

# COAL AGE

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## Would Avoid Suspension

TO THE MINE WORKERS' statement that the anthracite operators have planned a suspension that will enable them to sell a huge stock of coal that they are alleged to have accumulated, the operators replied through S. D. Warriner at the Atlantic City Scale Committee meeting saying that they were greatly concerned to avoid a suspension, that they sought for arbitration and were willing to operate their mines at the present scale after the lapse of the agreement until the arbitrators had given their decision on what the new wage agreement should be.

There is no question that the operators want peace, and that they are confident that they have the right on their side is shown by the fact that they are willing to accept arbitration. On the other hand the mine workers want a suspension. They want the public to demand a speedy opportunistic settlement that will be dictated by panic fear and so they refuse arbitration for reasons that have a hollow ring to them. A political settlement is what they desire. They know that the public will compel the operators to pay anything and everything that will result in the provision of coal for its household furnaces, and they overlook the fact that the people will, as ever, dictate a settlement and then by the simple expedient of buying a cheaper fuel, prevent the benefits of its terms from being experienced.

But they don't like arbitration. That is judicial, that concerns itself with the logic of circumstances and with that yardstick of fairness that the miners so volubly praise but fear to have applied. Just wait, they figure, till the public is panic stricken and we will make Warriner and his boys hand over their very hides to the union.

As a matter of fact what the operators are seeking is what the mine workers really need, for a rise in the cost of coal will drive anthracite out of the market, thus depriving the men of their jobs.

To illustrate this contention with an example from the bituminous field: The Jacksonville agreement was signed by men who never realized the force of the tide that was destined to sweep the union areas of the bituminous coal industry. It was a quiet pacific ocean on which the coal bark lay. The mine workers and even the operators felt they could trust themselves on those undisturbed waters. They little realized how the clouds gathering in non-union fields would sweep over that glassy sea and leave the mines useless wrecks. As Mr. Warriner in a manner pointed out: With a fair sky you may be disposed to laugh at the storm but if the storms are gathering the laugh is not wise.

The mine workers and the press of the anthracite region do not realize how already the anthracite mines are having the fight of their lives and that the hope of the industry will be swept away if the price of anthracite is raised. Nothing will help the bituminous fields and the oil men more than to have the miners

turn on the operators and break down their defense against their common competitor.

Are the union miners seriously going to play again into the hands of the non-union operators? Are they ready once again to turn on the employers who are fighting their battle? The scale committee had a chance to discuss this matter with the men at home over Sunday. There was no meeting of the sub-scale committee from Friday till Tuesday. Let us hope that they made clear to the men back home how serious was the situation and how their hopes of a wage increase are vain or, if not vain, illusory and how the best plan is to sign up with the operators or leave the matter to arbitration.

However, perhaps the mine workers want another Jacksonville agreement to starve for and die for. Perhaps they delight to be martyrs to another folly. Perhaps they would prefer to see anthracite displaced by oil, gas, coke, power and bituminous coal. Perhaps they would like to see Government regulation. Here is their chance. Let them fight for the scale they have presented. They can have the martyrdom they prefer.

## Together or Alone?

NO ONE TODAY lives to himself alone, and associations of men in any one line of industry bring a sense of community interest that is necessary for the best results. Time was when the discussion of coal problems was bitterly sectional. Today coal men are realizing that the non-union and union operators have common difficulties and problems that will be best solved by composite judgment and will not find a solution in recrimination—we had almost written vituperation, for that was what was sometimes felt and expressed.

The National Coal Association has been headed by non-union and again by union men, now by easterners and again by mid-westerners and always with accord. It has been remarkable how the leadership has fallen into the control of varied interests year by year, by mutual consent and preference and how loyally has the rank and file followed its leader without any manner of sectional jealousy.

Who shall say that this work has not had its valuable result? There has been no attempt to find where the majority lay. Just now the non-union members of the East find themselves in the ascendant, but with a courtesy manifested not merely generally but universally, a man from the West, a union operator, has been selected as generalissimo for the coming year.

Banking is a competitive industry. The leaders in finance, nevertheless, meet in happy harmony, play golf together, visit each other's homes and hold common conferences. They have their rivalries but these do not menace the amenities of their mutual life.

Robert K. Cassatt, at the meeting of the National Coal Association, expressed the conviction of the banking interests in these days. He speak in the first person as of an individual conviction but it is the

consensus of banking opinion to which he gives utterance:

"In these days every industry must have a clearing house in the sense of a central organization. Investment bankers have such an association, as have all other important lines of activity with which I am familiar. And I have observed that the virility of an association and the degree in which it is supported by its members are excellent indications of the character and financial judgment of the men engaged in that industry."

Thus sectionalism, the worst evil of all the evils to which mankind is subjected, is destroyed. The best national interest is served by a patient following of the best minds of the industry as represented by its directorate. Year by year the leadership of the National Coal Association officials and the discussions of principles, such as marked the recent meeting at Chicago, will clarify the minds of the industry as to the needs of one and all and create a national harmony which the coal trade for many years lacked.

"Let me leave you," said Mr. Cassatt, "with . . . the suggestion that the proper vehicle through which to express many sound thoughts in the interest of your industry is the nation-wide organization of bituminous coal operators, the National Coal Association."

### Do Less and Have More?

IN GREAT BRITAIN miners' wages are too high to permit the coal industry of that country to ship coal to the Continent, so the mines are running irregularly and many are idle. In consequence the six-hour day is being advocated, in order that all may work. That will add to the cost and shut down more mines and make the mines that do work run more intermittently than ever. The miners seem to believe that, if they cannot succeed with one handicap, they might possibly do so if they loaded themselves with another.

The condition is quite like that in America. It is indeed "hands across the sea." Both the English and American miner believe that if your low output is preventing you from working, arrange to make it a little lower and your chances for steady work may be better; if wages are too high to permit the mines and factories to run, make them still higher and work less hours. The British miners have carried their follies a little further, perhaps, than ours. If that surmise be true, they are probably a little nearer a discovery that their hopes are fallacious. An *ignis fatuus* can be pursued just so far, and the further it is pursued the nearer the pursuer is to the ultimate emiring. Perhaps we and our British cousins are near the point where we can begin to see matters as they are and begin all over again on a surer basis, ignoring the false lights that our imagination regarded as something that would guide to safety and happiness.

### Too Busy to Plan

OFFICIALS at coal mines are usually too busy to plan largely or well. Their duties hold them at home from year's end to year's end, and so long as a man sees nothing and hears nothing but what is to be seen and heard in his own environment he is not likely to grow fast. When an engineer or a salesman drifts in to see him, he tells the visitor he is too busy to talk, or he listens with a mind that drifts uneasily to the pile of letters and orders on his desk, to his telephone calls and to his unfinished and pressing labors which,

for the nonce, must go unperformed. Thus harassed he is not the good listener and acute questioner that the opportunity for contact with the outside world should develop.

A better way of doing his work should not be lost to him because of his anxiety and impatience to get it done quickly in another way and one less economical and effective. One must not be too busy to think and to plan, or the company will be the loser. It may have a man or two less on the payroll, but in most plants many men could be saved if better systems were adopted.

### The Truth Might Help

THE New York *Evening Post* on July 11 said in a Washington dispatch: "As the result, only departmental experts who have a direct interest in coal have continued to study the problem, and their researches leave only one conclusion regarding the immediate situation.

"Nothing has been done either outside the industry or by the operators and miners themselves to break the 'vicious circle,' in the course of which each period of peace is followed by a period of mines closed by strikes, resulting in an artificial shortage and the public 'holding the bag.'"

S. D. Warriner on July 9, spokesman for the anthracite operators, at a conference called to make a new wage scale, said as follows:

"We wish to urge that provision be made at the outset against the possibility of a suspension on Sept. 1. Such joint action on our part would deserve public confidence. It can be accomplished by an agreement to the effect that if our respective committees are unable to agree upon any issues, such issues shall be referred to arbitration, upon the understanding that production shall be continued at the present wage scale until the arbitrators render an award.

"Let me say to you here and now that the operators are prepared to co-operate in any fair and practicable plan, not only to prevent a suspension next September, but to provide means to prevent suspensions in the future in order that public anxiety in this respect may be put at rest. This can be accomplished by a long-term agreement with provision for the adjustment of wage rates during that term so that wages may be conformed to changing economic conditions."

Surely a candid world will say that the anthracite operators are trying to meet the difficulty, as far as it is possible for them to meet it alone. "Nothing has been done" in their case does not mean that nothing has been attempted. We can only hope that the journalist quoted did not reflect with precision what he was told.

The same paper says later:

"Government officials are not inclined to participate again in arbitration, which would result in an increase in wages to anthracite mines, an adjustment that would come only after a period of strife during which coal prices would go soaring to the profit of the operators and at the expense of the consuming public."

We would say that the sentence suggests that the Government officials do not believe in an increase in wages but when they are placed on an arbitration board they would be compelled to grant such an advance by reason of a sinister pressure. If this statement is true it is a severe indictment of the arbitrament of Government officials.

# Miners Want Higher Pay Because of Labor Hazards

They Forsake "Living Wage" Plea as Anthracite Parley Opens at Atlantic City—Operators Are Solidly Against Strike and Suggest Arbitration but Men Will Not Agree

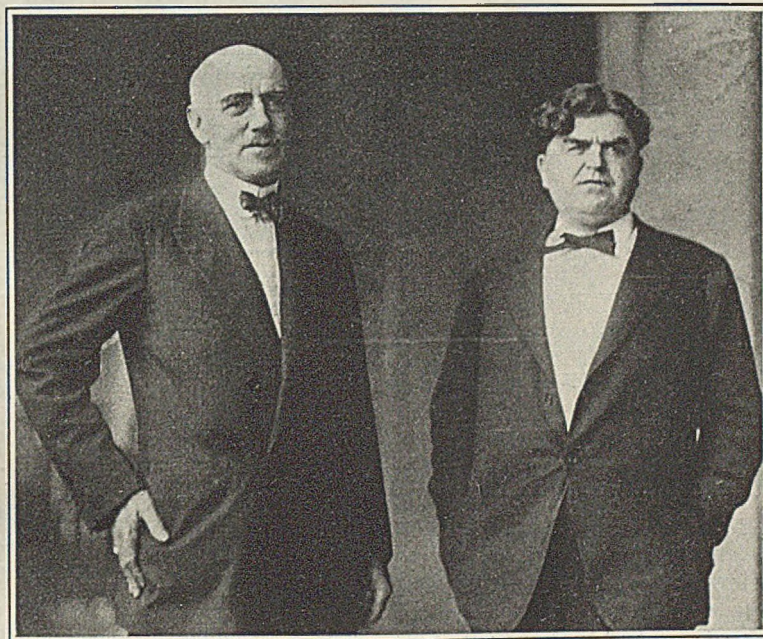
By R. Dawson Hall  
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**J**UDGING by John L. Lewis' address at the open meeting of the scale committees of the anthracite operators and miners beginning negotiations for a new contract July 9 at the Hotel Traymore, Atlantic City, N. J., the emphasis of the United Mine Workers has been lifted from the demand for a "living wage" to a plea that the hazards of the coal industry have never been given due consideration in the fixing of a scale. The argument now is that the men at the mines have been paid for their services but not for their sacri-

fices. Mr. Lewis adroitly forgot the compensation which is paid to the injured in case of injury without death or to the victim's dependents in case death results. Only Andrew Matthey, president of District 7, and father of 18 children "now happily at work," pleaded that wages were inadequate for raising a family. This was the only reference to the point in the two days' sessions which opened the negotiations.

During the two days of general statements by both sides the operators persistently declared there should be no strike Sept. 1 and that such differences as may exist between operators and miners by that date should be arbitrated while coal production continues. They held for wage reduction or a material increase in the productivity of miners because prices to anthracite consumers cannot be raised without jeopardizing the whole industry for men and mine owners alike. The miners, of course, contended for wage increases and opposed arbitration. However, only a bare beginning has been made in the negotiations. An open session was held July 9 and a preliminary meeting of the sub-scale committee took place July 10 when adjournment was taken to July 14.

At the opening general session S. D. Warriner, president of the Lehigh Coal & Navigation Co. and chairman of the Anthracite operators' conference read the operators' first statement, printed in full on another page. He wisely sized up the situation, pointing out that the miners and operators are facing a crisis. The



Two Principals of the Anthracite Negotiation

S. D. Warriner (left), chairman of the Anthracite Operators' Conference, and John L. Lewis, international president of the United Mine Workers.

by James Gorman. At the proposal of President Lewis of the miners, Judge Frank W. Wheaton, chairman of the board of directors, of the Lehigh Valley Coal Co., was elected presiding officer, Mr. Gorman then being made secretary.

