they are independent of each other. Each alone would bring about partial results. (1223) I have in mind, first, a unification of the wage scale determination in the industry. As long as over-capacity forces cutthroat competition and employers, in order to remain in existence or operate at [fol. 622] a loss, must cut wages to meet lowered prices on the part of their competitors, chaos will continue to reign. The competitive system is based upon the assumption that the efficient operator—efficient in terms of the quality of the product he gives to the public, the price at which he gives it, and the type of service he renders—will succeed in this race for gold or profit. If the purpose of having competition in industry is to make it possible for the most efficient operator to serve the public at the least possible cost, then efficiency rather than the ability to cut wages or sweat labor should be the determining factor, and it is assumed in all of our attitudes toward the competitive system that it is because we give the efficient producer the chance to get out on top that we maintain a competitive system. Experience has shown, however, that the business does not necessarily go to the most efficient operator. It goes to the operator who can cut his costs most and frequently that means the operator who can sweat his labor most and cut his wages most. (1224) If we are to have competition in the industry, we must have a plane of competition. We must fix the lower limits below which nobody can go and then the producers must compete with one another on the basis of efficiency and not on the basis of cutting wages below the minimum plane.

Another alternative is a device which might eliminate the pressure which operators now feel toward cutting wages, which might be the fixing of average minimum prices. There still will be the desire on the part of the [fol. 623] average employer to make as much profit as he can and perhaps to cut wages to increase his profit, but there will not be that determined pressure which gives him no alternative now to do anything else but cut wages, when prices are cut. By fixing average minimum prices one of the determining factors causing the cutting of wages is in large part automatically removed.

The effect of price-cutting in the industry during the last 10 years was evidenced by the charts previously submitted as exhibits, illustrating the shift of tonnage (1225)

from areas where wage rates were relatively fixed to others, and also in the types of market to which the coal from areas affected move.

The United States Government, during the War, was a stabilizing influence in the industry. It was likewise so during the NRA, and the only other stabilizing influence I have known was the United Mine Workers. During the period from 1898 to 1919 there was not a single large national strike in the industry. There you had a period of 24 years without a major strike, with the exception of 1919, when the Government control over the industry terminated. We had another strike in 1922 and another in 1927. Since then they have been more numerous. With the expiration of the Jacksonville agreement the number of the mine workers has been seriously affected. I think perhaps another illustration of the stabilizing effect of the organization was in the strike of 1922, when the situation was very acute. There was a contract in the State of Kentucky with certain operators which had not expired at the time the contracts in other areas had expired, and despite the fact that [fol. 624] the United Mine Workers prohibited their workers from continuing work in mines throughout the country, it insisted that its members in those mines where the contract had not expired should continue operations. One of the complaints I found as I wandered over the field of the strike was that miners generally in other areas on strike were (1226) complaining because the members of the same union were producing coal in Kentucky that was entering markets in competition with what they would have normally produced. Therefore, you have evidence of the stabilizing effect of collective agreements.

(1227) In areas where there is effective collective bargaining there has been fixed a lower limit below which wages and working conditions could not fall, thereby putting all operators on the same plane as far as labor costs were involved. This does not necessarily mean that every operator had the same wage scale. All it meant was that an attempt was made through collective bargaining to put all operators in the different fields of the country on a more or less uniform basis as regards labor costs. Adjustments were made for distances from markets. If the freight rate from a given area was higher than from another there was an adjustment in the wage scale to offset it. There were

adjustments for the type of coal, the thickness of seams, dead work, the amount of work which was necessary but indirect in the production of the coal. As a whole, through [fol. 625] universal collective bargaining the effect would be to put all operators on the same plane from the point of view of labor costs and thereafter permit the efficiency of the individual operators to determine which shall get the business and make profits.

I think the right of collective bargaining is essential from an economic standpoint and for the economic welfare of the industry. (1228) My reasons for believing this are due to my observation of the industry over a period of something like 15 years of activity in which I visited mining fields throughout the country and on which I have conferred with mine operators and employees. The industry in large part is of such nature that mines are located in isolated areas in particular fields. Unless there is some way of protecting the individual workers through collective bargaining they have no alternative than to yield to the demands of the operators because there is no alternative of employment in the community. It is not like a factory where he can turn from one field to another. Secondly, there must be considered the actual methods of operation and the determination of wages. (1229) The men are paid by the ton. Allowances are made for dead work, charges are made for powder and things of that sort. Because of the very complicated nature of the wage scale, the employer who may so desire can take advantage of the worker. In other words, he can cut labor cost on the worker without the worker knowing anything about it. The coal is loaded at the tipple. The miner does not know how much goes to the car. He does not know whether he is being given full weight unless he is provided [fol. 626] with a checkweighman. All of these factors have been proved in the past as being ways of cutting the actual labor costs. Unless there is some uniformity of control, the individual operator who does not have the ethics of his competitors can take advantage of them by cutting his wage costs. These are reasons definitely making collective bargaining peculiarly appropriate and necessary for this particular industry. There is also the fact that the wage costs are so significant a part that there is a tremendous advantage in cutting labor cost, because it gives an unfair advantage over competitors.

(1230) The condition in the coal industry has not been due solely to the current economic depression or the general depression which started in 1929. In 1929, when industry reached its maximum production, the coal industry had reached the point where it was employing 200,000 fewer workers than in 1923. While industry as a whole between 1919 and 1929 was increasing its payroll and wage rates, the bituminous coal industry was decreasing its total payroll and actually paid out much less in 1929 than in 1919. While industry as a whole was increasing its wage rates, (1231) manufacturing industries as a whole having increased their wage rates from 54.8¢ an hour in 1923 to 58.7¢ an hour in 1929, the average hourly earnings in the bituminous coal industry for that time fell from approximately 90¢ to 68.7¢.

[fol. 627] (1233) In view of the fact that one of the great factors causing demoralization in the bituminous coal industry is competitive wage cutting, the fixing of minimum prices for certain areas would remove one of the most important factors that causes employers to want to cut wages, namely, the fact that competitors, by cutting prices, force them into a situation where they are also compelled to lower prices. If there were a minimum average price, that practice would be in large part eliminated. (1234) This would be true even though all the elements of the cost of production, or some of them, are not controlled. Where 60% of total cost is labor cost, the other costs being fixed costs, and things of that sort, materials being a relatively unimportant factor, it would be absolutely necessary that the wage factor be controlled in order to bring about benefit to the industry from the price-fixing device.

Both the requirement on the part of coal operators that their employees trade at company stores and the requirement that their employees live in company houses are in a sense weapons whereby the employer may cut his wages indirectly. The operator may have a minimum wage rate and agree with his competitors to continue to pay that wage rate. According to his books he may have paid it but if, on the other hand, he can get that money back by compelling his employees to buy at his store and rent at the prices he [fol. 628] fixes, it becomes possible to get some of his wages back and thereby cut his costs. Although running his mine at a loss he might make enough profit at the store to offset

the losses. One hears of such instances. It is a form of indirect wage competition.

If prices are fixed and wages are not controlled it would be a tremendous improvement whereby you (1235) would eliminate the employer's desire to cut wages by reason of his competitors cutting prices.

[fol. 629] (1370) ISADOR LUBIN, a witness heretofore called by defendants, resumed the stand for cross examination, as follows:

Cross-examination.

By Mr. Whitney:

As to whether it would be a natural development in the coal-mining industry, for the number of workers to decline at a time when the use of coal was declining, I should say that if the use of coal was declining that would be the situation, but the fact was that between 1923 and 1929 the decline in the number of people employed in the industry was much faster than the decline in the use of energy furnished by coal. When I said the industry was decaying that was with reference to the general situation in terms of profits, opportunities for employment of miners, opportunities to earn money, wage rates, and the general economic situation in the industry. (1371) The improvements in economy and efficiency in the use of coal accounted for the decline in the production of coal but did not account for the fact that employment decreased proportionately much faster than the use of coal. There were economic improvements in the methods of mining coal being introduced to the mines which made it possible to mine coal with fewer men per ton produced, but not in rate sufficiently to justify a decline between 1923 and 1929 of 200,000 men. I could not say off-hand whether the men were working more hours in the year 1929 than they had been in 1923. I would say that the decrease [fol. 630] was not relatively greater, if there was any, but if you take the intervening years you will find that there was more irregularity and less work in many fields of the country. When I say there has been a decline in working opportunities, I am talking about such decline (1372) for the people associated with the industry. Those who were left in the industry in 1929 had greater opportunities for

employment, but the industry as a whole was not in a position to give employment to those men who were dependent upon it for their existence since in many cases mines are isolated and people live around the mines, and there is no opportunity for other employment for them. The result is that the men stay there in the hope that the mine may reopen, and a mine may open up and work for two or three weeks, and then shut down again. Men do not move like they do in the case of other industries because there is no opportunity for them to do so. The result was that those men were still associated with the industry and were looking to it for employment, and the opportunities for employment were not sufficient. That decrease in opportunities for employment causes the men to be less well off, less happy, and more miserable. It is my personal opinion that the various (1373) industries of the country should be responsible for that labor force which they require in order to produce. Unless a mine shuts down and goes out of business, that mine is dependent upon that labor supply for its production in [fol. 631] event it gets an order and that is a cost of operation in my personal opinion which should be borne by the industry.

As to whether the bicycle industry should have provided for its employees when it was declining: When a firm engaged in the bicycle business actually went out of business, I do not feel that necessarily it should have been perpetually responsible for the workers that it could no longer employ. But in the coal industry it was not a case of mines going out of business entirely, of shutting down or rather of tearing down a tipple, or closing down a tipple for good. It was a question of the men still staying there, ready to operate, and operating at intervals as orders came to those specific mines. I think there is a great distinction between a bicycle plant going out of business entirely, and a mine staying in existence on the theory that if orders come through they will operate for one or more days, that if there were a lack of orders there would be no work for the men. (1374) Being a great advocate and a firm believer in unemployment insurance, I should say that business should bear the cost of maintaining unemployed workmen. Unless there is somebody there to protect the rights of the individual workers—and the only organization of that sort we have created thus far, outside of the legal or governmental insti-

tutions such as we had under the NRA (1375)—unless there is some organization of the only type I know of, which is the collective bargaining unit, to represent the worker and see [fol. 632] that his rights are granted, and that he is given definite protection, the individual worker is at the mercy of the employer. He has no alternative other than to leave, and in the bituminous coal industry, due to the fact that there is no other industry there, he would have to leave the community. In view of the fact that the coal miner has a particular type of skill which is of little value in most other industries, the opportunities for employment where he could make use of his skill in other industries is relatively limited. I believe that there should be laws enacted to protect a man so far as his rights are concerned, so that in event he wants to stay where he is even though he does not naturally get employment there, he can stay under conditions which are at least such as makes it possible for him to maintain a decent existence. (1376) I would insist upon his being provided with some form of protection whereby he cannot be taken advantage of by his employer.

With respect to the example I previously testified to of the United Mine Workers of America keeping miners at work in Kentucky in 1922 while there was a strike in competing fields, so far as the effect of that being to give that Kentucky field a share of the market which had previously been occupied by the field in which the strike was taking place—(1377) there were two situations involved. First, it enabled those Kentucky mines to fill such orders as they normally would have received, and second, in so far as it [fol. 633] made it possible to get additional orders it did affect the situation in other fields. I cannot say whether it did enable the Kentucky mines to get additional orders. That was the opinion of the individual miners. (1378) In my opinion there probably was some coal diverted from one producing field to another as a result of that situation. (1379) From the point of view of union economics, the welfare of its own workers, I would say it was not sound for the union to insist on that continuance of a supply of coal by the Kentucky miner. But from the fact that there was a legal factor involved, I would say it was. I cannot distinguish between sound economics and the economics of miners, between the economics of the miners' position and the economics of producers' position. They are all inter-

twined. (1380) Of course, it was to the advantage of the consuming public that the union insisted that those mines continue operating.

If as a result of a situation where the non-union fields supplied coal when the union fields were on strike, the consumer was compelled to pay a much higher price for his product than was normally justifiable, I would say that it was not in the public interest. In most instances where there has been a strike and where the non-union operators have continued to produce and furnish coal to the market, there is usually an increase of their prices to a point far above what is justified, and in very few instances have they thought of increasing the wages to their men during the [fol. 634] period of the strike. There was no evidence of the cost of mining having gone up, and yet the prices of coal did go up, and the public was made to bear the burden. (1381) in the period from 1923 to 1933 when the nonunion fields actually took markets from union fields, in so far as that may have resulted in higher prices, it was unjustified in view of the stocks of coal above ground, and was not good economics from the point of view of the consumer. If during that period prices were continually declining, and if the consuming public was to be in a position where it could receive coal whereas otherwise there would not have been enough coal available from the point of view of the consuming public it would be sound economics. It would be bad for the miners and the operators and for the future of the industry itself.

In this situation, as I use the term, I define "chaos" as a situation where the average producer has no idea what the market situation is going to be, where he cannot plan for the future on his labor costs, because of the fact that people are cutting right and left, where he is compelled by reason of the competitive situation to produce coal below cost, (1382) and, in general where he cannot plan even from day to day for his company's operations, because he never knows what the cost and the price situations are going to be, plus the fact that no profits are available for the large majority of the people engaged in the industry. "Cutting [fol. 635] wages right and left" would consist of one operator cutting his wages, cutting his costs, cutting his prices, thereby forcing another operator, either to the left or to the right, to do likewise, which in turn means that either the

first operator or the third operator, in order to maintain his share of the market, is compelled to cut his price, which means that he is compelled to cut his costs, and inasmuch as primarily his costs mean labor costs, that means cutting the wages of labor. That is not necessarily the common experience of all manufacturing mining industries. It is normally the usual thing when prices are declining (1383) in large portions of certain industries. In other industries, where labor costs, taking manufacturing as a whole, do not run in excess of about 20%, there is not the necessity to cut wages when prices fall. There are other factors that come into the picture first, and that can be checked. But in the case of coal mining the biggest item of cost is wages, and therefore it is much more important and necessary for the employer to cut his wage costs if he is going to cut his outside costs. From the point of view of the individual worker who is out of work and is in need it does not matter what percent of total costs the labor cost of his former employer was. (1384) In so far as cutting wages leads to a future situation where there is interference with shipments it makes a difference from the point of view of the consumer.

I do not disagree with Mr. Tyron's testimony that there [fol. 636] are about 2,000 years of coal left, conservatively speaking. It was not the fear that coal resources would come to an end that prompted my prior testimony. My concern is with a situation which is so unstable that workers find themselves in a position where they feel they cannot continue to put up with conditions that prevail in the industry. That means that the public is constantly threatened, due to such dissatisfaction, with a situation where prices will go up because of the fact that men refuse to work and there are tie-ups in interstate shipments of coal. (1385) I am looking at it from the point of view of the long run of the consuming public. In 1923 in the bituminous coal fields the average number of men employed was 705,000, while in 1933 it was 418,000, a decline of approximately 40 per cent. I do not have the figures for the steel industry at my finger tips, but I would say as compared with 1923 the decline was not as much as in coal. I do not have the figures for copper mining at my finger tips. I really do not know whether it was as much as in coal. (1386) When I testified previously that coal mining was worse off than any other industries, I was taking industry as a whole. I compared coal with

manufacturing in general. I do not say that the employer should guarantee minimum conditions for the workman who wants to stay in his community, but the employer should guarantee such conditions to those workers the employer [fol. 637] wants to stay, and whom he expects to employ. The average coal operator, even when he does not get any orders, still expects to maintain his labor supply more or less in adequate form, so that when an order does come in he can operate his mine. That is one of the conditions of employment, and I feel that he should make some provision for it.

(1387) The Government has in fact, through the Social Security Act, said to the employers of this country: You must make provision for those workers you do not at times need but in point of time expect to employ. We do need to go to the present Act, despite the Social Security Act, for the coal industry. The Act provides that while a person is working he is given very definite protection in regard to wages, hours, and working conditions, in that it affords him a certain type of machinery known as collective bargaining, whereby he can have his chosen representatives to protect him in his negotiations with his employer, and also during the period of work to see to it that the rules and regulations, or the terms of the agreement, are maintained. The Wagner Labor Disputes Act does not provide the same thing. I would say that the use to the industry of this statute (1388) are the advantages of stabilization that experience has shown come in any industry in which there is collective bargaining.

There are other aspects of the Act which also provide benefits to the industry, for instance, the fixing of average [fol. 638] minimum prices. I previously testified that the device of fixing average minimum prices which I think is of tremendous advantage to the industry but which I think is an entirely independent factor, would be a good thing, but that there still will be the desire on the part of the employer to make as much profit as he can. (1389) I should not say that all employers in the coal industry are beneficent men in their attitude towards labor. There will probably be some individual operators who will feel that their men are entitled to higher wages if they get higher prices. Judging by the experience of the industry their neighbors will not necessarily increase their wage rates. When an

operator to the right or the left cuts his wages, the operator in between does or does not, depending upon what relationship he has with his workers, and whether they are organized or not, for the most part. If somebody cuts wages and thereby cuts his price, the man at his left in order to meet that situation must also cut his price, due to the fact that wages are an important factor in costs. He usually finds it impossible (1400) to operate and break even unless he does. He having done that, the man at his right finds himself in a similar position, and you thereby get the vicious circle, where the thing moves along throughout the trade, and operators find it impossible to maintain the mines in operation or to renew agreements when they expire. Collective bargaining, putting everybody on the same plane, prevents that vicious circle.

I do not say that the only stabilizing factor in this stat- [fol. 639] ute is collective bargaining. I say there are other alternatives in the bill which are helpful, for instance, the fixing of average minimum prices. (1401) Once you do have a minimum average price fixed, the pressure to cut wages, automatically is eliminated in large part. The man to the right or to the left does not have to cut his wages because of the fact that the price is already fixed, and the employer does not have to resort to the practices of his competitor. There certainly are operators in the coal industry in my judgment who will cut their wages if and when enabled to do so, even though they do not have to. When they do so cut their wages, assuming that prices have been fixed, their neighbors will not necessarily cut their wages because they know what the price situation is going to be and they do not have to meet the competition of the other employer who has cut his wages, at a lower price. They are all charging the minimum average price for the area. The minimum price will not necessarily be the price. (1402) In all probability over long periods of time it will tend to reach that point, the average for the area.

[fol. 640] Under a system whereby you have average prices fixed, the majority of the operators will continue to pay higher wages than they would have to pay if they can continue to make a profit under those conditions. (1403) This is so even though some competitor by cutting wages is able to make a larger profit. How long that will last will

depend entirely upon the type of individual in the industry, and how far they are desirous of increasing their profits at the expense of the wage rate. The fixing of average minimum prices would not cure at all the evils that were investigated by the Congress in respect of the years 1920 and 1922, when, according to Mr. Tryon's testimony, spot prices went way up off the top of his chart, to something in the neighborhood of $20 a ton.

1403-1404) Q. Now, the other day Mr. Lewin asked you would it be necessary for any element of the cost to be controlled in order to bring about benefits to the industry from the price-fixing device, and your answer was, on page 1234 of the stenographic transcript, "Absolutely, and it would be the wage factor." Have you changed your mind about that?

A. Well, I do not remember having said that, * * * I feel that there are both factors, and have always so felt, as I attempted to state in the early part of my testimony, that you have two alternative ways.

Q. I will first read the question that was propounded to you, and then your answer:

"Q. Would it be necessary for any element of the cost to be controlled in order to bring about benefit to the industry from the price-fixing device?

"A. Absolutely, and it would be the wage factor."

What have you to say?

A. That contradicts what I said in the preceding pages, and if I said that it would be through inadvertence. As I said in the early part of my testimony, in answer to Mr. Lewin's question to me on that point, there are two alternative ways of getting better prices, and one is more important or at least more effective than the other.

(1405) The benefit that will flow to the industry from fixing minimum prices will take the form of larger profits to the producer, greater stability and greater likelihood of employment, plus more regular shipments to the market, and all those other factors that go with stable prices. When I refer to irregular shipments I mean those irregularities that result from tie-ups that have occurred in the industry, for instance, the strike of 1927—difficulties that arise in specific fields because of the inability to get any adjust-

[fol. 641] ment in regard to wages and hours, irregularities that result from one area being compelled to shut down because of the fact that it cannot meet the competition of another area. (1406) The Bureau of Mines Report for 1927 said that no consumer had to go without coal as a result of that strike and that was not erroneous, in my judgment. Consumers might temporarily have to pay a higher price, and the effect might be to shift the quality of the coal. For example, if coal is not available from a certain area where it has certain specific qualities that are necessary, we will say, for coke making, or the making of steel, or domestic heating, it would be necessary to shift to different types of coal, which means a difference in costs, and sometimes actual readjustment of burning equipment. It means a shift in terms of freight because it is necessary to go to a different market where the freight rate is different. All those factors cause irregularity and instability. Whether a consumer will go back to the kind of coal he originally used after having had to take a different kind due to a temporary strike situation depends entirely upon the relative difference in dollar cost to him for the coal, plus the difference in cost in terms of the efficiency in thermal units that he gets out of it. In 1927 in some instances consumers went back to the kinds of coal they originally wanted, but in other instances they did not. For instance, you find [fol. 642] that shipments from certain areas in the south continued relatively large, although there was later an increase in shipments from the northern fields. (1407) The fact that some consumers stayed with the southern coals after 1927 would indicate to me, as an economist, that those consumers were satisfied with the southern coals under the price structure then prevailing. So long as the southern operators were willing to sell coal at a relative differential as against other coals, a large number of the consumers continued to purchase their coals. Consumers always prefer to buy coal at lower prices, (1408) assuming its thermal units, the quality of the coal, and its adaptability to the work to be done, are equal. That does not mean that the main benefit to the industry of which I was speaking will be a benefit to the producer rather than to the consumer.

