way is than any other way we have yet found out. We may find a better way, but we haven't yet. I want to start square, just as I did down in the Senate Chamber of Georgia a few years ago. I was asked to speak to the Governor of the State and other officers ; to some members of the Senate of Georgia ; to the United States senators and some men who had been, including ex-Senator Toombs, who wanted to call the roll of his slaves on Bunker Hill, but who never found out the way to do it. There were about sixty men in the room, and I told them that I wanted to start square with them. I said : " I am an old-time Abolitionist ; I was a Free-Soiler ; I helped to fit out John Brown with Sharp's rifles for Kansas, and now I am a Democrat." I said : " No man has a right to call himself a Democrat who is not willing to give every other man an even chance to get a living and to vote without any distinction of race, color, or station in life. Now," said I, " if I speak, this is my platform. Do you want to hear me ? If you don't, say so now." Well, they did want to hear me, and I gave them some hard facts, which have not been without good results, either in Georgia or in other parts of the South.

I want to be just as square with you, and, although I am not a big capitalist, I am a capitalist compared to some of you. I dare say I earn ten times as much in a year by my work as most of the men in this

room, and I don't work over eight hours a day to get a living. When I work over eight hours a day I work for the fun of it—studying labor problems, making speeches on the eight-hour craze, trying to find out what the Knights of Labor really mean, and all such questions.

I will go one step further. There is not a man or woman in this room who does not pay me something every year. Now, if you want to know why you pay me, and how you pay me, and what I do for you, and how I earn it, I will go on with my speech. If you don't want to hear it, I won't.

You observe, that I must use the personal pronoun "I." It is you and I who have got to talk this out, and not somebody else. I can earn enough for all my wants in less than eight hours a day; and some of you cannot. Why not? Is it my fault or my neighbor's fault that you don't get enough to live in comfort without working more than we do? Are you poor because some other fellow is rich? I say "no," but some of you say "yes;" now who is right? Before I get through maybe I can prove even to you that you had better pay me twice as much as you do rather than not pay me at all.

My regular work is to stop the cotton and woollen mills from being burned up, in which the cotton and woollen goods of which your clothes are made were spun and woven. The more mills we save from fire, the more goods you have, and the lower price you

pay for them. I am paid for that, and my men are paid for that; and a part of what we cost goes into every yard of cotton and woollen cloth that you wear. The rent of the office which I use, and the rent of the land on which the building stands, is charged to the cost of the cloth, and before you can buy the cloth you pay your share of that rent. The land is worth $20 or $30 a foot. Suppose all the taxes were put on the land, then the tax would go into the rent, and the rent would go into the cost of the cloth, and you would pay it. Watch the taxes; don't pay too much.

Now, I claim, for every cent you pay me, I save you ten. I say that for every cent that almost every great capitalist receives workmen are saved ten cents, more or less, somehow or other. I will except the capitalists who make rum. If you will have the rum, they will make it for you and you will waste your money on it. That is your lookout and theirs. I don't make rum and I don't sell it. I say that every capitalist who puts his money into useful work, into cloth, food, fuel, metals and the like, saves every workman a great deal more than he takes from him. The poor are not poor because the rich are rich. The poor are not poor because capital takes a bigger share than it ought. The poor are a great deal less poor and a great deal less numerous than they would be, except for the service of capital, of which they enjoy the greater part

of the benefit. The poor are not poor because they have no land. Land won't save a man who doesn't know how to use it. There are 300,000 Indians in this country, about as many as there ever were. They used to own all the land, and they still own 150,000,000 acres of it. It is kept for them by the government of the United States. The Indians enjoy the ownership of land for the benefit of all the Indians who occupy it in common, and who are not even taxed on it. It comes to 500 acres apiece for every Indian, every squaw, and every papoose; how much good does it do them?

There is plenty of land down South, good land, to be had at 25 cents to $2 an acre. I own 1,000 acres of it myself. I wish I didn't. I made a very poor bargain when I bought it for $2 an acre. You can go and buy it. Why do you work for wages here if you don't want to? Why do you work more than eight hours a day if you don't want to? Why do you buy the cloth which you have on your backs, and pay me something on every yard, if you don't want to? Nobody can compel you to work for wages. Nobody can compel you to work more than eight hours a day. Nobody can compel you to buy factory cloth if you don't choose to. I can't compel you to pay me a cent if you don't want to. Nobody can compel you to pay rent for a workshop or a dwelling-house if you don't choose to. You can buy land even in Massachusetts for less than

nothing an acre. What I mean is that you can buy good houses and barns and good farms for less than the cost of the houses and the barns, with the land thrown in for nothing. Why don't you? Because you have no capital; not because I have the capital. It is not because some other man has saved a part of his work that you have none; that isn't the reason. It is because you have not saved a part of your work, or else because you could not get as good a living on this land as you do now, if you owned it. You answer me that you live in the city, and pay rent, and work for wages in order to live here, and you work ten or twelve hours a day for wages here in order to live here at all. Very well. Isn't it better to work ten or even twelve hours a day rather than not to live at all? Of course it is, or else you'd quit if you dared to, and go somewhere else. There is plenty of room in this world and in this country. There is a great piece of the South that I have spoken of, the middle mountain section, bigger than Great Britain and Ireland together; it has a better climate than Boston, better soil than Massachusetts, plenty of trees, plenty of water, iron, coal, copper, lead, all sorts of things. If you went there you'd have to work for yourselves; you couldn't help it; you couldn't work for wages because there isn't much capital, and there would be no capitalists to hire you. There are 2,000,000 or 3,000,000 people down there who work for them-

selves; they spin their own yarn, they weave their own clothes, they cut their own wood, they make their own furniture, they hoe their own corn, they distil their own whisky (moonshine kind), they build their own houses out of logs, they are free to do just as they like; and they work a great deal harder than you do; and they have hardly enough to eat, drink, and wear, because there is little or no capital there to help them.

Now let us go back and find out who was the first capitalist and what he did. We know something about the men who lived before there was any written history, because they left their tools. Here are some of them. This is a stone axe. It was found under thirty feet of gravel down in Delaware. It may be 12,000 years old, it may be 100,000 years old; it was used by men who lived in the stone age before the use of metals was known to any man. They made their axes of stone. Here are some better ones. They made their arrow-heads of flint; here are some. They made bows and strung them with gut. They hunted; they fished; they ate clams; they have left piles of clam-shells all along the coast from Florida to Maine, where they came down from the woods in summer and had a good time; and in the big heaps of clam-shells you will find lots of arrow-heads and some of these axes. This axe is the oldest kind of capital. Now, can't you imagine the man who first found out how to chip

off a bit of rough stone and make an edge to it, and who then stuck it into the fork of a split stick and bound it with a piece of gut? Next he chipped off a flint arrow-head and bound it to an arrow to shoot with. The other fellows couldn't do it. He began to hunt, and he killed a great many more beasts than the other fellows; he had more meat than he could eat; he had more skins than he could wear. What did he do? He swapped for something else. But what did the other fellows do? Didn't they swap with him for his axes and his arrow-heads? Why, then, they had ten times as much to eat and ten times as many skins to wear as they had before, didn't they? Next, they must have found that, as long as he could make axes and arrow-heads and they couldn't, he had better do that job and let them do the hunting. Then he became the first manufacturer. He spent all his time making axes and arrow-heads. The other fellows brought him all the meat he could eat and all the skins he could wear. They built him a stone house, and they did all they could so as to save his time. Didn't they make him a capitalist? Not because they cared any more about him than they did about the next man, but so that they themselves could have more axes and more arrow-heads with which to get their own living. He was a capitalist and they were hunters. Were they not all of them better off than any of them had ever been before?

Now, here is a modern axe, made down in Douglas or in Hartford. It cost fifty cents. It takes a big capital to make this kind of an axe. It takes a first-class man to look after it. He is worth a high price. Who pays it? You pay it if you use axes, because by paying him a high price for the axe he makes by the use of his capital, you have more axes and better axes than you had before. You could not make them yourselves if you tried to. Then, where you pay him one cent, does he not save you ten cents' worth or more of work?

As I said the other day in a meeting of this kind, if you don't want to pay Mr. Vanderbilt for bringing your barrel of flour from Chicago to Boston, you needn't; you can wheel it yourself. I had rather pay Mr. Vanderbilt to carry my trunk or my barrel; he can do it cheaper. Suppose the old man did make $100,000,000 out of the job; he saved me a dollar for every cent that he made out of me; he saved you a dollar for every cent that he got by moving the flour from the great prairies of the West down here for you to eat. How could you do without such men? Wouldn't it then take you and me ten times as long and ten times as hard work to get less than we all get now?

There is one kind of work that I know all about, and that is making cotton goods in a mill. I have been working about cotton mills in one way or another ever since I was a boy. When I first went

Capital $1,000,000, *in a Cotton Mill making Medium Sheeting*, 36 *Inches wide. Product per Year*, 17,500,000 *Yards, at about* 6¼ *cents. Value*, $1,100,000.

		Per Yard.
1. Cotton at 10c	$575,000	3.267 cents.
2. Mill labor	285,000	1.6194
3. Supplies	55,000	.3125
4. Depreciation, 4 per cent	40,000	.2269
5. Insurance and general expenses	10,000	.0569
6. Taxes	15,000	.0850
7. Freight	10,000	.0569
8. Treasurer, agents and clerks	20,000	.1137
9. Commissions and guarantee	30,000	.1706
10. Profit, 6 per cent	60,000	.3412
Cash	$1,100,000	Costs.....6¼ cents.

Computed Profit on all parts of the Work.

Cotton, 5 per cent*	$28,500
Presses and transportation	18,000
Supplies	5,500
Depreciation, new machinery	5,000
Insurance and general expenses	1,000
Freight goods	4,000
Salesmen	1,000
Merchants	11,000
Treasurer and agents' salaries	11,000
Owners, 6 per cent	60,000
Total	$145,000
Taxes	15,000
Labor all	940,000
Total	$1,100,000

By the use of the combined capital on the farm, the railroad, and the factory, on which these profits may be earned, one producer has been enabled to furnish 129 consumers with 40 yards each of medium cotton sheeting, 36 inches wide, in each year, at the present price of 6¼ cents per yard, or $2.50 each person.

If the 950 mill operatives be considered as a separate force, one hand provides 460 consumers with 40 yards each per year.

It would require 95,000 hands operating spinning wheels and hand looms to make the same quantity of 32-inch coarse Osnaburgs, such as are still made by hand in remote sections of the South.

* Southerners might claim that when middling cotton is at 10 cts. at the Northern factory, it yields no profit above cost to the planter, or farmer, who charges his own time to the cost of the crop.

All Profits brought forward, $145,000.

Spent by three owners on absolutely luxurious consumption	$22,000
Spent by all who share in all profits or salaries for the support of their families, among about 170 persons at $400 average each	68,000
Added to capital by the construction of new works, divided among 100 mechanics and other workmen at $550 each	55,000
Total	$145,000
Computed saving of 3,400 working people at 5 cents a day each, 300 days per year	51,000

Final Distribution of $1,100,000 *Product.*

Consumed by owners, 2 per cent	$22,000
Consumed by laborers, 87 12-100 per cent	958,320
Saved by capitalists, 5 per cent	55,000
Saved by laborers, 4½ per cent	49,500
Taxes, 1 38-100	15,180
Total	$1,100,000

A CHART BY LINES.

Compiled by EDWARD ATKINSON, Boston.
April, 1887.

into a store in 1842 the men and women who worked in the cotton mills worked thirteen or fourteen hours a day, and they could not begin to make as much cloth in a day as they do now, while they only earned half as much wages.

The owners took a bigger slice out of every yard for their profit than they do now; but the product was so small that even the big slice out of each yard did not make them very rich.

It was just the same in every other kind of work then as it was in the cotton mill—longer hours, harder work, poorer pay; too long, too hard; but it took all that time and all that labor to raise food enough, or to make cloth enough, or to get fuel enough to go around; where it took thirteen or fourteen hours then, it now takes but ten hours. You older men remember. Am I not giving you facts? By-and-by it will take less. I think it very likely that your children will be able to get just as good a living, and perhaps a better one than you do by working eight hours a day; but they won't get it by acts of the Legislature. If you can pass a law to shorten the general hours of work (and it won't be fair unless you make it general), if you bring every kind of work down to eight hours or less, there will not be houses enough to give you as good rooms as you have now, there won't be clothes enough, and there may not be food enough to go around. You can't work in that way. You want to shorten the hours of work of the

city laborers, and you vote that way with the hope that after their work is fixed at eight hours a day, you will be better able to get the same time for yourselves. Now if you shorten the hours of work of the city laborers to eight hours, it will take more men to do the work, won't it? City work is not machine work; that is, the real work is not. Some of the political work is done by machinery that I should like to smash as well as you. The real work is hand work, most of it. Then if the pay is kept at the same price, it will cost more. Then the taxes will be higher. Who pays the taxes? You do. You can't make the taxes stay where they are put. You may adopt Mr. George's plan of putting all the taxes on land, but you can't make them stay there. Nobody will buy, or hire, or occupy that land to build houses or shops on, unless they can charge the taxes to the tenant or occupant, or put the taxes into the price of the goods that are made in the factory or sold in the shop. If they couldn't collect the taxes put upon them, then they wouldn't get any profit on their capital invested in the houses or in the buildings; and, if there is no profit to be had in building houses, or shops, or works, or factories, who but a fool would build them? Would you?

If you choose to vote for men who will shorten the hours of city laborers to eight hours a day, you have a perfect right to do so, because you will pay most of the bill. Working people number ninety out

of every hundred at least. I mean working people in the way in which you use the words—people who work for wages or small salaries, and are employed by others and not by themselves. In the cities, especially, they number nine out of every ten or more; and the consumers, most of whom are working people, pay all the taxes at the last end, no matter where they are first put. That is what I think is the fact.

I have said that I know something about making cotton goods. Now I am going to show you what I know. I will try to show you what share the mill owner gets out of the cotton cloth; what share the managers get; and what share the workmen and women get.

There have been more laws passed to regulate the hours and conditions of work in the cotton and woollen mills of Massachusetts than have been passed in connection with any other set of working people, and more of the same kind are called for. If you had the power, you people here, you would not let the owner of a cotton factory run the machinery more than eight hours a day if you could help it; and I will show you what would happen if you had your own way. You would have to wear your old shirts a great deal longer or go without any, because at least nine-tenths of the cotton cloth made in the mills is worn by working people.

Before either you or I can judge whether the present division between labor and capital is right

and just or not, I think we ought to know just what the division is. Isn't it so? You think capital gets too big a share. I don't. I think capital serves you and helps you and gives you a better living than you could get in any other way, and I think capital now serves you at a low price. I think you cannot afford to employ capital at much less price than you now pay for it, because if you succeeded, capital would go somewhere else, and you would get left. Then what are you going to do? A hundred years ago, as nearly as I can make it out, it took more time and more hard work for a family to get their clothing than it did to get their food. Even 50 years ago it took a good deal more time to get clothing than it did to get food. Now it takes a great deal less time to earn money enough to buy clothing, than it does to buy food. Where a man spends $100 a year for meat, flour, butter, cheese, potatoes, etc., uncooked, for his own use, he need not, and does not, commonly spend more than $40 a year for his clothing, ready-made, including his boots and hats.

Nothing has become so cheap as cotton cloth. There is no art in which the share of labor and capital can be set off, one against the other, so easily as in this art. The accounts have been kept in such a way for 50 years, as to make it very easy to show how much the labor costs, and how much the capital costs in a piece of cotton cloth.