Mr. Lewis was requested to present the claims of the mine workers, which he proceeded to do in a most eloquent manner. He said that these claims were always promulgated as "demands." Really they were not in any literal sense either demands or requests for consideration. In truth they were something less than demands but something more than requests. Contrary to the general belief the union officials were not doing the thinking for the men in the mines. They merely voiced the demands of the mine workers which were based on the bitter experiences of actual work. There was no need for either a learned mind nor a facile hand to lay down what they wanted. The union leader was only the attorney employed by them to present the case which they themselves had laid before him. It was impossible for them to get in touch with the leading minds among the anthracite operators, and Mr. Lewis said that it was necessary, therefore, to make that presentation of their case by and through their union.

He then read the demands which have been published at length in *Coal Age*. With tragic eloquence Mr. Lewis declared that it was a greatly moving thought that, since he had appeared before the operators two years ago to appeal for an increased wage, 1,000 of his people

miners might haggle about what they termed justice and get a scale that represented what they demanded as their rights, only to impose them on the operators without managing to make the public accept their high-priced coal. In that case they would have a high scale but no jobs. Mr. Warriner made clear that the demands could not be granted, for they would destroy an industry already in jeopardy.

At the meeting sixty to seventy were present. The mine workers had thirty to forty of these. The meeting was opened

had been killed and 40,000 maimed and injured "in your mines." "Every man present," said he, "recognizes the exactions of the industry." The operators may advocate arbitration, but he did not recognize the right of any commission to decide coldly for his people what they should get for their lives or for a broken back. The professions do not permit a commission to decide what shall be paid for their services and why should a commission be allowed to fix a wage for men who were preparing to risk their lives in a most hazardous occupation?

He said it is true miners take their cases to courts but not to determine principles like the reward for undertaking hazards. Courts, in the main, merely interpret contracts. Mine workers believe in such interpretation, but not in determining what pay should be awarded to those who place their lives in jeopardy.

Mr. Lewis declared he could not see why the operators should oppose an equalization of rates between the various mines when the duties performed were precisely the same in each. He was even more emphatic in calling for what he termed the recognition of the United Mine Workers, but which now means solely the imposition of the check-off. Already the anthracite companies made check-offs for twenty-nine different purposes; why not add a thirtieth? Why should not the union participate with the operators in this instrument of collection? Were they alone to be denied?

The check-off would not be costly to the operator for he had the machinery in operation already, nor would it add to the cost of the coal and be an added burden on the consumer. Why deny to the employee that to which the employer believed that he, himself, was entitled? It could not be regarded as a violation of the law, for the Union did not demand that the check-off should be imposed on any employee without his signed authorization.

The check-off, he said, was not designed to strengthen the union. It did not need such support; it was too well established for that; but it did desire to save the costs of collection of union dues, the scores of thousands of letters, the communications between the secretaries and an immense number of men scattered in many directions. Men failed to pay dues, not from lack of desire but for inattention to detail. In every club could be seen posted the names of men who were delinquent in the payment of their dues, not from intention or from the lack of the wherewithal to pay them, but simply because they had allowed this small matter to slip their attention.

Rinaldo Cappellini, president of District No. 1, and Christ Golden, president of District No. 9, then followed. To Mr. Golden it appeared that the check-off would head off wildcat strikes and be a benefit to the operator. A grievance which particularly troubled the men in his district was that nothing had been done to promote uniformity of scale. The operators had promised to give it consideration. But two years had nearly passed, and nothing had been done. Were they to be patient and wait forever? The members of the carpenters' union and the members of the United Mine Workers labored together at carpentry work, the former receiving \$1.12½ per hour and the latter from 75c. to 80c. He could not conceive that, measured by the yard stick of justice and fairness this difference in scale was justifiable.

Thomas Kennedy, secretary-treasurer of the United Mine Workers, said the check-off had received legis-



**Operators' Representatives at Anthracite Wage Parley**

Members of the sub-scale committee which is in conference with United Mine Workers' officials at Atlantic City. They are, reading from left to right, front row: J. B. Warriner, E. H. Suender, Thomas Thomas, Andrew Fine; standing: W. W. Inglis and Geo. B. Hadesty.

lative approval. The operators by law were checking off taxation on their payrolls. Was it right that the United Mine Workers should be the only institution prevented from using the check-off? Mr. Kennedy supported Mr. Golden in his statement that it was wrong that two men working side by side at the same job should receive wages varying by 30c. per hour. To him also it seemed unjust that the operators who were receiving pay by the ton of 2,240 lb. should not also pay their men by that tonnage. The demands of the union as ultimately formulated represented a composite aggregation of over 1,000 resolutions presented at the Tri-district Convention. They were not the demands of the officials, they were the individual behests of the men on the job.

Andrew Matthey, president of District No. 7, called on the union officials and the operators to effect an agreement. Amid much laughter at his witty thrusts he called on those present to complete their own job and not to let Pinchot and Coolidge "scab on them." He tauntingly complained that certain operators, whom he would not shame by naming them, were actually buying coal for their own operations and neglecting their own.

At this point Mr. Warriner read the operators' statement declaring for lower wages or higher efficiency by miners, and against a suspension.

Mr. Lewis desired to debate Mr. Warriner's statements, but the chair had already ruled that there should be no debate after each party had in turn presented its case, and at Mr. Warriner's suggestion the presentation of claims was brought to a close.

The meeting voted that the operators appoint six members of a sub-scale committee and the miners an equal delegation to consider the question further and report to the scale committee. With this resolution the scale committee adjourned. The operators' representatives had already been elected at the meeting of the operators the previous day. They are W. W. Inglis, president of the Glen Alden Coal Co., of Scranton, chairman; Andrew M. Fine, vice-president, Hudson

Coal Co.; Thomas Thomas, general manager, Lehigh Valley Coal Co.; Jesse B. Warriner, general manager, Lehigh Coal & Navigation Co.; E. D. Suender, general superintendent, Madeira-Hill Co.; and George Hadesty, general manager, Philadelphia & Reading Coal & Iron Co. Mr. Inglis was nominated by Frank H. Hemelright, chairman of the Conference Labor Committee, who had declined to serve, despite the pleas of his associates.

The union men hardly need naming as they are so clearly indicated by their standing in the organization; Rinaldo Cappellini, president, District No. 1; Andrew Matthey, president, District No. 7; Christ Golden, president, District No. 9; John L. Lewis, Philip Murray and Thomas J. Kennedy, president, vice-president, and secretary respectively of the international union.

James F. Dewey, commissioner of conciliation, U. S. Bureau of Labor, was at the meeting representing the Federal government, and David Williams, director of industrial relations of the Commonwealth of Pennsylvania, represented Governor Pinchot of that state. J. J. Walsh, another of Governor Pinchot's representatives, did not arrive in time for the meeting.

The operators' sub-scale representatives met on the morning of July 10 and in the afternoon the whole sub-scale committee had a session. Little definite progress was made at this first executive meeting beyond a preliminary discussion of market competition from anthracite substitutes. The committee chose Alvan Markle of the Jeddo-Highland Coal Co. as its joint chairman. Before adjourning for the week, it scheduled its second session for July 14 at 2 p.m. in the Traymore.

The operators went into the July 10 executive session holding strongly to their keynote, which is: "Let there be no strike." This position was restated for the operators by Mr. Warriner in the following public statement:

"We are reported to be indifferent to, if not actually in favor of, a suspension in order that we may dispose of large stocks of coal. On the contrary, our repre-

sentatives have been instructed to urge upon the miners' committee the proposal that whatever may be the course of negotiations for a new contract both sides shall bind themselves that there shall be no suspension of production.

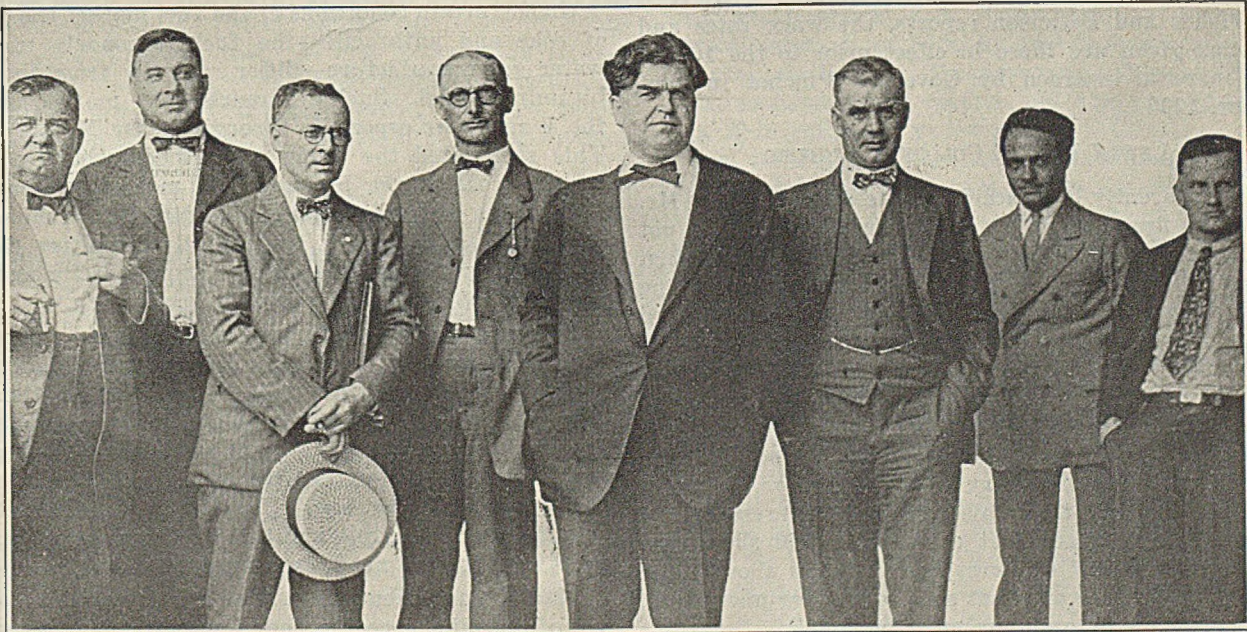
"The operators wish to have it clearly understood that they are opposed to a suspension under any circumstances. Because the parties in any dispute cannot agree by a given date is no reason why they should go to war. In this belief we are pressing the proposal that if our respective committees are unable to agree upon any issues, such issues shall be referred to impartial arbitration, upon the understanding that production shall be continued at the present wage scale until the arbitrators render an award."

The miners were expected to continue their implacable opposition to arbitration on two grounds. They fear the entrance of a third agency in the dispute on the ground that an "outsider" would practically be able to dictate the miners' mode of living. They are also said to fear that acceptance of the proposal might nullify progress in the subcommittee sessions, with the operators rejecting every demand until Sept. 1, at which time every issue would go automatically to arbitration.

### John Lewis Counters

President Lewis of the miners made a reply to the operators' statement thus:

"Statements made by anthracite operators that anthracite mine workers earn high incomes are not borne out by the facts. The United States Coal Commission spent an entire year and \$600,000 of the people's money in making an investigation of the coal industry. In its report to Congress the commission said that out of a total of 45,678 outside day men employed at the anthracite mines 43,822 earned less than \$2,000 a year, and only 1,856 earned more than \$2,000.



Principal Representatives of the Anthracite Miners at the Atlantic City Conference

These officers of the United Mine Workers, reading from left to right, are: Andrew Matthey, president, District 7; James L. McAndrew, secretary, District 9; Thomas Kennedy, international secretary-treasurer; Christ Golden, presi-

dent, District 9; John L. Lewis, international president; Philip Murray, international vice-president; Rinaldo Cappellini, president, District 1, and Enoch Williams, secretary, District 1.

"Approximately 22,000 earned less than \$1,000. The men that earned between \$1,000 and \$2,000 had to work from 251 to 396 days in the year. The 1,856 men who earned more than \$2,000 had to work from 292 to 470 days. And there are only 308 work days in the year.

"These are not the figures of the United Mine Workers of America. They are the official figures of the United States Government, and we must accept them as being true. To earn \$1,000 a year, or \$83 a month, a man had to work 292 days. To earn \$2,000 a year, or \$166 a month, a man had to work every day, including every Sunday and every holiday and 105 days of overtime. Where is the American citizen who, after reading these figures, will say that these workmen should not have more equitable wages and a better opportunity to earn a living for themselves and their families?"

### But Is Mr. Lewis Correct?

Mr. Lewis' figures are based upon the report on "Earnings of Anthracite Miners," prepared by Anne Bezanson, but not issued as a formal Commission report. The 22,000 men mentioned by Mr. Lewis as earning less than \$1,000 per annum include a very large number working less than half a year; in fact, the maximum average number of days worked in this classification was 228. Obviously, therefore, the statistics cover names that appeared on the payrolls of several collieries and, to that extent, represent duplications. Nearly 23 per cent of the 22,000 earning less than \$1,000 per annum averaged less than 10 days; 3,286 of the 22,000 averaged 35 days and earned between \$100 and \$200 for that work.