As to whether consumers prefer to buy coal from mines that are periodically on strike or from mines that are seldom on strike, judging by the experience of the central

competitive field, I feel that the consumers in those areas that use certain qualities of coal produced in those areas, over any relatively short period of time, will continue to buy from those mines in those areas that can meet the requirements at the lowest possible relative cost, taking into consideration service, deliveries and quality of product.

Whether there will be a tendency on the part of the men [fol. 643] to strike or to accept the reduction, in case an employer reduces wages, depends on how much he reduces them, and under what conditions. (1409) It was the experience of the coal industry that as a result of reductions in wages there tended to cause strikes, because of the fact that the competitor who cannot cut his costs and thereby meet the price situation finds himself in a situation where he cannot meet the competition of the operator who has cut his costs and thereby his prices. If there were price fixing provisions in the statute, without wage fixing provisions, there would still be some non-beneficent operators who would cut wages. There will not necessarily, therefore, still be periodic strikes because of the fact that the competitors of that individual need not cut their wages to meet the competitive situation, because an average minimum price has already been fixed. If wages are cut by one mine but not by a neighboring mine, that will not necessarily tend to cause the employee who has been cut to strike. There is case after case, even within the same plant, where different men get different pay for doing more or less similar work, and there are no strikes. Differences in pay always existed, even in unionized organizations. (1410) Shipments will not necessarily be decreased as a result of wage cuts by one competitor, wages staying up at the mine of the other. I base that answer on the fact that the experience of the [fol. 644] industry has shown that even in unionized areas there are different wage rates for similar work, due to different peculiar conditions that prevail in different mines, and in different areas. Those differences are the result of collective bargaining. In what I have been saying I have assumed that there was a minimum average price.

(1411) The minimum average price based on cost, being the actual price likely to be received, will not necessarily result in a profit to all the operators. I doubt whether it will. The percentage of the tonnage which can make money on that basis will vary from district to district, depending

upon the extent of the differential between the high cost and low cost mines. There is no information available which will make it possible to say what percentage of the industry will be able to make money in the case of minimum average price based on cost, unless you have the actual cost factors for all the mines in a given area. I have taken into account that there are variations from mine to mine in actual cost, but just what the difference is will depend upon what the cost sheets show for each mine. (1412) When average minimum prices are fixed according to the device which I think will be beneficial, they will not provide a profit to all members of the industry. I should say that it would make provision, perhaps, on the basis of statistical probability, using a spread from one end to the other, for 75%, 80% or 85% of the industry. It will vary from district to district. (1413) The price would vary from field to [fol. 645] field and from mine to mine, depending upon difference in conditions, in quality of coal, thickness of seam, amount of dead work, water, gas, and everything else. (1414) All those things enter into cost and you would have to take them into consideration when you fix the average price for the group. For individual mines I would take into consideration the cost of the tonnage for the mine and every other mine in the same area, and would fix my average on the basis of the average for the group as a whole. If the average cost in a given field is lower than the average cost in another field, one of the fields would sell its coal for less than the average price for the other field, using costs as a basis for determination. (1415) If you used a weighted average I doubt if any fields would receive revenues less than their cost, under that device. It would provide a weighted average cost, or more, to each of the fields as a whole in the industry. I cannot state a price in dollars and cents, unless I know what the costs are in each specific mine in a given field, and then I could give you the price only for that field. The price would be not less than the average costs for each field as a whole. As "fields" I would take the present set-up in the industry, such as northern Illinois, southern Illinois, Hocking Valley, eastern Pennsylvania, the Smokeless region of West Virginia and the high-volatile area. (1416) If the cost figures on Defend- [fol. 646] ants' Exhibit 37-A, prepared by the NRA, cover all the mines in the Michigan area, I would use the average

total cost for Michigan shown as $3.18 as the minimum price for Michigan. I do not know whether the figures on the Exhibit cover all mines. (1417) In order to get complete figures I would go from mine to mine and collect the data. I would send accountants out to audit the books of the mines. I would send them to every operator—any mine that is operating at the moment, or any mine that has not gone out of business. I do not feel that costs for 60% of tonnage would be a sufficient basis for fixing minimum prices under a system that provided that only the mines that voluntarily wanted to give costs would have to give them. Knowing the mining industry as I do, and knowing the relatively small percentage of output that comes from the relatively small and insignificant mines, I would want the cost figures from perhaps over 90% of the tonnage of the industry.

(1418) The economists, in talking about the competitive system, justify it on the ground that it makes it possible for the individual who is most efficient, in terms of the type of product he gives to the consumer, and the relative cost of the product, to get the business and make the profits. The competitive system is a system of individual enterprise whereby individuals are permitted to enter into in- [fol. 647] dustries and use their ingenuity and capital in the production of goods for market. In industries in which it is found as a fact that the reward does not necessarily go to the efficient, I do not think individual enterprise should be forbidden, but I feel that we should fix the plan of competition so that they will all have to abide by the same rules of the game. (1419) "We" is the economists.

[fol. 648] (1247) JOSEPHINE ROCHE, a witness called on behalf of defendants, after being first duly sworn, testified as follows:

Direct examination.

By Mr. Lewin:

I am at present Assistant Secretary of the Treasury of the United States. In 1927 I became the largest individual stockholder of the Rocky Mountain Fuel Company of Colo-

rado, the company which ranks second in Colorado coal production. I did not obtain control of the company until the following spring, 1928. From 1927 until last December, when I came to Washington, I had been constantly engaged as a bituminous coal operator. In 1927 I became a director of the Rocky Mountain Fuel Company and the following spring I continued as a director and became vice-president. I later became president and general manager, in which capacity I continued until last December. During the period the NRA Code was in effect I was, for the larger part of that period, a member of the Code Authority of Subdivision L, and was also vice-president of the Northern Colorado Coal Producers' Association.

(1248) I graduated from Vassar and took graduate work in economics at Columbia University, and engaged for some three years in New York City, after 1909, in industrial investigations while I was working for my doctor's degree. I worked with the Public Education Association in New York City in the investigation of working and living conditions [fol. 649] in various sections of the State. I worked in Colorado as chief probation officer of the Denver Juvenile Court, and was also for a year or a year and a half, early in 1912, secretary of a state group in Colorado which had as its object the studying of industrial and social conditions in the various agricultural, mining, and industrial sections of that State, and reporting to various groups about them. I hold an A. B. and an M. A. that I have earned. In January of 1915 I became an agent for the Commission for Relief in Belgium, and held that position for about six or seven months, and during that period I was for three months in the London office, and then for the balance of the time in this country working for the Belgium Relief Fund. (1249) I was probation officer, chief probation officer, and later referee of the Denver Juvenile Court.

During the latter part of 1912 and through 1913 and the most of 1914 I was closely in touch, through the public welfare group I have mentioned, with the study of conditions in the bituminous coal industry in different parts of Colorado. I knew personally men and women in different sections of the industrial portions of that State. During 1914 and the early part of 1915 I worked very closely with a group of investigators who were working with a United States Congressional Committee sent out there by the Con-

[fol. 650] gress to investigate the causes of industrial unrest and strikes in Colorado. The strike of 1913-14 had culminated in the Ludlow massacre, and the Congress sent out a special committee to investigate it. It held hearings in different sections of Colorado, and I worked very closely with some of the counsel and investigators who were looking into the causes and reporting them to the Congressional Committee. I worked in very much the same capacity with the special experts and investigators under the United States Commission on Industrial Relations, and when this Commission held later hearings in New York City, following the hearings they had held for some weeks in Colorado, I took on to New York witnesses that were to appear and did appear before the Commission, three women (1250) from the Ludlow massacre whose children had been killed in that event. The United States Industrial Relations Commission was appointed by President Wilson. Its scope was not limited to mines, or even to industry. It included the agricultural and industrial and various business conditions. I was at that time officially engaged in my work with the Juvenile Court in Denver until January of 1915, when I started work for the Belgium Relief Commission.

In Colorado from 1913-14 up to 1927 the coal industry was entirely non-union. In 1913-14 we had in the State of Colorado one of the periodic strikes which had characterized our industry for nearly 40 years, and in this particu-[fol. 651] lar controversy, starting in the latter part of September of 1913, and continuing until the following November, there was very tragic waste of life and of property. (1251) In September, 1913, after months of effort to negotiate with coal operators of Colorado on eight requests, the United Mine Workers of America went on strike. Those eight requests had to do with improving working conditions, with a wage increase, but mostly with the right of the workers as citizens to have the laws of the State of Colorado enforced and their civil rights as citizens of counties recognized. For a long time in two large mountain counties in the south particularly, the men had been denied the rights of the Colorado statutes, such as the right to their own checkweighman, the right not to be blacklisted, the right to be paid in money instead of company scrip, the right not to be discriminated against because they were union men or seeking union organization. When the strike

was called the miners immediately left the coal camps in which they had been living and went into tent colonies on grounds which they had leased. (1251) I should state before I go into the strike further that in addition to the above, requirements as to living conditions in the sense of having to live in company houses, of having to trade at company stores, and having to purchase only at company stores through the use of company scrip were very general in those counties. Following the calling of the strike, the coal operators (1252) began to bring in strikebreakers, some from Colorado and others from other states.

(1267) [There was offered and received in evidence as plaintiff's Exhibit No. 66 a set of papers entitled "Statis-[fol. 652] tics of strikes, suspensions, and lockouts of bituminous coal mines in the United States, 1899 to 1933".]

(1268) The number of men who went on strike in 1913-14 represented approximately 75 to 80% of the entire number of miners in the State. The number of miners and our tonnage in Colorado are very small in comparison with the eastern fields and the central competitive fields, but relatively to the States of Nebraska, Kansas, South Dakota and other nearby states, which Colorado has served with coal supplies, they are of very great importance. During the year that followed the calling of the strike, the people of Colorado were put to added expense by having to import coal from other states. Much of our Kansas and Nebraska market was lost because of the interrupted supply of coal in the Colorado mines, and in addition the public was put to a very heavy expense by the indebtedness that the State incurred in keeping the militia in the field. In 1927 I made inquiries and learned that there were still outstanding bonds in the amount of over $1,000,000 indebtedness incurred for keeping the militia in the field at that time. (1269) There is still over $564,000 of this indebtedness. The loss to the operators was also very great, in that they lost markets. Closed mines mean inevitably a waste of coal, and there were very large direct financial expenditures by operators in fighting the union and its demands. I found, for example, from the records of our own company, [fol. 653] that during that period we had paid into a joint fund nearly half a million dollars for importing detectives from West Virginia; importing strikebreakers and gun-

men; arming guards; munitions; electrifying barbed wire around the closed mines and the building of an armored car. (1270) The purchasers of coal, not only in these counties, but in Denver and elsewhere, were put to great inconvenience and additional cost by the interruption of their normal coal supply.

The union was completely wiped out following the 1913-14 strike. The controversy became so acute that, following the Ludlow incident, after a week or ten days of very serious violence throughout the mining counties, the Governor of the State, at the request of large groups of citizens, called upon the President for Federal troops, and such troops were sent to the State and were there for some months. (1271) The operators always acted collectively to oppose the miners' demands.

(1272) At the end of 1915 I was out of the State for a part of the time, so I cannot testify personally to the 1917 occurrences or the 1922 occurrences. When I became connected with our company in 1927, a careful checkback through those years for price conditions and marketing conditions and labor relations showed that we had gone through a period of demoralized markets and very unsatis- [fol. 654] factory labor conditions, of tremendously heavy turnover in our mines, and of great resentment cropping out from time to time in our different mining properties between mine management and men, that the public, each time there was a cessation of coal mining in the State, found it necessary to pay higher prices (1273) for coal that was brought in from neighboring states, particularly Wyoming, and occasionally Utah. In 1927 labor was very dissatisfied with conditions in our company, particularly that we were still paying in scrip instead of cash, that the men did not have a checkweighman, except one at one of our mines who was an industrial spy, that the company employed industrial spies and maintained the head of a former detective agency. (1275) Our company was typical of the industry (1279) in Colorado. (1280) I found, by a check of our records, that the men had been very definitely shortweighted on their coal. I also found that trading at the company's store and living in company houses were requisities of employment, and that men and women buying at the company's stores were paying considerably higher prices than they would have paid at stores in nearby vil-

lages. These and similar conditions, which I believe to be typical of the industry of the State, were among the causes for the 1927 strike. (1281) Practically 80% of the mine workers of the State, entirely unorganized, went out on spontaneous strike in the fall of 1927, which lasted until early in 1928.

[fol. 655] In 1927 I found that there was very little freedom in the camps. The camps were guarded. Only persons who were known were permitted to go in. There were no free meetings or free discussion. The housing conditions were not satisfactory. The first time I went to our largest mine I was challenged by the armed guard and denied admittance until he was persuaded who I was. There were detective agencies employed. We had agents in our various mines who reported frequently on conversations they overheard among miners and told the superintendents and pit bosses the men they considered dangerous characters, that is, anyone who talked unionism. The company kept a file of these reports.

(1282) In 1928 our company adopted the policy of recognizing collective bargaining (1283) and we signed a contract in the summer with the United Mine Workers of America. The contract not only set forth the usual provisions of collective bargaining, but recognized that there is a public interest involved in the mining and marketing of coal, and pledged the parties not only to work for more satisfactory and efficient relations in the industry, but to assure consumers of coal a supply at reasonable and uniform prices, and to enlist public confidence and support by safeguarding the public interest.

(1284) [A copy of agreement between Rocky Mountain Fuel Company and United Mine Workers of America was [fol. 656] marked Defendants' Exhibit No. 39 for identification.]

All of our contracts have had the same preamble in them. There have been variations in the wage scales. The contract is substantially the same as the entire northern field has made under the NRA Code (1285). [The agreement previously marked Defendants' Exhibit No. 39 for identification was offered and received in evidence.] (1286) The special provision in the contract was that we agreed to pay, on the basic day scale, a rate 25 cents a day above that

of our non-union competitors, that should wages be cut in the mines producing the majority of the tonnage in the districts in which we operated, our scale would likewise be reduced, but that we would always maintain a differential of 25 cents on the basic day scale. This agreement was reached in the belief of both parties that we could justify that differential under union conditions (1287) through increased efficiency and cooperative relationships. We found a very definite gain, both for management and for miners. The production per man per day in our mines increased the first year of the union contract .7 of a ton over what it had been the year before. The following year there was a further increase of half a ton. The increase in our payrolls, which was approximately $75,000 in the first year of the contract, was substantially met because of the increase in production and continuing decrease in operating cost as a result of increased unit production and various improve-
[fol. 657] ments in relationship and in management. The condition of the company was improved and the earnings of the men were substantially increased. There was very general public support of this policy. The 1927-1928 strike in Colorado had subjected the citizens to much increase in the price of their coal, and the importation of coal from Wyoming, (1288) and there was a feeling of restlessness over the fact that these industrial conditions were constantly recurring at great cost and inconvenience to the public, so that we had in the operation of our contract, the very definite support of domestic buyers of coal. Despite the fact that markets were falling and the production of coal in Colorado had decreased in the three or four years prior to 1928 and 1929, one million or more tons, and has continued to decline, and our own production had also decreased, our decrease was not nearly as great as that of the other mines in the State. We attribute that to a very considerable extent to the interest that was shown in this contract.

Following 1927 the competitive situation in Colorado was very acute—constant price wars, reduction of prices, both domestic and industrial, and great uncertainty as to markets as a result. The Nebraska and Kansas markets were, to a very great extent, lost to our northern fields and to the southern field, because of competition from Oklahoma and Arkansas, and that in turn intensified the compe-
[fol. 658] tition in the markets of the State and in western

Nebraska. The price-cut situation was just about as acute as it could be and survive. (1289) During this period our company had considerable loss. I have heard other operators state that their condition was similar.

Our company was represented at the first meeting of operators who were mining under union contract in Washington in June, 1933, in the initial meeting that discussed the formation of what later became the NRA Bituminous Coal Code, and we took part in all the meetings thereafter. We presented our form of contract to the persons who were discussing the formation of the Code and it was discussed at those meetings. The result of the NRA Code was distinctly beneficial in Colorado, in that it eliminated many of the unfair trade practices, the rebates, the price discriminations, the excessive cuts in prices of coal, and (1290) it brought the entire industry, with the exception of some eight or ten percent, under union contracts. The northern field, where most of our properties operate, came under the same contract as that under which we had been operating. Since the Code ended last May, our field and the southern field have had very extensive and recurring price cuts. The price war became so intense in northern Colorado that for a period of time in August the mine price on two and a half inch lump in certain districts was down 95 cents below what it had been in May, and it is still considerably below. There is extreme competition and price-cutting at the present moment. Fortunately the wage contract is still in exist- [fol. 659] ence, which is the one stabilizing force now existing in the industry in our State.

I believe the stabilization of prices necessary and desirable in the interest of the industry, the public, and the workers. (1291) Unless there is some form of price stabilization which adequately protects the three groups, the inevitable temptation in meeting competition is on the part of the operators to cut their chief item of cost, which is labor, making up about 65% of the cost of the industry. There is a recurrence of the vicious circle of strikes, restricted supply of coal, interference in shipment of coal, the public paying higher prices during these periods, and industries demoralized and sometimes driven into bankruptcy. Price stabilization, it seems to me, would be very definitely in the interests of the public, because what the public objects to chiefly is not a small, regular increase in

the amount of its fuel bill, but the irregular and high peak prices it sometimes has to pay during the strike periods. The laying of a level beyond which, in the interests of all concerned, prices should not go, would remove one of the chief economic causes for these industrial outbreaks, with consequent public disaster. (1292) The closing down of mines in strike periods, or in any period, very frequently results in loss of coal reserves. There is nothing in mines more damaging than having the mine closed. That in itself wastes coal.

[fol. 660] (1293) Cross-examination.

By Mr. Whitney:

We sell coal to railroads. We delivered that coal to the railroads at the mine. None of our competitors in the northern field in Colorado sell coal to railroads. I understand the mine operators in the southern field sell to railroads. There are a number of railroads that run through the southern field and pick up their coal there.

(1294) I would say substantially that the following facts, given in defendants' Exhibit No. 13 are the case: That Colorado, in 1929, produced 10,000,000 tons of coal, that approximately 2,250,000 tons were delivered to railroads, that approximately 2,000,000 tons were sold interstate, and that all the rest of the 10,000,000 tons were sold inside the State.

I testified that due to our liberal policy in 1928 we had no further strikes at my company's mines. [Mr. Whitney pointed out that there were no strikes whatsoever in Colorado in 1929, 1930, 1931 and 1932.] No other operators during those years had our policy.

(1296) [There were offered and received in evidence the following: Defendants' Exhibit No. 17—Table entitled "Bituminous coal loaded for rail shipment on origin rail-[fol. 661] roads in the Appalachian district north of Alabama—northern railroads"; Defendants' Exhibit No. 18—Table entitled "Bituminous coal loaded for rail shipment on origin railroads in the Appalachian district north of Alabama—southern railroads"; Defendants' Exhibit No. 19—Table entitled "Recapitulation of bituminous coal loaded for rail shipment on northern and on southern railroads in the Appalachian district north of Alabama".]

[fol. 662] (1297) DR. HOMER MORRIS, called as a witness on behalf of the defendants, after being duly sworn, testified as follows:

(1345) Direct examination.

By Mr. Lewin:

(1346) I am a graduate of Erlham College, Richmond, Indiana, with graduate work in economics and political science at Columbia University, for which I received a doctor's degree. I was head of the Department of Economics at Erlham College and taught in the Department from 1918 to 1928. In 1921 and 1922 I was director of child relief under the American Friends Service Committee in Berlin, Germany. In 1922 I was Director of Fuel and Director of Famine Relief in Bulgaria and in Russia under the auspices of the same Committee. In 1923 I was sent as Special Commissioner to investigate health conditions among children in the Ruhr. From 1930 to 1934 I was Professor of Economics at Fisk University. In 1931, when President Hoover asked the American Friends Service Committee to undertake a program of child feeding in the bituminous coal area, I was asked by the Committee to become the field director, which I was during 1931 and 1932. I was also connected with the work during 1932 and 1933.

We conducted a child feeding program in Pennsylvania, West Virginia, Kentucky, Maryland, Tennessee, and Illinois. We had a school feeding program, which was conducted in some 640 schools scattered through 40 counties in [fol. 663] those six states. (1347) I myself visited and studied in Pennsylvania, Clearfield, Cambria, West Moreland, Fayette and Washington Counties. In Tennessee I visited and studied Cumberland and Campbell Counties mainly. In Illinois I visited and studied Franklin, Williamson, and Saline Counties. In Clearfield I visited some 15 to 18 camps; in Fayette County some 20 to 25 camps; in Franklin County, Illinois, probably 15 to 20; in Williamson about the same number; in Cumberland County, Tennessee, 6 or 7. As part of the work investigating the necessity for the child feeding program I investigated the housing situation and the living conditions quite extensively. (1348) As a result of the study I published a book dealing primarily with the situation in Kentucky and West Virginia, entitled

"The Plight of the Bituminous Coal Miner," published by the University of Pennsylvania Press in 1934.