Here is a good, solid sheeting, or shirting, which I bought yesterday at one of the big shops for 6¼ cents a yard. The average use of cotton cloth would be 40 yards apiece every year if it was all of this kind; but the kind varies. The real average is 50 yards, some of it narrower and finer and lighter, and some of it coarser. Now, cotton goods are used more by the million, by the working people, than they are by rich people. You can buy a year's supply, 40 yards of this cloth, for $2.50, or for two days' work of a common laborer at $1.25 per day. How much profit to the rich man who owns the mill do you suppose there is to-day in that cotton cloth? It is just one-third of a cent a yard out of the 6¼ cents that you pay for it. That is the profit of the mill. The rest all goes to the working people, in one way or another. This I am going to prove if you don't believe it; and after that, I will prove to you that working people get the biggest part of the owner's profit.

When you buy 40 yards of cotton cloth at $2.50, you pay the owner of the mill 15 cents profit, but you also pay about 15 cents more to other people for profit; that is 30 cents profit in all; and you pay $2.20 directly for labor.

In a lecture of an hour, I cannot show you how I prove every part of what I am going to say; but I have been in the business more than 40 years, and what I tell you is either true or it is not: you can

take it or leave it: you can believe me or not, just as you please.

Now, look at this chart. I call it a labor spectrum. Do you know what a spectrum is? It is not a ghost; it is a fact. Somebody found out a few years ago that, when you look at the light of the sun through a set of prisms or pieces of glass fixed in a certain way, you divide up the light of the sun into different colors and separate lines; and each color or each line proves that there is some one kind of gas burning about the sun. Each line means a different gas. It is very hot up there; iron is reduced to gas; soda is reduced to gas, etc., etc. All these hot gases show different lines and different colors in the spectrum, so that you can really tell what's going on about the sun. This instrument, which they call a spectroscope, has been applied to a great many uses. In making steel they use it; they can tell when some things that would hurt the steel if they were left in it are all burned out and gone; and that's one way in which science has helped you to get cheap steel for your tools. This method is called a spectrum analysis.

Now, I have taken this piece of cloth and have made a spectrum analysis of it. I am going to show you how much of it is cotton, how much of it is labor in the mill, how much of it is the salary of the treasurer and of the agent; how much of it is profit; who gets it; what it costs you to employ a

capitalist to make your cotton cloth for you instead of making it yourself if you knew how. You must have cotton and woollen cloth; you must either make the cloth yourself, or hire somebody else to do it. You buy it because you can get 40 yards for two days' work of a common laborer. How much work do you suppose it would take to make that 40 yards yourselves by hand cards and spinning-wheels and hand looms, as they do down South and up in Canada to-day, because they don't know any better?

Five men and women—two carding, two spinning, and one weaving—can in one day make eight yards of cloth a great deal coarser than this: this is equal to one person's work for five days; forty yards would take five times as much, or twenty-five days; and when you had the cloth you wouldn't wear it any more than you would wear a crash towel if you could get anything else, because it would be so coarse and so rough; therefore you pay a capitalist fifteen cents profit on forty yards of cloth, in order to save yourselves twenty-three days' work (mighty hard work at that) in getting good, smooth, soft factory cloth, instead of coarse, wiry, rough home-spun. Who gets the best of that bargain? If your work is now worth $1.50 a day, and you save twenty-three days, I make it out that the capitalist who owns the mill saves you $34.50, and charges you fifteen cents for doing it. But perhaps you say

that even in this case the rich man who owns the mill gets too much, and the carder, the spinner, the weaver, and the other hands who do the work in the mill get too little. Well, we'll see about that. We want the facts first; then we'll know who gets too much and who gets too little, if the divide isn't a fair one.

Now, look again at this chart. You may suppose that I and my brothers own a cotton mill which would cost to-day $1,000,000 to build. We don't, but I wish we did. I hope my boys will. I am bringing some of them up to this trade, and you can bring your boys up to this trade if you want to; perhaps your boys will get ahead of my boys. There might be three of us. I know just such mills where two or three men do own a mill worth $1,000,000. Now let us see what they do with it. They would employ 950 hands in the mill, or a little over $1,000 capital to each hand; they would buy 10,000 or 12,000 bales of cotton every year, and they would make that cotton into 17,500,000 yards of cotton cloth just like this. This would give 437,500 men, women, and children forty yards apiece per year. At six and one-quarter cents per yard, this comes to $2.50 cost to each person, or $1,100,000 in all.

Now look at this top square, No. 1, in light blue color.

[The so-called spectrum analysis of a piece of cotton cloth was shown on a large chart, on which

each part of the cost was colored separately, so that the exact proportion was made very clear.

In order to give the same facts so as to be made clear to the eye, the accompanying table has been prepared in the speaker's usual method of lines of different length.]

This square (No. 1) represents the cost of the cotton in the cloth—$575,000. It would take about thirty planters, 400 small farmers, and 1,500 field hands to raise this cotton; also about 180 men employed in the presses, baling, packing, shipping, marking, including a lot of men on the railroads who get the cotton from the farm or the plantation down South up to the mill in the North.

The next square in red, No. 2, is the proportion of labor in the mill—950 pickers, carders, spinners and weavers, overseers and second hands; I don't count in the agent, nor the paymaster, nor the clerks; the 950 men, women, and children now earn, on the average, $300 apiece each year in ten hours' work a day—$285,000. Forty years ago they worked thirteen hours a day, or even more, and earned $175 apiece. Just think of it. A few days ago Mr. H. N. Slater, the son of Samuel Slater, the man who first brought the art of cotton spinning to this country in his head, because no plans on paper could be safely taken away from England, was in my office. He is over eighty, but his mind is as clear and as bright as ever, and he told me how he

worked in those first mills not only thirteen, but fourteen, and in the long days fifteen hours a day.

How is it now? Every operative can buy more clothing, more food and better shelter, with each dollar of the $300 now earned in ten hours' work, than they could with each dollar of the $175, forty years ago, earned in thirteen or fourteen hours' work; so you see that even if they are not very well off now, they are yet a great deal better off and have easier work and shorter time than they did then.

Next you see a narrow line, brown, No. 3. This represents the proportion of the cost of the fuel, the oil, and the starch, and the materials used to keep the machines in good order; and it represents the work of about 100 men outside of the mill—$55,000.

The next line in yellow, No. 4, represents the depreciation of the mill. You may try to keep a mill in good repair as well as you can, and charge all the cost of the repairs to the cost of the cloth, and still the mill will grow no better every day, because men keep inventing better machinery, that does more work at less cost and higher wages; and unless the owner keeps up and pays for the depreciation, he will fail sooner or later. I have put in four per cent. for depreciation, and that means the work of eighty men making new machinery all the time for $40,000.

The next black line, No. 5, stands for the taxes, $15,000 a year.

The next little narrow line, in pink, No. 6, stands for the insurance and the general expenses, $10,000. This is where I come in. You help to pay my salary, because my salary goes into the cost of every yard of cotton cloth you have on your backs. It is all on this pink line, but you can't see it.

The next line, in green, No. 7, is what is paid to the railroads who take the goods to market, about $10,000.

The next line in red, No. 8, is what is paid to the treasurer, the agent, the superintendent, the paymaster and all the clerks. I have put it in red because it represents labor as much as the work in the mill: mighty hard work, too. I know what it is, because I have been there. It comes to about $20,000 on such a mill.

The next line, in violet, No. 9, is the cost of selling the goods at wholesale, the commission paid to the merchant, the salaries of his salesmen, the wages of his porters, his draymen, and all the men who work in the shop—about $30,000 in all.

And this last line, in dark blue, No. 10, is six per cent. profit, or $60,000. If you buy forty yards apiece every year of this cloth, at the present price of 6¼ cents, and if I owned this mill to-day, all that I could make out of you would be six per cent. profit and four per cent. depreciation, with cotton at ten cents a pound. Each of you would therefore pay me fifteen cents a year. Now, if you can do better why

should you buy my cloth? Why don't you make it? If I owned that mill should I be a cheap man for you to employ, or not? That's what I want to know. I have given you the number of men, women, and children who would be required to raise the cotton, to send it to the mill, to make it into cloth enough to give over 400,000 other men and women forty yards a year each. I have shown you what they earn and what you pay, by the colors on this chart. Here are the proportions shown by lines of different lengths in my usual way.

But that is not the end of it. You will say that the cotton planter makes a profit. So he does, a little. You will say that the railroads make a profit. So they do, mighty little. You will say that the men who make the starch, the oil, and the fuel make a profit. So they do. But I can show you just about how much each of them makes when trade is as good as it is now.

If you put in the profit on the cotton, on the presses, on the railroads, on the starch and the oil and everything else all together, it comes to about $63,000; add the profit of the mill, $60,000; then put in the treasurer's salary, the agent's salary, and what the two merchants get out of their work after paying all their clerks and salesmen—call that all profit—$22,000 more; and then the whole profit on the whole business comes to $145,000. All the rest is labor and taxes. Here it is, right here; this big

red square shows what the working people get, 3,400 of them, on all the work, $940,000. The blue square is all the profit, $145,000; and the little black line is the tax, $15,000; and that uses up $1,100,000.

Take it by the yard. The whole of the labor in a yard of this cloth is 5 $\frac{33}{100}$ cents. The whole of the profit is $\frac{84}{100}$ of a cent. The whole of the tax is $\frac{8}{100}$ of a cent. You each use forty yards apiece a year, you workmen; you pay to other workmen every year for your forty yards, $2.13; you pay to the planters, to the railroad men, to the mill-owners, to the merchant, to the agent and the treasurer thirty-four cents a year; and you pay to the tax of the town in which the mill is situated three cents a year. Can you do any better? "Yes," you say, "we want to own the mill itself." Well, why don't you own it? You can save money—some of you do; you can buy shares in just such a mill if you want to; or you can get up a coöperative mill if you want to; but I should advise you not to do it; it is risky business; I think the Lowell factory operatives who have put their money into the old Lowell Savings-Bank for the last thirty years are better off to-day than if their money had been put into almost any of the Lowell cotton mills.

But we haven't come to the end of it yet. There is a little more labor when the profits, $145,000, are divided. Now look at this little square, which is just the same size as the other square or profits up above.

It is divided up. The three mill-owners get the biggest slice, $60,000, or $20,000 each, three blue squares. The treasurer, agent, and two merchants get the next division, $22,000. The profit on the coal, oil, starch, railroads, and the planter's profit is divided up into these little squares, fifty, sixty, or seventy of them, each getting a small slice.

But now what do these people do with all their profit? They can't eat it, or drink it, or wear it, not the whole of it. All any one of them gets in this life is a house or a room to live in, some food to eat, some clothes to wear, some fuel to burn, and something to drink. *I should like to see any one of* you get more than that. That is all that I can get out of it; and what I eat and drink and wear is what I cost, isn't it? I may spend a great deal more than what I cost; but what I spend supports some one else, does it not? What I cost myself is what I consume.

Now let's see what becomes of the profits. Here are the three mill-owners, of whom I wish I was one. They have $60,000 a year among them, $20,000 apiece. Suppose they waste a little over one-third of it, $22,000, on fast horses, champagne, fancy farms, and that sort of thing. Some of them do. This little black square represents the waste; and if three of us owned this mill and wasted this amount of money on ourselves, that is what we should cost, and you would pay it if you could afford to. If you

thought you couldn't, you wouldn't. We couldn't make you buy our cloth. All the other men, all of them who earn each a share of this profit, would support their families, and they would spend about as much as this pink square, say $68,000. If we assume that this is paid to servants, tradesmen, teachers, musicians, gardeners, farmers and the like, at about $400 each, it would be divided among 170 persons, partly or wholly supporting them.

We cannot assume that even capitalists, as a rule, save and add to their capital on the whole more than they spend for the support of their families. Of course there are a very few rich men who save more than they spend; but their savings are a very small part of the whole savings of the people. We may assume that the owners of the cotton mill, and the others who share the other profits, save in each year about five per cent. of the value of the product to add to the capital in their works or elsewhere. This saving, five per cent., or $55,000, is represented by the square in dark red; this being expended for building a new mill or new works of some kind, would be paid out for the service of about 100 carpenters, masons and machinists, each of whom would earn $550 in a year in doing this work. Is that paid for labor or not?

Lastly, workmen who are prudent, judicious, and cautious save something. We found that there were 3,400 working people engaged in the product of

cotton cloth worth $1,100,000. Suppose each one saved only five cents a day for each working day, or the price of a glass of beer, $15 a year; then the aggregate of the saving of all engaged in the work would come to $49,650. This, added to the sum saved by capitalists, makes $104,650 added to the capital of the country, out of the $1,100,000 product. It is represented by the green square. It is a little less than ten per cent. of the product; and this result agrees with all the observations that I have been able to make in regard to every art, namely, that not over ten per cent. of the entire product of the United States ever has been, or ever can be, saved and set aside, to be added to the capital of the country, either by the workmen, the merchant, the owner or the capitalist, or all combined.

In this last analysis you now have the final division. The little black square at the left, No. 1, represents in its proportion to the rest of the line the cost of the three rich men who own this mill, even if they waste $22,000 a year in absolutely wasteful expenditure. I use long words for them. It is as much as any three men owning such a mill and running it themselves would be likely to waste. In the second part of the line colored in red you get the proportion of the product which is consumed by those who do the work, or the cost of what their product is when exchanged for beef, pork, mutton, coal, clothing, boots, hats, dwellings, and other necessaries of life.

Their cost is $958,650. The taxes take $15,000 from workmen and capitalists.

In the third division, in dark green, you have what was saved by the capitalists, $55,000; and in the fourth division of light green you have what was saved by the workmen at five cents a day, $49,650. Or put this division into so much a yard, and you find that in each yard of cotton cloth the capitalist has wasted one-eighth of a cent a yard, the laborer has consumed five and one-half cents, and the capitalists and the laborers together have saved five-eighths of a cent a yard, and that is the end of it.

Now, what are you going to do about it? If you still say that the profit of $145,000, of which $60,000 goes to the owners of the mill, is too much, and if you could in any way reach and divide it among those who do the work in the mill, then what would become of the 270 people among whom these profits were divided by those who spend the profits in supporting their own families or in building a new mill?

There were 950 operatives in the mill. Suppose you take all the profit and divide it among these mill hands, then you say they would spend it in supporting the 270 who now work for the owners of all the capital. But you know very well that what mill hands spend would go in a very different direction. It might be just as useful, it might be all right. All I have to say is this: When you take away the profits from the owners and managers of the mills,

then all the makers of fine cabinet work, of pianos, of fine paper hangings, all the carpenters and masons who build the better kind of houses, and all the skilled mechanics, of whom there are probably a good many here, who now work for the owners of the mills, and all the teachers and musicians who are employed by them, would be obliged to find some other kind of work. They must either go upon the farms to make more food, or go into the cotton mills to make more cloth. There is food enough and cloth enough already; what should we do with what these men made? In other words, you can't have more than the cat and her skin. Labor now gets the cat, and the owner gets the skin. That's about the end of it.

You must either make more cloth with the same machinery and the same number of workmen, and sell it at the same price and at no lower price, or else you can't get out of the cotton cloth any more than you have put into it. I have shown you exactly how it is divided now. Can you better it?

You may not like the statement. You may feel like using some swear words about me. Well, that won't hurt me, and if it does you any good I hope you will swear; but you don't damn the facts; if they are the facts it won't alter them if you do. If they are not the facts, if I have not told you the truth, then go ahead and find out the truth in your own way. That is what you can do in these or-

ganizations, clubs, Knights of Labor, eight-hour associations; and the more you study the more you will find out that the capitalist is your friend and not your enemy. If you treat him right he will treat you right.

I have taken cotton cloth as an example, and it is the worst example that I could take to prove the service of capital. Why is it the worst example? Because it takes $1,000 to set one man, woman, or child at work in a cotton factory. In a woollen factory it takes only $500. In a boot factory, only $250; and in order that the woollen factory may earn 4 per cent. depreciation and 6 per cent. profit on capital, the proportion of product set aside would be only one-half what I have set aside from the cotton factory; the line would be only one-half as wide as the profit line on this chart. In a boot factory it would be only a quarter. "But," you say, "the owners of the woollen factory, boot factory, and machine-shop get more profit than the owner of a cotton mill." No, they don't in the long run. If there is any kind of safe business that will pay 4 per cent. depreciation and 6 per cent. net profit on the capital, safe and sure, capital will rush into that business, whatever it is.