The report on actual wage rates paid in the hard coal field, prepared by W. E. Fisher, showed that the company men were paid from 21 to 71c. per hour. Approximately 88 per cent of the number received between 51 and 71c. Of the 10 per cent receiving less than 51c., a little over three-fourths were boys. In both the Fisher and Bezanson reports, the wage rates and earnings given are those in effect prior to the 10 per cent increase awarded by Governor Pinchot in September, 1923.

#### LEWIS' PAINTS COLORFUL PICTURE

The apparently high accident rate dramatized by Mr. Lewis the first day of the joint conference is due, not to the extra-hazardous nature of anthracite mining, declare the operators, but to the thoroughness and the detail with which accident statistics relating to hard coal mining are kept. The Lewis picture of the anthracite region "as a shambles where yearly 20,000 men—400 a week—are carried out of the mines on stretchers," was characterized as "too highly colored to be taken seriously. . . . The stress now placed on the hazards of the employment as a reason for the wage increase suggests that this argument is resorted to because it is realized that comparison will show that anthracite workers' earnings are all really above those of other industries and that some other argument than the inadequacy of earnings must be found."

"If, as has been stated by the miners' representatives, 20,500 men are killed and 'maimed' yearly, the entire working force would have to be replaced every seven years—an obvious absurdity," adds the statement.

"Perhaps one-third of the anthracite mine accidents are compensatable—that is to say, serious enough to require that compensation be paid. The remainder include a scratch on the finger or a speck of coal dust in a man's eye. Every accident, however trivial, is investigated by company doctors and reported. That is the main reason for the large total.

"According to government experts, there are twenty more dangerous employments than anthracite mining, which is surrounded by every possible safeguard.

"There are 42,500,000 man days of work a year in the anthracite industry. Figuring that there are 6,500 serious accidents per year, it is apparent that a man takes the risk of being injured once in 6,545 days, or about twenty-four working years."

### Water Gas Can Now Be Made from Ordinary Midwest Coals

In Technical Paper 335, just issued by the Bureau of Mines, summarizing the results of work performed under a co-operative agreement between the Bureau, the Illinois State Geological Survey, and the Engineering Experiment Station of the University of Illinois, William A. Dunkley, an illuminating gas engineer, Department of the Interior, states that by the use of properly designed equipment the low-sulphur coals of the Middle West, not ordinarily regarded as first-grade fuels for gas or coke manufacture, can be made to give almost as good results in the generation of water gas as can be obtained from the more expensive high-volatile Eastern coals.

The extensive use of Illinois, Indiana, and other Mid-western coal in gas manufacture in place of coke from Eastern coals is important in that it would release an appreciable amount of coke for use in other industries. Furthermore, transportation of coal from Eastern fields would be avoided.

Under certain conditions of the fuel market the prices of coke and anthracite—the fuels commonly used in water gas manufacture—differ radically from those of bituminous coal. Such differences were marked during the World War especially throughout the Middle West. This stimulated the study of methods whereby bituminous coal might be used for making water gas. During the early attempts in this direction trouble was experienced. Although mechanical difficulties caused some annoyance, decreased production capacity and low fuel efficiency were even more discouraging.

After extensive experiments, however, operating methods gradually were improved and other difficulties were almost entirely overcome. Fuel consumption per unit of gas produced also was cut down, especially in the smaller sets, to such a point as to bring bituminous coal almost onto a par with low-volatile fuels, even at the same price per ton. The larger sized water-gas sets gave more trouble and the difficulties here encountered, as yet have not been entirely surmounted.

Market conditions are not now as favorable to the use of bituminous coal as they were formerly; nevertheless, it is still employed in several plants. Under certain conditions it effects marked savings in operating costs. The ability to utilize this material, unquestionably increases the flexibility of a water-gas plant under varying conditions of fuel supply.

# Kramer Mine Is Built to Produce 4,000 Tons a Day from 48-In. Coal

Six-ton Skips Run in Guides of Wood Set in  
Steel Channels—Push Buttons Control Trip  
Feeder and Dump—Signal System Guards Skip

By Alphonse F. Brosky

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**A** NUMBER of uncommon features of design and construction of the shaft and tippie equipment are employed at the Kramer or No. 60 mine of the Northwestern Mining & Exchange Co., ten miles south of Du Bois, Jefferson County, Pa., on the Buffalo, Rochester & Pittsburgh R.R. Here, the coal being mined lies at a depth of about 300 ft., which, for a predetermined daily output of 4,000 tons in 8 hr., made advisable the installation of twin skips, fed by overturning two mine cars at a time in a rotary dump.

A dual signal system of electric lamps and gongs, within sight and hearing of the hoist operative and the skip attendant at the bottom landing, unifies two-man control of the loading and hoisting of the skips. Worthy of particular mention also is the fact that the auxiliary shaft is equipped with hoist, rope and sheaves which are duplicates of those provided for the main shaft.

The Kramer mine property consists of 2,700 acres of 42- to 48-in. Lower Freeport or "D" measure coal. The output of this mine is used as railroad fuel. When this operation reaches its maximum production, in addition to being the largest in its field, it will be registered near the top of the list of leading producers of Pennsylvania bituminous coal. It may become the largest low-seam, shaft, coal mine in the country. Because of that and because of the engineering involved in its construction and operation its features are of interest to the whole industry.

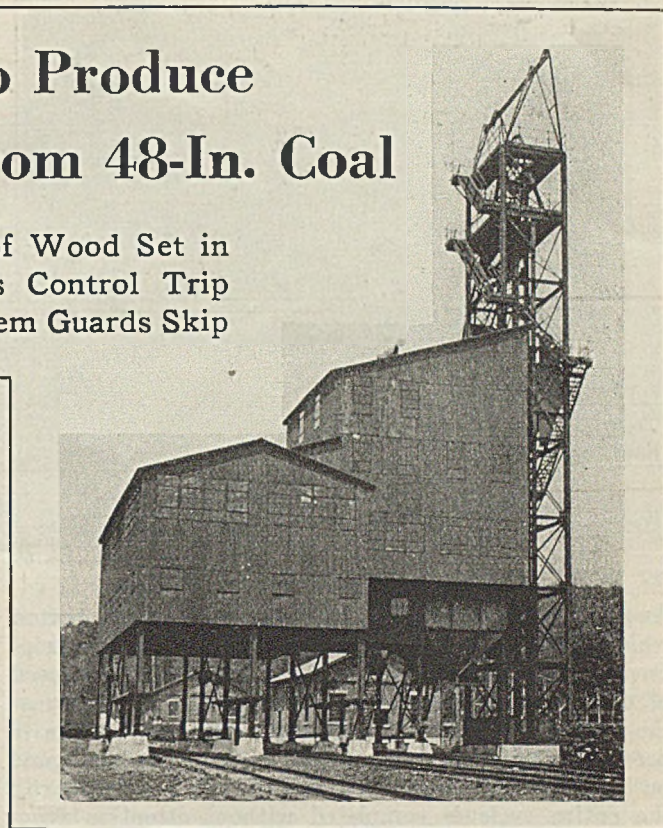
### THREE SHAFTS PROVIDED

This mine is gassy and therefore requires—and receives—the greatest possible degree of protection by method and equipment. At the same time its hoisting capacity is kept high. It is not so surprising, considering these requirements, that the Kramer mine is provided with three shafts: One for hoisting coal, the second for handling men, mine refuse and supplies and the third for ventilation purposes.

The coal hoisting shaft is 280 ft. deep to the bottom of the coal, below which is a 54-ft. pit for the car-dumping and skip-loading machinery. In the construction of the below-coal part of this shaft, 464 cu.yd. of concrete was poured. This indicates the size and massiveness of the pit.

The shaft measures 8 x 32 ft. inside and is equipped with twin 6-ton skips of the Lepley bottom-discharge type. The auxiliary shaft is 300 ft. deep, with inside

The headpiece shows the tippie and hoist houses at Kramer mine. When the headframe extends high above the roof of the tippie at a mine plant, as in this picture, one may be sure that coal is hoisted by skips. Large window bays admit ample light for efficient work on the picking tables.



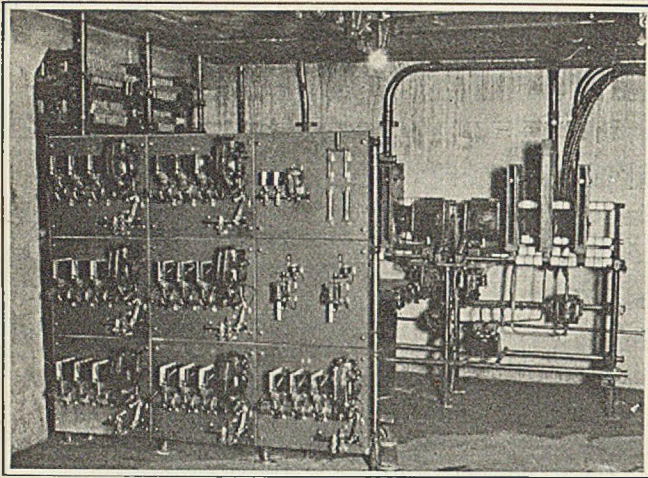
dimensions of 12 x 20 ft., and is provided with two solid-car, self-dumping cages. A 6-in. partition divides the 12 x 18-ft. air and escape shaft into a 12 x 12-ft. airway and a 5½ x 12-ft. stairway. The concrete linings of all three shafts, which to solid rock are 2 ft. thick and from that point to the bottom are 1 ft. thick, are reinforced on 1-ft. centers vertically and on 2-ft. centers horizontally by ¾-in. twisted iron rods.

The construction of the skip shaft guides aids in maintaining their accuracy of alignment. The buntions, which are of 8 x 10-in. oak, are anchored at vertical intervals of 5 ft. by cast iron brackets set in the concrete lining. To these are bolted channels in 20-ft. sections, which receive and hold rigidly in place 7¼ x 10-in. guides of yellow pine.

Coal is hauled to the skip-shaft bottom in trips of 35 to 40 two-ton mine cars which are delivered by a trip feeder to a two-car, tandem, rotary dump. The mine cars are equipped with swivel couplings which allow them to be dumped without uncoupling. The approach to as well as the run-off from the rotary dump is on a 1½-per cent grade in favor of the mine cars to avoid delays in dumping so that, even though the trip feeder should get out of order, mine cars can be handled to the dump, of course at slower speed.

The trip-feeder and the rotary dump are interconnected electrically so that a single starting push button operated by the dump attendant controls the normal movements of both. Pushing of the button puts the feeder in motion advancing the trip to the dump, a distance equivalent to the length of two mine cars, after which the feeder and the trip stop. Then the rotary dump automatically turns over and rights itself, completing a dumping cycle. Power is applied through only three-quarters of the dumping angle and after a brief pause, is reversed, causing the dump to return to its starting position at which it is positively locked.

The arrangement is such that the dump will not operate unless the mine cars on it are exactly spotted.



**Contacting Room in Basement of Hoist House**

Good practice nowadays is to keep all or as much as possible of the noise out of the hoist room by putting the switching equipment and contactors in the basement. This is not a new idea by any means; it is being followed at many a mine.

Another emergency provision is a second push button which enables the operative to stop either the trip-feeder or the dump at any stage in its cycle. The speed of dumping and feeding are fixed to handle a trip at the rate of  $6\frac{1}{2}$  cars a minute. A third push button is provided which causes the dump to reverse to its normal position, if desired, after it is stopped; but ordinarily the entire cycle is completed without attention from the operative except a push on the starting button to begin and to end the cycle.

#### REDUCES DEGRADATION

The coal, upon leaving the mine cars in the rotary dump, is guided by chutes to a pair of electrically operated rotary weigh pans. This type of weigh pan slides the coal gently and with only a slight fall to the chutes which carry it to the storage bin. Thus degradation is reduced to a minimum. None of the coal can lodge in the pan—a fault of many weigh pan installations which forces the owner to pay over and over again for a given weight of coal.

From the weigh pans the coal is directed by chutes to a 10-ton storage bin. Air-operated, undercut gates open and close the passages between the storage bin and 6-ton measuring pockets flanking the respective skips. Between each measuring pocket and its mated

skip, when the skip is at the bottom landing, is a loading chute. These chutes are hinged to the lower ends of the measuring pockets. They retain a skip-load of coal in each pocket when they are up and, when opened they permit the flow of coal to the skips without spillage. The undercut gates and the loading chutes are actuated by individual air engines.