We visited a great many of the camps and in some of them we found it was not necessary to undertake a program of child feeding. In others we did find that it was necessary to undertake such program. But that varies. Which group was in the majority depends on its locality. I should say that in a great many counties there are both good and bad conditions, and in the better conditions we did not find it necessary to undertake the program of child feeding. In [fol. 664] the poorer camps where housing conditions were worse, where employment was less regular, it was necessary to undertake the program. (1349) I have spent probably two or three weeks at various times in Clearfield County, Pennsylvania, and about the same time in Fayette County and Westmoreland County in that State. I have spent probably three or four weeks in Cumberland County, Tennessee, at various times in the last three or four years and about one or two weeks in the counties in Illinois. I spent longer periods in the counties in West Virginia and Kentucky.

In Clearfield County, in the main, housing conditions are rather poor. They are all frame houses. (1350) Most are built on piles or posts without solid foundations. They have usually three or four rooms, not painted, and no facilities inside for water or sanitation. They have usually one well for every three or four or five houses, requiring that they carry water some distance. These houses show the result of lack of repairs during the past few years, so a great many of them were in a very bad condition. In a great many houses the plaster had fallen off at various places and broken through. Some of them leaked. Very often the porches sagged, the foundations had rotted out and had not been repaired. In general, the houses were in a bad state of repair. Usually the buildings were not weatherproof, that is, a great many of these houses have not been repaired in recent years, which meant that very [fol. 665] often the weatherstripping was off or loose, so that it was not at all resistent to the vigorous winters of that section of Pennsylvania. (1351) The heating facilities were stoves only. Miners' families are notoriously large, the average size being about five, and very often there are relatives who live with the families, so that in a house of four rooms it is not at all unusual to find rather large

families of eight and nine and then in addition one or two roomers. That is not in all cases, but I would say that that is not at all exceptional.

In the main, the general topography of that country is not level, but very hilly, so that in the main the houses were on the hillsides. Some of the camps were strung along the main highway, which was paved. The other streets were not paved and there were very seldom any sidewalks. Where there was enough level land, there were usually gardens, but usually there was not enough level land to provide gardens. (1352) There were very seldom lawns or patches of grass around the houses. There would result erosion and the washing of deep gullies, which would make lawns almost impossible. There were no facilities for sewage disposal, the sewage being thrown out into the back yard usually. Very often the atmosphere of a coal camp in Clearfield County is polluted by the burning of the slag pile. The coal catches on fire and burns continuously, sometimes for years. When that is connected with morning or night fog there is a general pollution of the whole atmosphere, making living conditions very difficult. Whether [fol. 666] there were any odors from the disposal of the sewage would usually depend on how close the houses were together.

(1353) The miners' houses in Clearfield County were in the main rather poorly equipped with a very small amount of very crude furniture. I was in very few homes where there was any carpet on the floor, for instance, in that section. Generally there were a few chairs, and some of them had shown the evidence of prosperity at one time, but had shown the inability to replace or repair furniture, so in the main the furniture was in a very poor state of repair. In the kitchen there was no provision for running water or sewage disposal; just a bare table, no sink. There were 3 or 4 iron beds, depending on the size of the family.

There was a very great shortage of clothing, showing the results of low earning power over a number of years. In a great many places we found where the children could not go to school because of the lack of clothing, and the women (1354) were not at all prepared with clothing for the cold winters. The condition of clothing that actually did exist was usually rather cheap. The clothing worn was very

seldon in good order or good repair. That varied in different families, depending on the length of time the miner had been employed or the wages he received. Some of them had shoes and a great many did not have adequate shoes to wear in winter weather. I am not sure whether I would say that was true of the majority. I would say in a [fol. 667] great many cases that was true.

In the examination of the children in that section we found that more than one-third were not getting the proper food in order to maintain their health. About one-third of the children in the camps where we fed were provided with a supplementary meal, and these children were provided the meals only upon the basis of an examination either by a doctor or by a nurse. (1355) The diet mainly was beans and pork and corn bread. That varied somewhat, but it was a very restricted diet because of the low wages and the unemployment that existed during that period. There were very seldom fresh vegetables and milk because they did not have gardens; vegetables were expensive; there were few cows in the camps, and milk was expensive. In a great many of the schools where we served milk the children would say that they had never tasted milk before. The children and the adults gave evidence of the effect of this diet, the children especially. There was undernourishment among the children and also bad teeth, which is an evidence of malnutrition. The general health of the children was an evidence of the lack of proper food and the inadequacy of food. In some of the schools those 10% and over underweight ran as high as 50%. The average was 32%. My investigation did not extend primarily to the adults. I was working primarily with the children. (1356) I cannot speak with statistical basis on the condition of the adults. There [fol. 668] were a great many people who were obviously undernourished and not getting the proper kinds of food.

Among the children especially colds were prevalant in the camps. Resistance was low, and it usually started with colds. It often developed into pneumonia and there were a great many cases of tuberculosis among the children. There were some cases of dysentery in the summer. Very seldom were there any recreational facilities in the camps. Some of the larger companies had company stores. A great many of the smaller companies did not. In the larger companies they usually had a fairly good variety of

merchandise in their stores. The smaller stores had usually a rather limited variety. (1357) I did not make any statistical study of the prices charged in those stores in Clearfield County, although I did in some of the counties in West Virginia and Kentucky. Those studies showed quite a bit higher prices in the company stores than in the private stores.

Usually the miners had very little cash. Where there was a company store there were certain debits before they were given any money at all, and during the period of 1931 and 1932 work was so slack that as a result they were in debt rather than having any cash balance, so they had very little cash. They had one or two days a week work, sometimes only one or two days a month. Work [fol. 669] was very slack; in fact, there were a great many miners in Clearfield County in 1931 and 1932 who had not had work for 1, 2 and 3 years. When they did work the wages were from $2 to $3 a day. These were subject to a deduction of house rent, probably a doctor's fee, smithing charges, and light charges.

(1358) In Fayette County there are larger companies where living conditions are very much better, where housing conditions were very much better, where the stores are better. You have a larger percentage of pretty good housing conditions in Fayette County than in Clearfield County. There are a number of camps in Fayette County which are just as bad as in Clearfield County, but the percentage is not as large. About the same thing is true in Westmoreland County as in Fayette County—a number of very good camps, and then camps that are very poor.

Conditions in Tennessee compare more favorably with Clearfield County than with Westmoreland or Fayette Counties—that is, smaller companies, poorer mining conditions, lower grades of coal, and a larger amount of unemployment. (1359) In Tennessee conditions are more nearly similar to the conditions in Clearfield. The typical diet in Tennessee is corn bread and sow-belly with beans and coffee. Housing conditions in Tennessee are very poor. The same thing is true about sanitation, sewage disposal and water supply.

In Illinois there is quite a different situation. Only [fol. 670] about 9% of the miners live in company towns. A great bulk live in independent towns. In West Virginia

about 80% live in company towns, while a very small percentage in Illinois do. The housing conditions in Illinois were very much better than the conditions I described in Clearfield County or in Tennessee. The houses are better furnished and better constructed. They are better houses in every way. Living conditions were very much better. (1360) The people in the typical camp in Illinois had a much greater variety of diet. The general topography of the country there is quite different from Clearfield County or from Tennessee or West Virginia or Kentucky. It is an agricultural country. Most of the houses have gardens attached. Most of the miners had gardens, so that they had a much greater variety of vegetables than was true of the other camps. They usually had milk. It was necessary to conduct a program of child feeding in Williamson and Franklin Counties. A great many mines were shut down while I was in Illinois.

In West Virginia I inspected mines in Monongalia County, in Marion County, in Logan and Mingo Counties, and to some extent in McDowell and Randolph Counties. In Kentucky I inspected mines in Bell, Harlan, Letcher, Perry and Knox Counties. (1361) In some of those counties there are very good camps—some of the larger companies. Some of the captive companies have very good [fol. 671] camps from the standpoint of housing conditions and living conditions; on the other hand there are a very great number of camps in those counties. One is impressed by going through that the poorer camps are in the majority. The poorer camps on the average are in about the same condition as the ones in Clearfield County, Pennsylvania, although probably the camps in Clearfield are a little more dilapidated than the majority of those in West Virginia and Kentucky, although there are a great many poor camps, especially in Perry and Letcher Counties and in Bell County, Kentucky.

The miners and their families had been having a very small amount of employment for the last two or three years—2 or 3 days a week—and then a very great many of them had been unemployed for long periods of time. They had not had enough food to properly care for the children or proper clothes for them. They did not see any hope for the industry or how they were going to make a living, or any opportunity to get a job anywhere

else. There was a general helplessness and a general despair and bewilderment about how they were going to get through the next winter. There was a general discouragement. At times they went to the position of desperation. (1362) When things got bad enough in 1931 there were occasions when they simply went to the company store and took food out of sheer desperation. That was before the period of Federal or State relief was at all well organized [fol. 672] in 1931 or in the fall of 1931 and early 1932.

I was in Kanawha County, West Virginia, just after a number of evictions had taken place. This was following the strike. During the fall of 1931 and the winter of 1932 there were a number of colonies scattered through Kanawha County—people who had been evicted as a result of the strike. There were four or five tent colonies right along the road and in one or two cases the tents were right adjacent to the concrete pavement.

As far as I know, the deductions from wages which were made in the typical mines of Kentucky and West Virginia as compared with the deductions made in the Pennsylvania counties were about the same. (1363) The larger camps usually had a camp doctor and varying facilities for hospitalization. The usual deduction for the doctor varied from a dollar to a dollar and a half. In the smaller camps they usually did not have adequate provision for hospitalization. There was a great deal of sickness in West Virginia and in Kentucky. In Kentucky and Tennessee the school facilities were very poor and very inadequate. In West Virginia they were probably a little better, although in the smaller camps they were also very poor and inadequate. In the larger camps there were better facilities for school. It varied a good deal with the size of the camps and the size of the communities. There were public schools. In [fol. 673] some cases public funds were supplemented by company funds for the extension of the schools. (1364) For instance, in Kentucky they provided seven months school. In some of the camps that was extended to 8 months, or eight and a half months by company funds. When the employees are all from one company, which is the chief taxpayer in the locality, the teacher naturally looks to the will of the operator to determine what he or she can or cannot do. For instance, in talking about school matters. we were practically always referred to the op-

erator. It was not the teacher who made the decision as to whether it was necessary to undertake a program of child feeding, as a matter of policy.

I was in Logan County, Pennsylvania, in early October, 1931, and the week before I was there, according to the report of the freight dispatching officer of the B. & O. Railroad, coal had sold for 15¢ a ton, and on that day, according to the reports on his desk, 1039 cars were unsold.

(1365) Cross-examination.

By Mr. Whitney:

From my experience in Logan County I did not understand that 15¢ a ton was the normal price for coal. That was no-bill coal that had been mined but had not been sold.

I did not visit any of the twelve mining counties in Alabama, or any of the seven counties in Arkansas, or the [fol. 674] two mining counties in California, or the twenty-two in Colorado, or the one each in Georgia and Idaho, which are listed according to the Department of the Interior. My experience was confined to six states. In Illinois I visited three of the fifty-four counties, those three being the largest producing counties, Franklin, Williamson, and Saline. (1366) I do not know whether the Department of the Interior report is in error in giving 27 mines in Franklin County and 48 in Fulton County, or in giving 61 in Saint Clair County. I would say, in connection with that, that we were guided in our investigation there by public authorities, who told us where the conditions were the worst in that State. We went to only those points where unemployment and undernourishment were greatest, according to the reports of the officials. In Pennsylvania we followed the same system. We went where conditions were the worst. The same is true in West Virginia, in Kentucky, and in Tennessee.

[fol. 675] Miss Mary Elizabeth Skinner, called as a witness on behalf of the defendants, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Lewin:

I am with the Children's Bureau, United States Department of Labor. I do field work in social research in the in-

dustrial field. I have been with the industrial division of the Children's Bureau for 15 years. In the spring of 1931 I went into the bituminous coal fields to make an investigation of living conditions, at the request of the President's Committee for Employment. I visited the coal fields in West Virginia, Kentucky, (1420) Alabama, Illinois, Indiana, Kansas, and Oklahoma. I made a detailed study of conditions, though, only in West Virginia and Kentucky. I visited about five counties altogether in both states and spent probably a week in each county. In West Virginia I was in Marion, Monongalia and Logan Counties, and in Kentucky I was in Perry, Hopkins and Union Counties. I made only very brief investigations in Hopkins and Union Counties. I was not there more than two or three days. In the three West Virginia Counties and Perry County, Kentucky, I was probably a week in each county, visiting the different mines.

I got my information from the miners and their families, from the mine officials in every community, from the school [fol. 676] officials, and any welfare officials or county officials that were there. I tried to interview everybody in the place who would have any information regarding the situation. (1421) I actually visited the camps and the houses and talked with everybody who could give me any information. Altogether I probably visited, in the four counties I mentioned in the two States, between 50 and 60 camps. I made every effort to get a rather complete picture of the actual living conditions in those camps. I think I did. I reported to Miss Grace Abbott, the head of the Children's Bureau, the result of that inquiry. As a result President Hoover gave the money that was left from the Belgian Relief Fund for child-feeding in the bituminous coal areas. (1422) In these various camps I visited, the wages of the laborers varied from $2 to $4.50 a day, on such days as they worked, and for the day workers they varied from $2 to $4.50. The day workers were often making more than the miners, because their work was more regular. A miner was averaging between eight and ten tons a day in most of the mines, where they could have earned a great deal more than that, had there been orders. The mines were not only taking care of all the men in the camp when they had an order, but they were taking care of some of the men from camps where the mines had been closed, and the families

were still living on because they had no place else to go. The weekly earnings, then, ranged, at the most, for the [fol. 677] loaders, around $10 to $12. The majority of the mines that I visited, at the time, were running only one, two, and occasionally three days a week. Very few of them were running as many as four or five days. These earnings, however, were not net earnings, because the miner has to pay for his explosives, and it was estimated by the mine officials and the miners I talked with, that this cost ranged from 60¢ to a dollar a day. (1423) A miner does not get all his earnings in cash, either. There are certain camp expenses not incident to the job, but incident to camp life, which are deducted. Rent is taken out and the expense of light. Most of the camps have electric light. In some camps there is a charge for coal, in some for insurance, and in some for a doctor, $2 for a family man and $1.50 for a single man. Rents average about $2 a room. There is an additional charge if there is running water in the house, or if there is a pantry in the house. Usually the miner's deductions that are taken out in normal times before he gets his pay will average anywhere from $8 a month up, according to the rent he is paying for his house. The miners when I was in the camps were living on scrip. They saw very little cash. Many men told me that they had seen hardly any cash within two years. The mine superintendents in many instances corroborated the statement.

(1424) The statements of the company stores and mine statements showed that it was not unusual for a man to [fol. 678] receive, at the end of his two weeks, 15¢, 20¢, 25¢ or 50¢ in cash. At the time I was there not all the deductions were being made. Their earnings did not warrant it. How much should be deducted and how much credit should be given was decided entirely by the purser at the store. The miners resented this very much. One miner had earned $23 in the two weeks ending March 31st. He had been allowed $15 in scrip on the company store, which had to cover all household expenses, and the remainder had been deducted to meet rent and the company doctor, and light charges. That is a typical instance of the way in which deductions are made. (1425) With regard to gross wages paid, that illustration would be high. That miner, at the end of the week, already had an overdraft from the store of the previous week of $16.56, and at the end of that week,

after paying his regular deductions, had retired his bill only to the amount of $2.

In a majority of the camps there was either a company store or an independent store that was authorized by the company to accept scrip, and that scrip was then deducted a certain percent when the store manager presented it for payment. The reports of the miners were unanimous that the company-store prices were high. I checked the prices of a company store with an independent store nearby, but off the company land, and one of the chain stores in Charleston, West Virginia, on the same items, and found that the company store prices ranged from 25% and more higher than the independent store nearby, and they were some-[fol. 679] times 100% and even more higher than the chain store in Charleston. In a majority of the company stores the merchandise was quite restricted, because the miners were not buying it, and they were not keeping it on their shelves. Some of the stores in the larger companies were well supplied, but the miners complained that they carried a brand of goods that was more expensive than they could afford to buy. They carried the best brands instead of the middle-grade or the poorer-grade brands. Very few of the company stores were offering fresh vegetables or fruits, because they had no demand for such produce.

(1427) The location of the camps with reference to other centers varied with the different counties. In Marion County the camps were not so isolated, on the whole. They were scattered over the county. In Monongalia County a large proportion of the camps are concentrated in one valley, about ten miles long, and in little hollows out from that valley. Some of them are not isolated in the summertime, not isolated in normal weather, but in bad weather they are inaccessible by automobile, many of them. I believe, when the American Friends Service Committee began serving meals, after they received the money from President Hoover, they put the miners to work repairing some of the roads into these camps so that they could get their supplies in. In Logan County the same thing is true, in many of the camps. Many of the camps are along the main high-[fol. 680] ways, paved roads, and others are up the hollow, and in the hollows off these hollows, that are inaccessible in bad weather. Some of the camps I visited were not such great distances from the towns. I cannot tell about them.

I have no evidence to prove that the miners are required (1428) to trade at the company stores.

(1429) By the Court:

I asked the miners if they were required to trade at the company store and the unanimous answer was that if they did not do so they were afraid that they might lose their job, or would not receive credit when they did not get work.

By Mr. Whitney:

(1430) In some instances the miners received credit when they did not have work. It was not extensive.

By Mr. Lewin:

The company camps are of all kinds. There are a few model camps, where the houses are substantial, and conditions are good. There are some camps where the houses are insubstantially built to start with, but they have been kept in good repair, but in the majority of the camps the houses are insubstantially built, out of just boards, perhaps with weatherstripping on them, and unplastered, and have not been kept in a good state of repair. The weatherstripping is off in many of them; there are cracks between the floors. The windows and the roofs are sagging, and it [fol. 681] is not unusual to go in a house and step around the pans that are there to hold the drip from the roof in bad weather. Many of them are on stiles, and the floor is thin, and it is difficult to keep them warm in cold weather. In the majority of instances there are no house facilities whatsoever, except electric light. Usually the electric light comes from the mine power, and most of the houses, no matter how poor they are, have electric light. There is no running water in the majority, and no bathrooms. In the majority of instances water is supplied from (1431) either pumps or waterworks in the camp—two or three houses to a pump, sometimes one or two pumps to an entire camp. In Scotts Run, in Monongalia County, the valley floor is very narrow, and the camps are on a hill, on one side, that rises very precipitously from the valley floor, and on the other side at a sharp angle also, and the camps on the tops of the hills have difficulty getting water in dry weather. They have to go to the valley and carry their water proba-

bly a quarter of a mile up the hill. Sometimes it is very difficult, considering the number of people using the pumps and the springs in the valley, for them to get enough water, and they suffer real hardship at times.

I would say in the majority of camps there is no sewage disposal of any kind. They just throw the sewage out in the camps.

There are very few grass plots or gardens in the majority of camps. In some there are cinder paths. In some [fol. 682] there are not even that. The houses are too close together to allow even a garden space, although, at the time I was in the community, every family was utilizing every little spot that was possible for a garden. In spite of the difficulties of the locations of the camps, they were putting in the seed that the Red Cross were furnishing them. The hills there rise very precipitously, and sometimes, almost at a 40-degree angle, so it is very difficult to farm that country.

(1432) I have no statistical figures as to how many persons were accommodated in the majority of the houses, but it was not uncommon to find eight or nine people in a three or four room house.

The diet was not only lacking in proper elements but many of the families were not having enough. There were no fresh vegetables or fruits, and very little milk. At the time I was in the camp I should say the majority of the families were existing on corn bread and beans for the larger part of the time, and many families had no other diet for weeks at a time, except corn bread and gravy made out of lard, flour, and water. The teachers in the schools had found it necessary, even when they had to dig down into their own pockets, from their meager salaries, even before I got into the communities, to do some feeding in the schools. Their funds were almost depleted at the time I was there, and they were very much worried about how they were going to keep the children going. (1433) The [fol. 683] teachers said that their attention was first called to the need of the children in the schools because the lunches were disappearing, and then they would frequently get reports from mothers, letters from mothers in the morning, asking them to send the children home from school, because they had had no breakfast that morning, and the father would be home from the mine with food before the day was

over. The men were going into the mines early in the morning without breakfast, and loading a car or two of coal, and then the children would get the scrip from the men and go to the store and get the food and have breakfast before they came to school. For that reason the schools were having a serious problem regarding tardiness, but were not trying to cope with it.

The clothing standards were pretty bad. The teachers had done a great deal to clothe the children, but they reported that there were a great many absences because of lack of clothing, and that the children were coming to school in a state of uncleanliness that was not usual, because they did not have enough clothing for the proper change. Quite often they would get an excuse that the child had to stay at home because the laundry work had to be done, so that they could attend the rest of the week.

(1434) These are just a few of the very many stories of the same kind that I heard.

Shoes are their greatest problem. Some of the children were going to school in the gum boots of their fathers that [fol. 684] were too leaky to be used in the mines, and I went into several schools where a large number of the children were wearing unmated shoes. Some of them were wearing galoshes in place of shoes. At the time I was there, there were no recreational opportunities. The children could play just around the mines and around the houses in the narrow valleys. In some of the larger camps there had been movies, and in a few the movies were still operating, and there was a Y. M. C. A. or something of that kind, but in the majority of the camps there were not any movies, and in other camps the movies were closed. Although the movies accepted scrip, they no longer could keep going. Most of the camps had primary schools, but it was sometimes hard for the children to get to the secondary schools if they were living in the more inaccessible camps. There is very little vocational training that I came in contact with. There is very little for the children to do as they grow up, except to go in the mine. (1435) At times there has been some housework for the girls, but at present even the mining officials' wives are doing their own work to a greater extent than ever before.