Now suppose the profit on cotton goods went up one-half cent a yard: suppose you had to pay 7 cents instead of 6¼, or a quarter of a cent interest on money borrowed, and half a cent extra profit.

What would happen then? The working capital—the money borrowed by cotton mills is usually borrowed of savings-banks—and the one-fourth of a cent interest would go to the savings-bank; the half-cent extra profit would go to the owners of the mill. Do you suppose they could keep along at that rate? The mill would then pay about 15 per cent. a year instead of 6 per cent. to its owners. I have seen such times, and I have taken such dividends myself, but they don't last. The moment such a big profit is to be had in any kind of work, in come some new fellows, who build a new mill right alongside of you, very likely a better one. They then pay better wages; they hire away your best men and women, and very soon they bring the profit down as low as it was before, and sometimes down to nothing at all for a long period. This is just what has happened, in the last three years, to ever so many mills that I know all about, in some of which I owned some stock.

Now, fellow-workmen, it has taken a good deal of work for me to be able to tell you all this. I have been at it 40 years, and I have worked 13 hours a day when I was a youngster. In old times, when I wanted to save an extra quarter of a dollar to go to the theatre, I made my dinner of bread and milk, and I saved my money in that way. You can do the same thing, only you needn't spend it to go to the theatre unless you choose to, though I think it is

a pretty good plan to do that now and then. All work and no play doesn't pay for anybody.

The way to shorten your time and work less hours is to do more while you do work; and I don't know of any other way. I never could find one. Do the best you know how. Work by the piece; work by the hour. If you have any snap in you in these times you can save something. You say you can't? Well, I say that the man who says so right here at this time is bound to prove it. Perhaps you haven't said it right out, but you said it to yourself just now; "I can't save anything out of what I get." I ask you why you can't, if you are a good workman?

I say you can. I ask you how much you spent to-day that you needn't spend on yourself? But we won't go into that—it's too big a subject. I could show you how to save five cents a day easily enough in the average cost of your food, so as to have good food which tastes better than what you get now, which will serve you better; but I can't do it here within this hour.* Now, I am going to hit you hard. I am going to tell you which man will come out ahead and which man won't among those of you who are here at this time right before me. You know when

* Since my address was made the Treasurer of the old Lowell Savings-Bank has sent me the following statement of an actual deposit in the bank to which nothing has been added except the accrued dividends, and from which nothing has been withdrawn. 1886, March, deposit, $200. 1887, May, dividends to date, $676.50. Total, $876.50.

the British troops occupied Boston in the Revolutionary War they nicknamed the people "Yankees;" they meant it for ridicule, for "sass;" but I don't know any real Yankee who isn't proud of being a Yankee; and I think the Yankees came out ahead; they didn't choose to be ruled by John Bull; they chose to manage their own affairs, and they do; they have done pretty well on that line. They sent the British troops out of Boston Harbor because they wanted to control their own work and their own time; they didn't want any one else to say that they should do this and that they shouldn't do that. Well, now, some of you are trying to do the same thing that the British troops tried to do; you are trying to rule the workman; you are trying to tell men how they shall work, when they shall work, where they shall work, and how long they shall work; you call a man a scab who won't submit. Is that fair play? Now, you won't like it when I tell you right here that the "scab" is the man who will come out ahead, and you will get left. But don't mistake me. I wholly approve of the organization of labor. I don't care what you call it, whether trades-unions, Knights of Labor, or by any other name; all that I claim is that you mind your own business. What is needed now is a club of "scabs;" that is, a liberty club, a mind-your own-business club. If you have Knights of Labor, why not have Squires of Work? I believe in a squire more than I do in a knight. The squires have been

licking the knights for the last three hundred years, getting on top, and by and by they will bury them. We have done with kings, with princes, with dukes and other privileged classes ; now what business have the knights of to-day to take up the privileges which the squires took away from the old knights long ago? What were these privileges that the princes, the dukes, and the knights used to claim in old times? Just what the Knights of Labor claim now, the right to tell you or me what we shall do with our time and our brains, and how we shall use our hands. That won't work. The squires won't have it. There are more squires than there are knights, only they don't know it yet. Then I say let the squires organize, support each other, and help each other to find out what their work is really worth. They don't want any master workman ; they don't want any masters of any kind to order them around. They want corporals and sergeants, men of their own kind ; non-commissioned officers to keep them in line and to keep them all up to the best mark. When you organize such a club as this every member will get higher wages because he will be the best man of his kind ; each one will be a man who knows how to make his own bargains and manage his own affairs. There will always be work for him at the highest price, because he will be the man who will make goods at the highest wages and at the lowest cost. That's the kind of man that every employer wants to

find. I don't care whether the times are hard or easy, good or bad, that kind of man always gets work, and always gets the best pay that the price of the goods which he makes will permit the employer to pay.

It is a great blunder to say that while the rich are growing richer, the poor are growing poorer ; it is only the poor who can't work well, or who won't work well, who grow poor while the rich are growing rich in this country. The best times for the manufacturer are the times when he makes the most money, and they are always when the wages are highest and not when they are the lowest, because wage-earners are their principal and most important customers.

Therefore, I tell you, organize, organize, organize, but organize the squires of work ; call in all the "scabs" to join, and don't refuse any man who works for his living either with his hands or his head, with his own capital, or his own tools, or his own brains, if he is an honest and a true man.

There are two things very much needed in these days : first, for rich men to find out how poor men live ; second, for poor men to know how rich men work. This is coming ; there has been a great change since I was young ; most of the boys with whom I went to rather a poor school were sons of rich men. I tried to make a list of them one day not long ago, but I stopped : it was too sad ; half of them had died as fools die, of rum or worse. Half

my friends in later years have been men who began at the lowest round of the ladder. The most useful and one of the best friends I ever had began as a mule boy in a cotton mill. My best friend now was for many years a common sailor.

There are not as many drones and dudes now as there used to be. Let them pass, they don't cost much, and they are not of much account anyway. I can name to you scores of young men of fortune who are now doing the kind of work that does not pay in money but does pay in human welfare. You cannot spare them.

When we who are on the down-grade of life look back over a single generation, only thirty-five years, what do we see?

Has not this country become one great neighborhood in which all men serve each other? Who made it so? Was it not the inventors, men of science, who worked with their heads and not so much with their hands? Did they not give the men of capital the power to build the railroads and to bring the food of the far West to the door of your dwelling, at a profit on each barrel of flour moved 1,000 miles so small that it is now less than what the empty barrel is worth to put our own apples in after you have eaten the flour? Are not the hours of work shorter? Is not the work of life easier? Are not all the conditions of life better now than they were when many of yóu and when I myself began

to get our own living by the use of our own hands and our own brains? I could prove all this, but there is not time to-night. If you want me to speak again, I will do so.

If we have done so much within the span of one man's working life, what will be done in the working lives of our boys who are just becoming men? If they work as well as we have, if you leave them free to use their own heads and their own hands, if you do not lead them to hope for rest and leisure unless they have earned it or saved it for themselves, then your dream may be realized: eight hours may be enough, and the time saved and well earned will be well spent. I hope for that time. I can see the promise of it underneath the figures which I have put before you. I can read it between the black lines which I have drawn to prove my case; but I am called a visionary and an optimist. I am glad I am.

Therefore, I say to you, I take no stock in those who will not trust you, and who speak of your unions and your clubs as if you had no right to join them. But, on the other hand, I say to you, do not give away your own case. You have no more right to compel men to join your clubs and obey your rules than I have to compel you to work for me if you do not choose to do so.

If there is one thing meaner than a rich man who does not admit that wealth has duties as well as

rights, it is a workman who tries to prevent his neighbor from making his own bargains in his own way, and who, when he fails, as he always will fail, next tries to make him contemptible by nicknaming him a "scab."

Now I will stop. It is your turn now. Who speaks first?

But, fellow-workmen, before you begin to fire back at me, let me say a word or two personally. I have told you that you and I must talk this thing out. What I mean is that every poor man ought to talk this thing out with every rich man or with every man who is better off than he is himself, in order to get at the true question of rights. If I come here to blarney you with soft words about the rights of labor, if I try to catch your votes by any of the common stuff that is put into political speeches and political platforms, you would scout me and would never want to hear me again. I despise this talk about the rights of labor. The poor man has no more rights than the rich man. What you want to think about are the *rights of man*, whether he be rich or poor. Now you must not think I have no sympathy with the poor. I don't know what I should do myself if I were to become poor again. I was poor once. I don't intend to keep my children from being poor by piling up my money for them. Every man should try to keep his children from being poor by putting skill into their heads and hands rather than money into

their pockets. I tell you here and now that by the acts of the Legislature which you have tried for, and some of which have been passed, and by way of by-laws of your Knights of Labor, your clubs and your associations, which you have tried to force people to adopt, you are driving capital out of the State of Massachusetts. Up to this time the true men of this country, the free men of this country, the scabs of this country, have managed their own affairs fairly well, without much regard to your meddlesome acts; the result of that has been that the men of special skill, who are at the head of their trades, are 100 per cent. better off to-day than they were 20 years ago and more. That is, they can buy twice as much food, fuel, clothing and as good a shelter to-day for a year's wages, as they could buy 20 years ago with what they then earned. The average carpenter, mason, painter or other mechanic, who minds his own business, and keeps the control of his own time, can buy nearly twice as much, but not quite.

The average factory operative can buy two-thirds more than he or she could buy 20 years ago with a year's wages; and the common laborer can buy 50 per cent. more. But this will not go on if you don't stop. There is no time to prove to you what I say to-night: but if you will go up to the State House and ask the State Treasurer, you can get the facts, and you can find out for yourselves that you are driving capital out of this State into other States,

where men are left more free than they now are here to manage their own affairs.

Now, if you think I am cold and hard and without sympathy, I tell you it is better than any sympathy or any "soft sawder" or any "taffy," to tell you the truth. If you don't believe that what I tell you is true, get at the facts yourselves; and when you prove me to be wrong I will admit it.

I have said to my friends that I should have fair play and a fair hearing here to-night. I have. I will not thank you for what was due to yourselves while you listened patiently to hard words; but I do thank you for your courtesy to me.

For the purpose of this publication the reply by Mr. Chamberlin and the rejoinder by Mr. Atkinson have been carefully revised by the authors, who, while adhering to the substance and the form of the original addresses, have corrected them so as to make the points and conclusions as clear as possible.

REPLY TO EDWARD ATKINSON,

BY

E. M. CHAMBERLIN.

I HAVE no doubt we should most of us be glad if we could keep Sunday entirely as a day of rest, devoting another day of the week, Monday perhaps, to recreation and amusement and to the consideration of those public questions upon which from time to time the people are called upon to give an opinion.

It unfortunately happens, however, that nine-tenths of that people—I speak of working-men and women, their families and those depending upon them—are not masters of themselves for a large portion of the time from Monday morning to Saturday night, and are compelled during that time to strain every energy, to devote every faculty, and to give the greater part of their thought to devising ways and means to earn a living. Some are in good places and there is no prospect of immediate discharge; but put them all together and the income of the working classes is too little for their necessities. They have not money enough to meet their needs from one year's end to another, as all statistics show.

Few indeed are the households of the workers

that are not agitated by the fundamental inquiry, What shall we do to live? All are more or less scrimping, turning, fasting, planning, and devising; all with tense muscles and knitted brows holding the door to keep out the gaunt wolf that is ready to spring into every house. When we count our distance from want by days we cannot, in any great numbers, even on Sunday, find room in our thoughts for anything else than bread and meat. And when a man on a week day, after an early rising and a hasty breakfast, goes a greater or less distance to his work, and takes his place at a bench another has provided for him, all day long, over his shoulder, more or less distinct he sees a spectre. As he grows older the spectre stands out more plainly, till finally he is in his clutches, a spectre no more, but a terrible reality. At seven in the evening the worker eats his supper. I thank God that with many for the future it will be at six, and if the Governor wants a reason for Thanksgiving day this year, he can find no better one than this. It is a cause of jubilation; and the sturdy men who, against such odds as were brought to bear against them, have at length conquered the right to eat their supper at six o'clock may well make merry. Well, after a long day's work, tired out, they can hardly help retiring early.

My friend says the men must save, must economize, must eat beef at five cents a pound instead of twenty. Starve our stomachs to save our food!

Better and more nutritious will the food be? Is this recommended because it is better, or because it is cheaper? If because it is better, the working class need not be appealed to ; everybody will soon find that out. If because it is cheaper, we answer, nothing is too good for us. We know that the more expensive we are the higher will our wages be, for that is determined by the cost of living ; an iron law Ricardo calls it. If all laborers could save in cooking, the employers would profit by the saving—not the workmen.

Chinamen are cheap because they do not cost much, do not consume much. We are dearer because we must have nicer things. If a thing is good in itself it will do for all, not particularly for workingmen.

Political economy is one branch of human knowledge, cookery another. We want the best of each, but not both together. If a man will save, will lay by something, he in time may work out of his class. Let him work out of his class if he will, that way or any other ; when he does we have no concern for him. What becomes of the others? We do not care for the few who scramble over the backs of their comrades, and we are not going to tell them how to do it. Our concern is for those who are being scrambled over. We believe that all may be saved.

Let us follow the idea to its logical conclusion and accept all the results. If it is a praiseworthy thing

in one to step from the dependent class, it is a praiseworthy thing in all. But when all step out there is no such class. We are stepping. As John Swinton said the other night, we are taking the first step, the "goose step," and we are going to step together. No classes! Let us settle that point right here. It seems to me that there are two very well-defined classes at least; those who pay wages, and those who receive them. Over there is capital; here is labor. Life is a contest between these two forces; it is no use to prevaricate or to deny this.

They have interests in diametrical opposition to each other. The lines that divide the two are as well defined as those which divide the earth from the sky or the land from the ocean. Labor gets wages, capital gets profit. The lower the wages, the larger the profits (speaking generally). The less the profits the higher the wages, the world over. The more capital can make on your labor, the richer will it grow; the less it can make on your labor, the richer will you be. The issue is distinct. The two parties—classes—in the contest stand out clear and bold against the background of events. There is no chance for confusion; there is no intermingling of the elements. Life is a death-struggle.

We all catch at straws. The more straws the capitalist can scratch together the longer he will keep up. The fewer the laborer can get hold of, the sooner he will go down. One keeps his head above the waves

at sixty; the other sinks at forty. Can one wonder at this scramble for the Margin of Profits?

The exigencies, then, of our week-day life oblige us to devote a day that we would like for absolute rest to study as we are doing this evening or in some other way. What we can save of this day from the money-making pursuits of a sordid class, is due to the efforts of the workingmen. It is they who in New York, Massachusetts, and in the West have called and are calling on the public, the legislatures, and the courts to stop the inroads of capital upon the domain of labor's rightful leisure, a leisure upheld by every consideration of humanity and justice.

It is these Knights of Labor that our friend so ridicules, and in Boston, Barber Knights, that make it a little easier for us to come out and hear Mr. Atkinson on a Sunday evening. What hope have we from his class, in this? They, the special guardians of the day, the members of those religious organizations handed down from the Puritan fathers, who were such rigid observers of Sunday, as a day of rest, that no travelling or cooking were allowed on that day, are the first to defend the employment of steam and horse-car conductors for seven days of the week, on the plea that otherwise they could not attend divine worship on Sunday, while for half the day they close their churches to enjoy their fine dinners. They have a lesson to learn from those they never see inside their beautiful edifices.