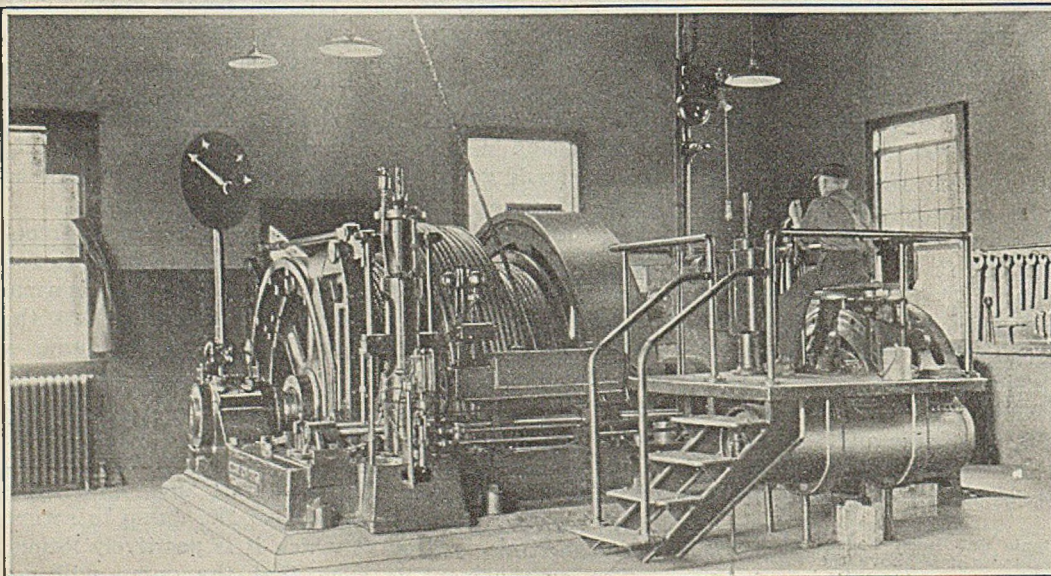
By an interlock mechanism which prevents mismoves and the signal system of gong and lamps, the skips are loaded, hoisted and dumped with precision. A manually operated lever controls the air valves which open and close the undercut gates. These gates are locked against movement when the skips are in their loading position at the bottom landing. If, after opening an undercut gate to fill one of the measuring pockets, the operative fails to close the gate, that skip with which the particular pocket is mated will close automatically and lock the gate against movement upon its approach to the bottom landing. The loading chutes are actuated by air valves which, likewise, are locked when the skips are away from their loading position.

#### ARRANGEMENT OF SIGNAL BOARDS

On the hoist platform and in view of the operative is a signal board on which is mounted a gong between two lamps in a vertical row. A similarly arranged board is provided at the bottom for the skip-loading attendant. The two upper lamps, one on each board, are in a single circuit which is opened and closed by a switch simultaneously with the closing and opening of the air line to the undercut gates and loading chutes. When the air line closes, these lamps burn and when it opens they go out.

The gong and lower lamp on each of the two boards are connected in a single circuit by a skip-operated switch and a push button at the bottom. By means of this arrangement the hoist operative knows when to hoist and the skip attendant at the bottom can tell whether the loading chutes are open or closed.

When the chutes are open the switch is open and a signal to hoist cannot be given; but when the chutes are closed the switch is closed and the skip attendant notifies the hoist operative by pressing the push button. The closing of the circuit in this manner rings the gong and lights the lower lamp simultaneously at each of the two stations. The signal board at the bottom



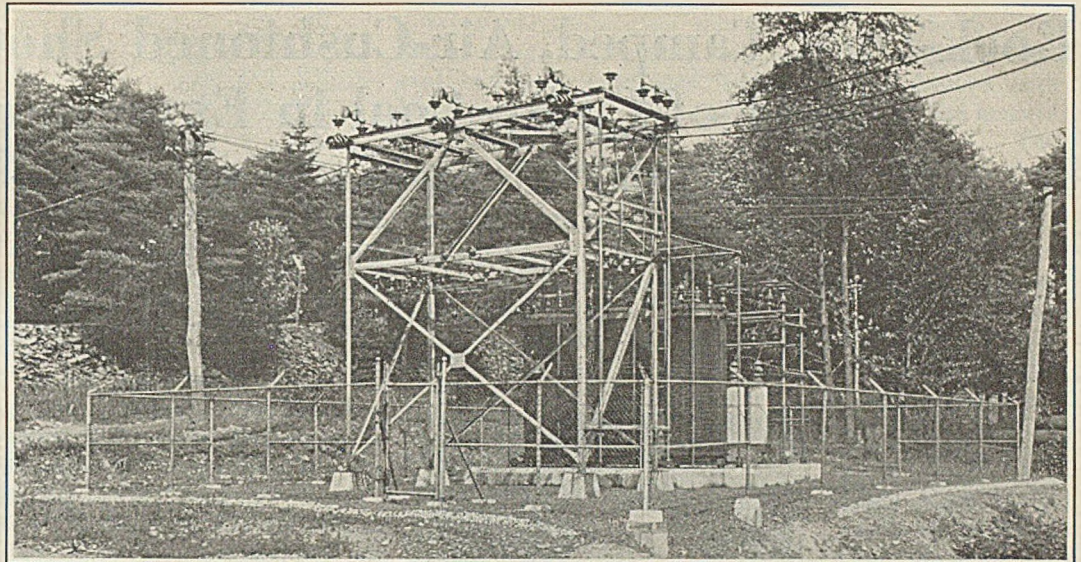
#### Hoist at Auxiliary Shaft

This 400-hp. hoist is a duplicate of the one which raises and lowers the skips in the main shaft. It is equipped with all those safety devices which today make hoisting a comparatively uneventful job around the mine.



### Transformer Station

These three 667-kva. transformers at Kramer mine step down current coming in at 33,000 volts to 2,300 volts. Power is transmitted to this mine from Helen Mills, Elk County, 34 miles away where the company operates a 4,500-kw. power plant.



of the shaft is also provided with two lamps which indicate whether the undercut gates are open or closed.

The two skips, which are hung in balance, discharge into a 25-ton storage bin on the tippie. The headframe over the coal-hoisting shaft is of all-steel construction, as is also that over the auxiliary shaft.

Except for the use of self-dumping cages in the auxiliary hoisting shaft as against skips in the main shaft, the auxiliary hoisting equipment is the same in both shafts. The duplicate hoists are driven by 400-hp. induction motors at a rope speed of 900 ft. per minute in a 43-sec. cycle. The drums are of the cylindro-conical type with 7- and 9-ft. diameters. Lang lay ropes of 1½-in. diameter are used for hoisting in each of the shafts.

The headframes are equipped with 10-ft., bicycle-type sheaves on self-oiling bearings of the Lepley type. These bearings will not freeze in the winter. They are lubricated by floating splash rings, a system of lubrication frequently applied to big electric motors. Take-up screws are provided for aligning the sheaves.

The advisability of equipping both shafts with duplicate hoists might be questioned. The Northwestern Mining & Exchange Co. has done this to enable it to handle a 6-ton locomotive on the cages of the secondary shaft, to provide a high safety factor in the equipment at this shaft where men must be hoisted and also to minimize the number of repair parts which must be kept on hand. Another reason is that all rock is hoisted from the secondary shaft to a 25-ton bin from which it is disposed by a 10-ton electric larry. The arrangement allows uninterrupted flow of coal to the tippie removing those complications which arise where coal and rock are handled alternately by the same equipment. Cars of rock in a trip are passed through the rotary dump without being overturned and later are hauled to the auxiliary shaft.

### WELL-LIGHTED TIPPIE

Galvanized sheeting of acid-resisting iron covers the sides and roof of the tippie which is lighted by steel-sash windows on the sides and by skylights on the roof above the picking room. One of the skylights can be raised to assist in ventilation for the comfort of pickers on hot days. Three sides of the picking room are lighted by a continuous panel of windows, making the place as light as a modern factory.

The tippie has a capacity of 600 tons an hour, loading on three tracks. Its equipment is designed to handle coal having the following percentages of sizes: Lump, 55 per cent; nut, 20 per cent, and slack, 25 per cent. Nut coal is loaded separately. However, the equipment can be regulated to load lump-and-slack, lump, picked run-of-mine, and lump-and-nut over either No. 1 or No. 2 track or both. On No. 3 track may be loaded nut-and-slack, nut, slack or emergency run-of-mine. The latter is chuted directly from the skip storage bin to this track without passing over the screens and picking tables.

Prepared run-of-mine is picked by sizes and later joined in passing to railroad cars. The smaller sizes are delivered to the loading chutes in advance of the lump so as to keep breakage at a minimum.

### UNCOMMON SHAKING SCREENS USED

Several features of the shaking screen are uncommon. The rig is made in two decks, the upper of which is provided with three screen areas and the lower with but one. In the first screen area of the upper deck are 2-in. square openings through which the undersizes are separated from the lump. The two lower screen areas on the upper deck separate the lump into two sizes, over and under 3-in.

This size separation of lump is effected to obtain a better separation of refuse on the lump picking table. This table is of the circular type, as is also the nut picking table. One size of lump is directed to the inside and the other to the outside annular zone of the lump picking table.

To eliminate vibration in the tippie structure the screen, which of necessity must be heavy to handle 4,000 tons in 8 hr., is built up in sections that are balanced against each other in driving. Each section is supported from the building structure by hanger rods at each end of which are removable cast iron bearing blocks. This method of support prolongs the life of equipment and effects a saving in power by avoiding excessive flange friction due to binding in roller-mounted screen rigs.

The trip-feeder, rotary dump, rotary weigh pans and the tippie were furnished by Heyl & Patterson, Inc., Pittsburgh, Pa., while the skips and skip-loading equipment were furnished by the Connellsville Mfg. & Mine Supply Co., Connellsville, Pa.

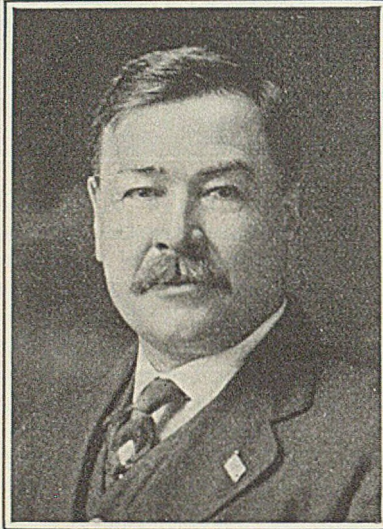
# Rock-Dust Tamped, Air-Cushioned Shots Increase Yield of Lump Coal in Experiments

Tests by Maryland Experts Prove Also that They Reduce Consumption of Explosive and Suppress Flame Smoke and Fumes—Should Win Men's Favor

By Dr. J. J. Rutledge

Chief Engineer, Maryland Bureau of Mines,  
Baltimore, Md.

IT APPEARS to be the general practice in mines to use more explosive than is necessary to bring down the coal. It is a common adage of the miner that "it is easier to pick the coal up than to pick it down." Again, powder and all other blasting supplies formerly cost much more than they do today. The present tendency, therefore, is for the miner to use them more lavishly. This results



Dr. J. J. Rutledge

in a shattering of the coal and a reduction in the percentage of lump produced.

Binders in the coal also exert an influence. An explosive of a certain strength may be adequate to bring down coal but a much stronger one may be required successfully to disrupt a binder interstratified in the bed. At present an urgent demand for lump coal is in evidence; small coal is not wanted.

These facts render it apparent that some means must be found for reducing the size of the charge employed, decreasing the violence of the explosion or spreading the action of the explosive over a larger area of the coal. As a rule, only the second alternative is possible of adoption. The explosive force can be most readily limited by means of an air chamber within the shot hole. This also accomplishes a uniform distribution of the explosive force along a greater length of the hole than that occupied by the charge.

Use of air chambers is not entirely new. Many old miners, especially in brushing, formerly used mud balls in their tamping material in order to get a small air space. Application of the air chamber as here considered, however, had its inception in an article entitled "A New Way to Increase Lump Coal Production," by Dr. Alfred Stettbacher, of Zurich, Switzerland, published in the September, 1923, issue of the *Explosives Engineer*. This article described the use of rock-dust stemming in the coal mines of the Ruhr district of Germany since the war. The claim was made that the proportion of lump coal was increased as much as 50

per cent, accompanied by a decrease in the consumption of explosives amounting to from 20 to 40 per cent. In this country J. H. Horlick, Jr., of the Hercules Powder Co., Capt. W. J. German, of the Du Pont Co., and J. E. Tiffany and C. W. Nelson co-operating with the Carnegie Institute of Technology and the U. S. Bureau of Mines have performed and reported much valuable investigative work on cushioned blasting.

This subject was brought to my attention in October, 1924, by Clarence R. Claghorn, a consulting engineer of Baltimore. The law of Maryland requires the state Bureau of Mines to assist operators in improving their methods of mining and in increasing the recovery of coal. In compliance with the statutory provision, John B. Watkins, one of the district mine inspectors, was detailed to assist Mr. Claghorn in demonstrating the effectiveness of air-chamber blasting as well as that of rock-dust stemming. Some of the results of their work are here set forth.

Although the results of some of the tests conducted were not all that might have been desired, two outstanding benefits were noticeable. The first and most important was the fact that use of the air chamber decreases by from 20 to 50 per cent the amount of black powder necessary to bring down the coal; second, little powder smoke resulted from blasting when air chambers were employed.