The school records and doctors' records are so meager that I could not give any statistical figures regarding the

health of the children. The teachers reported that many of the children in school had been underweight, and that was one reason for their starting feeding in these schools. In two schools in Logan County a very serious situation [fol. 685] arose when scurvy broke out, but the Rotary Club furnished the proper elements of diet that were given to the children in school, and that was controlled. There is a company doctor in every camp, but he is a general physician, and when the services of a specialist were needed, the people had to go without it, because they had no money either to get to neighboring cities or no money for physicians' services after they got there.

It is very hard to describe the state of discouragement and despair in which the miners work, especially in Logan and Perry Counties, Kentucky. In Monongalia and Marion Counties I would say that they are a little more hopeful, or, at least, they still had a little more of a feeling that perhaps there was some way out of the dilemma. (1438) There they had an opportunity, or tried at least to obtain collective bargaining, they were working collectively, and their spirits were better.

I was in Kanawha County at the time several of the miners were evicted from several camps in that territory after the strike. Those families were moved off the company land, and the only other land available was along the highway, along the main paved highway, which was traveled very frequently, so that their living conditions were rather uncomfortable. They were living in tents, and over a year after that when I returned they were still living in those tents. Most of them were being provided with food by the [fol. 686] county. A very meager allowance was being given. The county was not in a position to give much.

In picking out these 60 camps to visit, I did not select them with any particular idea in view to try to select the worst camps. I wanted as nearly representative a picture as possible, and I selected some camps that were the best, and those that were moderately good, and some of the poorest, in each county.

(1437) Cross-examination.

By Mr. Whitney:

I picked out the three counties from the 38 coal-producing counties in West Virginia after talking with the Secretary

of the President's Employment Committee, who had already made a tour of the States of West Virginia and Kentucky. He told me the reason for my going to those three was largely because they represented conditions in the different sections of the State. I picked two counties in the northern part of the State and one county in the southern part of the State, one county in the eastern Kentucky field, and two counties in the western field. The preponderance of counties, two in one section and one in the other, was because it happened to be convenient to go into those at the time, and they were representative mining counties. I base that on my visits to the other counties. I visited McDowell County in West Virginia. I should say conditions were not a great different in Logan and McDowell Counties. (1438) [fol. 687] They are both in the southern part of the State. At this time I spent about a week in Logan County. I am basing my testimony on other visits too. Following my investigation for the President's Employment Committee, I was loaned to the staff of the Department of Public Welfare of West Virginia, to help them set up their relief administration, in the summer of 1931, so that I was in and out of many of the coal counties of West Virginia during that summer, during which I was acting for the State. The State was seeking to alleviate this distress consequent upon the depression. At that time the Reconstruction Finance Corporation was giving money for relief to the States. (1439) I would say the prices in the company stores were high everywhere. I will have to quote the reports of the families to me when I asked them directly whether the company stores always had higher prices than the general stores. I did not mean to intimate that in some of the stores their prices were not higher. Usually the company stores were higher. I have had a long experience as a social worker. I would not say that people in a condition of dire poverty did not give me accurate statements. I did check the statements in some of these stores. In any investigation you would check the statements made to you. I would not say you had to check the statements of that group of people any more than any other. (1440) I mean people in comparable condition elsewhere. Anywhere I was making an investigation I would check statements made to me, in so [fol. 688] far as in my power, and I should say they should be checked. I worked for two years in Chicago, in family

relief work. I had had experience in seeing conditions of the same character as these conditions.

Redirect examination.

By Mr. Lewin:

I would say the conditions which I have outlined in the bituminous coal fields were as bad as any I had seen in other fields in the course of my social service work. I have been in the work twenty years and have been active.

(1441) Recross-examination.

By Mr. Whitney:

I would not say the conditions of the bituminous coal fields were worse than any I had seen in other fields. I would say they were as bad.

By the Court:

The general stores would not accept scrip. Only such stores as had been designated by the company could accept scrip.

By Mr. Whitney:

In the isolated communities there was one store in each community generally. If there was not a company store, one store in each community was designated by the company. I have no evidence that the operators had kept general stores out of the community. I would not be able to make the comparison as to whether city prices in ordi- [fol. 689] nary merchandise are lower or higher than prices in isolated rural communities. (1442) When I spoke of prices there I was comparing them with prices in independent stores and in stores in the towns nearby. I do not mean by that cities, necessarily. I mean towns the size of Fairmont. I particularly designated that the prices when I spoke about Charleston were from chain stores, which are necessarily lower. If a person lives within the vicinity of a chain store he has the advantage, of course. I did not visit conditions among the tenant farmers in West Virginia during the year 1931. I made no investigation of that at all except in so far as I came into contact with a tenant

farmer who were eking out his income by working in the mines. I have no information as to whether tenant farmers were making more or less than $8 or $9 a week. (1443) I was sent down there to investigate only the conditions in the coal mines.

[fol. 690] (1444) NELL SCOTT, called as a witness on behalf of the defendants, being first duly sworn, testified as follows:

Direct examination.

By Mr. Lewin:

I am a social worker in Pittsburgh, Pennsylvania, and have been engaged in social work 21 years, most of the time in and around Pittsburgh. There was a period of time for study out—away—from Pittsburgh, but all the time working in Allegheny County.

I began in the bituminous coal fields to do social work among the miners and their families resident in Allegheny County, Pennsylvania in 1928. When the 1927 strike was going on, a great deal of public attention was attracted to the situation among the miners, because once they had been evicted from the mining towns, the union built barracks (1445) for the most part along the highways, so that passersby noticed them, and then began a rather elaborate or extensive attack on nearby towns and farms for food. That was all written up in the New York Times. Two committees were formed, a committee of clergymen and business men. Fifty business men offered to put up a thousand dollars apiece for relief. Those two committees joined, and then I was asked to be loaned from my organization to be the field worker for that relief. For six months I did nothing else but that. As I remember it, there was no particular day [fol. 691] when the strike closed. It just petered out. Reports were brought back to the committee of the relief we were giving, and the organization with which I was connected was asked to take on county work, especially in the mining areas, so that from that day on I have been connected with mining areas.

(1445-1446) The housing conditions and things you observe from the outside have not changed materially in Alle-

gheny County among the miners from 1926 to the present day. There have been some other changes, but in housing and sewage disposal and things of that sort there has been none that I have observed. The houses are commonly known as blocks or patches, and are in the most common arrangement, very close together. In some camps there is not more than ten feet between the houses. They go in rows. I don't know of any camp where the roads between the houses are paved. In so far as they are on hillsides, erosion enters into them, and makes gardens difficult. When we tried to put on a campaign for having gardens, we couldn't get any. The Agricultural agent told us that the erosion had gone on underneath, and that the fumes from the burning culm banks made gardening difficult. Most mining camps are drab, dull and unhappy looking.

(1447) I do not know of any camp where provision is made for running water in the houses. A very few have pumps, but I do not know of any camp where there is a pump to every house. The highest number of families I have known to a [fol. 692] pump has been 15. In newer camps there is running water that goes along the street, so there is a hydrant for every so many houses. In some camps if the individual miner is enterprising or has initiative, there are some houses in which the miner has piped water to one faucet inside his house, but I don't know of any camp where that has been done by the company. Electric lighting is not universal. The older camps still have kerosene lamps. The heating, of course, is by coal. I suppose the most in numbers of rooms is four. I can't think of any of the houses that are in blocks having a cellar. They are built on stilts, sometimes with weatherboarding covering the stilts. Their state of repair in 1928 was bad for various reasons. That was following the strike. As I noticed them the last year, I should say there are not so many sagging porches as there were in 1928. In 1926 there had been the shift from miners, and the strike-breakers had moved in. I think that was one reason. They were on the whole less stable people than the miners themselves. That accounted for the houses themselves not looking so well. (1448) There were no inside toilets. In different camps there were different types of vaults or pits for the wash water, and things of that sort. The water just seeks its own level. It is thrown in a naturally formed gutter or gully.

The children play in the tracts in between the houses and out into the country or open spaces. The accessibility of [fol. 693] these camps to Pittsburgh or to smaller cities varies. Some mines are on the edge of the city and some far away. Allegheny County has 725 square miles, with the city in the center of it.

The life of the camp was free. I was permitted to enter and leave as I pleased.

I did not make any analysis of miners' earnings. (1449) It is commonplace that deductions are made. Rents are taken out as a matter of course, electric lights, where there is electricity, doctors' fees, carbide for lamps, depending on the occupation, there are smithing fees. Lately there has been a deduction for school taxes.

When we first went in we did not have any statistical scientific report on diet. The report was that it was inadequate, that bread and coffee always constituted the backbone of the diet. The test that the improved diet did do some good was that the school attendance did improve within a year from the time. The committee I represented was not the only source of relief. The union was putting in relief, and some individuals were putting in relief.

(1450) Prices were higher as a matter of actual check in the company stores than in the general stores. What worried the families most was the credit arrangements which were tied to the store. The miner could make no fresh start elsewhere, and even an independent store could not compete with the company store, because it could not give credit [fol. 694] on the same favorable terms. They had no hope or guaranty of collecting it. We noticed in trying to change the housekeeping arrangements of different families that the men were tied up and could not start from scratch. Fresh vegetables were few and milk was not commonplace, when we went in. I think milk is more commonplace now—at least the milk companies say so.

There were public schools, but in no camp that I can think of would there be a high school. High schools were available, but the cheapest cost of transportation I can think of would be 15¢ bus fare each way, and with the family having no cash at the end of pay periods very few of the miners' families that we know of went to high schools. (1451) There were no recreational opportunities provided in 1928. There

were two churches I can think of that tried to give recreational facilities after 1926.

We made no study of the degree of malnutrition. We had no doctors. School attendance improved after we went in. In a great many individual instances we found that medical facilities were not equal to the situation, and they meant the supplying of money to bring the people into hospitals in the bigger centers. Very few camps had a dentist except one part-time, so it meant a big program was needed for dental care.

[fol. 695] (1452) MALCOLM Ross, called as a witness on behalf of defendants, testified as follows:

Direct examination.

By Mr. Lewin:

I am an assistant on the National Labor Relations Board and have been for a year. I am a graduate of Yale College, in 1919. For five years I was a newspaper reporter, most of the time on the New York Morning World. Since then I have been a writer of articles and books. I spent a year, 1931-1932—not in continuous residence—in the coal mining fields. I would go down for perhaps three or four or six weeks and return to New York for two or three weeks. From the fall of 1931 to the fall of 1932 I lived for long periods in Monongalia and Marion Counties, West Virginia—Kanawha and Mingo—and made frequent automobile excursions into other counties. I lived in Tennessee counties and in the tier of counties along the Tug River in Kentucky—Harlan, Bell, Letcher, Pike, Knox.

(1453) I was there as an observer for the American Friends Service Committee, of Philadelphia—the Quakers. I was required to observe everything that pertained to the Quakers' work. They were conducting a child-feeding project at the request of Mr. Hoover and of the Children's Bureau of the Department of Labor, and I lived with the Quaker field workers. I worked with them, distributing food and clothing, talking to the miners, operators, towns-[fol. 696] people, and anyone that I could find that had any information or opinion about the conditions. I was particularly interested in the impact of coal on the people

themselves. I had known the people along the Tug River through the reporting experiences I had had with the Louisville Courier-Journal some eight years before. I had taken long horseback rides through the country, and I think I had got to know the people very well. I was interested in the changes in the ways of living, habits, and so forth that coal brought into the country. I was first there about 1922. (1454) The counties I went through in 1922 were adjoining the coal counties. The people are quite homogeneous. The people of the hill countries are quite the same, and the comparison was with people in coal counties. Large numbers of the people came from the hill farms into mining and are of this generation. Harlan coal mining started in 1911, but it wasn't until some time later that coal mines came in on a large scale, so that the putting of concrete roads through the main arteries opened up the country as it never had been before in the last 20 years as a whole.

I wrote a series of articles for the New York Times that last year, and I later published a book, "Machine Age In The Hills."

The child-feeding project of the American Friends Service Committee started with $225,000, and more was later raised by private subscription. They eventually got into [fol. 697] 40 counties in six states and some 840 communities. (1455) I was engaged in the project. Weekly reports were made from every field worker to the central agency, and I received carbons of them. I think about 640 schools were covered.

My observation was that the wages in 1931 and 1932 in the counties I visited were not enough to allow practically any cash after deductions had been taken out. Referring to some notes I took at the time, this is one man's experience, and the wages in the district were $1.25 a day average. (1456) His monthly pay check was: Rent, $5; light $1.40; carbide, 50¢; doctor, $2; smithing, 40¢; burial fund, 50¢; powder, $1.50, which amounted to $11.30. Working eight days a month, he had a credit of $10, which put him into debt, and I should say that that debt was rather universal. But the companies in some cases did not charge for rent or lights, because there wasn't enough income to the miner to provide any credit for food whatsoever. I think the companies had a disposition, whenever they possibly could, not to charge for the rent. I have another slip here that shows

an income of $7.20 for the two-week period. Rent, $2.50; powder, $2; doctor, $1; coal, 75 cents; blacksmithing, 25¢; which came to $6.50, leaving him and his family 70¢ credit for food for that period. I can only say that I struck a great many instances of just this kind of wage statement. It seemed to be the normal thing for the miner's pay slip to balance the company's charges against his income and [fol. 698] allow him a very small and, in my opinion, inadequate amount for food credits.

I think there was evidence of a great deal of hunger. The Quaker investigation showed that one child in three all over West Virginia, for instance, was 10 per cent or more (1457) under weight for its height and age, which is the standard for under-nourishment. I cannot say as to whether there was any interruption in school attendance as a result of the lack of food. I daily entered mine shacks, and I cannot remember any real reserves of food in the house. There might have been a bag of corn if a man had a hillside plot to farm, and in the summertime they did raise a few vegetables in the plots immediately around the house, but outside of that there universally was no food supply in the house. I don't know any way to describe hunger by looking at people. I think their actions in these schools might show hunger. The children were ravenous, and over a period of time they gained very noticeably in weight on only this one meal a day supplied by the Quakers. The women of the camp were more than willing to come in to do the work of preparing this food and feeding the children. There were only two or three Quaker workers to a county, and they had to organize the local women. The evidence of the willingness to get into this, and the relief that there was from extra food coming in there, seemed to me an indication. (1458) I think, generally speaking, the mining people are in a very low state of health. At one [fol. 699] camp where I examined company's records, half the adults were chronically sick, and two out of five children. From general observation I think there is a good deal of rickets and tuberculosis among children, trachoma and pellagra, a dietary disease. Sow-belly and greens and corn bread is their traditional diet, and I think that the change in diet when they got into the mines—they ate out of tin cans when they could for a while, but at the time I was there they had no greens, and beans, bulldog gravy—

which is made of brown flour and water—and corn seemed to be the normal diet; but the mountain people do not know how to eat a proper diet, in the first place. It was the absence of enough food, I should say, under the conditions that I saw that was one of the troubles. Most county towns tried to raise funds to feed people and help them out locally, but I don't know of any instances where the relief could go beyond the needy people in the county seat itself, and I found that the people of the county towns really didn't know conditions in the fields outside their own town limits. I talked to many town people who seemed to think that things were much better in the field than they actually were.

(1459) The operators I talked to would very much have liked to have the wages increased. I think they were practically at a bottom, and it was my own observation that the operators themselves were in deep distress on many occa- [fol. 700] sions at having to pay such pittances to the miners. I do not think that wages could very well have gone below the point where they were then. They had reached the bottom of the cycle. Where a hard-pressed operator needed to cut wages or felt that he did, there were the devices of high prices at company stores, of rents—and the rents while they were small in comparison with what we consider as rents, were $2 a room and sometimes as low as $5 for a three-room house. That proportion compared to income was very high. When a miner was making $12 for a month, a $5 rent was a very large proportion of his income, and I didn't notice that the operators cut down the rents very often. Some wiped it out completely, because there was not enough income. (1460) I think the absence of check weighmen is another existing device which can mean that the miner is paid far less than he actually loads. There were check weighmen in northern West Virginia. They usually were absent in southern West Virginia and Kentucky. I think that was an irritation in the minds of miners continuously. In southern West Virginia and Kentucky the absence of any collective bargaining, any organization by which the miners could have a voice to object, would seem to me to allow these things to happen where otherwise they might not.

Most of the white labor in the mines is native to that region, some of it from down in Tennessee and Alabama, but

they are hill people. They are unhappy out of the hills and have strong traditions of staying where they are. They [fol. 701] very often come from small farms. They know that country. They are rather homeless and unhappy in other parts of the country, and I think that is a strong factor in keeping them there and keeping them in mining. (1461) There were some miners who went through Cincinnati and became charges on the relief of Ohio. The distance is not great from the Kentucky fields.

I can only say what was the financial condition of the typical coal companies from what the operators told me. For a very few, I examined the books, and they were bankrupt and in very bad financial condition. This distress was more prevalent among the little companies. There are a great number of small mining companies in that region. I should say that the conditions are much worse where the company is a small privately-owned one. They are adventurers who come into the market when coal prices are attractive, and they have no compunctions about shutting down when the prices are not favorable. I have observed a great number of abandoned camps, where the operator, feeling that coal was a hazardous industry, had built flimsy houses on the thesis that he would probably work the mine for a while and then go out. I think that is a great consideration in the bad housing conditions in the mines, except in the big companies where the seams of coal are thick and good. Operators consider their camps much as a lumber man would consider a logging camp and do not give much [fol. 702] more facilities for people to live in, but through habit people have come to live there, and no improvements have been made.

(1462) Other resources or means of employment open to the unemployed miners were rather scant. The farm land was out of their hands. It had been bought by the coal companies, and it was very difficult for them to find any other means of livelihood at all.

(1463) So far as the effect of the impact of the coal mining business upon the hill people, there are a great many of the people who had been farmers who had got into the mines and were exceedingly sorry that they had ever got into it. I believe a great majority wanted to go back to farming, (1464) and that there was great unhappiness among the older people who remembered the small-hollow

farm life, and that there was extreme unrest based on a desire to get back where they had come from—that is, the small-farm life before coal came there.

(1467) The report of the investigating committee appointed by Governor Lafoon, of Kentucky, to report to the Governor conditions in the southeastern Kentucky bituminous coal fields, dated June 7, 1935, was offered in evidence. It was stipulated that the report would be received in evidence but that it need not be copied as a formal exhibit and that the Court could take notice of it as printed in the House hearings on the Coal Conservation Act, June, 1935, at p. 636.

(1468) (The Court was asked by Mr. Critchlow to take judicial notice of the facts stated in the report of the United [fol. 703] States Department of Labor covering the welfare of the children in bituminous coal mining communities in West Virginia, being Bureau Publication No. 117.) (1469) (It was also stipulated that the Court may take judicial notice of the contents of the hearings and reports set out in the defendants' affirmative defense. Mr. Critchlow also invited the Court's attention to the fact stated in the report of the United States Coal Commission of 1923, Part III, pages 1411 to 1594, and pages 1609 to 1624).

[fol. 704] (1470) GEORGE H. ASHLEY, called as a witness on behalf of the defendants, having been first duly sworn, testified as follows:

Direct examinatoion.

By Mr. Critchlow:

I am State Geologist of Pennsylvania, and Director of the Topographic and Geologic Survey of Pennsylvania. My duties are first, to act in a consulting capacity on all matters (1471) affecting the State Government, regarding its mineral resources or other matters in which geology enters. Second, the examination, mapping, and study of its mineral resources and reserves. Third, the making of a topographic map of the State and study of its underground waters and its geology and geologic history. We have made studies of the use and waste of mineral resources of the State. Leaving out of account earlier studies in New York, Arkansas and California, my work on coal began in 1896, as

assistant state geologist of Indiana, and I was put in charge of a survey of the coal fields of that state, the survey lasting three years. Again, in 1901, I did a survey of the Dagonia Springs region of southern Indiana for the United States Geological Survey. In 1902 I did a survey of the Cumberland Gap coal field for the United States Geological Survey. In 1903 I began work for that survey in Pennsylvania. In 1904, continuing that work, I was in immediate [fol. 705] charge, under Mr. Campbell, of all the United States Geological Survey's studies in the eastern coal fields, which continued to 1910. In 1904, in connection with conservation work which was taken up by the Federal Government, I was made a member of the Coal Board of the Land Classification Division of the United States Geological Survey, in connection with which, in 1909, I made a study of the economics of coal throughout the western public land states. (1472) From 1910 to 1912 I was State Geologist of Tennessee, during which time we made a preliminary study of the coal fields of that state. In 1912 I returned to Washington as Chairman of the Coal Board, and as Chief of the Section of Eastern Fuels, United States Geological Survey, and continued in that position until 1919, when I was appointed State Geologist of Pennsylvania. I have occupied that office continuously since that time.