In the narrow circle in which Mr. Atkinson confines himself for the most part, he is master of many figures. He no doubt collects these and arranges them with the greatest care. In no other industry are they obtainable in a like degree of completeness. The criticism that might be made generally to specialists of his school is, that in defence of their order they draw their illustrations from a small corner of the landscape that best accords with the picture they would like to see. Such figures tend to confuse the mind, in the examination of which more important points than that illustrated are lost sight of.

The lawyers, parsons, and political economists constitute themselves the nursemaids of labor, and receive their fees for watching us. They remind me of a picture I once saw in *Punch*, where the female attendant of two little girls, one on either side, crowds their hats over their eyes with, "do keep them in place, children," while she kisses the policeman.

We will "do justly," according to our lights, but prefer some other than the nursemaid's definition of what justice is. We will "love mercy" though others be pitiless to us. As to "walking humbly," well, we never will walk like Uriah Heep.

Another objection to treating the subject as if it were a sum in arithmetic—as, for instance, if a cotton mill has a hundred dollars to divide in wages this

year among a hundred children, therefore, each child must receive a dollar and no more next year—is the fact, that this proposition holds good only for the moment. Before the multiplication or division card that the economist has thrown at the child's head can reach him or her, conditions have changed. When Mr. Atkinson tells us of profits and wages, he tells us what profits were divided and what wages were paid. Let that go. We do not ask for any back pay. What is the object of these *post-mortem* examinations? We deal with the living. The mere fact that a certain amount of wages was paid is no proof that the same amount will be paid again. On the contrary, if there is any such thing as progress, it is proof that the same amount will not be paid again. What is progress? Why! More wages.

Production, consumption, and wages are not fixed quantities to be worked out any time by the rule of three. We are not so many bricks long and so many high. We are growing every minute, and it takes more wages, more product to feed us. As one needs more, one makes more. The supply is only limited by our wants. There is no limit to production to which wages must correspond. If wages increase, production must also increase. Wages are not restricted by production, so much as production is restricted by wages.

Increase wages first, and production will follow.

The measure of wages is the consumption of the producer. Mr. Atkinson says rightly, that a man costs what he consumes. Production is always ahead of consumption. We need have no fear on that head. The main thing is to make men consume more. We can do that only by creating within them new wants. It cannot be that if you cut down the profits by enlarging the wages of the laborers you will throw the makers of fine cabinet work, the musicians and artists of various kinds, out of employment because capitalists cannot afford to employ them. All have like tastes and desires, or the germs thereof are within us to be cultivated. These things, like every thing else, will become more abundant, cheaper, more easily produced when produced for all instead of for the few who now enjoy them. Poverty is more expensive than wealth. "Take care of the rich, and the rich will take care of the poor," is a sentiment that has lost its force. We do not believe that it is necessary to sustain a class in order that the cabinet-makers, etc., may be taken care of. Attend the twenty-four concerts of the Symphony Orchestra that are given during each winter. From the first one to the last one you see the same people occupying the same seats. The enjoyment of the most delightful music in the world, restricted to three thousand people out of a population of more than half a million in and around Boston, by the narrow margin of profits! Dr. Tourgée

should have a Symphony Orchestra at the South End, Professor Elson one at the Highlands, and I am not sure that there is not a chance for another down town, and that Dr. Julius Eichberg, a composer and director of the highest ability, could not sustain one at the Conservatory of which he is the head, if wages were a little higher. If the extension of these institutions depended upon the size of the profits, there should have been more of them, proportionately, when profits were larger. They grow as profits decrease, however. If more wages are paid, those who receive wages have more to spend for furniture, music, pictures, and so on ; and more furniture, music, and pictures will be produced. Produced in greater quantity, they will be produced with less effort. A greater demand for artists will fill our present and create new schools and conservatories. Is it not absolutely true that the more wages have increased the greater has been the production ? If your cotton mill divides six per cent. and makes a hundred thousand dollars' worth of goods in a year, let it divide four per cent., increasing the wages by the other two per cent., and instead of a hundred thousand dollars in product you will get more than one hundred and two thousand dollars in product. This is history. No Joshua of the cotton interest can make the sun and moon of wages and production stand still. The speaker has told you that profits tend to a minimum. They have always been so

tending. Labor has been stretching out its hand for this margin ever since the first slave-drivers stole it. It is the sole creation of labor, and by the first principles of justice, it belongs to the laborers. It is no justification of the taking to say that it is small. I am talking now of the taking, not of the recovery of what has been taken. Let that go. It is said the service rendered warrants the taking; who shall be the judge, the taker or the takee?

There is not an item on that chart from which some profit or other has not been appropriated by capital. The profit stated there does not give a fair idea of this appropriation, either as to the amount, or the moral effect on the community of such appropriation. If one wrongfully takes from another he must fight to keep it. He must hire others to help him to keep it. He will make laws that all shall help him keep it. He becomes an oppressor.

If an analysis is made of the profits of a cotton mill, a complete analysis should be made of every article used in that mill; and not of the small amount used in that mill alone, but in every other mill and in every connected industry in the country.

What the profit is on a thousand dollars invested in a cotton mill is of little use to know. I could not take the total wealth, land, stationary and floating capital, and, applying the per cent. of the cotton mill profits, find the total profit on capital. Nor, if the

stationary capital alone be taken, or the amount of currency in circulation be taken, would the result be any more satisfactory. As Colonel Wright, Chief of the National and State Boards of Statistics, said in conversation with me, this very week, "We have no statistics that can show us that." The estimate of the amount of profit on capital in the aggregate is no more than a guess. It is several hundred per cent. in some cases and only a fraction per cent. in others. Sometimes capital does not make anything, fails, and goes out of business. By what criterion shall we know who guesses nearest to the truth? It is not very important to know the amount of profit on capital unless we know how many capitalists there are. The ratio of the profits on capital is decreasing, but the aggregate profits are increasing.

The capitalist class is relatively diminishing in numbers, while the laboring class is relatively increasing in numbers, just as fast as the larger industries are swallowing the smaller ones. The aggregate profits and the amount apportioned to each member of the capitalist class becomes greater and greater. The wage class has more than it did have, but less proportionately on account of the increasing discrepancy in the number of members in the two classes.

The saving on production is almost entirely in the hands of, is the property of the capitalist class, and each year something is added to its enormous resources. In 1880 the total net production of all

manufacturing industries in the United States, less five per cent. for wear and tear, was $1,834,000,000, the wages paid to 2,739,000 employés was 51⅔ per cent. of that sum, and the balance, 48⅓ per cent., what capital added to its capital and to waste. If there had been as many capitalists as laborers, the money would have been about equally divided. How many capitalists were there? That is an essential item to consider. Statistics do not show. For a partial illustration of how labor-created values are divided, we may take a cotton mill or anything else; but as evidence in the general issue the figures are worthless.

Turn to the chart; labor is in red.* It is the heart's blood. Without it the human and the social frame is a ghastly corpse. It represents those who were at work in that cotton mill. Let us have some great black squares for those who were not at work anywhere.

Colonel Wright reported last year that a million persons were permanently out of work. A vast number more were temporarily out of work from one month to six months from various causes. Thirty thousand stockmen in Chicago were locked out by Armour and the rest till they submitted to be worked ten hours instead of the eight they had been working. For six months and more the beef and pork men of that chief headquarters of the beef and pork supply worked eight hours, and we had enough to

* The chart referred to is that used when the lecture was delivered. See frontispiece.

eat. Armour's profits were less, though. The carpenters of the same city and of many other places, including Boston, out. Thousands of men on Gould's Southwest system. Eighty thousand freight handlers in New York. Now, the shoemakers of central Massachusetts, and the silversmiths of Pennsylvania, New York, Connecticut, and Rhode Island, in both cases because their employers will have no more Knights of Labor. A free country this. There cannot be universal activity so long as production so far outstrips consumption. Industry must be intermittent, and partial paralysis ensue.

As Mr. Atkinson says, in the country farms are untilled, and their empty buildings left to decay. In the cities and towns thousands of honest, industrious men are out of work. The proof of this is that when we have a large strike, like the recent one in New York, or that of the Boston horse-car employés, unemployed men are found in sufficient numbers to take the places of the strikers. Of course, in trades requiring greater skill it is more difficult to fill the places of those who cease work ; but even then very often the employers manage to pick up hands that will answer for a little while and until the men are obliged to surrender. If there were not a dearth of employment compared with the number that wished to be employed, how could the scabs come out ahead, as Mr. Atkinson insists? There would be no scabs to fill the places of the strikers. The supplant-

ing of union men by non-union men presupposes that the latter are in sufficient numbers to supplant the former.

In Pennsylvania and Ohio the mines and furnaces are at one moment in full operation, and the next idle. In the great cities thousands upon thousands of workers, suffering, starving men, women, and children, huddling together in misery. Look at all your large cities and mark the cordon of jails, reformatories, poor-houses, hospitals, and prisons that are stretched about them. Notice how the islands of Boston harbor, that should be places of recreation, are being covered with institutions devoted to punishment. Take New York harbor; Blackwell's Island, almost two miles long, covered from end to end with prisons, alms-houses, and hospitals; Ward's, Randall's, and other islands devoted to the same or similar uses; six hundred acres of beautiful pleasure grounds along the city's front, devoted to such purposes, are a perpetual witness to our shameful robbery of the poor. Says a physician connected with one of these institutions, in writing upon the subject, "When capital and commerce grow humane, and become as considerate of human hearts and lives as they are of machinery, then and not sooner will this diabolic waste be checked and stayed."

In view of all the appalling facts connected with our present system of industry, we can have little patience with figures. They will not cure our ills.

They will not find us bread and butter, yet one knows that there is plenty of bread and butter to be had.

Now, then, commence at the beginning of this profit question. Your factory is built upon the land. How much profit do the land owners in the country get out of the land? Since the time of Columbus the land has, by reason of human toil, been growing more and more valuable, till the present owners of it derive from it in the shape of rent, a profit on centuries of labor that all comes out of present production. How much is taken from labor in this way who can tell? We know generally something of the social condition of the land owners and the landless, but what the former class, actually in money, scoops from the products of the latter, it would be hard to get at. The profits from the unearned increase in the value of land are simply colossal. Can they not be diminished and something added to the wages of labor? What service do the landlords render to the community that entitles them to any such pay as they take? They do nothing. They grow rich in their sleep on illegitimate profits. To start out with, there is a pretty large moral cloud if not a legal cloud on their title. As Herbert Spencer says, "It can never be pretended that the existing titles to such property are legitimate. Violence, fraud, the prerogative of force, the claim of superior cunning, these are the sources to which

these titles may be traced. The original deeds were written with the sword rather than with the pen ; not lawyers but soldiers were the conveyancers ; blows were coin and the seals were blood."

Mr. Atkinson says we cannot help that ; if we put more taxes on the land owner he will tuck it on to the tenant, so that the producer will finally pay. He is wrong. If I own a lot of ground and give, sell, or have stolen from me half the rent, I cannot charge that half to my tenant with any expectation that he will pay. The price of rent is not so much within the control of land owners as it is within the control of the community. It depends primarily on how much of the general production the community will be satisfied to live upon. We are not Fellahs, at any rate.

All the surplus of production that man has saved these many years is attached to the land. In an increased taxation on land that surplus will be taken before you can touch the daily product of labor, nearly the whole of which is required to support the people according to the present standard of living. The landed class may be strong, but they cannot push us back into another century.

Well, we have our land, and the factory has to be built. On every pile that is driven, and on the driving of the piles, on every stick of timber and every board, on every stone and every brick in that structure, and on the labor of the men who nail the

boards and lay the bricks, a profit is taken by capital. On the men, twenty-five per cent., perhaps. On the materials, much less. So with all the iron and machines used in that factory, everything is subject to a profit. And then when you commence work, your coal is subject to a great profit. It don't make so large an item here, but you find it everywhere.

We all pay to the grinding coal companies something of the immense profits they swindle from the public, and from the ill-paid miners and handlers, the immediate victims of their tyranny. You transport your coal, cotton, and materials. See the profits the railroad kings have amassed. The speaker says, well, if they can bring a barrel of flour from the West at less than the cost of the barrel, they are entitled to the profits for the service they have done. They are nothing but the accidental owners of the railroad. It was labor that built the road, made and laid the rails, constructed engines, cars, and stations; that operates the road when constructed, and which has it in its power by simply ceasing work to prevent you from getting your barrel of flour from the West at any price.

The men you have to thank are the Knights of Labor, not the knights of the watering-pot.

The inventors and the men of science contributed something—much—to the effectiveness of labor, but by what rule of justice do the money lords appro-

priate that? The Fultons and Stevensons worked for mankind.

Why stop at the profit on this cotton cloth when it leaves the mill?

The stores, the manufacturers of garments, all have their profits to take.

If the profit be really small, it is no palliation of the tyranny and oppression to which the system under which these profits are taken gives rise. In the history of labor, the misery mark runs parallel with the per cent. profit mark.

Take this same cotton industry. From its history we learn at least these two things:

1. That the smaller the profit the better off the operatives, and the owners too, of course; and

2. That diminution of profits and increase of wages came only after the most bitter contests between owners and operatives, in which the latter were victorious.

Wages have always been raised by the laborers, not by the capitalists. The latter, naturally, resist. They fear that their per cent. profit will be decreased. So it will, but quantity will be increased. The two interests never can harmonize. There is no such thing as a spontaneous rise in wages. Look at the cotton factory, and I call up this matter to emphasize the fact that every attempted improvement in the condition of the operatives, that is, every attempt to increase their wages, directly or indi-

rectly, has been resisted by the factory lords to the last. They have resorted to every device to keep down wages, and have never increased them till after a bitter struggle. At first, to swell the profits of these men, little children were forced into the mills to compete with adults for employment. Frequently, all night long, until a meddlesome legislature interfered, the little things might be seen at their exhaustive toil. By the agents of these mills hundreds of children, unknown to their parents, were swept into the factories to live and die there, never heard of by their friends again. The living frequently awoke in the morning beside a dead companion. The children worked day and night and Sundays, often for sixteen hours at a stretch, frequently in exhaustion falling into the machinery to be torn in pieces. Pigs fed in pens contiguous to the factory kitchens were better fed than the children, who, in their greedy hunger, stole the swill from the troughs in the sties. They were put in irons as the master or overseer might direct. When they died, they were pitched into unmarked trenches.

Had it not been for strikes and legislative interference, which worked a limitation of the margin of profits, these same scandals would exist to-day. We still have ill-paid and under-fed children in the mills of Massachusetts, competing with their parents for meagre wages. It happens that among the poor the

whole family must suffer. It is their children who must cramp their lives and smother their better aspirations in the factory and the shop. If we could only apportion this thing better! Say, let the poor men and women continue on as they are, but send the children of the rich into the factories and the stores.

We aspire, however, to take the children altogether out of employment, but every effort made in this direction is met with hateful obstinacy.

Nothing that is worth having comes without effort. In England the factory hours of labor have been successively reduced till they are now a little less than nine and a half a day.

In Massachusetts, by the law of 1874, the factory operatives were deprived of disposing of their time for more than ten hours a day. What a loss of liberty! Mr. Atkinson says the only element we have in common is our time. That is true before we dispose of it. If I sell myself or have the privilege of selling myself for twelve hours a day, am I a freer man than if I sell myself or can sell myself for only ten hours a day? Is a Chinaman freer than an American because he can sell himself for seven years? I take it that a man's freedom is indicated by the time he does not work for another, not by the time he does. Mr. Atkinson pities the long-hour wives. Does one's wife work less the longer her husband works? If she works fourteen hours a

day it is because her husband works ten, not because he works eight. She has to rise too early in the morning or sit up too late at night. What is the remedy? Cut down the hours of the man's labor, of course. The earlier his breakfast or the later his supper, the worse for her. Mr. Atkinson says, if we cut down the hours we cut down the product; that there will be fewer goods; fewer stoves; fewer tools; fewer houses; and that means a higher price and a higher rent. That is sheer nonsense. We are cutting down the hours all the time, and yet producing more than ever. As he tells us to-night he told us in 1874, that if we passed the ten-hour law we would stop production and drive capital out of Massachusetts.