Pasteboard tubes served as air chambers. These varied in length from 8 to 12 in. and from 1½ in. to slightly over 1½ in. in diameter. They were waterproofed and fitted with caps at either end. When properly filled with limestone dust, 78 per cent of which would pass a 200-mesh screen, one 12-in. tube held 1 lb. Black FFFF blasting powder was the explosive used in most of the trials.

In accordance with Mr. Claghorn's suggestion that the advantages of rock-dust stemming be tested in conjunction with air-chamber blasting, a number of 12-in. tubes were filled with rock dust and used as part of the stemming in the drill hole. It was thought that detonation of the explosive would scatter this dust over the gob thus masking any coal dust present. It was believed that by this means the working faces practically would be rock dusted in somewhat the same manner that the gobs in the mines at Hanaford, Ark., are sprinkled with salt through the use of "dummies" filled with this material.

Experiments were conducted in a few of the mines of the Georges Creek and Upper Potomac regions of western Maryland during the fall of 1924. The coals here found are generally much softer than those of Illinois, Indiana, Ohio and other states and, consequently, the miners use their picks freely if the coal has not been machine undercut. Furthermore, such

This article is from a paper entitled, "Air-Chamber Blasting in Coal Mines," read before a meeting of the Mine Inspectors' Institute of America at Peoria, Ill.

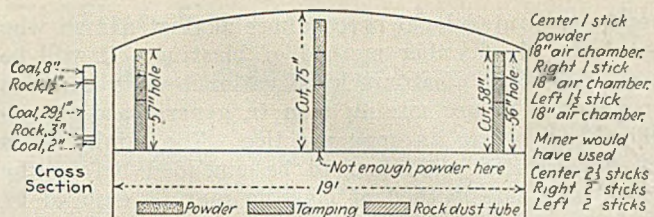


Fig. 1—Loading in a 19-ft. Room

Three sticks of powder were saved in this room over what the miner would have used by ordinary methods. Although too little explosive was used in the center hole, the coal was brought down in better shape than usual and far less smoke was made.

heavy shots, as are common in the states named, are here unknown. Solid shooting is prohibited by law. Some of the miners still use squibs, but safety fuse is the means generally employed in firing shots. Practically all the miners speak English and about 95 per cent are native born. As a class their natural thrift impels the practice of rigid economy in the use of explosives.

In these tests empty tubes constituting air chambers were placed next to the explosive charge, regardless of whether this was black or permissible powder. The remainder of the hole was firmly tamped with rock dust. Inasmuch as some of the miners used squibs it became necessary to provide a blasting barrel to guide the squib around the pasteboard tube. A feed line from an automobile formed an impromptu barrel that served the purpose fairly well until a supply could be procured from Illinois. In those cases where safety fuse was used this was carried along the bottom of the drill hole against the outside of the air chamber.

LESS POWDER REQUIRED

By placing the explosive in the bottom of the hole and an air chamber between it and the stemming, the total disruptive force generated was distributed over the length of the charge plus that of the air chamber and its shattering action cushioned accordingly. Experiments were conducted with both black and permissible powders but best results were attained with black powder. When air chambers were used, about one-half the quantity of explosive was necessary to bring down a given amount of coal as when no air chamber was employed. The yield of lump coal, however, was greatly increased.

With black powder, loaded as above described, no flame was noted upon firing. It was hoped that the force of the explosion would blow the ground limestone from the drill hole and scatter it over the workings. It was found, however, that when this material was tamped fairly tight none of it was thrown into the air. Almost invariably the explosive seemed to expend its energy in compressing the rock dust instead of blowing it from the mouth of the hole.

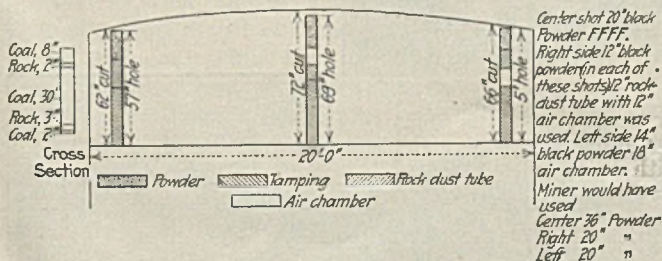


Fig. 2—A 20-ft. Room Cushion-Loaded

Here is a combination of air-chamber and rock-dust tube tamping, used in the center and at the right side of the room, with an air-chamber next the explosive on the left side. The saving of explosive over what the miner would ordinarily use was appreciable.

When air cushioning was used in breaking binders and partings the results were excellent. Binders, several inches in thickness, were generally broken into large pieces that could easily be handled by the loaders and separated from the coal adhering to them. The pieces of foreign matter were of such size that they could be picked out by hand without the aid of a shovel. The coal was thus kept cleaner by this method of blasting.

Although it should be remembered that the charges of explosive used in the coal mines of Maryland are small as compared to those used in most other states, yet, inasmuch as shooting is done by the miners while all other employees are at work, the smoke causes appreciable inconvenience. Naturally this smoke is most objectionable in narrow work such as at entry and air course faces. The use of air chambers decreased by about 50 per cent the amount of smoke given off in blasting.

Concerning the suppression of flame, the demon-

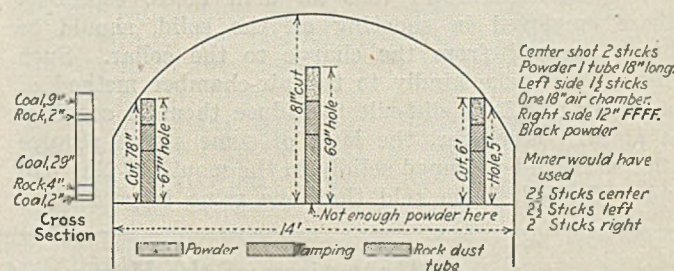


Fig. 3—Cushion-Blasted Cross Cut

Although the charge of explosive was admittedly too light in the center hole, yet results were fairly satisfactory. It is well known that in shooting coal, a heaving rather than a shattering action is desirable. The air chamber seems to deaden or muffle the force of the explosive, giving the heaving effect necessary.

strator reports: "I cannot state definitely that rock dust will eliminate all flame from a shot but will say that we were unable to observe any flame from any shot fired while using rock-dust tubes." The manner of loading some of the holes, the charges employed, and the cross sections of the beds are shown in the accompanying drawings.

The following facts were established from these experiments:

- (1) The rock-dust stemming was not projected into the atmosphere either when it was tamped loose or when placed inside pasteboard tubes. In every shot fired, however, the stemming was firmly tamped and never left loose in the drill hole.
- (2) No flame was observed when either black blasting powder or permissible explosive was used with an air chamber.
- (3) The yield of lump coal, even in beds where the coal was of the softest character was increased by the use of the air chamber. The results obtained were conclusive in this regard.
- (4) Little or no smoke or fumes were evolved when the air chamber was employed. Some shots were tried in a fire-clay mine and gave results highly gratifying to the management, as frequent blasting is necessary in mines of this kind.
- (5) In every instance a saving in explosive was noted. So marked is this economy that it is believed the miners would be glad to purchase the necessary tubes themselves. Inasmuch as these tubes may be procured at a delivered cost of less than 1c. each, the operator might advantageously furnish them to the

miners gratis. Their cost would be far more than outweighed by the increased yield of lump coal obtained.

It is my opinion that an air chamber in front of a charge of explosive affords a factor of safety. If the miner has used too large a quantity of explosive the air chamber furnishes room in which the disruptive force generated may expand, thus venting a portion of its energy while the balance takes effect on the coal. The explosive force is distributed throughout the portion of the hole occupied by both the charge and the air chamber. This causes the coal to be broken down in larger lumps than would be the case if no air chamber were employed. The air chamber thus forms the miner's safeguard both in respect to the quality of coal produced and the efficient use of the explosive employed.

#### EDUCATIONAL WORK NECESSARY

Nearly every practical miner, who after years of work at the face has reached a position of responsibility, will stoutly maintain that all drill holes, especially those employed in shooting off the solid, should be firmly tamped from the charge to the collar. Such men do not take kindly to the air-chamber method of shooting and it is difficult to induce them to consider it at all. Moreover, the laws of some states require that charges be tamped solidly to the mouth of the drill hole. Indeed, I am told that one mine inspector re-

cently instituted legal proceedings against a man who tried the air-chamber method of blasting. It will be seen, therefore, that much educational work remains to be done before mining men in general accept air-chamber blasting as good practice. The mining laws of some states will have to be amended before the benefits of this method of blasting may be enjoyed by coal operators doing business within their boundaries.

Tests made in certain western Pennsylvania mines as well as some in Illinois have demonstrated that the quantity of explosive necessary to bring down the coal can be greatly diminished by the use of air spacing. The Pennsylvania experimenters found that best results were obtained, both as regards the percentage of lump coal produced and the shape in which it was brought down, by placing the air space in front of the charge. In these tests three 1½x8-in. cartridges were pushed to the bottom of a 2-in. bore hole, without slitting or ramming. A spacer was next pushed back against the charge of explosive. This afforded an air chamber 24 in. long in front of the charge. The balance of the hole was then tamped tightly with moist clay.

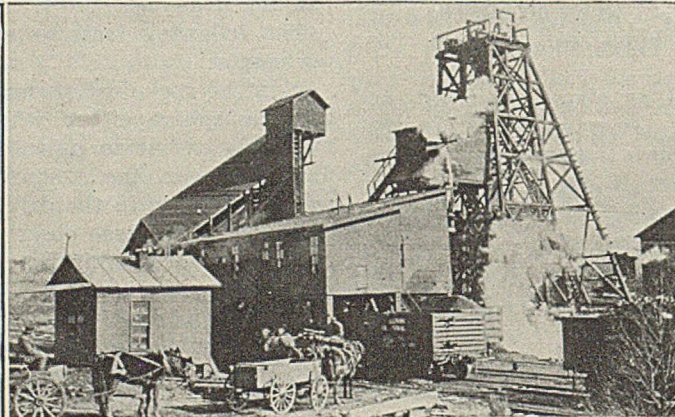
Another plan tried for distributing the explosive force was the substitution of 1½x8-in. for 1½x6-in. cartridges. In this case a reduction in the weight of the charge used was obtained, as well as better results in blasting.

### Operations of the Hartman Coal Corporation in Kentucky

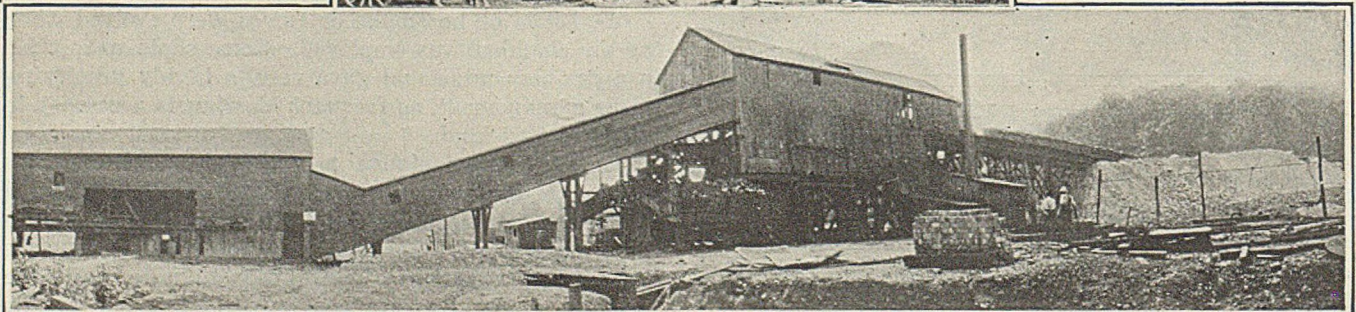


Victoria No. 11 mine (above), Morton's Gap, in the western Kentucky field where the No. 11 seam averages 78 in. in thickness. This mine has a daily capacity of 1,200 tons.

White City mine (below) of the Hart Coal Corp., at White City, Ky. This mine was formerly the property of the Kingston Coal Co., of Kingston, Pa.



The Victoria No. 9 mine (left) of the Hart Coal Corp., near Madisonville, Ky. Part of the headframe is new, having been rebuilt to replace that portion destroyed when an explosion occurred in the mine last October.