I am familiar with the estimate of the United States Geological Survey showing 3,500,000,000,000 tons of coal of all grades in the United States. I was associated with Mr. Campbell and helped him in preparing some of those data. That estimate does not give a reasonably fair picture of the coal resources of the United States to the average man for the reason that it takes account of vast quantities of coal so thin or so broken up by partings of one kind or another as to be of no value under present conditions. It is about as though we were to include the gold in the ocean with the [fol. 706] gold resources, or the clay with the reserves of aluminum. Those figures were based on such figures as were then available, (1473) largely on measurements made in mines. Our later experience has led us to believe that they probably are somewhat exaggerated, for the reason that people only open mines where the coal has been demonstrated to be of workable thickness. That means that many areas where the coal has been exposed, but showed a small thickness, are simply passed over and forgotten, and our

belief now is that those figures, if revised with all the information we have today from core drillings, would be probably somewhat smaller. Confining my attention to coal of workable size and position, so that it could be extracted at reasonable cost under present conditions, and to the coal of a good quality, I would say with reference to the life of the coal reserves of that character that it would be 300 years, not applying to anthracite. Undoubtedly some of the good beds lie so deep that their mining would be deferred beyond the mining of other beds not so good, but more cheaply mined, near the surface.

Conservation to me does not mean locking things up. (1474) It means a wise use, the elimination of losses, and where possible, the substitution of a more abundant material for a less abundant material. I think it is possible that there could be a problem of conservation in a mineral where the total reserves are as much as they are in the case of bituminous coal. The reserves of coal we sometimes clas- [fol. 707] sify as available and non-available just as we might classify gold ores in the hills as available supplies and gold in the ocean as a non-available supply, from today's standards. In the same way the bulk of the coal described or figured in Mr. Campbell's estimate we would class today as non-available. We are trying today to conserve the coals that are available and that we can see being wasted needlessly. The fact that the resources seem to be so plentiful tends to encourage the waste of them. I would say that same thing is true in coal, as it has been in natural gas and oil in past times. People used natural gas for flambeaux. It was cheaper to let it stand running than it was to turn it off. From a business standpoint the cost is, I would say, the major item of conservation. For example, in Pennsylvania, when the mining (1475) of our mineral resources reaches a point where people can get the same product more cheaply from some other place, we might say that our resources, for the moment, are exhausted, and it means that business flows from our region to some other region. From the economic and business standpoints, we are not so much concerned with the final exhaustion as we are concerned with the exhaustion of those resources which we can get out at a cost that will keep us in the business of supplying them. The English engineers tell us that they have exhausted only about one-sixth of their coal supplies.

Notwithstanding that, they are mining coal at depths up to [fol. 708] 4,000 feet, and down to 8 inches in thickness. In our own country the anthracite mining today is mining coal at sometimes double the average depth of workings 50 years ago. The figures, in comparing 1877 to 1922, showed that the number of tons mined per man per day had been cut to just about half. As they go deeper the amount of water they have to lift keeps increasing, so that today there are about 12 tons of water lifted for every ton of coal lifted—in some of the mines as much as 18 tons. If this is expressed in terms of cost, you can see how the cost has been increased, except as that has been met partly by increased use of machinery. (1478) Conditions in this country in our eastern mining district, such as Pennsylvania, in the bituminous field, are becoming such that we might expect the same result here as in Great Britain, not as much, but to some extent already, as in anthracite.

(1477) The Big Vein district of Maryland is an excellent example of the rate at which the best bituminous coals are being exhausted. As I get the picture there today, there is very little virgin coal in that bed, which was a very fine bed of coal. Nearly all the workings are in pillars, or areas that had been left in previous mining. The Block coals of Indiana, which were in their day considered a very fine coal, are practically exhausted. The Sharon bed of Ohio, which in its day was considered a very fine coal, is, I think, [fol. 709] practically exhausted. The low-sulphur coal of Illinois, while in a thick bed, has a limited life. An examination of the Pocahontas region of Virginia and West Virginia will show a limited life. By that I mean that it has a life not measured in hundreds of years, but in scores of years. Pocahontas is part of the Smokeless field of southern West Virginia. It includes the Pocahontas and the New River beds, the two together, making the Smokeless area. If you confine your attention to the high-quality coals in the high-volatile beds of Kentucky and West Virginia, those are of very limited amount. There is a large body of lower-quality coals and of lower thicknesses, but again you are dealing with coals which a few score years at the outside will be exhausted.

(1478) Most minerals in Pennsylvania are in abundance, but our oil resources passed their peak of production in 1891. Natural gas passed its peak in 1906. Bitu-

minous coal possibly passed its peak in 1918, I think. It may come back, of course, to a new peak. There is no reason why it should not, physically, but, as I said before, some of the beds—for example, the Moshanon bed, in the Moshanon basin, is practically all gone. The workings on that bed today, outside that basin, are in split coal. That is, the bed, which was four and a half to five feet thick, in Moshanon basin, splits, going westward, and today the mining of that same good coal is in beds of 28, 30, or 32 inches. The same is true of many of the smaller basins, such as the [fol. 710] Barclay. There is no mining in it today. The Blossburg field is pretty well exhausted. The Antrim field and those little fields are all approaching exhaustion, so far as coal that can be worked commercially today is concerned. We have always said that Pennsylvania stands head and shoulders above any other states with reference to mineral production. In 1923 the value of mineral production in Pennsylvania was $1,226,000,000, or nearly one fourth that of the total for the United States. Personally I have been very much concerned with the question of conserving mineral resources in Pennsylvania (1479) for the reason that the coal is the main reason for our having our large iron and steel industry, which is also a billion-dollar or billion-and-a-half-dollar industry. If we cannot mine coal in competition with other States, a large part of that industry will move to other States. That is just one angle of it. The United States Geological Survey's estimate of the original reserves of bituminous coal in Pennsylvania is 112 billion tons. That included everything down to 12 inches, based upon the fact that these European countries were mining coal down to that thickness. About 10 or 12 years ago we made a very careful computation of the bituminous coal reserves of the State, which was supplemented later, in which we took account of only coals from 18 inches up, and in which we had access to a very much larger number of core drillings, all of which were taken account of. On that study we arrived at 75 billion for the total coal in [fol. 711] the ground, and 44 billion as probably recoverable, including the long future. That 44 billion tons at the 1929 rate of production would last just about 300 years. (1480) All of that coal is not of the same grade or value. As we go from east to west it changes in its percentage of volatile matter, the coals at the east being low-volatile

coals, those at the west being high-volatile, and those between being medium-volatile. The coals in the same region differ greatly in their percentage of ash, sulphur, phosphorus, and the fusion point of the ash.

Nearly all of the past mining has been in the best coals only. About 10 years ago we estimated 20 years as the expectation of the life of our Connellsville coking coal, but since this change in the situation with reference to by-product coking has relieved the drain on that basin, I would say that it will probably last now 20 or 30 years more. 10 years ago I figured the life of the Pittsburgh bed at 70 years, at the then rate of mining. That rate has declined. It possibly would go 100 years at the present rate. With an increasing rate following the decline of the oil and gas production, it is likely to come back nearer the 70 years. (1481) In 1905 I made a study of what we call the Punxsutawney quadrangle in central Pennsylvania, and in connection with that I made an estimate of the reserves. We [fol. 712] had there a very large amount of diamond-core drilling. Then I tabulated the coal according to thickness. That showed that 45 percent of the coal reserve was below two feet in thickness, 20% was between two and three feet, or 65% below three feet. 91% was below four feet, leaving nine percent, of which only 2% was above five feet. That was the coal in the ground. Probably all of that five-foot coal has been mined out since that time, and probably very little, if any, of the four-foot coal still remains. I have not figured out those points, but, knowing that most of the mines that were mining the thicker coals have finished their work and closed their doors, that would be my guess.

(1482) In 1922 and 1923 we cooperated with the United States Bureau of Mines and the United States Coal Commission in the study of wastes in our state, and we published the report so far as it dealt with Pennsylvania. I have here photostatic copies taken from the report of the United States Coal Commission in 1925, Part III, which shows that for the United States as a whole the losses were 34.7 per cent, of which close to 20 per cent was classified as avoidable losses and about 15 per cent as unavoidable. The avoidable losses, with a normal 500 million ton production for the United States, would have meant 150 million tons. (1483) The percentage of recovery in European mines is up to 90% or better. (1484) Our studies in Pennsylvania indi-

cated a total loss of 27.1%, and of that about 15% was [fol. 713] avoidable, and 13% unavoidable. (1485) In 1929, when our production was 144 million tons, the avoidable loss amounted to 31 million tons. According to the statistics of the Bureau of Mines on consumption, it is more coal than the electric power utilities used that year. It is more coal than was used for making coke that year. It is more coal than was used by Italy and the Scandinavian countries that year. Some of those avoidable losses were due to the better coals, and even the Pittsburgh showed avoidable losses from 9% to 15%. The mining practices or methods which lead to these losses, include poor engineering, which leads to poor methods of laying off rooms; gouging pillars, so that the pillars fall before they are recovered, leaving coal for roof when the roof is bad, or sometimes for bottom, when the bottom is soft; failure to mine thinner benches above and below the main bench; failure to clear up and remine; (1486) or to re-enter areas which are shut off by squeezes; for the same reason, failure to re-enter regions that become flooded, in which the flooding would cost something to reduce; and the mining of a thicker bed below a thinner bed, which destroys the value of the thinner bed above, or at least destroys a part of its value. As an instance of the cap seam, the upper Freeport in the Clearfield district lies only 30 or 40 feet above the lower Freeport. The average Freeport is three or four feet in that district. The mining of the lower Freeport first has de- [fol. 714] stroyed a good deal of the value of the upper Freeport, and a good deal of it cannot be recovered. Then there is the leaving in the mines of pillars, particularly in regions where the original cost of the coal is low, and the leaving in of pillars where the margin of profit is low and they are getting the coal as cheaply as possible. Then, too, poor methods of mining which means a considerable waste —the small coal made in the mining by machines, coal wasted from the cars and not cleaned up, wasted in screening, wasted in loading and not recovered—small in the individual case but large in the aggregate. The figures given in the 1923 survey of the Bureau of Mines do not include coal wasted due to the premature abandonment of mines. (1488) When the mine is prematurely abandoned and in some mines it has no determined effect, but with most mines it seems that the constant effort of an operating mine to

keep its passages open, its roof in good order, and so on is lost, so that the roof falls and pillars of coal are apt to be squeezed. Roof falls may open passages to the surface, so that water enters. It is often true that companies re-entering a region partly mined will abandon that area and start in virgin coal. (1489) I cannot give anything definite about the amount of tons lost in the case of premature abandonment of mines generally throughout the country. In Clearfield County, which I am familiar with, where the number [fol. 715] of mines abandoned between 1921 and 1930 was a drop from 191 mines to 96. If half of those mines are recovered and the other half not recovered, you might estimate a good many million tons were lost in those mines and not recovered. I would say that in that single county several million tons, at least, would be lost through that cause. A study in 1929 found the condition somewhat similar—a slightly better condition in Pennsylvania than before. I am not familiar with the situation since that time. In the region that I know of I would say the wastes due to premature abandonment are largely connected with the financial condition of the industry. (1490) The fact that there were high prices in 1920, 1921 and 1922, and during the War caused the opening up of a lot of mines. To my mind it is the curse of the industry that when you have a run-away market and high prices which meant high profits such as you had during the War and in 1922, you have a number of mines opened up. When prices fall and there are no profits the mines close after they have stood it as long as they can. If there was a regulation of maximum prices to prevent the run-away markets, as we have had in the past, there would not be the tendency to open so many mines. There is practically no hope of making any progress in checking wastes in mining as long as the industry operates in a condition of financial depression, (1491) because men will not mine high-cost coal when they can barely meet their costs mining low-cost coal, and these wastes largely involve additional cost.

Under present conditions the State of Pennsylvania could [fol. 716] use its police powers to prevent wastes at mines, but it will not because it would drive the business out of the State. In my opinion the first necessary step to prevent this waste in mining I have referred to is stabilization of the industry. Perhaps I am thinking of what we call the

captive mines—that is, mines owned by the power companies or by the steel companies, which do not sell their coal—as stabilized mines. If we could get the whole industry stabilized in the same way, so that when a man opened a mine he had fair assurance of continuous operation until his property was exhausted, without periods of cutthroat competition, he could then afford to take such measures as would cut the losses to the minimum. I would say that the State of Pennsylvania cannot take any measures to prevent this cutthroat competition. I believe the stabiliziation of prices on the basis of fixing a minimum price would help to prevent the waste of coal in mining.

(1492) It would be an element in stabilizing the industry and, to that extent, would allow men to plan their workings so as to reduce losses, particularly with reference to using retreating methods rather than advancing methods. In retreating methods they mine from their point of entry to the boundaries in the way of entries and then recover the coal, retreating from the boundaries back to the point of entry. In the advancing method they take the coal as [fol. 717] they go.

(1493) Cross-examination.

By Mr. Whitney:

A private business habitually tries to recover the easiest and cheapest coal first in order to get a profit. It was not my experience that when prices were high in 1920 that practice of business men ceased and that they devoted their extra earnings to recovering the harder and more difficult measures instead of the easier and more available measures. They knew that the high prices would not last very long. When I spoke of thin seams and said that I excluded them in my estimate of 300 years of coal of good size and quality being left, I had in mind as being a thin seam a vein below 18 inches. In Europe today they do mine thin seams down to 18 inches in many places. (1494) Even down to 12 inches in some places. The coal under 18 inches undoubtedly will be mined 300 years from now. My estimate of 300 years includes the bituminous coal of the west as well as of the east. It is my belief as a geologist that there will be no more sources of energy "discovered" within the next 300 years, based upon the experience of

the last 300 years, if by "discoveries" is meant something that has not been tested. I believe that we have now tested all of sources of power that we know of. (1495) I would say that it would be foolish to say no to the question [fol. 718] whether I believe that man would know any more by the year 2035. I would probably not have said no to that in 1635 if I had been one of the few settlers in Virginia. When we are getting beyond 300 years, we are getting outside the realm of practical scientific prediction in the industry.

I am confident that a good many coal operators would devote an increase in prices for coal to increase of the wages of labor, and also to devote some of the funds would go to better methods, more conservative methods, of extraction. I would say that the methods of extraction have improved in the last twelve years. That has taken effect despite declining prices. There is a constant pressure felt in the industry to improve methods under the spur of competition. (1496) I wouldn't say that they cost more. Those methods, I would say too, have been mostly in areas of high initial cost of the coal, as in the Pittsburgh bed, where some of those coals cost two thousand to three thousand dollars an acre. The coal companies desire to get all the coal they have paid for that they can, and in many instances the better methods of working are not more costly.

With respect to my testimony that the mines in Clearfield County had been reduced from 191 to 96 during the period 1921 to 1930, I could not give it to you offhand—the approximate reduction in Allegheny County in the same period. I doubt if it would be of the same order. Pitts- [fol. 719] burgh is in the middle of Allegheny County. The mines such as those in Allegheny County would be close enough to their market to continue operations, whereas the Clearfield County coals which must go over Allegheny Mountain to get a market, and possibly back over the mountain to get to Pittsburgh, could not succeed. The chief market of those mines is today inside the State of Pennsylvania. (1497) It is because those mines had closed that the miners were out of work and their children suffering. It is my thought that if the prices go up probably some of those mines will be re-opened. The

reopening of mines would aid the conservation in that district by taking more coal out of the district. Coal would be conserved because coal would be recovered that would otherwise become irrecoverable by re-opening some of those mines. I mean by irrecoverable that in some instances it could not be recovered at anything like what we would class as reasonable prices. It could be recovered if you would count coal at many times its present price. (1498) You would simply have to make a new mine to recover that which has become abandoned. I think there were perhaps 20 coal mines working in Pennsylvania in 1820. Coal will not waste in the ground. It is nature's storage place if it is in sufficient body to pay for getting. A good deal of this in these abandoned mines in narrow pillars would involve an amount of dead work, as it is [fol. 720] called, to reach them and recover them. They could be recovered only under prices which would be many times the present prices. The crying evil of the industry is the irregularity or lack of stability, that is (1499) times of high prices when many mines open, followed by times of low prices when many mines close, some of which will result in a loss of coal but all of which results in an uncertainty that prevents a mine operater from planning and conducting his mine efficiently.

It has been the experience of Pennsylvania in some periods that when its prices go up it loses markets to other states. I would be inclined to say that prices went down in Pennsylvania from 1923 to 1930, although I am not sure. I don't have those figures in mind. I believe that prices going up would not likely go up so much in Pennsylvania as in other regions and therefore give Pennsylvania a better competitive position. Pennsylvania is near New York, New England, and other eastern markets.

(1500) Redirect examination.

By Mr. Critchlow:

When a mine is closed, shut down, and abandoned, you often have caves, roofs falling in, squeezes, and things of that sort. Every mine is a law unto itself. I have seen mines where it would be feasible to mine the coal after a squeeze or things of that sort; in other mines it certainly would not be under present conditions, or in the

near future. It is very much more expensive to go in and [fol. 721] clean up an area so that it can be mined rather than to mine under conditions where the work is continuing and the roof can be kept up while the work is going on. A cheaper method of mining would be one where you can get a certain tonnage for a less total cost. That normally involves increased waste, but you may devise a method which is both cheaper and less wasteful, as, for example, when they turn from wide rooms with narrow pillars to the plan of driving narrow rooms and recovering their pillars on retreat. Some less wasteful methods are cheaper methods and some are not. (1502) It is undoubtedly the profit which might be made out of the sale of the coal that has a bearing on the question of re-opening an abandoned mine, rather than the price at which coal is sold.

Recross-examination.

By Mr. Whitney:

By profit I mean the difference between total realization and total cost. In total cost I include all costs, including overhead, taxes and royalties. It is not my experience that operators close down their mines as soon as they cease to make a profit based on that type of cost although they are still making and taking in a net cash return.

[fol. 722] (1507) WILLIAM W. ADAMS, called as a witness on behalf of the defendants, being first duly sworn, testified as follows:

Direct examination.

By Mr. Critchlow:

I am in charge of the accident statistics work of the United States Bureau of Mines, and have been for about 15 years. Previous to that time I was assistant to the engineer in charge of the accident statistics section for 9 years. The mining of bituminous coal is an industry of high accident risk. I have statistics that show that the bituminous mining industry is sometimes the worst and usually nearer

the worst than other industries, so far as accident rate is concerned. (1508) [There were submitted and marked for identification the following: Defendants' Exhibit 40—table headed "Comparison of accident rates in bituminous coal mining with other industries, 1930,"; and Defendants' Exhibit 40-A—table headed "Comparison of accident rates in bituminous coal mining with other industries in 1934".]

I used 1934 figures in defendants' Exhibit 40-A because they were the latest figures available, and I used 1930 figures in defendants' Exhibit 40 as being representative of the last year that might be considered normal, covering a large volume of experience from an accident viewpoint. [fol. 723] Those portions of the two tables that relate to the mining and quarrying industries are compiled from reports received from the Bureau of Mines. The other portions are collected from the National Safety Council, (1509) which is a voluntary and non-profit organization engaged in accident prevention work on a national scale, and the membership of which is composed of employers in all lines of industry, who report their accident experience to the headquarters in Chicago. The Bureau of Mines collaborates with the National Safety Council in the compilation of accident statistics for mining and quarrying. The figures compiled by the National Safety Council have the full confidence of accident prevention engineers and accident statisticians as being a very reliable source of information. The data obtained by the National Safety Council do not cover all establishments in any given industry. They cover the accident experience of those companies that hold membership in the Council and report their accident experience to it. The figures for any class of members of the Council do not cover the entire industry. (1510) Generally speaking, the membership of the Council is made up of the larger and more progressive companies that take a particular interest in the prevention of accidents to their employees. The accident experience of the bituminous mining companies that report to the National Safety Council is very much better than the average accident rate of the bituminous mines [fol. 724] throughout the country. The table for 1930 (defendants' Exhibit 40) shows that the bituminous coal mining companies reporting to the Council had an accident frequency rate of 64 as compared with an average for the industry of 97.1. They had an accident severity rate of 12.6,

which is very much higher than the other industries listed by the Council, but unfortunately we have no accident severity rate for the bituminous industry as a whole. The figure of 97.1 as the frequency rate for the industry as a whole was based upon reports collected by the United States Bureau of Mines from all of the commercial mining companies in the United States, exclusive of the very small mines known as "country banks". (1511) The bituminous coal mining companies covered in the National Safety Council's returns had very much better records than did the industry as a whole. In these tables the frequency rate represents the number of accidents, both fatal and non-fatal for each million man-hours of employment during the period covered by the figures. By accidents I mean any accident that disables a miner for one day or more. The severity rate represents the number of days of disability per thousand man-hours of employment, and in computing the days lost from deaths and permanent total disabilities 6,000 days are used for each such accident, and for permanent partial disabilities a percentage of 6,000 days, depending upon degree of severity of the injury. These two rates, the frequency rate and the severity rate, are stand- [fol. 725] ard indicators of the accident hazard. They were adopted by industrial accident boards and commissions of the various states and the National Safety Council and other organizations interested in safety. (1512) For accidents of a fatal nature and of a more serious non-fatal nature, I should say the severity rate is the best indicator. In 1930 the frequency rate for bituminous mines was about 3½ times the general average for all industries and the severity rate was about 6 times the general average for all industries. Those proportions are only slightly altered for 1934, being about 5½ times the general average, on a frequency basis, and nearly 3 times the general average, on a severity basis. In the 1930 table the heading "Construction" represents the accident experience of large construction contractors engaged in the erection of steel buildings, or of large concrete constructors, such as the Boulder Dam; large plumbing contractors, large plastering contractors, large-scale construction operations in general. (1513) The high hazard involved in the construction industry is in persons falling and in material falling on persons. In the 1930 table there is included in the classification "Mining,

Underground Mines'' all operations underground in connection with the extraction of anthracite coal, bituminous coal, metal, and non-metallic minerals, and the hauling of [fol. 726] it to the surface.