Well, the law was passed, and the capital and production in this industry is greater than ever. The reduction in the hours of labor increases production right away. If there were not enough goods to go round we would make more.

But he says the capacity of his mills would be no greater, and all are fully employed now. We would set the idle men to build new mills. We would invent new looms, and new spinning rings.

Here's my friend White. He has invented a stocking knitter. Makes a whole stocking and shapes it. The stocking don't have to go through three machines and be seamed up. It comes from the machine completely finished. No factory has his machines.

Why? Under present demand the manufacturers can get along with their old machines, and they do not care for the expense of replacing by new. It pays them better to keep his machine out of the market. If the production on old machines was lessened, how long would manufacturers wait before getting new? Two hours' reduction in labor will add twenty per cent. to production.

Mr. Atkinson intimates that it is increase of production that reduces the hours of labor. He is all wrong. He puts the cart before the horse. Why did not a reduction occur long ago then? For we long since passed the point when the per cent. increase on production surpassed the per cent. decrease in the hours of labor. As he says, while we work less hours now, we get more pay than when we worked long hours, and our pay has a greater purchasing power. That is the theory that Labor is acting on all the time.

They get acts of legislatures to pass ten-hour laws; they strike for nine or eight, and the employers fight them all the time like tigers, telling them: "You will stop production, you will lessen your wages;" and yet, somehow, sooner or later, after a great deal of hard work, the workmen get their ten, nine, or eight hours. Then the same men that fought them so hard come up smiling and say: "How things have improved, but don't do it again." The nearer you can keep consumption to production—that is, the more

you can reduce the margin of profits, the better will it be for the rich as well as the poor. Every reduction in the hours of labor throws new producers and consumers into the market—this, necessarily, increases and cheapens the product. More in the aggregate, and more per capita is produced. For instance: the number of employés engaged in the manufacture of cotton goods in the United States in 1850, was 94,-956. By the census of 1860, the number of employés had increased to 122,028, or 28.5 per cent. The product of 1860 exceeded that of 1850 by 76.6 in value, and in the quantity of cloth by 50.3 per cent., and in the quantity of yarn, batting, and warps, by 100 per cent. The production of cotton goods of all kinds, per capita, was, in 1850, $2.82, in 1860, $3.60.

The average annual wages of each factory operative was $176, in 1850; and $196, in 1860. The average value produced by each operative, in 1850, was $668; in 1860 it was $948 per annum.

In New England alone, for 1860, the cotton cloth produced by each operative was 1,127 yards more per annum than in 1850. The number of operatives had increased 29.3 per cent.

The reduction of working hours not only increases the aggregate and per capita production by making room for more workers, but increases the ratio of consumption. The total consumption must be more, for there are more to be paid, but the consumption

per capita is greater. For instance, the people of the United States used up three times as many yards of cotton cloth per capita in 1860 as they did in 1830. A man who works in a dirty mine ten or twelve hours a day will not think much about clean shirts. He hardly wants a tin basin in which to wash on a Sunday. The more time he has to himself the greater will be his needs. It is natural to grow. Only give him the chance. Build the man. Material comforts come after he wants them, not before. Books are useless till men can read. The hours of labor were not reduced because presses had been invented which spun off thousands of miles of newspapers a day and men wanted time to read them. They got the time and wanted the papers. Leisure is the mother of Production, not her daughter. More time for the worker means more wages, greater production, and enlarged consumption. The factory operatives in Massachusetts work more than two days less per month than the factory operatives of the neighboring States do, yet receive $2.52 per month more wages. Mr. Atkinson is very much afraid that if we diminish profits we shall lose the service of the rich men. Poor fellows! what will they do then, lay down and die? It was thought once that there could be no society without a king and nobility. We get along very well without them, and we shall get along very well in a republic of labor when it comes. We shall find, however, as

we go along, and as we always have found, that a reduction of the profit margin means a greater abundance of wealth to everyone who in any capacity is engaged in the useful labor of the world.

That class that profits, or rather, thinks it profits, by the disorganization of labor, is continually talking to the workingmen about their loss of liberty. Be masters of yourselves, your actions, and your time, is its continual cry.

As labor associations are independent of the law, their decrees can be no more than requests to their members, who may obey or not obey as they see fit. Unanimity of action arises from unanimity of sentiment. The power of the employer over the workmen is great. The employer is backed by the State. The workmen have to rely upon themselves. The employer may discharge and lock the doors, and the power of the government would be invoked to sustain the employer in his legal rights if the workmen dared to question them. The right to live and the right to work is no legal right, and the workman must take the consequences if he pretends to any such rights and acts as if he had them. To meet this irresponsible power of discharge, the workers have unions whose existence is only maintained by preserving and nourishing a feeling of brotherhood among the members. There is no surrender of individual liberty that cannot at any moment be resumed. Through the operations of these

societies, as most persons are ready to acknowledge, wages have been increased, and the hours of labor shortened. Organization is the forerunner of progress. The non-union men profit by what the unions have done for labor. They understand that, and it would be impossible to unite them in a sentiment of hostility to labor organizations.

It is their poverty that keeps them out for the most part.

In this connection Mr. Atkinson reminds us of the American Revolution. The reminder was apt, for that Revolution began, if you remember, as ours has done, with a series of defeats.

In the first year we had Lexington and Bunker Hill, glorious now, but depressing then. What has happened to us the past year? Defeat of stock-yard men at Chicago, of freight handlers in New York, of horse-car men in Boston. What of that? As our fathers looked through the gloom of the first years of the Revolution, so we see dawning in our mightier struggle, through present shadows of failure, the glories of our future battle-fields, of our Saratogas and our Yorktowns.

MR. ATKINSON'S REJOINDER

TO

MR. CHAMBERLIN.

I MUST take up my little water-pot, to which my friend Mr. Chamberlin has referred in his reply to me, in order to throw a little cold water upon the rhetoric in which he has indulged. I have followed him with care, and have failed to find any substantial fact in his own statements, or any statement of error in the facts which I have presented. All that I do find is a misinterpretation of the facts.

On one point I must say that I most heartily agree with him. If the parents of young children are so ignorant, so brutal, or even so poor as to be willing to overwork them, the State should come in and become guardian for those who have no natural protectors. What I object to is the State undertaking to take away the freedom of contract from adult men who are capable of managing their own affairs.

In reference to the day, I have said that Sunday should be a day of rest and of *re*-Creation ; not of amusement, but of reviving the spirit of the man in a wholesome and proper way ; creating again, accord-

ing to the etymology of the word, all the parts which may have been overstrained during the week-day work.

I should be very sorry to think that I could be so little comprehended as to have it appear that I did not know as well as Mr. Chamberlin how deplorably narrow the conditions of life are to the great majority of working men and women. Who has treated the subject more fully than myself? Who has attempted to make a closer measurement?

I can assure you that since I began to study this question and to know something of the adverse conditions under which great masses of people must live, not a day has passed when some contrast of wealth and poverty has not brought up to my own mind the fact, which is almost appalling, that even in this prosperous country the annual product, if evenly divided, would not give to each man, woman, and child on the average more than what fifty to fifty-five cents a day will buy. Not a day passes but what this question presents itself—how can this product be increased? How can the work be diminished? How can the product be more evenly distributed? How can the monotony of modern factory work be relieved? Charity will not accomplish it. Legislation will not accomplish it. How can the work be done? Is there any other way than by education? by the development both of the hand as well as of the head of each single person? Can we

begin in any other way than by beginning with the children ?

I know many men and yet more women, whose wealth is but a responsibility, a heavy charge ; who would, if called upon to do so, take all that they have and *give* to the poor ; but they know, as you know, that to *give* fortunes to the poor would only increase pauperism, vice, and laziness. Paupĕrism will never be removed by charity. Poverty will never be removed by legislation. The world is an oyster, but there are many who cannot open the shell, even if you *give* them a knife. Each man must learn how to use the knife before he can open that shell without wasting what it contains.

Some of you look upon every man who possesses wealth or capital as having taken it from workmen without compensation. You are wrong, and when you attempt to mislead others with such false views of life you are something more than wrong. But you do not do much harm because there is an instinct or common sense which governs the action of the great mass of men and leads them to reject such shallow sophistry, even though they cannot meet your statements or do not think it worth while.

By the use of capital the product of food, fuel, and other necessaries of life is increased in vastly greater measure than the share which falls to capital is increased. In rich countries there is no general poverty, no danger of wide-spread want. What we need to

treat is the distribution of this product. Yet, even in a rich country like ours, the product may still be too small to permit much rest from work.

It is not the question of money to be paid or earned, but of money's worth to be put to use ; and if, as I believe, the utmost now produced in this whole country is only, on the average, fifty cents' worth per day of food, fuel, shelter, and clothing for each person, or what one dollar and a half will buy at retail prices for each worker in a group of three, how, then, can we improve the conditions of men except either by increasing the product or by doing more work in the same time? On the other hand, how can we reduce the hours of work without increasing the want, unless good workmen can learn how to produce more in less time than they now devote to their several arts?

Can you doubt that men who are prosperous themselves would not be eager to have every workman share in their prosperity? Who would not be glad to have them able to take their supper in future at six o'clock instead of at seven, as Mr. Chamberlin says? What I and others like myself desire to promote is, that every workman can get a better supper at six o'clock than he now can get at seven ; but that depends almost wholly upon himself and not upon some other man. Mr. Chamberlin alleges that I say that men must economize ; must eat beef at five cents a pound instead

of at twenty; must lay by something; and that in time he will work out of his class. I do not admit any such distinction of class. What I do say is this: that each man and woman may learn for themselves how to get a better meal even out of beef at five cents a pound than many now get out of beef at twenty cents a pound, or better nutrition out of twenty cent beef, if they can afford that. The epitaph to which I hope to be entitled on my monument is this—"He taught the American People how to stew." If I can do that I shall be the great benefactor of the workingman. (See Appendix.)

It seems to me that Mr. Chamberlin has adopted the fundamental error which vitiates the whole reasoning of Karl Marx, Lasalle, and of all other socialistic writers, namely: that if the cost or price of living is reduced either by the workman, or for the workman, his wages will, therefore, be reduced in the same measure. So far as this country is concerned, this form of reasoning and of conclusion are both absolutely without foundation in fact.

(In preparing this rejoinder for publication in book form I am enabled to give some of the proofs of this statement; see note *A* below.)

NOTE A.—By making use of the statistics of wages and prices which have been gathered by Col. Carroll D. Wright, for the National Bureau of Statistics, as well as for Massachusetts; from the data of other State Bureaus; from the United States Census, Volume No. XX., compiled by Mr. Joseph D. Weeks; and from my own compilations, I have been able to establish certain facts in a way which has, perhaps, never before been done.

I have never heard a statement more likely to mislead than the one made by Mr. Chamberlin, namely: "The more expensive we are, the higher our wages." Neither have I ever heard a more ludicrous or erroneous statement than the one which follows: "If all laborers could save in cooking, the employers would profit by the saving, not the workmen."

Having ascertained what are the actual purchases for food by mechanics and working people in this and in other parts of the country, under the different heads of meat, fish, vegetables, dairy products, and the like; having next ascertained the average consumption of cloth for clothing, taking for examples five specific kinds of cotton and four specific kinds of woolen goods; to these I add boots, shoes, and fuel. This table, therefore, consists of the same quantities of the same kinds of the necessaries of life, the cost of which comes to about three-fourths of what you spend for a living; the rest of what you spend is for rent and sundries. To these quantities I have put the prices year by year back to 1860; then I have taken the wages of the different classes of workmen as they actually were in 1860, 1865, 1870, 1875, 1880, and 1885. By dividing the cost of one day's portion of these necessaries of life, food, fuel, and clothing, into the year's earnings, I have thus determined what a man could buy for a year's work with a year's earnings at each period. I find the price of rent, where men did not own their own houses, has varied in about the same way, perhaps not quite so much; but I have left out rent, because the rooms or the houses hired by workmen differ so much in the city and country, and in different parts of the country, according to the climate.

Now, then, I find that the overseer, the foreman, and the high-priced mechanic who could buy in 1860 with one year's wages 2,374 portions of food, fuel, and clothing, could buy only 1,920 of the same portions in 1865; and they can now buy 4,000 portions.

I find that the machinist, engineer, carpenter, and painter who are good workmen, and who never lack employment, because they are good workmen, could buy in 1860, 1,512 portions; in 1865, 1,261 portions; and they can now buy 2,400 portions.

I find that the average adult man or woman who works either in a textile factory or in a clothing factory, in tanneries, iron works, or machine-shops,

I have been unable to account for this stupendous error except by considering the condition of Germany in its contrast with the conditions of this country. Germany has a limited area, not as large as the single State of Texas; a dense population;

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could buy in 1860, 1,290 portions; in 1865, 1,013 portions; can now buy 1,800 portions; and the common laborer who could buy 980 portions in 1860 and 840 portions in 1865, can now buy 1,400 portions. Therefore every man or woman is better off now than in 1860 on a gold standard; a great deal better off than in 1865 when paper money was picking your pockets and stealing your earnings away from you, although you did not believe it then, and some of you do not believe it now. The plane of comfort and welfare is steadily rising for all, but in greater measure to the skilled than to the common laborer.

On the other hand, capital, which merely as capital without any brains behind it, could earn for its owners in 1860 seven or eight per cent. a year, now earns for its owners only three and one-half to four per cent. Who is ahead on that line?

Again: In 1860 the price of a heavy cotton sheeting was eight and one-fourth cents a yard; the cost of labor in the yard was ninety-five one-hundredths of a cent: and the average earnings of the factory operative, omitting second hands and overseers, and including only the men, women, and children who did the actual work of the factory, were $207, which would buy 669 portions of food, fuel, and clothing. In 1885, the price of the same heavy sheeting was six and one-eighth cents, the cost of labor in the yard of cloth was the same as in 1860, ninety-five one-hundredths of a cent, but the wages had gone up to $284. They are now $300, and are now purchasing twice as much as in 1860.

Again: A suit of common chamber furniture, the price of which was thirty-five dollars in 1860, with cost of the labor in it twelve dollars, was made by workmen who earned $456 each per year; in 1880 the price of that same suit of furniture was twenty dollars, the cost of the labor eight dollars, and the earnings of the workmen $723 a year in gold.

Or again, a dozen steel axes which were sold in 1860 for eleven dollars, were sold in 1880 for $8.50; while the day's wages of the workman, which, in 1860, was $1.70, in 1880 was $2.26.

All these examples are taken from the same factory or workshop, right from the books, and they are correct.

and a bureaucratic or paternal government endowed with privileges derived from feudal ages which are no longer accompanied with corresponding duties. At the same time it is burdened with the enormous expense of a standing army; and the work of the most competent of her young men at their most pro-

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An open spring wagon, such as is used by farmers:
Price in 1860, $150; day's wages, $1.84.
Price in 1880, $115; day's wages, $2.37.

A horse-rake:
Price in 1865, $35; day's wages, $1.93 (in paper).
Price in 1880, $24; day's wages, $1.76.

The price is now less, and the wages are now higher than they were in 1865. All this change is due to science and invention. The greatest change of this kind has happened in regard to glass tumblers, goblets, etc. A certain quality and quantity of glass ware, which was sold in 1860 for $11.60, can now be bought for $2.80. The wages of the workmen in the shop where this glass is made went up from $1.23 in 1860 to $1.62 in 1880; and they are now $1.75.

You may make what you can of these figures; they are facts. If you cannot live now comfortably on what you can earn, how could you live at all in 1860 and 1865, on what you then earned, and were obliged to pay out at higher prices than you now pay?