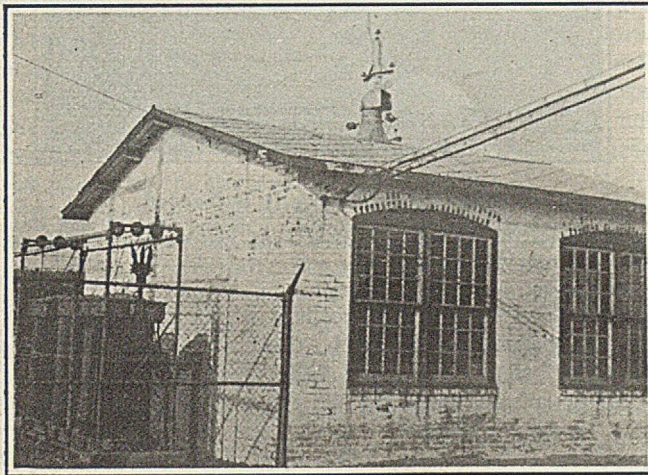
## Mine Electrical Man's Work Makes Him Resourceful

Under Adverse Conditions He Often Has to Take Equipment Apart as Though Transporting It in Africa—Work Never Ends

BY AN ANTHRACITE ELECTRICAL ENGINEER

WHEN a young man enters the employ of a coal company and joins the staff of the electrical organization, he has certainly settled himself upon a job which will give him a broad variety of training. A few experiences which I have had will illustrate this.

The other day an electrical engineer for a large coal company told me that a friend of his working for a street railway company asked him if he had large transportation problems such as are found in street railway systems. As a matter of fact, this coal mine electrical engineer had under his supervision five times the electrified trackage that the street railway engineer had



The Father of Them All

This automatic substation, the first one installed in any coal field, went into service for the Lehigh Valley Coal Co. in November, 1921. It is equipped with a rotary converter which is started and stopped by means of a push button located about one-half a mile from this station.

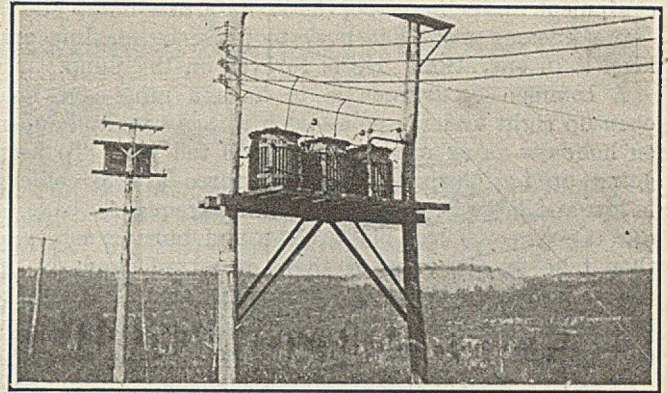
in that same area, to say nothing of the mine haulage system outside the territory of the traction company.

Why, some of the coal companies in our region generate and use more electrical power than is required for any of the largest cities in the same territory! Thus plenty of opportunity is presented to the mine engineer to learn all that the public utility engineer must know about steam and electric generation, transmission, distribution, switching, protecting and operating.

This electrical energy must often be converted from alternating to direct current and applied at many different voltages. Thus, the mine man encounters almost every type of direct- or alternating-current problem.

With some mining companies, the electrical engineer is in charge of all the equipment to which an electric motor is connected. This means that he must know about traffic management and also be a hoisting, hydraulic, and ventilation engineer, not to mention a few other kinds of expert.

The electrical work the mine electrical engineer must do is certainly widely varied. Often he has to apply ideas and methods used in many other industries. The use of the automatic substation illustrates the point.



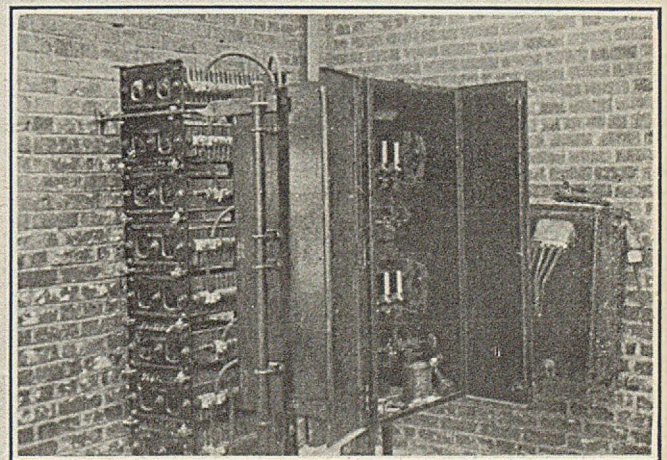
Temporary but Serviceable Installation

Before a permanent installation of equipment can be made, temporary power service often is required. This looks like doing the work twice, but how else can power be supplied for lights and construction equipment.

Distribution of direct current for use in the mines for haulage, pumping, hoists and so forth, in the most economical fashion has been greatly aided in the last few years by the adaptation of the railway automatic substation to meet mining needs. In an accompanying illustration is shown the first automatic station placed in service in any coal field. It was installed by the Lehigh Valley Coal Co. near Hazleton, Pa., in November, 1921. Here may be seen one of the great advantages of the automatic. Its location is central to the load. The messenger feeder construction extending out from both sides of the building can be seen plainly.

This station, about a quarter of a mile from the nearest hoisting engineer, is controlled by a switch in the hoist house. The station itself, though readily accessible for inspection, is located in the middle of a field near the "patch," partly surrounded by mine caves. The messenger feeder lines terminate at points where the cables are dropped through boreholes into the mines. Two feeders from this substation enter the mines in this manner.

Electric line work about the mines oftentimes affords an electrical engineer the best practice in the world. In daily overcoming difficulties and doing something new, he becomes well fitted in a few years to face almost any situation that is likely to arise. Company railroads shift frequently, strippings require more room, a subsidence breach opens out dangerously near the



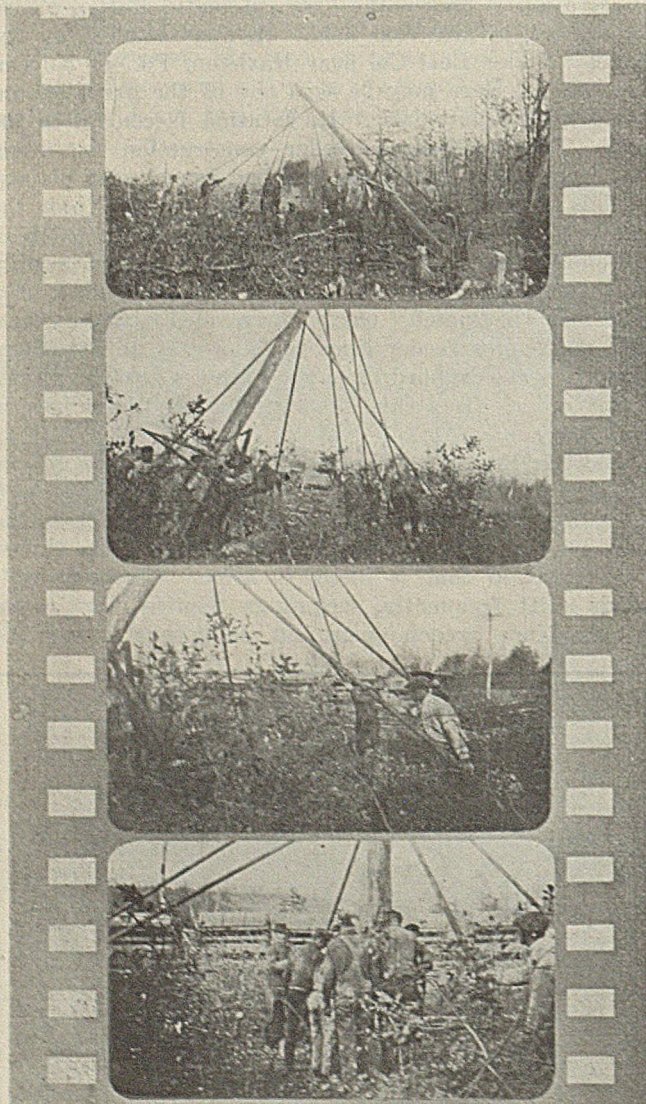
Where Electric Equipment Went in Quicker than Bricks and Roofing

Sometimes the installation of electric equipment in a new building proceeds faster than the construction of the building itself. These hoist resistance grids were set up within walls but with the sky for a roof.

equipment under his supervision, or a new dump starts—the linemen must get busy to preserve his line and keep it in operation. He is forever on the jump.

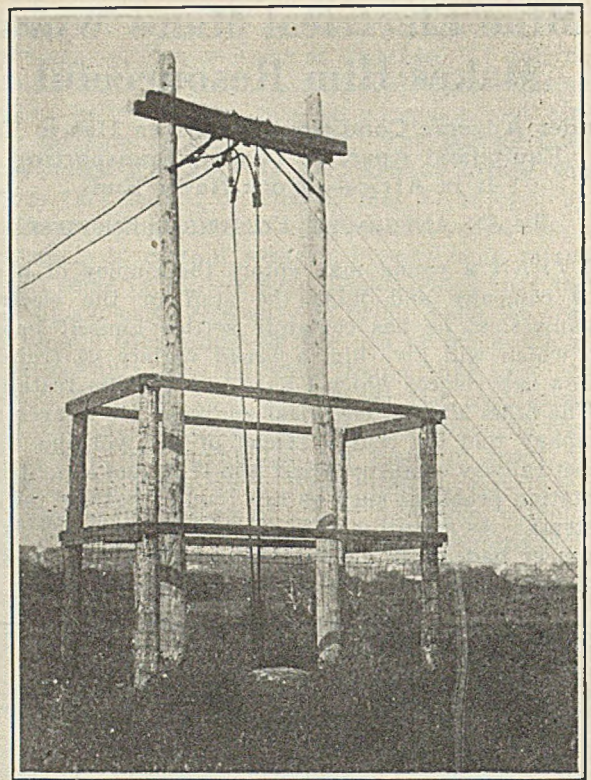
A common occurrence is to have a mine-cave hole open up right under a pole—such things usually happen on holidays. Ask any lineman, he'll tell you. To keep going up to schedule, when the force at the colliery is low and labor is scarce, these men frequently have to dig their own holes, blast, clear and burn brush, and then take up the tools of their own trade and set up the poles and string the wires. These duties are particularly difficult when the gang is limited and the time allotted for the work is short, as so often is the case.

A set of accompanying photographs presents a sort of "movie" of the operations involved, employing but a handful of trained linemen and a group of "hands" often different at each job each day, whose efforts have to be kept co-ordinated by the line foreman. After many trying delays and usually with a great rush at the end to get finished over the weekend, ready for Monday, the line shapes itself again, the "lokie" can proceed over its new roadbed and the foreman can puff his pipe in satisfied contemplation of a line comparing



Line Construction Job "in Motion"

Unusual conditions at the mines often call for service from all sorts of workmen. Often a subsidence or changes in surface track systems require quick construction of power lines. This work must be done by men employed at various types of jobs around the mines, nevertheless, the grade of work done by them under adverse or emergency conditions compares right well with that done by the permanent gangs of the public utilities.



Puts Power Where It Is Needed

The automatic substation provides a means of supplying direct current directly into load centers. Here is the place where the feeders drop into the mines.

right well with the big brothers which the public service companies erect with their complete facilities, standardized material and fully trained forces.

When a new slope breaks its way through the side of a mountain possibly a mile from the nearest surface road and the executive office approves an appropriation for an automatic substation and electric hoist to be located there, the electric construction engineer usually strokes his chin, views the surroundings, and wonders how soon Ford will perfect the "Lizzieplane."

In time he sees a crude "road" broken through by the mine teams hauling props for the workings, and he watches the precarious angles at which the wagons careen up and down the hillside. He can't figure on tractor haulage to transport his machinery or even use a heavy winch. He is practically dependent on these wagons of light capacity for his transportation problems. So he accepts the inevitable and sets about tearing his equipment apart limb by limb.

Mining conditions may necessitate overtime work to get the electrical equipment at the new slope going. The illustration showing three transformers on poles gives a view of such a location with the main colliery slate bank visible in the distance. Here are shown the power company's line, its metering pole and the coal company's "temporary" substation—one that has given service for over a year to an air compressor, fan and, more recently, a hoist. In an interior view of the hoist house can be seen the stack of grids for the permanent hoist and the contactor panel around which the walls were built after the hoist had been completely wired up. The brightness at the top of the picture is a clear indication of the absence, as yet, of a roof. Power on the spot was necessary, however, and the electrical engineer, in spite of difficulties, made certain that it was delivered.

# Illinois Mining Institute Discusses Machine Loading And Rock Dusting

**R**OCK DUSTING and mechanical loaders were the main subjects this summer before the Illinois Coal Mining Institute on its annual boat trip on the Mississippi River. A large group of coal mining men, consulting engineers and equipment salesmen made the three-day tour on the new steamer, Cape Girardeau, from St. Louis, Mo., down the river and back with stops at the towns Herculaneum, Chester, Commerce and Cape Girardeau. The party returned to St. Louis on June 21, having enjoyed a combination vacation and technical training tour.