(1514) In 1934 the bituminous coal mining industry still had the worst severity rate, but its accident frequency rate was third from the bottom, ranking slightly better than anthracite coal and lumbering among the separate industries shown on the table. The over-all rate referring to frequency for mining in general was slightly worse than the bituminous coal rate that year. In that year the severity rate for bituminous coal mining was about 2½ times that of lumbering. Lumbering in that year was an industry of a great number of small accidents but of fewer fatalities and serious accidents and disablements than bituminous coal mining. (1515) During the 10-year period from 1924 to 1933, 15,471 were killed by accidents in the bituminous coal mines in the United States. The chief cause is falls of rock and coal at the working face, and in the decade mentioned, 7,825 men were crushed to death by falling rock and coal. The next cause is transportation underground. In the decade, 2,751 men were run over by underground mine cars and locomotives or were squeezed between the sides of the cars and haulage ways, or were struck by overhead beams, and in other ways. The next principal cause is gas and dust explosions. 2,354 men were killed during the 10-year period either by suffocation from gases or by being thrown by explosion. (1516) That cause is being greatly reduced. In 1930 there was only one so-called major ex- [fol. 727] plosion, meaning by that one that causes five deaths. In earlier years there used to be a dozen or 15 or more. Moreover, those that have been occurring in more recent years involve a much smaller loss of life. (1517) Another cause is the item of accidental deaths caused by explosives—powder and dynamite, which catch men as the blast goes off, or in other ways while they are handling or using the explosives. 366 men were killed in the 10 years ending 1933 by that cause. 710 men lost their lives in the decade because of contact with electric current underground, chiefly contact with the trolley wires that are used in connection with the running of cars. (1518) Miscellaneous accidents underground were the cause of 576 deaths in

the 10-year period. This includes accidents due to machinery—mining machines, undercutting machines, loading machines, and general power machinery underground. There were 177 men killed by shaft accidents, most of them caused by the men falling down the shaft; some by objects falling down the shaft onto the men at the bottom. All accidents above ground caused a loss of 712 lives during the same 10-year period.

Statistically speaking, over a period of five years, and assuming a working life would cover a period of forty years, there would be about 1 chance in 10 of a man's [fol. 728] being killed. The experience for 1933 was about 1 in 12. A man is likely to be injured about once in every six years. By an injury I mean any injury that prevents a man from returning to his work on the following day.

(1519) As regards deaths from accidents in coal mines, there has been a very marked reduction in the past 10 years, and as regards non-fatal injuries, the rate extends back only to 1930, and during that period there has been a very gratifying reduction.

I have figures taken from an official report of the British Department of Mines showing how the accident rate in American coal mines compares with that in foreign countries. [There was offered in evidence as Defendants' Exhibit 41, a table entitled "Mean Actual Death Rate from Accident per Thousand Persons Employed at Coal Mines in the Principal Producing Countries for the Periods 1913-1922, 1923-1932, and 1933."] (1520) The source of the table is the official records of accidents of Great Britain, and the figures shown from the United States are based upon the records of the Bureau of Mines. The accident rates represent the number of men killed out of each thousand men employed within a year's time. The rate for the United States is much higher than that for the other countries. (1521) As shown by the table for 1933, the United States rate was 3.6 per thousand employees as against the British rate of 1, the German rate of 1.9, the French rate of .7, and [fol. 729] the Belgium rate of .1. (1526) [Defendants' Exhibits Nos. 40, 40-A, and 41, heretofore marked for identification, were received in evidence.]

(1527) Cross-examination.

By Mr. Whitney:

In the booklet entitled "Coal Mine Accidents in the United States, 1933," a publication of the United States Department of the Interior, Bureau of Mines, it is shown that the Department has adopted an index number as to fatality rates, comparing them year-by-year. In defendants' Exhibit No. 40 that index number is calculated upon the basis of the third column, that is to say, frequency rate per million man-hours. That index number for the year 1930 is given at 100.5, and on the basis of that the index number for 1934 is approximately 80. (1528) 1934 was the year of the Code. [Mr. Critchlow stipulated the accuracy of the figure in "Coal Mine Accidents in the United States, 1933" showing the index figure for 1933 to be 68.7, and Mr. Whitney called the Court's attention to the fact that conditions got much worse as to this factor after the Code went into effect.]

(1529) Redirect examination.

By Mr. Critchlow:

The table to which Mr. Whitney refers has reference to fatal accidents only. The table to which Mr. Whitney re- [fol. 730] fers has reference to the frequency rate for fatal accidents only. The frequency rates on Exhibits 40 and 40-A has reference to all accidents, non-fatal as well as fatal. (1530) The index table to which Mr. Whitney referred is based upon the accident rates in the same publication, but on page 104 the base period representing 100 was the years covering 1906 to 1910. The fatal accident rate during that five-year period was considered to represent an index of 100. With that as a basis, the fatal accident index for 1933 was 68.7, representing an actual death rate of 1.476. Exhibit 40 covers fatal accidents and all non-fatal injuries involving disability for one day or more, and shows that in 1930 there were 97.10 accidents per million man hours of employment, and a corresponding rate of 79.34 for 1934. Those figures are not to be used in comparison with the tables in the bulletin to which Mr. Whitney referred, because they cover all accidents, whereas the bulletin figures cover fatal accidents only.

Recross-examination.

By Mr. Whitney:

In the 1933 booklet, table 66 covers fatalities. (1531) All accidents by years are not covered in this book. The figures for each year are in the book covering that year. [Mr. Whitney then called attention to the fact that the grand total according to the booklet entitled "Coal Mine [fol. 731] Accidents in the United States for 1930", for non-fatal injuries in bituminous coal mines is 79,217, and the grand total for the same in the 1933 booklet is 43,946, representing a percentage of just over 60%.]

(1532) Further redirect examination.

By Mr. Critchlow:

Those figures are not comparable. They are absolute figures, and represent two years when industrial conditions were quite different.

Further recross-examination.

By Mr. Whitney:

The figures are comparable from different points of view. The comparable figures on the frequency of accidents are given for 1930 on page 7 of the 1930 booklet, and for fatal accidents the frequency rate was 2.158, and for non-fatal accidents 94.937. Similar figures for 1933 are given in the bulletin for 1933, on page 9, and in that year the fatal-accident rate was 1.476 and the non-fatal injury rate was 77.86. Those figures are comparable for 1930 and 1933, because the number of accidents is related to the same number of man-hours of exposure to hazard.

[fol. 732] OFFERS IN EVIDENCE.

[Mr. Critchlow then offered and there was received in evidence a copy of the Coal Mines Act of 1930, Great Britain, as Defendants' Exhibit No. 42. (1550) There was also offered and received in evidence as Defendants' Exhibit No. 43 a copy of the report of the National Resources Board,

December 1, 1934, and as Defendants' Exhibits Nos. 43-A, 43-B and 43-C, excerpts from said report, namely: Section 1 of Part IV, pages 391 to 393, inclusive; paragraphs 1 and 2 of Title III of Section 2, pages 400 to 405; and Title XIII of Section 2, pages 435 to 437. (1552) There was offered and received in evidence as Defendants' Exhibit 45 a certified copy of an extract of minutes of meeting of the District Board of District No. 7 under the Bituminous Coal Conservation Act of 1935, held at Washington at 4 p. m., November 5, and an order of the National Bituminous Coal Commission, dated November 14, 1935. (1553) There were offered and received in evidence as Defendants' Exhibit 46 a table headed "Production of Bituminous Coal, 1920 to 1933, in Thousand Net Tons", a table giving tabulation of the average value per net ton f.o.b mine on code area basis, a table giving tabulation of men employed on the same code subdivision basis, a table giving tabulation of average day's work in the subdivisions during the period from 1923 to 1932, and a table showing output per man per day broken down on the same basis. There was offered and received in evidence as Defendants' Exhibit 30-A a chart entitled [fol. 733] "Index of Tons Loaded at Mines for Shipment, and Realization f.o.b. Mine, for Selected Competing States, 1923-1933", referred to at pages 1155 and 1166 of the record.]

[fol. 734] (1561) STANLEY ANTHONY WILLER, called as a witness on behalf of the plaintiff in rebuttal, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Whitney:

(1561-1565) [The following exhibits offered on behalf of the plaintiff were marked for identification:]

Plaintiff's Exhibit 68, chart entitled "Per Cent 1930 Production of Bituminous Coal is of 1913 Production—By States."

Plaintiff's Exhibit 68-A, statement entitled "Trend of Bituminous Coal Production, by States, 1913 and 1930, (net tons)."

Plaintiff's Exhibit 69, chart entitled "Percentage of Total Bituminous Production of United States in Each Specified State; 1807-1820, 1850, 1880, 1910 and 1934."

Plaintiff's Exhibit 69-A, statement entitled "Bituminous Coal Production by States in Specified Years."

Plaintiff's Exhibit 70, chart entitled "Index Numbers of Wholesale Prices."

Plaintiff's Exhibit 70-A, chart entitled "Index Numbers of Wholesale Prices."

Plaintiff's Exhibit 70-B, statement entitled "Index Numbers of Wholesale Prices of Specified Commodities of Commodity Groups."

Plaintiff's Exhibit 71, two charts entitled, respectively, "Retail Cost of Food, 1913—100" and "Retail Prices of Coal, 1913—100."

[fol. 735] Plaintiff's Exhibit 72, statement entitled "Deficit of Specified Industrial Groups, 1928-1932."

Plaintiff's Exhibit 72-A, statement entitled "Net Income or Deficit of Specified Industrial Groups, 1928-1932."

Plaintiff's Exhibit 72-B, statement entitled "List of Makes of Passenger Cars Made Commercially in the United States since the Beginning of the Automobile Industry, Showing Those Makes No Longer Being Made in First Nine Months of 1935."

Plaintiff's Exhibit 73, statement entitled "Average Hourly Wage Rates Paid Common Labor."

Plaintiff's Exhibit 73-A, chart entitled "Average Hourly Wage Rates Paid for Adult Male Common Labor in Important Industries Requiring Considerable Numbers of Common Laborers."

Plaintiff's Exhibit 74, statement entitled "Average Hourly Earnings in Cotton-Goods Manufacturing in New England and South Atlantic States, 1924-34, by Occupations."

Plaintiff's Exhibit 74-A, chart entitled "Average Hourly Earnings of Loom Fixers (males) in Cotton Goods Manufacturing in New England and South Atlantic States, 1924-1934."

Plaintiff's Exhibit 74-B, chart entitled "Average Hourly Earnings of Weavers (females) in Cotton-Goods Manufacturing in New England and South Atlantic States, 1924-1934."

Plaintiff's Exhibit 74-C, entitled "Table 2—Ratio of Average Hourly Earnings in New England to those in South Atlantic States, by Occupations."

Plaintiff's Exhibit 74-D, statement entitled "Wage Differential Between North and South in Bituminous Coal Mining and Cotton Textile Industries."

Plaintiff's Exhibit 74-E, chart entitled "Ratio of Average Hourly Earnings in North to those in South, Separately for Bituminous Coal Mining and Cotton Goods Manufacturing, 1918-1933."

Plaintiff's Exhibit 75, statement entitled "Number of Disputes in Specified Industries, 1919 to 1933."

Plaintiff's Exhibit 75-A, chart entitled "Number of Industrial Disputes in Specified Industries."

Plaintiff's Exhibit 76, statement entitled "Average Number of Days Worked and Days Idle, by Causes, in Bituminous Coal Industry, 1913-1933."

[fol. 736] Plaintiff's Exhibit 76-A, statement entitled "Percentage of Potential Working Time that Bituminous Coal Miners Worked and Were Idle, by Causes, Annual Average, 1924-1933."

Plaintiff's Exhibit 76-B, statement entitled "Average Number of Days Worked and Days Idle, by Causes, in Bituminous Coal Mining, 1924-1933."

Plaintiff's Exhibit 77, chart entitled "Average Number of Days Idle Per Man Employed, by Causes, 1924-1933, Bituminous Coal Mining."

Plaintiff's Exhibit 77-A, statement entitled "Per Cent Days Idle Each Year Due to Strikes Is of Total Days Idle in Bituminous Coal Mining, 1924-1933."

Plaintiff's Exhibit 78, chart entitled "Average Number of Days Idle on Account of Strike Per Year Per Man Employed in Bituminous Coal Mining in Specified States, 1924-1933."

Plaintiff's Exhibit 78-A, chart entitled "Average Number of Days Idle on Account of Strike Per Year Per Man Employed in Bituminous Coal Mining, 1924-1933."

Plaintiff's Exhibit 78-B, statement entitled "Average Number of Days Lost on Account of Strike Per Man Employed in Specified States, 1924-1933,—Bituminous Coal Mining."

Plaintiff's Exhibit 78-C, statement entitled "Total Number of Men Employed and Man-Days Idle on Account of

Strike in Bituminous Coal Mining, 1924-1933, With Separate Totals for Specified States."

Plaintiff's Exhibit 79, chart entitled "Per Cent of United States Total in Each Specified State of: Man-Days Idle on Account of Strike in Bituminous Coal Mining; Bituminous Coal Production, Ten-Year Period, 1924-1933, Inclusive."

Plaintiff's Exhibit 79-A, statement entitled "Man-Days Idle on Account of Strike, Suspension or Lockout and Bituminous Coal Production in Each Specified State, 1924-1933."

Plaintiff's Exhibit 79-B, chart entitled "Man-Days Lost on Account of Strike per 1,000 Net Tons of Bituminous Coal Produced, 1924-1933."

Plaintiff's Exhibit 79-C, statement entitled "Comparison, by Specified States or Groups of States of (1) Number of Man-Days Idle on Account of Strikes, Suspensions and Lockouts and (2) Bituminous Coal Production, 1924-1933." [fol. 737] Plaintiff's Exhibit 80, statement entitled "Strikes, Suspensions, and Lockouts in Bituminous Coal Mining Industry, 1915-1933."

Plaintiff's Exhibit 80-A, statement entitled "Strikes, Suspensions and Lockouts in Coal Mines, by States, 1921-1933."

Plaintiff's Exhibit 81, chart entitled "26 States in which Bituminous Coal is Produced Commercially."

Plaintiff's Exhibit 81-A, statement entitled "Bituminous Coal Production, by States, 1933."

Plaintiff's Exhibit 81-B, chart entitled "Per Cent of Bituminous Coal Produced Within 4 States."

Plaintiff's Exhibit 81-C, chart entitled "5 States in which Anthracite or Semi-Anthracite Coal is Produced Commerically."

Plaintiff's Exhibit 81-D, Statement entitled "Production of Anthracite and Semi-Anthracite Coal by States, 1933."

Plaintiff's Exhibit 81-E, chart enttiled "Per Cent of Anthracite and Semi-Anthracite Coal Produced Within One State, 1933."

Plaintiff's Exhibit 81-F, chart entitled "10 States in Which Iron Ore is Produced Commercially."

Plaintiff's Exhibit 81-G, statement entitled "Iron Ore Mined in the United States in 1933, by States, in Gross Tons."

Plaintiff's Exhibit 81-H, chart entitled "Per Cent of Iron Ore Produced within 3 States."

Plaintiff's Exhibit 81-I, chart entitled "18 States in which Copper is Produced."

Plaintiff's Exhibit 81-J, statement entitled "Origin of Smelter Production by States, of Copper Produced in the United States from Domestic Ores, 1933."

Plaintiff's Exhibit 81-K, chart entitled "Per Cent of Copper Produced Within 4 States."

Plaintiff's Exhibit 81-L, chart entitled "13 States in which Salt is Produced Commerically."

Plaintiff's Exhibit 81-M, statement entitled "Salt Sold or Used by Producers in the United States, 1933, by States."

[fol. 738] Plaintiff's Exhibit 81-N, chart entitled "Per Cent of Salt Produced Within 4 States."

Plaintiff's Exhibit 81-O, chart entitled "5 States in which Oranges are Produced Commercially."

Plaintiff's Exhibit 81-P, statement entitled "Production of Oranges, by States, 1933-1934 Season."

Plaintiff's Exhibit 81-Q, chart entitled "Per Cent of Oranges Produced Within 2 States."

Plaintiff's Exhibit 81-R, chart entitled 216 States in which Motion Pictures are Produced."

Plaintiff's Exhibit 81-S, statement entitled "Cost of Production of Motion Pictures by States, 1933."

Plaintiff's Exhibit 81-T, statement entitled "Per Cent of Cost of Production of Motion Pictures Industry Accounted for by Establishments in Two states."

Plaintiff's Exhibit 81-U, chart entitled "23 States in Which Motor Vehicles (not including Motorcycles) are Produced."

Plaintiff's Exhibit 81-V, statement entitled "Value of Products of Motor Vehicles, Not Including Motorcycles, Industry, by States, 1933."

Plaintiff's Exhibit 81-W, chart entitled "Per Cent of Value of Products of Motor Vehicle Industry (Not Including Motorcycles or parts) Produced Within 4 States."

Plaintiff's Exhibit 81-X, statement entitled "Percentage of Total United States Production of Specified Commodities Produced Within Specified Number of States, 1933."

Plaintiff's Exhibit 82, chart entitled "Annual Earnings (Calculated) of Trackmen Employed in Bituminous Coal Mines in Selected States, 1922-1933."

Plaintiff's Exhibit 82-A, chart entitled "Annual Earnings (calculated) of Hand Loaders Employed in Bituminous Coal Mines in Selected States, 1922-1933."

Plaintiff's Exhibit 82-B, statement entitled "Average Number of Days Worked Per Year, Average Earnings Per Day and Calculated Earnings Per Year of Wage Earners in Specified Occupations, 1922-1933."

[fol. 739] (1566) During the last ten and a half years I have been in charge of the research and statistical work of the Ralph H. Jones Company of New York, Cincinnati, and Hartford. The five years previous I was with the Babson statistical organization. I am a graduate of Denison University, Granville, Ohio, with the degree of Bachelor of Philosophy. I have attended this trial and studied practically all of the exhibits submitted by both the plaintiff and the Government. For some weeks prior to the commencement of the trial I was engaged in studying the various Governmental reports on coal mining and allied industries.

[Plaintiff's exhibits previously marked for identification, Nos. 68, 68-A, 69, and 69-A were offered and received in evidence.]

(1567) On table 68 the year 1913 was selected because it is the pre-war year usually used for comparison by the Bureau of Mines and other organizations, and 1930 was selected as a recent year in which the production of bituminous coal was approximately equal to that of 1913. Plaintiff's Exhibit 68-A is a detailed table supporting the chart No. 68. The chart to the Plaintiff's Exhibit No. 69 starts with the years in which the earliest records of mining were kept and shows the situation at intervals up until 1934. The data charted are the percentage of the total [fol. 740] bituminous production in the United States in each specified state during these periods. In the period 1807 to 1820, the only bituminous coal produced in the United States of record was produced in the State of Maryland. Since that time Maryland's proportion of the total United States bituminous production has gradually and consistently decreased until, in 1934, only one half of one percent of the United States bituminous coal production was accounted for by Maryland. A similar situation is presented by Ohio. In 1850, Ohio accounted for more than 22% of the bituminous coal production in the United States,

the percentage gradually declining in the other years represented on the chart until in 1934 Ohio's percentage of the total was less than 6%. West Virginia presents a somewhat different situation. (1568) In 1815 there was no record of bituminous coal being produced in West Virginia. In 1880 West Virginia accounted for 4.3% of the total United States production. West Virginia's percentage increased to 14.8% in 1910 and to 27.3% in 1934, in which year it was the largest bituminous coal producing State in the Union. Over a period of 84 years the chart represents, from the point of view of the statistician, a rather consistent trend downward over the entire period for Ohio, and upward over the entire period for West Virginia.

[fol. 741] [Plaintiff's Exhibits 70, 70-A, and 70-B, previously marked for identification, were then offered and received in evidence.]

(1569) With respect to Exhibits 70, 70-A and 70-B, the index numbers of the wholesale prices were supplied by the Bureau of Labor Statistics of the United States Department of Labor. Included in the index number of wholesale prices of all commodities are a total of 784 commodities. Represented in the index number of raw materials are 109 raw materials. I think it is rather obvious from the chart that there has been much less fluctuation in the price of bituminous coal during the period represented than there has been in either all-commodities as a whole, or raw materials as a whole. It also may be seen that bituminous coal declined less in price during 1926 to 1930 than did the all-commodity index or the raw material index. The second chart (Exhibit 70-A) is similar to the first (Exhibit 70) except that it compares the wholesale price trend of bituminous coal with specific commodities and subgroups of commodities, whereas the first chart showed it for broad general groups. As we go from broad groups to specific commodities, we find that the fluctuations are far more violent. For instance, if we were to combine hides and skins with petroleum products we would find that the combined line, such as you get in a group of commodities, such as raw materials or all-commodities would show much [fol. 742] less fluctuation than do hides and skins alone, or petroleum products alone.

(1570) [There was offered and received in evidence Plaintiff's Exhibit No. 71, previously marked for identification.]

(1571) On this Exhibit (No. 71) we see that the retail prices of bituminous coal, as we have previously seen with respect to the wholesale prices, had less fluctuations in the period represented than the other commodities shown on the same chart. I think it is of interest to note that there is less decline in the price of bituminous coal during the period represented than there was in the stove and chestnut sizes of anthracite coal. As compared with 1913, bituminous coal prices in May, 1935, were 50% higher. Comparing that with the index of all-food prices, we find that all-food prices were about 25% higher in May, 1935, than they were in 1913, thus showing that bituminous coal has enjoyed a larger price increase over 1913 than has all-foods.