These are hard questions. I don't ask you to be contented with your present condition. I say to you, wheresoever your lot may be cast, learn therewith to be discontented; try to do better; but don't try to make every other workman do what you think is right, and what he thinks is wrong. Let him take his way, and you take yours. If the other man gets ahead of you, hadn't you better try his way, and give up yours?

I once went over a factory with a man who was supposed to have some secrets in it. I asked him why he let me or any other man go over his factory. "Oh," said he, "I am going with you, ain't I? I always do go with everybody who wants to go over my factory, because any fool can teach me something." That's the way he learned his business. Perhaps that's a good way for you to learn yours. I always found it a good way after I learned the trick; and I find there are a great many fools in the world who can teach me a great deal.

ductive period of life is diverted to the destructive purposes of war or of preparation for war. There is not enough produced to go around even if all were enjoyed by those who do the productive work; and so large a part of even what is produced is diverted by an onerous and inquisitorial system of taxation, that the population of considerable sections of the poorer parts of Germany are underfed; they are becoming less and less capable to meet the struggle for life. But this is not the oppression of capital in any sense, it is the oppression of the blood tax of war. These conditions find no counterpart in this country. Your own common sense will tell you, if you will allow it to have free play, that what you can save by intelligent methods of buying your food and your clothing, and what you can save by better cooking, may either be added to your own capital or may be expended by you in improving the conditions of your lives. If you are not capable of realizing this fact out of your own experience, then it would be useless for me to attempt to explain it. Sensible men, mechanics, factory operatives, working men and women are adopting some of the little inventions which I have made, and are at this time enjoying more leisure, better food, and better conditions of life; *they* are saving their time by this means, whether you care or not.

Facts speak louder than words. Study this question for yourselves; it is a practical one; and do

not be misled either by Mr. Chamberlin or by myself. Find out who is right and then go ahead.

I do not say that men should work "out of their class." It is impossible in any considerable measure. As time goes on, a greater and greater number, not only of those who are now poor, but of those who are well off will be, must be, and must remain in the class of hard-working people; but what will be called the hard work of the next generation would be considered the leisure of the present, as the hard work of to-day would have been leisure to the men of a generation ago.

Mr. Chamberlin attempts to counter the hard facts which I have stated by imputing to me sympathy with such rigid observers of Sunday as those who defend the employment of steam and horse-car conductors *seven* days in the week, upon the plea that they could not otherwise attend divine service on the Sabbath. I have no sympathy with such persons. What I would do, and what I have done, is to improve the art of cooking, so that not only I myself, but my cook, can go to church on Sunday, and yet both have a good dinner on our return from the service.

Mr. Chamberlin alleges that I move in a small, narrow circle. It is but too true; but it is a circle from the narrow confines of which there may be a broad outlook. I have said, however, in my address, that one of the things most needed is, that the man

who is the most prosperous should know something of how the poor are obliged to live; and to that end when the figures are arrayed, and the facts are pictured in black lines, proving how narrow the conditions of life must be even in this prosperous country, may it not help even the rich to a conception of duties as well as of rights? But even from such a stand-point, one may justify the wealth which brings about greater abundance for the poorest in the community by its use in their service.

Mr. Chamberlin says that it appears to him that there are two very well-defined classes at the least, "those who pay wages and those who receive them;" "over there is capital; here is labor; life is a contest;" etc.

If it seems so to him, then I think the fault is in his spectacles, and that he does not see the true distinction.

In the first place, although there must always be a division of any given product into the respective portions of wages or earnings, profits, and taxes; and although at any given period there may be, and probably always will be, the employers and the employed, yet the members of these two "classes," if Mr. Chamberlin chooses to call them so, are constantly changing from one to the other according to their respective capacity and ability. I cannot keep you down, and you cannot hold me up, if you have the capacity to rise, and I am unable to meet the

conditions in which we happen to have been placed. I think it is not true that the lower the wages, the larger the profits, as a general proposition. In fact, I know it is not true. I know this: that if we take the product of any given single year of any given mill or workshop, sell it at the market price, and divide the money, then of course by so much as the profits are greater will the wages be less in *that single* year out of that *special* product; but in the next year the competition of capital with capital, in order to gain a share of any excessive profit, will change these conditions; new capital will come in bidding higher wages for those who can do the work, and reducing the profit of the owners who are already engaged in it. In the long run this is the fact; it has been well said by Mr. Henry C. Carey, by Frederick Bastiat, and by other writers of the most opposite schools, "that in ratio to the increase of capital, the share of the product falling to capital may be absolutely increased, but will be relatively decreased, while the share of the workman will be increased both absolutely and relatively." There is not an art of any considerable importance in this country in the history of which this principle cannot be proved. The proportion of every given product, of every kind, which the laborer secures to himself has steadily increased year by year, subject to the exceptional period of our Civil War; while the proportion of the same product

falling to capital has steadily decreased year by year.

(Reference may again be made to the note which has been added to a preceding page.)

Mr. Chamberlin says that "the lines which divide the two forces of labor and capital are as well defined as those which divide the earth from the sky, or the land from the ocean." I differ with him. These lines are constantly merging one into the other; they never hold the same relation in any two years. The best profits and the most satisfactory conditions of business are always attained when the wages of the workman are the highest. Both are steadily rising, and will continue to rise in this country, in spite of all the obstructions which misguided men may place in the way.

Mr. Chamberlin says, "There is no limit to production, to which wages must correspond." What does he mean? What is the source of wages if it is not the product of labor? Do we derive wages or profits from anything except the joint product of capital and labor? I should be glad to have him teach me how to get my wages in any other way than by way of work. He says, "If wages increase, production must also increase." If he will turn that sentence right end foremost I will agree with him. When production increases wages must also increase, for the reason that labor, in my judgment, now receives and always will receive at least ninety per cent. of

all that is produced. The two things go together, and cannot be set off one against the other.

Mr. Chamberlin makes a curious quotation, and I suppose he imputes the words to me: "Take care of the rich, and the rich will take care of the poor." I never said so; I think the rich will take care of themselves. All that I suggest is, that the poor shall become as competent to take care of themselves as the rich are; this they can only accomplish, in my judgment, by developing their own capacity each man for himself, so that his time and his work shall become worth more than it now is. When he has accomplished this he will be as able to take care of himself as the richest man in the community.

Mr. Chamberlin says that "the lawyers, the parsons, and the political economists constitute themselves the nursery-maids of labor, and receive their fees for tending them." If that be true, then labor is an *infant*, and it pays such fees for lack of knowledge how to take care of itself. I think the statement is an insult to labor.

In reference to my cotton figures Mr. Chamberlin says, "Before the multiplication or division card can reach him the conditions are changed;" and that "no Joshua of the cotton interest can make the sun and moon of wages and of production stand still." He is perfectly right. They do change. They have changed. They are changing—constantly for the better—lower prices to the consumer of cotton fab-

rics; higher wages to the operative who makes them; and less and less margin of profit to the owner who runs the mill; easier work for the workmen; harder work for the capitalists. If you can spare the capitalist, if you can do without him, why don't you? If there is a contest, as Mr. Chamberlin says, if "over there is capital and here is labor," and if life is a contest between these two forces, then why don't you end the contest? It lies with you. Unless capital serves you, you need not serve capital; it has no power except it be combined with intelligent labor; it is inert; it is dead; it can only serve you when you serve it; and you need only serve it, so long as it serves you.

Mr. Chamberlin tells us that "labor has been stretching out its hand for this margin of profit ever since the first slave-driver stole it." That is true; but we have abolished the slave-drivers. There are none. But when you tell me that the margin of profit is the sole creation of labor, then I say that you fail to comprehend the very alphabet of economic science. If you can spare the capitalist, spare him. He who has now the power to accumulate the capital and to put it to use for your benefit can, when you spare his services, take care of himself. If you can take care of yourselves without him, why don't you do it? Mr. Chamberlin attempts to sustain his position by making the common blunder which he shares even with many members of Con-

gress who ought to know better, by trying to find out what were the profits of manufacturing in 1880, from the figures of the Census. For such a purpose the figures of the Census are mere rubbish. If the questions had been put in such a way that the profits of the different arts investigated would have been disclosed, manufacturers would either have returned no answer whatever or would not have given correct and complete answers. The taking of the Census has no such purpose, and it would be impossible to carry it out if it had. All that you have in the Census—and I know of what I speak, for I framed the forms of many of the questions, especially in the department of which I took the Census myself—I say that all you have in the Census which is of value and which can be made use of with safety, is the gross value of manufacturing products; the cost of the materials; the number of employés, and the sum of their wages; but when you undertake to arrive at profits by deducting the cost of materials and the sum of the wages, you are all at sea, because no statement was asked and no answer was given as to the cost of depreciation, the cost of insurance, of taxes, of administration, of interest, of loss by bad debts, of distribution by railway, or of many other elements which used up the greater part of the forty-eight and one-half per cent. which Mr. Chamberlin assigns to the profits of capital. The year 1880 was a very prosperous year, and the capital invested in manu-

facturing, mechanic, and mining arts in that year probably did earn from six to ten per cent., but on the average not more than ten, and probably not as much.

Mr. Chamberlin says, "Turn to the chart; labor is in red; it is the heart's blood; without it the human frame is a ghastly corpse." He is right. But what is the blood without the substance of the brain and the muscle of the heart, to give it force and direction, so that it shall perfect its work? If labor is the blood, capital is the muscle of the heart; neither of any use, neither capable of sustaining life without the other.

Mr. Chamberlin says, that "during the strike at Armour's Packing House, at Chicago, Armour's profits were less." I doubt it. It may be true; but most of the strikes which I have studied and watched have brought to the owners of capital more profit than they would otherwise have obtained. When the strike makes goods scarce, while it may bankrupt one man, ten others get a higher price for the stock they had on hand, and the consumers pay what the strikers lose, in almost all cases.

Mr. Chamberlin parades the figures of the unemployed. He refers to the statement that one or two years ago a million men were said to be out of work, and that in the great cities thousands and thousands of starving men, women, and children were huddled together in misery.

They were bad times, but the number of the un-

employed was greatly exaggerated. Did any one starve? I don't believe it. If any one starves in this city it is because he is too proud to make his wants known. But workmen don't ask for charity; they are not to be raised from want in this way. I will, however, tell you, on the authority of the Rev. E. E. Hale, that in that worst winter when the greatest number were said to be without employment in the city of Boston, with a population then numbering nearly 400,000, there was a great deal of snow, and hundreds of men were called for to keep the streets clear; the city employed one large force, the horse-railways another, and the Industrial Union a third force; and when they had succeeded in getting the work of 3,200 men, out of nearly 400,000 people, *the pump sucked;* there were no more idle men who were willing to do the work that was waiting to be done. How is it to-day? Trade is active; there is work waiting to be done by every man, woman, and child who is willing to accept the conditions; work which will sustain life, and which, if it will not lead to wealth, will save men and women from want, provided they know how to make use of what they earn.

Mr. Chamberlin refers to the reformatories and prisons of Boston and of New York covering our islands with their large buildings. It is a sad fact that these pleasant islands are thus covered. But who are the inmates? Are they native poor, are

they the product of a free country? Are they the children who have been bred in our schools? Are they not mainly those who have come to our shores in adult life and who are incapable of taking advantage of the opportunity which has been given them here to do work to sustain themselves, or too weak to resist the temptation to intemperance and vice when they come here?

Mr. Chamberlin refers to the ideal factory of which I have given you the picture, and calls for the rent. He wants to know where the rent is. There is no rent. There is land free to you and free to me if we want to build a factory, without charge for rent, almost anywhere. He says that in the factory I have not considered the rent of the tenement-houses. He is mistaken. The factory tenement-houses are not considered a source of profit or rent. I do not think the method is exactly a true one, but it is rare indeed that factory boarding-houses pay any rent more than sufficient to keep them in repair and up to the standard of a comfortable and wholesome life.

Mr. Chamberlin refers to the alleged profits on land. Time will not suffice to discuss this question; I think, however, that he and Mr. George have confused matters in a way which is not hopeful, and they have also appeared to me to confuse what is known as the "economic rent" of agricultural land with the rent which is paid for city warehouses when the premises are hired. I will only say here that

this element is, in my judgment, very much exaggerated. I have investigated the ratio or proportion which the rent of the great shops bears to their sales; it is considerably less than one per cent. on the annual amount. In other words, the element of rent which enters into the cost of the cloth bought of the retail dealer is very much less than one dollar in each one hundred dollars' worth of cloth sold or purchased.

Rent may not be justified because it is small, only because it is right. I cannot discuss that question here; it requires too much time.

He then asks, what business have the men of capital to take advantage of the work of the inventors and men of science? He says truly that the Fultons and Stevensons worked for mankind. So did Faraday and others who did not themselves make fortunes out of their inventions. But of what use would their inventions have been had not men capable of directing these forces and of converting them into capital applied them? Who would have benefited by Stevenson if capital had not leveled the hills, opened the ways, and laid the railroads? Could labor have done this by itself? Would it not have been a hopeless task to cover this country like a gridiron with railroads except labor had served capital as capital had served labor in doing the work? Mr. Chamberlin asks: "How can you infer all profits on all work throughout the country on all

branches of industry from the figures of a cotton mill?" I have said in my address that you could not. The capital in a cotton mill is so much greater than that required in almost any other industry that the sum assigned to profit must be also greater. The average profit derived from all the product of the country is far less than I have shown by the figures of a cotton mill, because the capital used is less in ratio to the product.

Mr. Chamberlin says truly that it is no palliation of tyranny or wrong because profits are small; and that is true. I do not justify profits because they are small, but because they are right. They will not fall under the futile attacks of Mr. Chamberlin or others; they will fall, if at all, only when proved to be wrong—proved to be contrary to the natural law or to the higher law by which we are all controlled. When that time comes, *communism* will have come. Until then it is rank communism of the most offensive sort to affirm that profit is necessarily allied to tyranny and oppression. This will not do. The Squires of Work know better.

Mr. Chamberlin is in error when he says that "the aggregate profits and the amount apportioned to each member of the capitalistic class becomes greater and greater." "The working class has more than it did have, but less proportionately, on account of the increasing discrepancy in the number of members of the two classes."

He has no facts by which to sustain either part of this statement, and the one part is inconsistent with the other. The aggregate of profits at the present time is undoubtedly greater than ever before, but time would not suffice even if I had the proofs at hand to show how rapidly the number of persons of moderate wealth is increasing in this country. Wealth itself is becoming more widely distributed. Mr. Chamberlin admits that the working class has more than it did have, but he is entirely in error in stating that the wage class has a less proportion, either because of the increasing discrepancy in the number of members of the two classes, or for any other reason. The share of the annual product which is now falling to the workmen, in the strictest sense, is a bigger share of a bigger product than workmen have ever attained before in this or in any other country.

Reference may again be made to the few proofs already given out of the many which I could have given to sustain this statement. I commend the facts to you, all of you, who have sufficient interest to try to learn what the facts are. Don't take my say-so ; don't take Mr. Chamberlin's say-so ; get at the facts of life for yourselves. I never had much time for books. I never read many books on this subject. I have been obliged to work too hard to get my own living ; but I have studied the facts, and with the leisure which I have obtained I am now making

use of the books. The reports of the Bureaus of Labor of the several States, the investigations of Colonel Wright, and many other sources of information are now open to any one who knows how to use them. Better than all, consult your own experience, and by that see who is right and who is wrong in this discussion.

Mr. Chamberlin refers to the bad condition of the factory operatives as they were fifty years ago in Great Britain. He brings up the appalling picture of the abuse of children and of women which Lord Ashley found in the factories when he put an end to such abuses. Was it the abuse of labor by capital? Was it not the abuse of working men and women under a system of privilege in a country in which the workmen had no votes? Will it not merely mislead you, if you consider this reference to ancient history now? Where can you find such conditions in modern times or in this country? If you can find them, if there is such abuse, then, in God's name, I will join with him in almost any method which may put a stop to it. Such legislative interference may have been necessary under the conditions of English government by privilege and not by right, as it was fifty years ago, but is not now. There are no such abuses in this State, or in this country, since slavery was abolished in the Southern land.