On June 19 the party made a 40-mile trip by autos to the Flat River lead district where they were the guests of the St. Joseph Lead Co., the St. Louis Smelting and Refining Co., and the Desloge Consolidated Lead Co. A group went underground at each of these mines where they saw several types of mechanical loaders, including the St. Joseph type of Thew, the Myers-Whaley, and the Conweigh. In the afternoon the groups made an inspection trip through the concentration, flotation, and power plants. The Lead Belt golf course was placed at the disposal of the golf fans.

In the evening the members had the satisfaction of hearing from an old associate concerning mining practice in Great Britain, France, and Belgium. J. T. Ryan, vice-president of the Mine Safety Appliances Co., showed an interesting set of slides and called attention particularly to the new developments in the Kent and Yorkshire fields of England.

One afternoon on the boat was given to the subject

of rock dusting, the program including the following papers: "Coal Mine Explosion Hazards and Safeguards," by J. E. Jones, safety engineer, Old Ben Coal Corporation, West Frankfort, Ill.; "Recent Developments in Rock Dusting in Europe," by J. T. Ryan; "Rock-Dusting Costs," by George C. McFadden, assistant to the vice-president, Peabody Coal Co. A paper on "Rock Dusting in Pennsylvania," by T. G. Fear, superintendent, Inland Collieries Co., of Indianola, Pa., was read by Mr. Ryan. Mr. Fear reported that about 100 mines are now rock dusting in Pennsylvania and West Virginia, practically all of this development having come in the last eighteen months.

A lively discussion followed these papers. J. H. Haskins, state inspector for the Illinois Department of Mines, suggested the appointing of a committee to co-operate with federal and state officials and with other associations in the formulating of plans, standard practice, and rules for rock dusting in Illinois. President Smith will name such a committee.

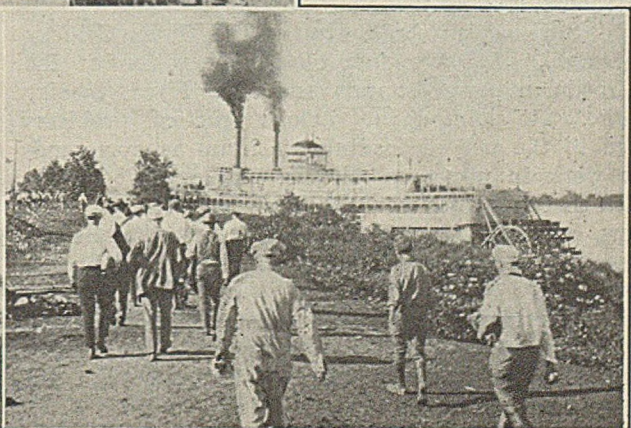
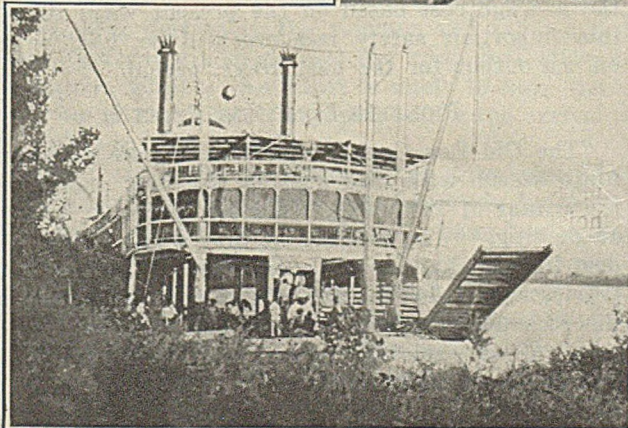
G. E. Lyman, general superintendent of the Madison Coal Corporation, described conditions at the new No. 12 mine at Cambria, Ill. In addition to dusting with rock, the company is using rock dust for tamping at various mines and practically has eliminated fires from shots. At one mine it previously had been necessary to use four fire-runners. These are no longer required. G. C. MacVean, of the Southern Gypsum Co., spoke briefly on the use of gypsum as rock dust. Thomas English, of the Illinois State Department of

## Down the Mississippi River on the Steamer Cape Girardeau

At the right are the officers and committees of the Illinois Mining Institute. They are, reading from left to right, front row: William E. Kidd, John E. Jones, J. A. Jefferis, Frank F. Tirre, J. A. Garcia; second row: George K. Larrimore, D. D. Wilcox, E. G. Lewis, Charles Gottschalk, H. E. Smith; third row: L. E. Young, A. C. Callen and Captain W. H. Leyhe.



Below, at the left, is the new steamer Cape Girardeau, which carried the Institute members on their annual outing down the Mississippi River. The illustration below, at the right, shows the mining men embarking on the Cape Girardeau after a day's trip in the lead district. During the three-day trip stops were made at Herculaneum, Chester, Commerce and Cape Girardeau.



Mines, reviewed safety work and spoke of the necessity for hearty co-operation with the department.

J. A. Garcia, who presided over the Saturday afternoon and evening meetings, pointed out the fact that many men were present solely on account of the papers to be presented on mechanical loading and made an appeal for Illinois operators generally to study the equipment on the market and the mining practice best adapted to the operation of machines. It was agreed that none of the papers on the subject would be published and no detailed report of the discussion was to be recorded in order to encourage a free and general discussion.

Prof. A. C. Callen, head of the mining department of the University of Illinois, first presented a general paper on loading machines and emphasized the advantages that would come from concentration of work and closer supervision if loading machines were installed generally.

Charles Gottschalk, consulting engineer, of Evansville, Ind., gave a paper on "Methods of Mining Suitable for Mechanical Loading." In his opinion it will be possible to develop efficient loading practice in connection with room-and-pillar mining. He urged concentration of operations, provided there was no interference with underground transportation. The successful application of loading machines, he said, will result only from hard, patient work by the organization at the mines, careful analysis of the problem, and original thinking.

C. S. Sandoe, general superintendent of the West Virginia Coal Co., cited the essential problems which would have to be solved before loading machines could be considered a commercial success. W. L. Strawn, of the United Iron Works, Kansas City, Mo., gave a brief report on the use of conveyors in long-wall mining in the southwest and pointed out how these conveyors could be used in the panel system. Inspector Haskins showed that concentration of workings would result in reduction of accidents.

#### MACHINES INCREASE OPPORTUNITIES

Lee Haskins, superintendent of the J. K. Dering Coal Co., at Eldorado, Ill., stated that the experience of his company was limited but that he believed in the ultimate successful installation of loading machines in Illinois. J. D. A. Morrow, Joy Machine Co., Evansville, Ind., gave an inspirational address on the opportunities in the coal mining industry as a result of mechanical loading. He suggested that point of view, originality of mind, and conviction that success was reasonably certain were essential to any organization attempting to introduce loading machines.

I. N. Bayless, superintendent of the Union Colliery Co., Dowell, Ill., gave data on the operation of the two Goodman power shovels and one Myers-Whaley machine. He pointed out various practical problems related to the use of loading machines in room-and-pillar work in mines in Illinois, and gave it as his opinion that machines would be used successfully. J. E. Barlow, Goodman Manufacturing Co., described briefly the use of the scraper loader as manufactured by his company.

Frank Westwood, electrical engineer, Southern Coal, Coke & Mining Co., St. Louis, stated that the Wilson loading machine was being used in his mines but did not give any data on the tonnage being handled. W. C. Evans, vice-president of the Crescent Coal Co., Peoria,

Ill., referred to problems of the Peoria field in which the modified system of longwall mining is being sought in order to permit the use of loading machines. John L. Clarkson, general manager, Clarkson Coal & Mining Co., Nashville, Ill., was called on to describe a new loading machine that is being built for his company in St. Louis. He then discussed ways and means for cleaning mechanically-loaded coal underground.

In his talk on the cost of rock dusting, Mr. McFadden said that at first it seemed an enormous task to rock dust a 20-year-old Franklin County, Illinois, mine along the standards recommended by the U. S. Bureau of Mines and the Illinois Department of Mines and Minerals. However, upon carrying out such a program at Mine 19, operated by his company, the Peabody Coal Co., the initial dusting proved to be a simple job.

#### ENUMERATES ROCK-DUSTING COSTS

Rock dust received at the mine in open cars was sacked and delivered to a 75-ton storage room provided on the shaft bottom, and then distributed during the night shift along 105,000 lineal feet of roadway, air course and room necks which covered all open entries whether used or abandoned. In addition thereto rock-dust barriers containing 8 and 16 troughs to the barrier were provided and are maintained in the entrance of each entry throughout the mine.

The cost of improvements, consisting of truck, fan, motor, cables, hopper, tubing and storage bin, amounted to \$1,065. Labor and material cost for the initial dusting, which provided slightly over 2 lb. per foot distributed on roof, ribs and floor of entry, and 80 lb. of dust per barrier trough, were as follows:

160 tons rock dust, delivered in storage bin on shaft bottom .....	\$1,104.00
154 trough barriers .....	884.16
Labor dusting haulage roads .....	361.00
Labor dusting air courses .....	520.00

Labor and material cost .....

\$2,869.16

For the initial dusting the average cost, including labor and material for distribution of rock dust and erection of barriers (allowing for depreciation on equipment) amounted to 2¼c. per foot of open entry.

In repeating for second and subsequent dustings, which it is proposed to perform every six months or sooner, if required, there will be a small increase in length of main and cross entries. With increased length of entries, added barriers, maintenance of barriers in place and continued dusting of roadways and air courses at 6-months intervals, it is estimated that the average cost based on the present wage scale for this important safety measure will be 1.6c. per ton on the output for the next 10-yr. period.

#### PIONEERS CONTINUE PRACTICE

"The Old Ben Coal Corporation is now starting its ninth season with rock dusting, the first season being the winter of 1917-1918," said Mr. Jones in his paper on dusting. "The practice at first was to install rock dust in such quantity and manner at all intersections of entries and at 500-ft. intervals so that dense clouds of the rock dust would be thrown into suspension in the event of an explosion to extinguish the flame. Collapsible overhead barriers on haulage roads, platforms on roadsides and troughs in trackless passages was the equipment used to contain the rock dust.



"Nine explosions have occurred, seven of which reached a rock-dust zone where the flame was extinguished by the first dust in the path of the explosion. Two were not of sufficient intensity for flame to reach the dust zone, although the force of these threw the rock dust into suspension. Two were of enormous intensity in force and flame and undoubtedly would have been disastrous had it not been for the rock dust installations.

"Yet with such perfect operation with the equipment there was that possibility of an overhead barrier being delayed in its action until the flame had passed, or that the barrier had been accidentally or mischievously tripped just prior to the explosion so total dependence could not be placed on barriers, because there was possibility of failure and hand dusting of roof and ribs in the vicinity of overhead barriers was done for a distance of 100 ft. in all available directions from each. The locations then left unprotected were the panel entries in by room No. 1 and all other entries between rock-dust zones. The need of rock dusting such unprotected territory and the need for a machine to do the work was apparent, and while a machine was in process of development some of the Old Ben mines were being rock-dusted by hand.

"The machine we developed, (two are now in operation) thoroughly coats all surfaces on haulageways and openings 30 ft. from the track. The problem of rock-dusting aircourses, however, is not so simply solved. It costs more to rock dust trackless passages than haulage ways. The method now in force is to blow dust into the aircourses at openings at regular distances, allowing the ventilating current to carry the dust as far as it will. This method does not result in a good, rock-dust coating on the roof, but gives a fair coating on the ribs and a thick coating on the floor. The dust coating on an aircourse floor usually remains dry for an indefinite length of time, since the fire clay usually is covered by a layer of dry, fallen, top coal.

#### DUSTING AIRCOURSES NOT SUFFICIENT

"However, full dependence is not placed on the rock-dust coating of aircourses, for dust in troughs is installed at all intersections of the aircourses with other entries. Full dependence is placed in the dust coating of haulageways, for it is a simple matter to keep the ash content on the roof and ribs greater than 70 per cent. In addition, however, dust trough barricades are installed in wide places along haulage roads at 500-ft. intervals to give additional protection, but primarily to have rock dust in quantities available in the event of a mine fire.

"It has been found that the best time to coat the mine with rock dust is in the summer and fall when the mine surfaces are damp and the rock dust sticks better than in winter. An effort is made to have the rock dusting of each mine completed before the arrival of cold weather.

"An important factor of safety is the knowledge of the methane content of the mine air of each air division and the ash content of the mine dust. Sampling and analyses determine these, the analyzing being done in the Old Ben laboratory. Samples of dust are collected by the vacuum method because of the greater speed of collection than by dust-and-pan method and because of minimum loss of dust in locations where the mine air velocity is high.