(1573) [Plaintiff's Exhibits 72, 72-A, and 72-B, previously marked for identification, were offered and received in evidence.]

Plaintiff's Exhibit No. 72 merely shows a number of other industries which suffered a deficit or loss in the five-year period beginning in 1928. This is not intended [fol. 743] to be a complete list of all industries or groups which had suffered a deficit, but it does show that there are a number of others besides bituminous coal which suffered a loss during that period. The source of the information in Plaintiff's Exhibit 72-B is the magazine Motor, which has from time to time published a list of the makes of passenger cars made commercially in the United States, and it is the usual custom to put a line through or some other similar mark, (1574) to indicate those makes of cars which are no longer being made, and to also indicate those makes of cars which are still being made. This has sometimes been called the automobile "roll call", and at other times "after the battle". Of about 570 or 575 makes of cars listed, there are 28 which are still being produced in the United States, during the first nine months of 1935. This is offered as an evidence that there has been a rather sizeable mortality in one other major or important industry.

This was the most illustrative evidence bearing on the mortality of other industries I was able to find. We were able to find evidence of considerable mortality in other lines of business. For instance in reference to retail business. Since the evidence did not cover the entire United States but merely certain sections, such as the State of Illinois, part of New York, and various other sections, it was decided not to present that because it did not cover the [fol. 744] United States.

(1575) [Plaintiff's Exhibits Nos. 73, 73-A, 74, 74-A, 74-B, 74-C, 74-D, and 74-E, previously marked for identification, were offered and received in evidence.]

The table numbered Exhibit 73 (showing the average hourly wage rates paid to adult male common labor in various industries in various sections of the country) is a copy of a table which appears on page 303 of the Statistical Abstract for 1934, and indicates the exact form in which the Bureau of Labor Statistics reports this information. From the table we have taken four sections of the country in which are found important coal producing states, and have charted the average hourly wage rates paid in those sections. The sections we have taken are the east-north-central states, in which the important coal producing States of Ohio, Indiana and Illinois are found; the middle-atlantic states, in which the important coal producing State of Pennsylvania is found; the south-atlantic states, in which the important coal producing States of Virginia and West Virginia are found; (1576) and the east-south-central states, in which the important coal producing States of Kentucky and Tennessee and Alabama are found. It will be seen that in the two northern geographic divisions, namely middle-atlantic and east-[fol. 745] north-central, the average hourly wage rate has been consistently and considerably higher than in the south-atlantic and in the east-south-central states. The proportion the two southern groups bear to the two northern groups is from 50 to 65%.

Plaintiff's Exhibit No. 74 and the accompanying lettered exhibits deal with the wage differential between the north and south in the cotton goods manufacturing industry. The source of the data is the article "Historical Review of Wage Rates and Wage Differentials in the Cotton Tex-

tile Industry'' which appeared in the May, 1935 issue of the Monthly Labor Review. From table 1 we have selected one of the important male occupations, loom fixers, and one of the important female occupations, namely, weavers, and have charted on the two charts which follow, the average hourly earnings in these two occupations. It will be seen here that there was a very sizeable difference (1577) throughout this period in the average hourly earnings of these occupations in New England and the south-atlantic states. Coming to Exhibit marked 74-C, and headed Table 2, Ratio of Average Hourly Earnings of New England to Those in South-Atlantic States, By Occupations, we find at the bottom of this table a weighted average which measures the differential between New England and the south-atlantic states, in all the occupations represented. In Defendants' Exhibit 32-A we find the column to the [fol. 746] right, near the top of the page, ''Percent Group B Is Of Group A''. That was the exhibit on the differentials between north and south in bituminous coal mining. On Exhibits 74-D and 74-E we compare the wage differential between Group B and Group A states, as given in Defendants' Exhibit No. 32-A, with the wage differential in the cotton textile industry, as given in the study previously referred to. The actual figures are shown by years on the exhibit marked 74-D and the situation is shown graphically on the chart marked 74-E. It will be seen that the wage (1578) differential between the north and the south was in each and every year represented in the cotton textile industry, considerably larger than it was in bituminous coal.

[Plaintiff's Exhibits Nos. 75, 75-A, 76, 76-A, 76-B, 77, and 77-A, previously marked for identification, were offered and received in evidence.]

The table 75-A is a copy of a table appearing in the article ''Review of Industrial Disputes in the United States from 1919 to 1933'' in the Monthly Labor Review of the Department of Labor. From that table we have taken four industries and have charted their trend over the period represented. These are coal mining, building trades, cloth- [fol. 747] ing, and textiles. It will be observed that during the years 1919, 1920, and 1921 the building trades had far more industrial disputes than any of the other industries

represented on the chart. (1579) Those four industries selected had more industrial disputes than most of the other industries. We find that there are some other industries, such as metal trades, which had more industrial disputes in 1919 than any other industry, and had considerably more than coal mining. We also find an industry such as transportation which had a large number of industrial disputes in 1919. The four selected are representative of those industries which have had the largest number of strikes, although they are not necessarily the industries which have had the largest number of strikes in each year in the entire period. I suggest only that coal mining has had less strikes than the four industries named. Exhibits 76, 76-A, and 76-B explain themselves. 76 and 76-B are merely supporting data for the chart 76-A, which summarizes the situation during the 10-year period from 1924-1933, and which shows the importance of days idle on account of labor disputes.

(1580) [Plaintiff's Exhibits Nos. 78, 78-A, 78-B, 78-C, 79, 79-A, 79-B, 79-C, 80, and 80-A, previously marked for [fol. 748] identification, were offered and received in evidence.]

(1581) Exhibit 77 shows the number of days idle by causes for each of the 10 years in the period from 1924 to 1933. It will be seen that with the exception of 1927 the number of days idle on account of strikes, suspensions, and lockouts are only a very small part of the total number of days idle in the industry. On Exhibit 78 we show the situation in individually selected states, namely the four states in the central competitive field: Ohio, Illinois, Indiana and Pennsylvania; and in addition, the State of West Virginia. The figures represent the average number of days idle because of strikes per year per man employed. Comparing the states in the central competitive field with West Virginia, it will be seen that Ohio had more than 16 times as many days idle on account of strikes per year per man employed than West Virginia. Illinois had over 13 times as many as West Virginia; Indiana, 10 times; and Pennsylvania over 4 times. Exhibit 78-A shows the situation in all four of these states combined; namely, Pennsylvania, Ohio, Illinois, and Indiana, comprising the competitive field. For all four of these states combined it would seem that the number of

days idle because of strikes per year per man employed [fol. 749] was over 8 times as large as it was in West Virginia during that period. (1582) Exhibit 79 compares man-days idle on account of strikes with bituminous coal production in these various states. It will be seen that during the 10-year period from 1924 to 1933, 22.7% of the man days idle on account of strikes were in Pennsylvania as compared with 26.1% of bituminous production. In the case of Illinois, Indiana and Ohio, we show that their proportion of man-days idle on account of strikes is considerably larger than their proportion of bituminous coal production, those four states combined accounting for 86.2% of all the man days idle on account of strikes in bituminous coal mining, whereas they accounted for 46.2% of the production. This is in contrast to the situation in West Virginia, which accounted for only 4.2% of man-days idle on account of strikes in bituminous coal mining as compared with 25.7% of the production. (1583) Exhibit 79-B shows the number of man-days lost on account of strikes per thousand net tons of bituminous coal. On this basis, as on the other, it is seen that the number of man-days lost on account of strikes is much larger in the central competitive field—Pennsylvania, Illinois, Ohio, Indiana—than it has been in West Virginia. On Exhibit 80, we have summarized from 1913 through 1933 the data for the entire United States on strikes, suspensions and lockouts in the bituminous coal [fol. 750] mining industry. It will be observed that during the last 10 or 12 years the data recorded by the Bureau of Mines in their tables covered five points: the number of men employed, the number of men on strike, the man-days idle on account of strikes, the average number of days lost per strike, and the average number of days lost per man per strike. In one of the exhibits prepared by the Government (Plaintiffs' Exhibit 66) they showed by years and by states only three of those factors, namely, the number of men on strike, the man-days idle per man per strike, and the average number of days lost on strike per man on strike. We are supplementing the table which they prepared by the information on the other two points mentioned, which will enable one to evaluate the seriousness of industrial disputes in each of these years by supplying the data on the number of men employed and the number of days lost per man days employed.

(1584) [Plaintiff's Exhibits 81 through 81-Y, previously marked for identification, were then offered and received in evidence.]

The Government states that bituminous coal is produced commercially in 26 states, and that more than 70% of the bituminous coal is produced within four states. We show the situation with respect to the other important commodities and industries. Exhibits 81, 81-A, and 81-B purport to [fol. 751] represent graphically the allegations in the Government's answer in regard to the number of states in which the bituminous coal was produced. (1585) The other graphs are prepared in the same way, they first show the number of states in which the particular product is commercially produced, and then separately show the number of states in which a substantial percentage thereof is produced. Exhibits 81-C, 81-D, and 81-E show that anthracite or semi-anthracite coal is produced commercially in five states, and 99% of the total production in 1933 was produced in one state, Pennsylvania. Exhibits 81-F, 81-G, and 81-H show that iron ore is produced commercially in 10 states and in 1933, 94% of the production was accounted for by three states. Exhibits 81-I, 81-J, and 81-K show that copper is produced in 18 states and 79% of the production in 1933 was accounted for by four states. The further exhibits show that salt is produced commercially in 13 states and 80% of the production of it was accounted for by four states; oranges are produced commercially in five states, but seven states account for 98% of the total production in the 1933-1934 season; motion pictures were produced in 16 states, two of which account for 95% of the total; (1586) motor vehicles, not including motorcycles, are produced in 23 states, 4 of which account for 67% of the total value of production. In connection with motor ve- [fol. 752] hicles, attention should be called to the fact that the Census of Manufactures treats assembling plants as manufacturing establishments. If automobile plants were not treated as manufacturing establishments, it is probable that you would see a much greater concentration of the motor vehicle industry in a smaller number of states. The final exhibit (81-W) summarizes the total United States production of the above commodities which are produced within a specified number of states.

Exhibits 82, 82-A, and 82-B deal with the annual earnings, calculated, of trackmen employed in bituminous coal mines in selected states, 1922 to 1933, and of hand loaders. The actual earnings are calculated by multiplying the average earning power per day by the average number of days worked. Information on the average number of days worked was supplied by the United States Bureau of Mines. (1587) Information on the average earnings per day was supplied by the Bureau of Labor Statistics.

[Plaintiff's Exhibits 82, 82-A, and 82-B, previously marked for identification, were offered and received in evidence.]

[fol. 753] (1588) [There was offered and received in evidence the release of the National Bituminous Coal Commission, dated November 11, 1935, which was marked Plaintiff's Exhibit 83.] This was read into the record as follows:

PLAINTIFF'S EXHIBIT 83

"National Bituminous Coal Commission. Immediate Release

November 11, 1935.

"Latest estimates based upon figures by Acting Deputy District Secretary to the National Bituminous Coal Commission show that producers representing approximately 212,252,000 tons production during 1934 have given assent to the Bituminous Coal Code. That figure represents an increase of more than 12,250,000 tons over the total tonnage reported on Friday last. Additional acceptances are coming in daily."

(1592) [There were offered but refused admission to evidence by the Court the following: Official circular copied from the United Mine Workers Journal of November 1, 1935, the circular being dated October 21, 1935—which was marked "Plaintiff's Exhibit 84"; and copy of editorial page of the United Mine Workers Journal of November 1, 1935—marked "Plaintiff's Exhibit 85."]

[fol. 754] (1629) STANLEY ANTHONY WILLER, heretofore called as a witness in rebuttal on behalf of the plaintiff, was recalled and testified further as follows:

Further Cross-examination.

By Mr. Critchlow:

On Plaintiff's Exhibit No. 68 is shown a group of seven states in which the production in 1930 exceeded that in 1913, the production in all other states being less in 1930 than in 1913. Percentagely, North Dakota had the largest increase, although in number of tons other states, notably West Virginia, had a much larger increase. (1630) The increase of North Dakota is 243%. In other words, the North Dakota 1930 production is 343% of 1913 production, representing an increase of 243%. (1631) In tonnage, the items upon Exhibit 68 under "Other States" showing that the percentage of North Dakota in 1930 was 243.5% and the State of Utah showing 130.8% and the State of South Dakota showing 121.5%, were relatively insignificant compared with the total production of the country. The table (Plaintiff's Exhibit No. 68) is a copy of Table 10 on page 626 of "Coal in 1930" exactly as is, with the exception of the last column entitled "Percentage 1930 is of 1913". That is the only calculation which we have made and the only change which we have made in the table as it appears exactly in the Bureau of Mines report. (1632) It is readily apparent from this table that the only states which have increased tonnage whose tonnage is at all significant are Kentucky, West [fol. 755] Virginia and Virginia. Those are the states that were the B Group referred to by Mr. Berquist in exhibits introduced by the Government when he was on the stand. With respect to Plaintiff's Exhibit No. 69, I have had no occasion to make a specific study as to whether by the year 1923 substantially all the coal fields now in production had already been opened up and developed. I could not state positively that that is true.

Referring to Plaintiff's Exhibit No. 72-A the selection of the industries shown were made from the Statistics of Income published by the Bureau of Internal Revenue, United States Treasury Department. (1633) There are 91 industries listed in the tabulation from which the selection was made, including a group entitled "Nature of business

not given''. 9 are shown in Plaintiff's Exhibits No. 72 and 72-A and of them, aside from coal, 4 showed a deficit. (1636) [There were offered and received in evidence the following: Defendants' Exhibit No. 49—Table entitled ''Net Income or Deficit of Specified Industrial Groups, 1926-1932''; and Defendants' Exhibit No. 49-A—Statement entitled ''Summary Statement of Industry Groups Reporting Losses, According to Statistics of Income Published by the U. S. Bureau of Internal Revenue, for the Years 1925-1929, Inclusive''. [Mr. Critchlow then pointed out that as shown by this table and this statement, in the entire period from 1926 to 1929 there were only three groups other than coal which showed a net deficit, those being: Woolen and worsted [fol. 756] goods, showing a net deficit of $1,411,000; shipbuilding and repairing, showing a net deficit of $5,889,000; and aerial transportation, showing a net deficit of $5,944,000. (1638) At the suggestion of the Court, Defendants' Exhibit 49-A was copied into the record, as follows:

''Defendants' Exhibit 49-A

''Summary Statement of Industry Groups Reporting Losses, According to Statistics of Income Published by the U. S. Bureau of Internal Revenue for the Years 1925-1929, Inclusive.

''1925

''In the year 1925, out of a total of 33 industry groups there were three which reported an excess of losses over profits.

''One of the three was coal mining, including both anthracite and bituminous. No separation of the figures on income as between anthracite and bituminous coal was made in the year 1925.

''The industry groups showing an excess of losses over profits in 1925 were as follows:

''1. Coal mining.

''2. Mining and quarrying—holders and lessors.

''3. Nominal concerns—inactive and nature of business not given.

"1926

"In the year 1926, out of a total of 68 industry groups, there were three industry groups which reported an excess of losses over profits.

"The industry groups reporting an excess of losses over profits were as follows:

"1. Cotton goods—dress goods, cotton yarn, napping, [fol. 757] and dyeing, etc.

"2. Accident, casualty, fire, marine, mutual, fidelity and bonding companies.

"3. Nominal concerns—nature of business not given.

"1927

"In the year 1927, out of a total of 88 industry groups there were seven which reported an excess of losses over profits.

"The industry groups reporting an excess loss over profits were as follows:

"1. Coal, bituminous and anthracite, peat, coke, etc.

"2. Oil and gas.[1]

"3. Fertilizers.

"4. Ship building and repairing.

"5. Aerial transportation.

"6. Auto bus lines, taxicabs, and sight-seeing companies.

"7. Nature of business not given.

"[1] The over production of crude petroleum in the latter part of 1926 and during 1927 resulted in a general reduction in posted prices. This decline had a material effect on total value at wells, which was 19 per cent lower than in 1926, in spite of the fact that the total quantity produced in 1927 was 17 per cent higher. The total value in 1927 was $1,172,830,000, an average of $1.30 per barrel, or a decline of $0.58, or 31 per cent, from 1926.

(Source: Mineral Resources of United States, 1927, part II, page 513.) The overproduction mentioned above was due largely to the development of the pools in the greater Seminole district of Oklahoma.

(Source: Ibid., page 511.)

[fol. 758] "1928

"In the year 1928, out of a total of 91 industry groups there were seven which reported an excess of losses over profits.

"The industry groups reporting an excess of losses over profits were as follows:

"1. Bituminous, lignite, peat, etc.

"2. Woolen and worsted goods—wool yarn, wool carpets, wool pulling, etc.

"3. Tires and tubes, etc.

"4. Ship building and repairing.

"5. Theaters, legitimate, vaudeville, etc.

"6. Joint stock land banks.

"7. Nature of business not given.

"1929

"In the year 1929, out of a total of 91 industry groups there were nine which reported an excess of losses over profits.

"The industry groups reporting an excess of losses over profits were as follows:

"1. Bituminous, lignite, and peat.

"2. Woolen and worsted goods, wool yarn, dress goods, wool pulling, etc.

"3. Other leather products—gloves, saddlery, harness, trunks; finishing and tanning leather, etc.

"4. Radios, complete or parts.

"5. Ship building and repairing.

"6. Aerial transportation.

"7. Theaters, legitimate, vaudeville, etc.

"8. Joint stock land banks.

[fol. 759] "9. Nature of business not given.

"W. H. Young, Coal Economics Division, Bureau of Mines.

"November 14, 1935."

(1642) As stated in Plaintiff's Exhibit No. 75, it refers only to the number of industrial disputes in the specified industries. It is perfectly possible, and it is a fact, that one dispute, for instance, the dispute in 1922 in the coal mining industry, although it may be listed as one dispute, may involve a great many more men than a large number of disputes in another industry which I have referred to in this exhibit. That is also true of coal. In other words, it is quite possible that the 44 industrial disputes in coal mining in 1922 involved more men, more man-days lost, than the 158 disputes in 1923. (1643) The table does not purport to show anything about the extent of the disputes shown or the number of men involved. It merely purports to show that this number of disputes occurred in the years mentioned. There are no data on these other industries issued by the Bureau of Labor Statistics, showing the number of man-days lost on account of strikes and the number of men involved. Specific inquiry has been made on this point and we have been informed by the Bureau of Labor Statistics that those data are not available for these industries over a period of years.

(1644) Referring to Plaintiff's Exhibit No. 73, entitled [fol. 760] "Average Hourly Wage Rates Paid Common Labor" at the top of which is the statement "Average Hourly Entrance Rates in Cents", the phraseology "entrance rates" is that of the Bureau of Labor Statistics as found on page 303, Table 333, of the Statistical Abstract for 1934, with the exception of the 1934 figures, which are from Serial No. R-196 of the December, 1934, issue of the Monthly Labor Review. The statement there made is the same as that given on Plaintiff's Exhibit No. 73, namely:

"NOTE.—Rates in cents per hour. Data are based on entrance rates paid unskilled adult males in important industries requiring considerable numbers of common laborers."

It is stated in the Monthly Labor Review for October, 1933, in connection with entrance-wage rates for common labor, that rates of pay are increased by some employers after a stated length of service, or after a certain degree of fitness for his job has been developed. (1645) I rather assume that when employees advance from this particular class they would not be considered common labor. As to whether

or not the Bureau of Labor Statistics would still regard them as common labor I do not know. At any rate, the Bureau of Labor Statistics confines its figures on the average hourly wage rates for adult male common labor to this particular classification. I do not know whether any other classes of common labor are recognized by the Bureau, but they do not report upon them. Referring to Plaintiff's [fol. 761] Exhibits No. 73 and 73-A, I do not see what bearing these exhibits have upon my understanding of the difference between common labor and skilled labor. I have taken the classifications used by the Bureau of Labor Statistics and have presented them in the manner given in the official reports of the Bureau. That is all I claim for them.