Mr. Chamberlin says that he agrees with me that the only element we all have in common is time, and

that my statement is true until we dispose of our time. But he says, "If I sell myself I have the privilege of selling myself for twelve hours' work; am I a freer man than if I sell myself for only ten hours a day?" Then why sell yourself at all? No one can compel you to do so. You can control your own time, brains, and hands; all I ask is that you shall not obstruct other men who can do better by selling their time than they can by directing themselves in their effort to do what they please with it.

He says truly that the hours of labor have been shortened; he claims that they have been shortened by legislation. I cannot disprove it; but I do not believe legislation has had much effect. Laws when not backed by public opinion are of little effect, and in this case it has been public opinion more than law which has worked the change. When Mr. Chamberlin alleges that production has increased *because* the hours of labor have thus been shortened by legislation, I differ.

If the necessary result of short hours of work is a larger product, then why not shorten the work yet more? Why stop at eight hours? Why work more than six? or more than four? or more than two? Why work at all? We must reverse that statement to make it true to the facts.

President Garfield told me that he dated his intellectual life from a lecture which he heard from Ralph Waldo Emerson, delivered in the old parish church

at Williamstown, during the single year of college life which he enjoyed. He said that during the lecture it seemed as if his brain were on fire; when he passed out of the door and looked up the side of old Greylock Mountain it then seemed to him as if the mountain were on fire; and yet, when he tried to recall what Mr. Emerson had said, the only sentence he could remember was this:

"Mankind is as lazy as it dares to be."

You may believe this: mankind IS as lazy as it dares to be; and the hours of work will be shortened as fast and as much as the necessary product will permit.

It is Mr. Chamberlin who puts the cart before the horse. It is the increased production which has made the shorter hours possible. So far as I have been capable of observation, all the legislation for controlling and limiting the work of the adults has tended rather to keep the hours of labor longer than they would otherwise have been. Doubtless legislation may have affected and shortened the work of some small class; but by so much as their hours have been shortened has the necessary work of other men and women been made longer.

Mr. Chamberlin tells us of his friend White who has invented a stocking knitter which the manufacturers will not adopt because they prefer to use their old machines and keep the new ones out of the market. I never heard of Mr. White. If he has

really invented a better stocking machine than is now in use he has only to bring it before the right persons and it will be adopted. If the manufacturers who now choose to use their old machines do not take it, some other man will; and if it is what Mr. Chamberlin thinks it to be the men who hold on to their old machines will fail, and the new men will succeed.

I have never yet seen a true invention fail for lack of capital, although it is often delayed in its adoption by the incapacity of the inventors to make reasonable contracts with those who have the capital needed by them.

Lastly: reference is made to the figures of Colonel Wright's reports, by which it appears that wages are higher and the hours of labor shorter in Massachusetts than in some other places. I have no doubt that it is so. There is a greater diversity of industry in Massachusetts than in most other places; the conditions are better; it is quite consistent with the law of labor, to wit: that in proportion to the increase of capital and the skill of the workmen the wages are raised and the cost of the product is reduced, while production is greatly increased. It would not, however, prove to be true that in the same kind of work, under identical conditions, the wages were higher on the short hours than on the long. I do not myself think it is judicious to operate a modern factory more than ten hours a day; but so far as I have been able to com-

pare one mill with another—and I have been at the same time treasurer of mills working eleven hours and ten hours—I could not find that eleven hours' work reduced the power of the workman so as to impair either the quality of his work or its quantity.

I do not agree with Mr. Chamberlin that the law gives the employer any advantage over the workman. I do not find in our State legislation any such disparity. There is too much legislation on behalf of both. It would be far better that many of the meddlesome acts were repealed than that any more should be enacted. He says that "great progress has been made by the organization of the Knights of Labor, the Trades-Unions, and other clubs." I fully agree in the benefit of *organization;* it brings men together; it leads them to compare notes; it leads them to study the actual conditions. What I have said throughout this evening is, ORGANIZE; but organize so that each man shall be free to make use of the benefit which he may derive from such association with his fellow-workmen. Not until this is the rule of your club or your trades-union will you attain the full measure of the service of such organizations.

NOTE B.—In answer to a question from a gentleman in the audience who asked Mr. Atkinson what had been, in his judgment, the effect of the strikes of the last few months, the speaker replied,—Neither the strikes nor the organizations by which they have been promoted have touched more than a fringe or a small fraction of the great working force of this country. When viewed by themselves, each in its own particular case, these strikes have

caused some disturbance, and a considerable loss to individuals, especially to the strikers. Occasionally they have worked a profit to the employers in enabling them to reduce product, and to sell their surplus stock of goods at a higher price. But in this, as in all similar cases, the great body of working people who are unorganized, and who belong to the Squires of Work, carry on the industry and the enterprise of the country without much regard to the incidents of strikes. Such will always be the case. The strikes become conspicuous because they are exceptional; they attract a good deal of attention; but like many other incidents of life their importance is very much exaggerated. They may be compared to other exceptional causes of disturbance in business matters. I do not intend to compare them morally with frauds and defalcations, but they are something like them. Fraud and defalcation often work very great injury to small numbers of people; they attract a great deal of attention; but as Mr. Gladstone has so well said, "The trust reposed in and deserved by the many creates the opportunity for the fraud of the few." If all men were not fairly honest; if all men did not really desire good government; if all men did not on the whole keep faith with each other, all trade and commerce would stop, and society would then be subjected to a despotism, or else anarchy would ensue.

And in the same way, if any considerable disturbance had been caused either by the Knights of Labor, or by the strikes, it would have been felt in much greater measure.

In fact, the great work of the country has proceeded with little regard to either, and the people have continued to govern themselves according to their common habit.

I am glad to hear Mr. Chamberlin say that the Labor associations are independent of the law, and that their decrees can be no more than requests to their members, who may obey or not obey, as they see fit. Then it is not true that men who do not choose to join these organizations, but who choose to keep the control of their own time, and to make their own bargains in their own way, are subjected to force; then they are not scabs; then they are not considered enemies of labor; then you admit the truth; they are at liberty to keep the control of their own affairs, and you are not at liberty to obstruct them, or to stigmatize them. I concur fully with Mr. Chamberlin. There is no great power either in statute laws, or in the by-laws of the associations; the real power which governs the people of this country is the power of public opinion; and public opinion sooner or latter will utterly condemn every association, under whatever name, that undertakes to restrict the individual liberty of adult men. When this principle is recognized Labor will suffer no defeat, because there will be no contest in which it can be defeated.

APPENDIX I.

In concluding the report of this meeting and in preparing it for publication, let me say that in my judgment there has never been a period in the history of the world in which there have been so many important new inventions or so many applications of previous inventions, all tending to human welfare, as in the last twenty-five years. We have hardly begun to appreciate the time-saving which has been brought about by the railway, the steamship, and the telegraph. In other words, all that we do in promoting material life is to move something. We can make nothing. We move the soil, we move the seed, nature gives the harvest. We move the grain, we move the food from the producer to the consumer; we move the flour to the oven, we move the bread from the oven. All life is a conversion of forces; progress consists mainly in overcoming friction, in hastening production and distribution. In the world there is always enough; yet the world is always within a year of starvation. The only question is, where is it and how to get it?

When we consider all that has been accomplished in doing away with friction in the single matter of moving food by the railway and the steamship from the producer to the consumer, we shall find that to Sir Henry Bessemer, perhaps more than to any other man, is to be attributed the vast changes in the social condition of Great Britain. Who else has done so much to knock the bottom out of English rents and to make a

profound change imperative in the whole construction of English society? How? By increasing the abundance of food for the English people.

The first effect of all great changes and in the application of all great inventions, whether patented or not, is to benefit and increase the fortune of the few before this benefit is distributed among the many. During the last twenty-five years many such causes of great fortune to the few without added cost to the many have been paramount but beneficent influences affecting society, especially in this country. Another but a malignant instrument of false distribution by which the rich have been made richer at the cost of the poor, has been the legal-tender note or greenback, so-called,—the mock money which has been substituted by force of law for true money, as a measure of the transactions of the people. Most of these recent great causes of grave disparity in the conditions of men, both beneficent and maleficent, have substantially spent their force. Can there be a doubt that the benefit of the great inventions to which I have referred is now being distributed? The period which has elapsed since 1873 has been called a period of depression. Is this true? During this whole period, not only since 1873, but since 1865, the facts are that, while prices of the necessaries of life have diminished and while the cost of production has been reduced, the wages or earnings of labor, subject to temporary fluctuations, have been steadily increased. Those who have suffered have been the capitalists who could not speedily adjust themselves to the new conditions, and common laborers or the workmen in a few limited and special arts, who, for a time, have been unable to find employment because of the profound changes which are being worked in the conditions of society and the methods of commerce.

Is it not true that throughout this period there has been a steady and constant conversion of an increasing proportion of each year's product from capital to labor? Of this I find evi-

dence in every investigation of every art that I have yet analyzed. The results of these analyses will appear in due season. What then must be the conclusion? It must be this: if we are at or near the turning-point when great changes which have for twenty-five years inured to the benefit of the few are about to be converted to the benefit of the many,—these being mainly time-saving changes as well as labor-saving,—then it follows of necessity that we are not far away from a period when, either with or without legislation, but, as I myself believe, *in spite of meddlesome legislation*, the arduous struggle for life will be greatly relieved, both in the time which will be necessary to give and in the intensity of the work which it will be necessary to apply thereto.

Among the many comments upon this Address which have come to the writer since it was given, there is perhaps only one on which a word may be said. The editor of the *Christian Union* remarks, "The author does not deal with the profounder aspects of the labor question, either economic or moral. He does not even recognize them." To this it might be replied, that in a lecture of an hour it would be somewhat difficult to cover all the aspects of the labor question. But the author has a good precedent for omitting to treat the moral side of this question in connection with the economic. Adam Smith was not only the author of the "Wealth of Nations," but also of a treatise on "Moral Philosophy." He carefully kept each line of thought and of argument separate and distinct; but at the end he brought the result of the true consideration of both aspects of life to the same necessary conclusion.

When the astronomer turns his telescope toward the stars he does not give his imagination free play while treating the mathematics of the science of astronomy. When the poet turns his eye in the same direction, he thinks little of the mathematics. But to the man who can comprehend something of both aspects it is only necessary to recall the sonnet of Blanco White—

Mysterious Night! when our first parent knew
Thee from report divine, and heard thy name,
Did he not tremble for this lovely frame,
This glorious canopy of light and blue?
Yet 'neath a curtain of translucent dew,
Bathed in the rays of the great setting flame,
Hesperus with the host of heaven came,
And lo! creation widened in man's view.
Who could have thought such darkness lay concealed
Within thy beams, O Sun! or who could find,
Whilst fly, and leaf, and insect stood revealed,
That to such countless orbs thou mad'st us blind?
Why do we, then, shun death with anxious strife?
If light can thus deceive, wherefore not life?

The writer may remind those whose sentiment is stronger than their insight, that life as they view it may deceive them, even as the light of economic science may mislead him who does not temper it with charity for the weakness of men and women alike.

The fault of many critics is their failure to consider the limits within which a specific piece of work must be done. The fault of many of those who sympathize with "labor-reformers," so-called, is the same. This fault especially affects clergymen. They are so accustomed to preach charity that they fail to see that charity covers a multitude of sins, especially economic sins.

There is nothing more dangerous to the student of these questions than to let either his sentiment, his imagination, or his charity run away with him, lest he should do more harm than good by his attempt to relieve poverty.

In this Address to Workingmen, the effort of the writer was to present the greatest number of hard facts within the limit of sixty minutes. In order to do this most effectually he tried an experiment in the utmost condensation of the language used. The effort was not such as has been imputed to him in one instance, that of trying to write down to the level of an audience

assumed by him to be unintelligent. He long since learned that there is but little difference in the intelligence of audiences, whatever class they belong to. Each can only be held if the man who speaks gives them the best he has in him. But it has been the fault of almost all economic discussion, so far as workmen are concerned, that the questions at issue have been treated rather in scientific terminology than in the common speech of every-day life. In this Address the writer endeavored to bring a somewhat difficult and abstruse subject into the words of common life.

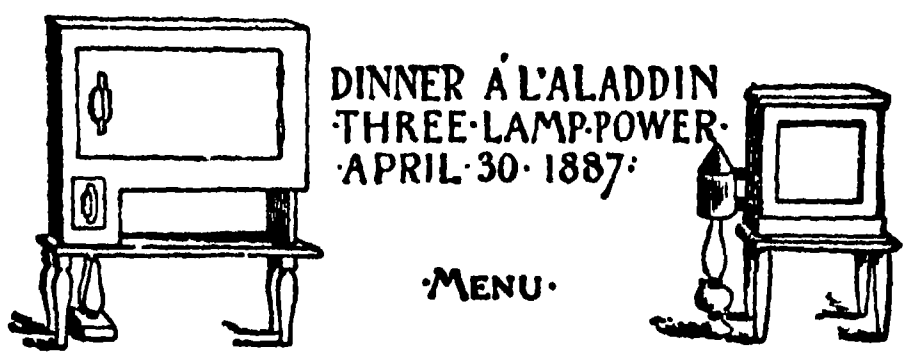
APPENDIX II.

ECONOMY IN DOMESTIC COOKERY.

BOSTON, May 3, 1887.

TO THE EDITORS OF THE AMERICAN ARCHITECT :

Dear Sirs :—I am constrained to believe that the improvements which I have made in cooking apparatus which will ultimately prove most beneficial to people of small means rather than to others, may come into use sooner among prosperous persons than among the poor ; they may then gradually find their way down to the points where they will do the most good. I think that I myself did not realize the full meaning of these improvements until I invited my Whist Club to an "Aladdin" Cooker dinner party on Saturday last. I may venture to give the bill of fare, which was promptly served and was very much approved.



JUVENAL—TINKERED BY W. EVERETT.

OYSTERS. [They need no lamp.]

" The man had sure a palate cover'd o'er
With brass or steel, that on the rocky shore
First broke the oozy oyster's pearly coat,
And risked the living morsel down his throat."

SOUP. *Skeleton du Dindon.*

" Tom Thumb had a little sup,
But Tomalin scarce kissed the cup."

FISH. *Halibut à la crème.*

" Once some few hours, ere break of day,
As in their hut our fishers lay,
The one awaked and waked his neighbor,
That both might ply their daily labor."

ROAST. *Beef au naturel.*

" What better yet than this? a bullchin two years old,
A curled pate calf it is, and oft could have been sold."

SUPREME. *Leg of Mutton.*

" Is wool thy care? Let not thy cattle go
Where bushes are, where burrs and thistles grow:
Nor in too rank a pasture let them feed.
Then of the purest white select thy breed."

GAME. *Grouse, Mushroom Sauce.*

" Full many a fat partridge had in mewe,
And many a breme and many a luce in stew."

VEGETABLES. *Potatoes, Macaroni, Steamed Apples.*
Beets, Onions, Corn, String-Beans.

" To satisfy the sharp desire I had
of tasting those fair apples, I resolved not to defer."

DESSERT. *Pan-Dowdy, Aladdin Cake and Bread.*

" Where in nice balance, truth with gold she weighs,
And solid pudding against empty praise."

FRUIT.

" We can now spare
The splendor of your lamps."

The several dishes which were served on this occasion were prepared in the kitchen without any other instruction than a memorandum from myself as to the time to be given to each dish; they were cooked without any special supervision except that of two excellent women of average intelligence in our service—the work was done partly in the pantry and partly in the dining-room without any odor of cooking of

any objectionable sort, and without any heat more than that developed by a common kerosene lamp; the expenditure of fuel did not exceed two quarts of kerosene oil—I think not as much, worth five or six cents; perhaps worth less if oil is bought by the barrel.