(1646) Referring to Plaintiff's Exhibit No. 70, the figures as to bituminous coal were obtained from the Bureau of Labor Statistics, United States Department of Labor, and the figures for all commodities and raw materials were obtained from the same source. I am aware that quotations for bituminous coal used by the Bureau of Labor Statistics represent the delivered price, including freight, rather than the price f. o. b. mine. They were so stated here, as wholesale prices. (1647) I think it is substantially the case that for many years the average freight charge has exceeded average realization f. o. b. mine. I do not recall specific figures for the year 1929 as to average sales realization f. o. b. mine and average railroad freight revenue per ton. I might say that the figures in Plaintiff's Exhibit No. 70 are on a directly comparable basis. In other words, the wholesale prices of raw materials reflected the freight and transportation charges involved in bringing them to the primary markets to which these quotations apply. The same is true of all commodities. The same is true of the chart which follows, Plaintiff's Exhibit No. 70-A. In other words, all of these are on a comparable basis and were taken [fol. 762] exactly in the form given by the Bureau of Labor Statistics. I note in Minerals Year Book that it gives for 1929 the average f. o. b. mine price for bituminous coal and the average rail freight revenue per ton for that year, namely, $1.78 realization price and $2.25 freight revenue. (1648) It is my understanding that freight charges remained substantially unchanged during this period. I do not pretend to be an expert on freight costs. It might be claimed that the fact that half the cost of delivered coal

is made up of freight which did not tend to change, is one of the reasons why bituminous coal has shown relatively small changes in price since 1926, as reflected in the wholesale prices. It may be a fact. These charts are concerned only with the actual facts, namely, the wholesale prices. As to what enters into the determination of these wholesale prices, whether it is bituminous coal or all commodities or raw materials, is something which is beyond the prices themselves. According to the Bureau of Labor Statistics these figures represent an accurate index of the trend of the wholesale prices of the commodities represented. (1651) I have not had occasion to study the freight costs on the 785 commodities included in the all-commodity index by the Bureau of Labor Statistics. (1652) I chose the year 1926 as my starting point for Plaintiff's Exhibit No. 70 because that is the year taken as a base by the Bureau of Labor Statistics of the United States Department of Labor. The Bureau has compiled index numbers for a number of years [fol. 763] previous to 1926, 1926 being used as a base. However, in these previous years, a smaller number of commodities were included in the index, and therefore the indexes for those previous years are not directly comparable. We accepted the base year and the starting point of the Bureau of Labor Statistics. (1653) That Bureau is the recognized authority on price trends. If we had started with 1924, 1922, 1918 or some other year, we might have been accused of being selective in our choice of years, so we merely accepted the Bureau of Labor Statistics' choice. I do not think it would have been fairer to start with 1923. (1654) [Mr. Critchlow handed a tabulation to the witness, stating that it had been prepared by Mr. Berquist.] It would seem that the caption of this table is not entirely correct. It says "Index Numbers of Wholesale Prices of Specified Commodities or Commodity Groups" and then it gives bituminous coal, average realization, f. o. b. mine. According to the Bureau of Labor Statistics that does not constitute a wholesole price. (1655) When we talk about wholesale prices we talk about them in the sense that they are accepted and so regarded by such an authority as the Bureau of Labor Statistics. That Bureau does not regard the bituminous coal average realization f. o. b. mine as a wholesale price. As to whether it is correct or incorrect in not so regarding it, I do not care to speak. (1656) [Mr.

Critchlow then offered the tabulation in evidence. (1657) [fol. 764] The tabulation was received in evidence as Defendants' Exhibit No. 50, it being entitled "Index Numbers of Wholesale Prices of Specified Commodities or Commodity Groups.]

(1658) [There was then offered in evidence as Defendants' Exhibit No. 51 a table entitled "Production Value, Men Employed, Days Operated, and Output Per Man Per Day in Coal Mines in West Virginia, 1934". (1661) The exhibit was received in evidence.]

[fol. 765] (1593) JAMES WALTER CARTER, the plaintiff, called as a witness on his own behalf in rebuttal, testified further as follows:

Direct examination.

By Mr. Whitney:

I was in Court when Mr. Richards testified as to the classification of Caretta coal and I heard that testimony. The Smokeless Code Authority first issued classifications of prices on or about October 3, 1933. They were revised thereafter approximately once a month. I was elected a member of the Code Authority on March 12, 1934. The discriminatory price which I previously testified to in regard to Caretta coal was fixed (1594) in the first circular establishing classifications of coals and prices therefor which was issued on or about October 7, 1933.

The house plant of the Carter Coal Company is representative of the house plants of more modern (1595) coal mining plants generally in the area in which it is situated. There are about 950 houses in the two mining villages of Carter Coal Company in southern West Virginia. Approximately 75% of those houses have commodes connected with a sewerage system, or bathrooms. There are in the towns about 360 garages, all of which are filled with cars of employees. (1596) There are in addition in the two villages about 50 other cars owned by employees, for which there [fol. 766] is not room in garages that are built for the houses. In the two communities having house plants of 950, there are today approximately 450 automobiles owned

by employees. I believe that all of the houses have electric lights and that substantially all of them, even those that do not have the modern sewerage system facilities, have running water in the houses. Garbage is collected and disposed of at garbage dumps by men who devote their entire time to the collecting of refuse and garbage, as is done in any other well regulated community.

There are hard-surfaced roads through substantially all portions of the mining villages, but not all of the houses are built on hard-surfaced roads.

Modern schools are operated by counties in which the mining towns are located. There are in those two villages about 34 or 35 school teachers. The schools are grade schools, and the children there who are in high school are transported from the villages to high schools by bus, transportation being free.

There is a community church for the white employees and there are Methodist and Baptist churches for the negro employees. (1597) There is one white minister and there are six colored ministers in the two villages.

In so far as I know, Carter Coal Company has never had [fol. 767] any of the so-called "yellow dog" contracts.

I have caused a very complete, detailed study to be made of the coal loaders at one of our large mines for the month of July of this year. This study was applicable to a period prior to the recent advance in rates of pay. It includes all of the employees loading coal at that mine for that month. That would mean that the range would include those men who worked one day during the month and those men who worked on all of the days when work was available for them. [The chart showing the average earnings for 1935 and average expenditures that are required to be made therefrom in respect of loaders at the Olga No. 1 mine was offered and received in evidence as Plaintiff's Exhibit 86.]

(1598) This chart discloses that the average earnings per day for that month for those employees was $5.50, and that the occupational deduction was an average per day for each of those men of 11¢. That covered the cost of smithing and the cost of electric mine lamps. It did not cover the cost of explosives. It is the practice of the company to sell to its employees at cost the explosives that are required in the mining process. In so far as we can

ascertain, the cost per day for those explosives would be about 30¢. The study also disclosed that the average [fol. 768] amount per day paid by those men for rent was 17¢, the cost of group insurance and payroll fund was 13¢ average per day, the cost of doctor and hospital was 11¢, heat and light were 8¢, union dues, union fees, and checkweighman were 9¢, miscellaneous charges, including bathhouse, garbage, and any checks purchased by the men for use in the mine, were 2¢. After all deductions that I have enumerated there was left from the $5.50 average earning, $4.79. These are the average earnings per day from which each particular employee would pay the cost of food and clothing and the cost of explosives which, as I previously stated, is estimated at about 30¢. (1599) This is based upon an accurate analysis from the books of the company of this particular mine for that month.

The health of the employees in these mining towns is very good. When men are employed by the company they are examined and only those men who are in sound health are employed. The families of those men and the men themselves receive without any cost inoculation against typhoid, the children receive inoculation against diphtheria and all members of the communities are vaccinated to prevent smallpox. I have been advised that there have been [fol. 769] no cases of typhoid in the communities since 1925 and that there have been, so far as we can discover, no cases of smallpox. In the last 12 months there were two mild cases of diphtheria among the children. There have been reported two cases of tuberculosis in the last 12 months. The health of the communities is, I should say, equal to or better than the average of similar sized towns throughout the country. The company employs two nurses who examine the children in the schools, who visit the homes and advise as to the child welfare and sanitation in the homes. There is also in effect an arrangement by which the employees of the company may secure hospital attention for themselves and for any members of their family, which includes any emergency illness or accident to which they may be subject, excluding certain chronic cases that would not or could not properly be insured against by hospital authorities. (1600) The cost of this service to the employees is, for a single man, $1;

and for men with families, $1.50 a month. The cost is reflected in the item on the chart to which I have referred under the heading "Doctor and Hospital".

The company maintains a number of company stores. The merchandise as to volume and variety is comparable to that of any independent stores in the general community and is, in my opinion, better than the average that is found in such independent stores. It is the practice [fol. 770] of the company to base its prices upon the prices charged in chain stores operating in the same general community, and the prices charged by the Carter Coal Company for merchandise sold by it are as low as or lower than the prices charged by chain stores in the community.

By "scrip" we really mean a process of advancing funds to employees in the coal industry before the payday period. It is customary in the Carter Coal Company and in other companies in that community to pay employees twice a month. Men who wish advances against their earnings secure them from the payroll clerks in the form of bits of paper or metal coins which are accepted at the company stores at their face values for merchandise sold. It is a practice that is really a convenience for the employees throughout that region as a whole.

(1601) During the depression, Carter Coal Company, in common with other coal companies in that region, furnished to its employees as much employment as it could. It has been the practice in the coal industry—certainly in the southern fields of West Virginia—when work was not available to employees or to those people who had been employees of the companies for considerable periods, to extend credit to them, the amount usually depending upon the resources of the companies and the length of service of the employees. I believe it is generally true that the [fol. 771] producers in that section, to the extent of their resources, did what they could to alleviate and prevent distress incident to the depression. [Mr. Whitney asked the Court to take judicial notice of the fact that it is common knowledge that in the depression it was the usual or frequent practice of industrial concerns to shut down factories, with the result that the employees were completely unemployed and had either to get other employment or else go on relief.]

(1602) Because of the fact that coal mines must be opened and developed in those areas where coal occurs, and because, further, such communities are frequently in areas that are far removed from other opportunities for employment, employees are and must be more dependent upon the companies and the companies feel a greater responsibility for their employees than exists in other industries, in times of depression. (1603) Based upon such information as I have had in the industry and upon my contacts with operators in various parts of the country operating mines during the depression period, the operators did, to the best of their ability, aid those employees dependent upon them.

Unquestionably very distressing conditions of want, in times past during the depths of the depression, have been present in the coal industry. I have myself observed conditions of great distress in communities other than coal communities, even in some of our large towns and cities, [fol. 772] during the depths of the depression. (1604) I know that some of those areas about which witnesses for the Attorney General have testified were below-normal areas in the coal industry, even under more prosperous times and conditions than during the depths of the depression. Some of those areas were in regions developed many years ago, when the standards of industrial life and opportunities for comfortable living for employees in industrial plants were less than they have been in more recent years. Some of those areas were fields developed 50 and 75 years ago. Mining towns built at that time are very different things from mining towns built in more recent periods. Mining towns in communities that have been substantially abandoned or worked out are naturally allowed to fall into disrepair and to go to pieces, as are the abandoned operations of any other industry. During the depression, people who found themselves there when abandonment came or when there was practically no operation of the mine, had no other place to go. It was not a condition, however, that was peculiar to the coal industry. Industries as a whole suffered during the depression.

(1605) I have been in mines in West Virginia in various parts of the State, and I am somewhat familiar with mining areas in Kentucky. I am not personally familiar with

mining areas in Tennessee. In the coal industry and in West Virginia and Kentucky particularly, as in other industries, there are all kinds of mine plants. There are mines opened by adventurers, speculators, on small tracts of land, men who had very small resources and who made [fol. 773] flimsy developments at some time when the profits in the coal industry seemed inviting. Such ventures are naturally of very indifferent quality. They produce, although numerous in number, a comparatively small part of the total production of coal. The great bulk of coal mined is produced by stronger companies with better equipment, facilities and conditions of life for their employees, than prevail in the distressing situations to which defendants' witnesses referred. The bulk of coal produced in the southern fields is from mining plants that are more modern and which are better equipped than many of the mines in the older regions of the country, sometimes referred to by witnesses as "north of the river". That naturally follows because the development in the southern fields is more recent. The plants are more modern. (1606) The mines have been developed in recent years, when the knowledge of mining and methods of mining was better. They have modern equipment and electrical apparatus. The larger part of the process is mechanized. Individual men can accomplish more with less labor because of the mechanical appliances and devices that are available to them.

Plaintiff's Exhibits Nos. 82, 82-A, and 82-B were prepared under my direct supervision and pursuant to my instructions. Certain of the defendants' witnesses have referred to the rates of pay of trackmen as having been basing rates in certain parts of the country, and one of these witnesses pointed out discrepancies in these rates of pay in [fol. 774] different mining regions in different mining States. Such information as was available to me was taken as the basis for this chart. Mr. Willer referred to the number of days worked in each State as having been derived from the United States Bureau of Mines publication, and data with respect to that matter. The average earnings per day were as reported by the Bureau of Labor Statistics, which one of the defendants' witnesses, Mr. Lubin, directs. These exhibits show that earnings, as distinct from rates of pay, have been somewhat similar and have followed somewhat the same course in the last several

years in all states. In other words, that those men in the southern states have earned as much, (1607) or substantially as much, at the lower rates of pay, as have the men in the older fields in the north at the higher rates of pay. This particular classification of trackmen is a specialized kind of employment. They do not represent a great percentage of the men in a coal mine—perhaps 5% or 10%. The second chart, 82-A, would apply to a greater number of men. That discloses that the pieceworkers who, in the southern fields, number probably half the employees in a mine, and in many of the mines in the east, particularly in Pennsylvania, may number as many as three-fourths of the men in the mine, receive, in the southern fields, a lower rate of pay than they do in some of the northern fields. The chart would indicate, however, that in the case of West Virginia pieceworkers have earned more in annual earnings than have the pieceworkers in the State of Pennsylvania throughout this period, with the exception of one [fol. 775] year. That is significant because of the fact that pieceworkers in Pennsylvania are a larger percentage of the employees in the mine than they are in the southern states. It also indicates that Ohio has been generally lower than any of the five states that have been charted here—Illinois, West Virginia, Pennsylvania, Kentucky, and Ohio, so that the pieceworkers in Ohio, notwithstanding that their rate of pay was higher, have actually earned less than have the pieceworkers in the other states.

(1608) By the Court:

The way the information on the chart, Exhibit No. 83, was derived is this: During the month of July, 1935, there were 566 coal loaders in that particular mine. That was about half the number of employees—all of the pieceworkers. Of those men there was one man who worked one day, there were other men who worked two days, and some three. The individual payments made to each man were broken down in this fashion and the average of all, including the men who worked one day and the men who worked all the days that were available to them are included there. (1609) One of the Carter Coal Company villages is about a mile, by hard-surface road, from a so-called open or independent town in which numerous independent stores exist. The other village is about five miles, by hard-surface road,

to the county seat, which is quite a substantial town in which there are many independent stores. In the villages themselves there are only company stores.

[fol. 776] (1613) [A table showing the number of days worked by employees at Carter Coal Company for July, 1935, was marked Plaintiff's Exhibit No. 87 for identification.]

By the Court:

As shown by this statement in the month of July the men were offered work for 23 days and some of them worked fewer days. This means that it was optional with the men to work less than 23 days if they wished. The explanation of cases where men worked only one or two days would probably be that the men had been recently employed or had moved away and left their employment about the beginning or end of the month. Of course, not all of the men worked all of the days that work was available for them. Probably one-fourth of the men would work less than half time. The men were permitted under the agreement with representatives of the employees to work five days in each calendar week. Some of the men may not have desired to work five days. Some of the men will be employed by the company (1614) for a short time and will move about to other places for employment, so that the average earnings of all men is very much diluted when you take into account those particular cases. The bulk of the men will work half or more of the days when work is available for them.

By Mr. Whitney:

Indolence might be one of the reasons why men did not work all of the time for which work was available, another being the fact that sometimes men are moving about.

[fol. 777] By the Court:

Illness might account for it. There was work for all of the men during each of the 23 days if they wished for or were able to do the work. [The table marked Plaintiff's Exhibit No. 87 was then offered and received in evidence.] (1616) [There was offered and received in evidence a table of average earnings of employees of Carter Coal Company

prepared for the West Virginia State Compensation Commission, as Plaintiff's Exhibit No. 88.]

By Mr. Whitney:

Carter Coal Company has not to my knowledge deprived workmen of that to which they were fairly entitled from the point of view of measurement.

(1617) Cross-examination.

By Mr. Critchlow:

There have not always been scales at the tipple of the Carter Coal Company's property. Scales were installed, I believe, about 1923 or 1924.

In February, 1922, my father sold to Consolidation Coal Company all of the voting stock of Carter Coal Company. In addition, (1618) Consolidation Coal Company entered into an agreement obligating itself to purchase preferred stock of Carter Coal Company over a period of time, which shares were held by my father. The agreement also provided that the preferred shares as they were from time to time purchased by Consolidation should be surrendered by [fol. 778] that company to Carter Coal Company for cancellation and retirement. After that contract was entered into, Consolidation Coal Company assumed the management and control of Carter Coal Company, as the owner of all the voting stock. During a period of time Consolidation Coal Company owned all of the voting shares of Carter Coal Company. It lent to that company sums of money and that money was used by the Carter Coal Company to make certain improvements, for working capital and for other purposes. Substantial sums of money were so advanced. Consolidation Coal Company went into receivership in 1932. (1619) Carter Coal Company was indebted, as shown by the books of the company, to Consolidation Coal Company in a sum in excess of $10,000,000 at the time Consolidation went into receivership. When Consolidated Coal Company was in receivership there still remained in existence the contract obligating Consolidation Coal Company or its receivers to purchase the shares of preferred stock that were owned by my father and members of his family. The Consolidation Coal Company or its receivers did not desire

to consummate that purchase. Carter Coal Company was recapitalized and the indebtedness to Consolidation Coal Company (1620) was cancelled in exchange for the issuance to Consolidation Coal Company of 30,000 shares of voting stock of Carter Coal Company, the old voting shares being changed into non-voting shares. 50,000 shares no par value became 10,000 shares of par value of $1 with no voting power. The voting shares were purchased by me and the [fol. 779] bonded indebtedness, which was part of the debt of the company, was included in this indebtedness for which Consolidation received new shares of stock. The agreement to purchase the preferred shares was cancelled. This arrangement was consummated in March of 1933.

[A tabulation entitled "Carter Coal Company, Condensed Statement of Income Account by Years, 1923-1934, Inclusive," was marked Defendants' Exhibit No. 47 for identification.]

This statement was prepared or caused to be prepared by me at your request. It shows information as disclosed by the books of the company for the periods 1923 to 1934. (1621) [The tabulation previously marked Defendants' Exhibit No. 47 was thereupon offered and received in evidence.]

I have prepared a statement at your request purporting to show the aggregate of contracts entered into since May 27, 1935, by Carter Coal Company for the sale of coal, and the average price per ton. This statement covers all contracts for terms of one year or longer, which cover an aggregate of 850,750 net tons of coal. The second paragraph refers to 230,000 net tons that have been contracted for since August 30, 1935. (1622) The statement to which you refer reads "The aforesaid tonnages, approximately 230,000 net tons, have been contracted for since August 30, 1935". These contracts all provide for delivery for a period longer than 30 days from the date of the contract, each being for a period of more than one year. These contracts cover different sizes and different grades of coal, [fol. 780] more than 95% of which is so-called slack or fine coal.

By the Court:

Substantially all of the coal covered by all of the contracts described is slack.

By Mr. Critchlow:

The company has been operating at substantially full capacity during all of the year 1935.

The houses in the two villages surrounding the mines of Carter Coal Company were constructed over a period of 35 years. (1623) I should say that half of them had been constructed within the last 15 years. The most modern houses have been constructed during the period when the management of the company was directed by Consolidation Coal Company. It is not true that all of these so-called modern houses were built during that time.

The purpose of Plaintiff's Exhibit No. 79 is to show the relationship between the man-days idle on account of strikes and the production of certain specified states. The witnesses for the defendants have testified that the states of Pennsylvania, Illinois, Indiana and Ohio were during a part of the period about which you have inquired unionized, while during most of that period the state of West Virginia was substantially non-unionized. (1624) The Bureau of Mines reports contain the information that the state of West Virginia is credited with 25.7% of the pro-
[fol. 781] duction of coal, whereas it had only 4.2% of the man-days lost on account of labor disputes. As has been testified before by one of the witnesses for the defendants, the operators in West Virginia were, during these ten years, generally opposed to the unionization of the fields in West Virginia. It was customary during the greater part of that period for the operators to enter into individual contracts of employment with their men, if by "individual contract" is meant that when a man secures employment from an employer he has an individual contract of employment. (1625) I am informed and I believe it to be a fact, that certain companies in certain parts of West Virginia have written contracts of employment with certain of their employees and that some of those contracts of employment which were reduced to writing contained a provision to the effect that the employee should not join a union. I have seen blank forms of such contracts, although I have never seen an executed contract of that kind. The Carter Coal Company did not have written contracts of employment with its employees and had no such provision, either written or verbal, with the men who worked for it. (1626) I have no personal knowledge as to when

employees of the Carter Coal Company became members of a labor organization. I do not know when the employees or any particular employee became a member of any specified labor organization. I do know that organizers of the United Mine Workers, perhaps organizers of other organizations, came to the properties of the company almost im- [fol. 782] mediately after the enactment of the NIRA and began soliciting the employees to become members of that organization. Carter Coal Company first agreed with representatives of its employees collectively with respect to wage rates and terms and conditions of employment a month or so before the passage of the NIRA. (1627) The first scale of wages agreed upon between representatives of the employees of the company and the management was done by the so-called local or company union. Only one such contract was entered into. That was superseded after the men became members of the United Mine Workers of America and selected the officials of that organization to represent them in collective bargaining. Since that time the men have been so represented.

Plaintiff's Exhibit No. 86 does not have anything to do with rates of pay, but has to do with average daily earnings of piece workers at one time. (1628) Rates of pay are set out in the agreement under which the employees of Carter Coal Company are operating.

[fol. 783] OFFERS IN EVIDENCE

(1667) [There was offered and received in evidence as Plaintiff's Exhibit 89, regulations issued by the Department of Taxation in respect to taxes under the Bituminous Coal Conservation Act.]

(1669) [There was offered and received in evidence as Defendants' Exhibit 52 a two-page table entitled "Relative Rate of Growth of Coal, Oil and Water Power."]

(1670) [There was offered and received in evidence as Defendants' Exhibit 53 a table entitled "Table 1. Comparison of Average Hourly Earnings of 'Outside Laborers' at Bituminous Coal Mines with Average Hourly Entrance Rates Paid Common Labor in Other Industries."]

(1670) [There was offered and receive din evidence as Defendants' Exhibit 54 a table entitled "Computed Total