The quantities of food were substantially as follows:

10 pounds of sirloin of beef.
10 " leg of mutton.
4 " halibut.
4 grouse.
4 pounds fish.
A large apple pudding.
3 loaves of bread, full size—the customary family loaf.
3 loaves of cake.
Sundry vegetables not measured.

Suffice it that the quality was indicated by the remark of an English friend who dined with us, that "the mutton was equal to the four-year-old grass-fed mutton of England, and was the only leg of mutton that he had eaten in this country which approached that kind in its excellence."

The number of persons who partook of this dinner in the household was sixteen; what remained served for the dinner of twelve people on the next day.

The two devices are:

1. The "Aladdin" Cooker in which the food to be cooked is first placed in porcelain jars or pots, either with or without water or other liquid, and seasoned or not, according to taste. These jars are covered substantially air-tight, and are immersed in water by the circulation of which the heat is imparted. The diagram[1] will carry its own instructions.

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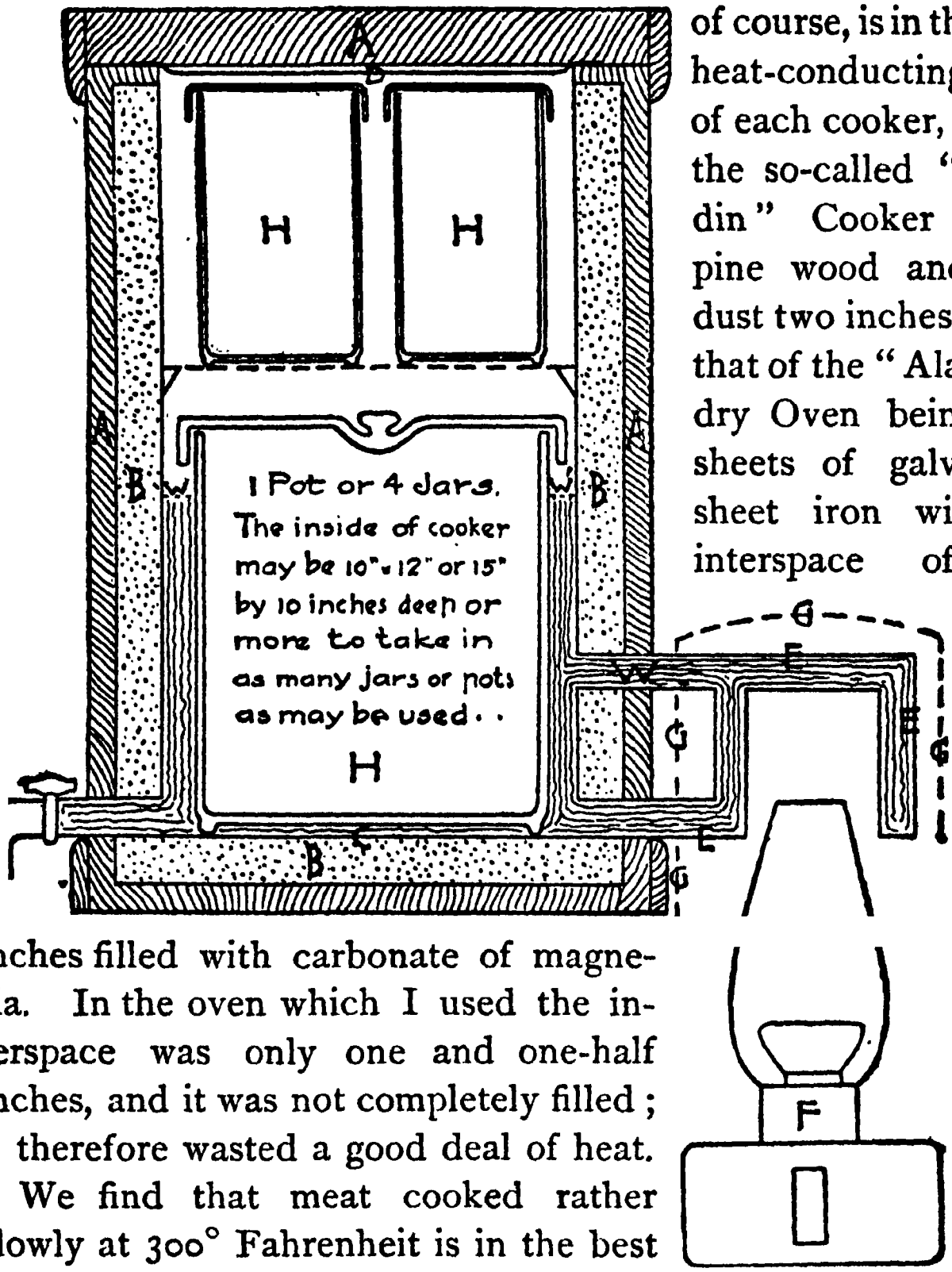
[1] A, one-half to one inch pine; B, one to one and one-half inch sawdust; C, copper lining; D, copper cover; E, copper duct and cylinder, in which water circulates, heated by F lamp; G, tin guard to prevent radiation and to protect wood from heat; I, faucet; H, one or more pots, jars, or tin pails; W, water in circulation outside the pot or jars; W′, water level.

The improved "Aladdin," as now made by Mr. A. W. Westgate, of Mattapoisett, is two stories high. For the dinner-party named the leg of mutton was placed in a large porcelain pot in the lower part of the apparatus. A lamp was used of sufficient capacity to cause the water to boil, which caused the meat to simmer slowly in its own juice. The mutton was simmered four hours. One hour before serving, jars containing vegetables were placed in the upper story, where they were cooked by steam. One large cooker was thus used; a small, one-story cooker for the grouse.

The "Aladdin" Oven, so-called, is an oven in which the heat is imparted directly from the lamp to a space between an outer oven, the walls of which are filled with a non-conducting material, and the inner oven, made of sheet-iron or sheet-copper. The size of the oven which I used was substantially like that indicated in the inclosed diagram. I have made such changes in the arrangement in the diagram as will probably make this a better oven than the one which I used. In the hot-air oven three loaves of bread and three loaves of cake were baked in the morning. The large apple pudding, known as a "pandowdy," was also put in in the morning. The bread and cake were taken out when fully baked, the pudding being left in. Four hours before dinner the sirloin of beef was put in to be roasted; and at the proper time before serving, vegetables and macaroni were baked in this oven.

The lamp used with the "Aladdin" Cooker was the common "entry lamp" which is commonly used to light the hall, fitted with what is known as the "Sun" burner. The lamp used with the dry Oven was a lamp commonly used with kerosene stoves, with a wick six inches wide. About one quart of oil was used during the day; a little more the night before in preparing the soup. The soup was prepared in the "Aladdin" Cooker the night before; the carcass of a turkey which had been roasted in the dry oven for the previous dinner was placed in a jar and simmered all night.

These are certainly somewhat remarkable results. The secret, of course, is in the non-heat-conducting wall of each cooker, that of the so-called "Aladdin" Cooker being pine wood and sawdust two inches thick; that of the "Aladdin" dry Oven being two sheets of galvanized sheet iron with an interspace of two

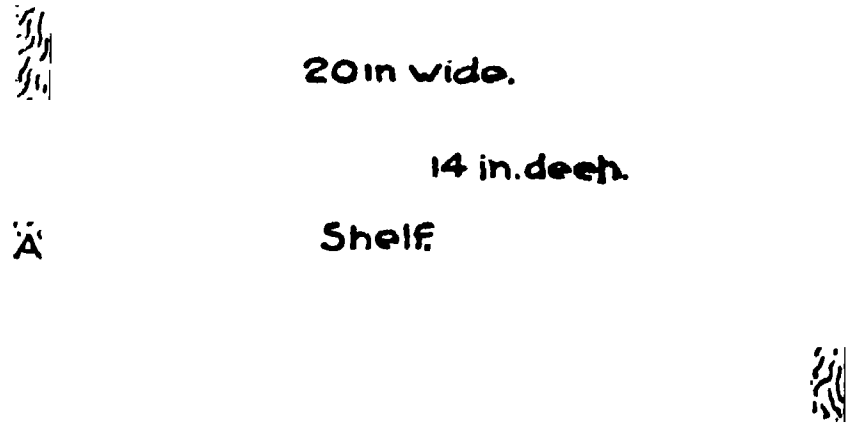


inches filled with carbonate of magnesia. In the oven which I used the interspace was only one and one-half inches, and it was not completely filled; I therefore wasted a good deal of heat.

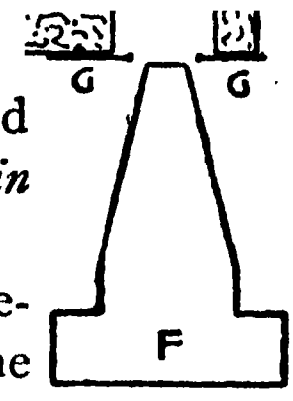
We find that meat cooked rather slowly at 300° Fahrenheit is in the best condition. We find that bread baked slowly at 300° Fahrenheit is very much better, has more flavor, is sweeter and lighter than when the same dough is baked in the ordinary oven at a much greater degree of heat.

The general verdict in regard to the food prepared in these two ovens is, that it is more juicy, has a better flavor, and is in every way better than when cooked in the ordinary way. This is especially true of game and birds, simmered slowly.

I have made a small addition to the kitchen of my summer house by constructing a small room in which there is a brick table, on one end of which will be built a broiler or grill to be worked with charcoal; at the other end a place for two cookers. I can see no reason for making use of the cooking stove during the ensuing summer unless it may be occasionally for heating an extra quantity of water. It is my intention to alter my winter kitchen in Brookline by adding thereto a suitable place for this apparatus, depending upon the furnace to keep the kitchen warm.



The attention required by this apparatus after the food has been prepared and placed in it, is only that needed to take the dishes out at the proper time; while *in* the ovens absolutely no attention is called for.



I fear that your readers may consider this statement somewhat visionary. I have one of the "Aladdin" Cookers at my office, No. 31 Milk Street; and any architect who desires to see the dry Oven may call at my house in Brookline during the present month, where I shall be on almost any day between five and seven o'clock; or if I am absent some one will show the apparatus.

I believe this apparatus has great use; that it will promote economy and prevent dyspepsia.

I have stated to some of my friends that the epitaph which may be placed on my monument will be that "He taught the American people how to stew."

I trust that these statements may interest your readers and

may lead to improvements in cooking apparatus with a view to saving heat by which so many kitchens are made intolerable, especially in the summer.

I can see no reason why the devices adopted in these two movable ovens should not be applied to permanent ovens built into the house and so prepared that ordinary lamps may be used in connection with them, in place of the wasteful consumption of coal now so much to be deplored. If such permanent ovens were thus constructed in connection with the chimneys of a house, the last objection would be removed; the vapors from the consumption of the oil in the lamp would pass up the chimney-flue, although there would, of course, be no smoke. Moreover, if any one fears the least danger from leaving a kerosene lamp burning all night, the chamber for holding the lamp might be made in such a way that even if any accident occurred no harm could happen. It is in this way that I shall arrange for the permanent adoption of this apparatus in my own family.

I have referred to these inventions in cooking as my own. So they are, in one sense. I invented them, but there is nothing new under the sun. It had seemed incredible to me that so simple a principle as that of preventing the radiation of heat by making the outer walls of a portable oven or stove of non-conducting material, should have been overlooked. After I had published the mode of constructing the "Aladdin" Cooker, I received a copy of a pamphlet on penny dinners which are furnished to school children in Newcastle-upon-Tyne, under the supervision of the Rev. W. More Ede; and there I found a description of a German invention which Mr. Ede had made use of, corresponding almost exactly to my own idea, only in this case the apparatus was a fixture of a large capacity heated by gas. I borrowed the idea from the Norwegian cooking box, adding the circulation of the water and the lamp.

In regard to the second invention of the non-conducting wall in connection with dry heat, I concluded to apply for a patent

in order that it might be introduced more rapidly ; and then I found that the identical invention had been made and patented by a Mr. W. Goddard, in 1831, only he derived his heat from a small charcoal furnace. Of course, this patent has expired, and the device is now public property. The fact is, that inventions that have heretofore been made, but which were impracticable, are now subject to use by the application of kerosene oil or cheap gas in place of a solid fuel.

But again, both these inventions are crude. A professional stove-maker could doubtless very much improve the construction of the oven by giving special direction to the current of heat. In my simple device the heat of the upper chamber is greater than that of the lower ; the heat of the end next the lamp is greater than that at the other end. The average heat is easily carried to 300°. The variation of heat is rather a convenience than otherwise, as my cook has found out. In another oven on the same principle I have raised the heat to 450° with a Florence lamp carrying a four-inch wick.[1]

Again, when I cooked twenty-five to thirty pounds of food for my Whist Club dinner the percentage of waste of fuel was something enormous, although the cost was less than six cents. All that I utilized was the heat taken from the top of the chim-

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[1] The concentration of heat is greatest at the top ; perhaps it would be better to make the top of the outer oven thicker, so as to check radiation more. A A A A, double metal wall filled-in with a non-conductor, two or three inches, carbonate of magnesia or infusorial earth (*not* asbestos, as it is a good conductor of heat). The door of the outer oven should be made the same as the wall, two to three inches thick. B B, sheet-iron or copper oven. C C C, circulation of hot air around all sides of inner oven. D, flue to receive hot air. E, brick or iron, to protect sheet-metal from heat. F, square cooking-lamp, or common "Sun Burner"—lamp such as is used for lighting. G G, slides to close the lower opening, more or less—cut in two parts, so that one or two lamps may be used at one time, the rest of the opening being closed if only one is used. H, ventilator to the cooking or inner oven. Can be made on orders by Kenrick Brothers, Brookline, Mass.

ney; the potential of the oil must be vastly greater. When one considers that a cube of coal of a size that would pass through the rim of a quarter-of-a-dollar would drive a ton of cargo with its proportion of the weight of a steamship two miles on the ocean, one begins to realize the enormous waste of fuel in cooking and in the work of the household. I think the proportion of kerosene oil to thirty pounds of food ought not to be more than one cent's worth, and I do not believe it will be more than that when practical stove-makers have taken up these crude ideas of my own and have developed them as fully as they may be. I will, therefore, set as the objective point or standard for inventors: to improve this apparatus so as to use a quantity not exceeding one cent's worth of kerosene oil for thoroughly cooking the daily food for a family of ten persons. This will be considered as visionary as the statement which I made in 1882 that the introduction of the system of ensilage for feeding cattle would alter the equation in this way—"where it had been one cow to four acres it might become four cows to one acre." I have lately received a statement from Mr. George H. Gilbert, of Richland, N. Y., gving facts: he states that he fed sixty-five cows this last autumn and winter for seven months on the product of cornstalks raised on fifteen acres of corn land, giving them, at the same time, not exceeding five cents' worth of grain per day, raised on other parts of his farm; he intends next winter to make beef on ensilage only, carrying the corn for the silo in the field up to a rather more mature growth than is corn when it is cut as a green growth only.

The more one investigates the food question in this country the more apparent it becomes that the waste of food and fuel is greater than that of any other element of subsistence.

My final conclusion is that, if the average daily ration of the people were reduced to its most wholesome, nutritious, and digestible quantity, but yet in as great variety as that now consumed or wasted, the difference accumulated would be equal to the entire annual sum of the additions to the capital of the

country now made in any one year. In other words, the waste of food and fuel to-day is equal to the entire net profit upon the product of the United States. This may be readily believed when the equation is stated as follows:

Population 60,000,000 at five cents a day each, *wasted*, comes to $1,095,000,000. Deduct on infants $95,000,000. Net loss from bad cooking and waste, *one thousand million dollars' worth of food and fuel per year*. EDWARD ATKINSON.

P. S.—Since this was written I have baked six loaves of bread in two hours, with an expenditure of not over half a cent's worth of oil.