"The samples of roof and ribs and the floor samples

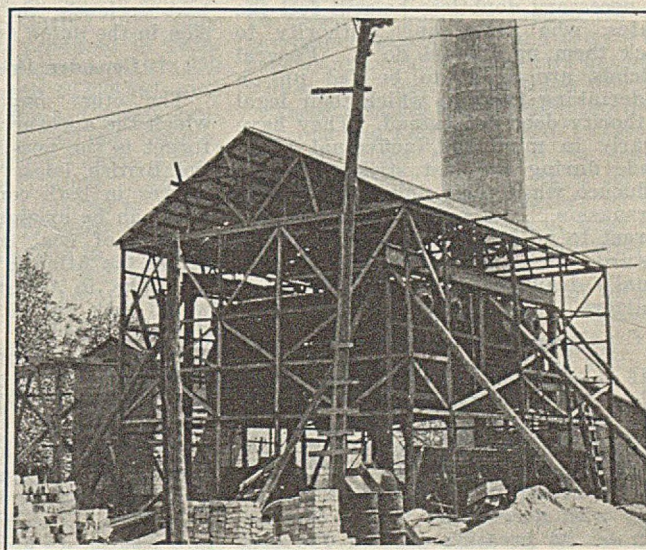
are taken separately. The average of the cross-section is determined by doubling the figure representing the ash content of the roof, ribs and floor and dividing by three. The surface of the roof and ribs is double that of the floor. By this measure the average ash content of haulage roads in six large mines that had been dusted six months prior to sampling gives an ash content of 74.8 per cent through a 100-mesh sieve.

#### AVERAGE ASH CONTENT MISLEADING

"At first it would seem that redusting is not necessary with such a high ash content. This average, however, is from analyses that vary from 53 per cent to 90 per cent ash with many samples showing 58 per cent ash content. These lower readings are always found on the main haulage roads where the ventilation velocity is high and where long, fast-traveling trips move. Both these factors produce a sweeping action that tends to blow the rock dust into suspension. It must also be considered that new territory is developed that must have its initial dusting.

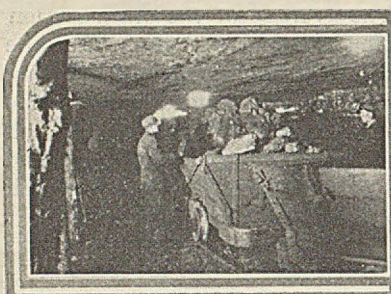
"The status of rock dusting in Illinois is favorable. A number of mines having a potential capacity of 100,000 tons per day are protected by dust or are in process of getting this protection. They employ, under normal working conditions, approximately 15,000 men underground. These operations are all in the extreme southern end of the Illinois coal field where the greatest explosion hazards of the state exist.

"To fully protect the mines against explosions, all of the mines having an explosion possibility—this condition determined not by experience but by inspection and analyses—must be safeguarded. The practice of rock dusting has proven to be practical in application, efficient in performance, harmless to mine and men and reasonable in cost."

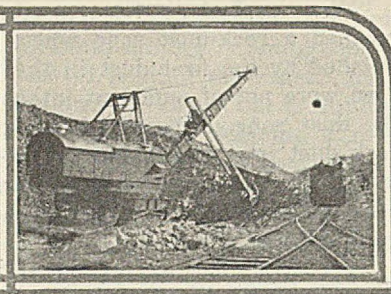


Further Modernization and Electrification Necessitate New Boilers for Kentucky Mine

Two 500-hp. Keeler water-tube boilers are being installed at No. 1 mine of the Norton Coal Mining Co., Nortonville, Ky. Refuse from the picking tables will be crushed and burned on inclined, overfeed stokers. Natural draft will be supplied by the 165-ft. concrete stack, in the background. The engine room equipment of the new power plant will consist of one 300-kw., 2,300-volt, alternating-current unit and one 300-kw., 250-volt, direct-current unit. The new equipment will replace an old plant containing four 150-hp. hand-fired boilers and several direct-current generators. Hoisting by steam will be continued, but it is planned to replace the old hoisting engine with a new one, in the near future.



## News Of the Industry



### Public Seems to Expect Government To Intervene in Event of Coal Strike; Obligation Might Devolve on Congress

By Paul Wooton

Washington Correspondent of *Coal Age*

Intimations from official quarters that the federal government is not going to pull anyone's chestnuts out of the fire this time, if a coal strike is precipitated, is being met with some skepticism. The federal government under similar conditions in the past, it is argued, has been loud in its declarations that it would keep hands off, but in the end generally has been inveigled into intervention.

This reasoning, however, fails to take into consideration that there has been some change in national thinking since last there was an emergency in coal. Any policy other than one of "hands off" would run counter to the political philosophy of the administration. According to the doctrine President Coolidge has been preaching the states must rise to their responsibilities. If any governmental intervention should be necessary doubtless he will feel the states, who have some authority to back them up, should do it. Federal officials are about to be fed up on undertaking tasks to which their legal authority does not extend. They have clearly in mind the ineffectual effort made during the last strike to exert influence when their only weapon was persuasion. Moreover, it must be apparent to all that there is no political reward for such endeavors, which usually draw little but abuse from all quarters.

#### Congress Might Get Job

If a situation should arise where federal action could not be avoided, in view of the feeling among officials and of the policies of the administration, it would seem more likely than not to pass the responsibility on to Congress, possibly with a reminder that a commission of its creation studied the coal question exhaustively and made certain recommendations. Sight also should not be lost of the fact that reasons for calling an extra session of Congress have accumulated to the point where a coal strike might furnish the added demand necessary to cause the legislators to be assembled.

Attention also is called to the fact that the federal government has intervened so many times in the past when an emergency in coal has arisen that the public has come to regard

that as the usual procedure. There is a widespread impression that the federal government will look out for domestic consumers at least.

The report on consumers' stocks issued last week by the U. S. Geological Survey in a general way shows that consumers of bituminous coal evidently are not nervous over the prospect of any interference with distribution. Their stocks are down to normal for this season of the year. It shows that the great stocks laid in in anticipation of a possible strike in 1924 now have been liquidated. Thus an influence which depressed the market for more than a year has been removed.

The report makes it very clear that consumers are not in a position to forego new supplies for any considerable period, which is likely to prompt heavy buying the minute consumers take seriously the threatened suspension in the union field.

#### Consider British Situation

The other important circumstance which the anthracite conferees will not forget is the possibility of a strike in the British Isles. The importance of strikes in both countries at the same time can be exaggerated easily, as the amount of coal that can be shipped across the Atlantic naturally is limited. A strike in Great Britain, however, would take out of the country a considerable quantity of the best coal at a time when the entire non-union production would be needed to supply domestic requirements. With the mines of the Ruhr in a position to produce much more coal than ever before, the amount of European business which would come to the United States would be limited. The non-union fields, now in a position to handle export business, probably would be called upon to supply Great Britain's customers in this hemisphere and a much larger proportion of the bunker trade.

The British situation is being watched closely in Washington, more because of the lessons which we can learn from the developments in that situation than for the influence which simultaneous strikes might have on the coal business in this country. The British situation is believed to have reached a point where a comparatively

#### Buy Hard Coal Early, Says Lehigh Valley R.R.

The Lehigh Valley R.R. devoted a large portion of a recent report on operating conditions to an analysis of the present coal situation. The company said in part:

"We again take this opportunity of calling the attention of the members of the Atlantic States Shippers Advisory Board to the importance of urging upon their members, as well as of users of anthracite coal, the desirability of placing their orders and receiving their winter's supply of coal during the summer months.

"If dealers and consumers of anthracite coal will order and receive their coal during the summer months, it will not only insure them a full supply for the winter if there should be a suspension when the existing agreement with the anthracite miners expires on Sept. 1, but it will result in reducing the peak load in the fall when all other traffic is at its height, assisting the railroads materially in maintaining the excellent service now being rendered."

small additional loss of business has brought about a serious situation. Sales are not running far below the boom year of 1923, but the losses in exports have been made up partly by an improved domestic demand. Purchases for industrial consumption within Great Britain, however, have not been made, to any great extent, at the mines which have suffered most in the loss of export business. This has shifted the demands on certain areas to such an extent that mines in the Forest of Dean, in South Yorkshire and in Nottinghamshire, for instance, are having difficulty in filling their orders and are offering premiums to secure men.

One of the things which is discouraging the operators in South Wales and in Northumberland and Durham is the prospect of permanent loss of export trade. They are not in a position to compete successfully in many markets with German coal, while an increasing amount of the Italian trade is certain to be lost because of hydro-electric developments. The same applies in a more limited way to France, where also domestic coal production, with the rehabilitation of all its own mines, again is large.

Neither the coal owners nor the mine workers in Great Britain have forsaken

the profit-sharing principle which has formed a part of recent agreements. The real bone of contention is the amount of the minimum wage which is to be paid the mine workers. Evidently the demand of the operators for an eight-hour day is submitted for trading purposes. Hours of labor in coal mines are limited to seven hours by statute. That limit cannot be exceeded by a premium. Legislation must be obtained before that demand could be attained, and no such legislation is in prospect.

One of the fundamental troubles with Great Britain is that the cream of its coal is gone. After centuries of mining even those generous deposits have reached a point where recovery is becoming much more expensive.

#### Criticism Puzzles Commission

At the Federal Trade Commission a loss to understand why it should be criticized for issuing its report on premium anthracite is professed. It is stated that the delay in its issuance was due to the fact that all of the commissioners had not had an opportunity to make their studies of the report. It is admitted that there is nothing new in the report, but in that connection attention is called to the fact that a demand suddenly has developed for the report of the Harding Coal Commission, which likewise contains no information which has been gathered in recent years.

On the other hand many see in this report an effort to throw a monkey wrench in the machine at a critical moment. There is a loss to understand how the report could have any constructive purpose, since it is based on a very small amount of coal. Looking at the matter strictly from a public standpoint the issuance of the report is widely regarded as having undesirable.

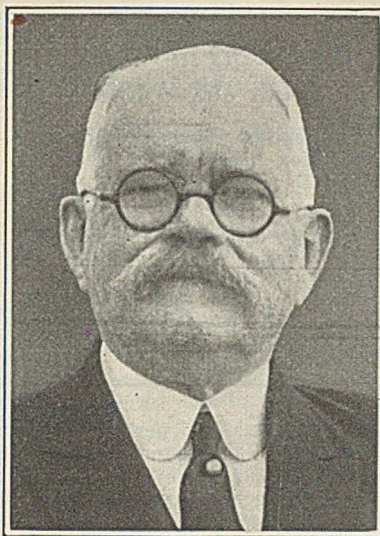
The Federal Trade Commission always has had great hope of winning the Maynard case. It is just conceivable that this report is put out with the idea of paving the way for current reporting on costs, if the legal barrier should be removed.

#### Utilities Consume More Coal And Less Oil in May

Public utility power plants in the United States consumed 2,962,049 net tons of coal in May, according to a report by the U. S. Geological Survey. This compares with 2,959,593 tons in April. Fuel oil consumption by utilities in May totaled 679,655 barrels, compared with 698,811 barrels in April.

The average daily production of electricity by public-utility power plants in May was 167,200,000 kw.-hr.—about 2½ per cent less than the average daily output for April. The usual seasonal decline in the daily production of electricity has continued from January to May at about the same rate as during the same months of 1924.

The daily production of electricity by the use of water power during May was about 3 per cent less than for April, which makes April the peak month for the year. Usually the month of May has the highest average daily output of the year.



© Keystone View Co.

John Markle

President of the Jeddo-Highland Coal Co., one of the large independent producers of anthracite, who sailed July 3 on the *Majestic* for a trip through Europe that will occupy at least four months. Mr. Markle lives in New York City.

#### Says Ohio Coal Industry Faces Worst Year

Ohio probably will suffer its greatest slump in mining this year, Jerome Watson, mine division chief, declared when figures were submitted by Otto W. Brach, head of the statistical division of the state Department of Industrial Relations, showing that production in 1924 had decreased 26 per cent from that of 1923 and that nearly 300 more mines had been closed than in 1923. A further reduction in output of perhaps 30 per cent was forecast for 1925.

As compared with 40,904,275 tons of coal mined in Ohio during 1923, only 30,077,290 tons was produced in 1924. Belmont County produced 10,973,530 tons as compared with 12,676,797 tons during 1923. Jefferson County produced 4,348,329 tons; Athens County, 2,972,483 tons; Guernsey County, 2,633,807 tons; Harrison County, 2,422,023 tons; Perry County, 1,795,700 tons, and Tuscarawas County, 1,065,926 tons.

Mines operating in Ohio in 1924 numbered 1,082, as compared with 1,301 in 1923. It was estimated by Mr. Watson that slightly more than half as many mines have been operating during 1925 as were in 1923 and figures thus far obtained indicate material reductions in production.

The chief means of mining coal in 1924 was by use of machines, which produced 26,130,946 tons. Strip mines ranked next with 2,414,471 tons. Coal picked by hand resulted in a production of 1,531,873 tons. The decreases were evenly distributed over the three methods of production.

Tonnage reported from other counties was: Carroll, 344,719; Gallia, 12,298; Hocking, 710,946; Holmes, 27,221; Lawrence, 112,826; Mahoning, 56,998; Medina, 6,336; Meigs, 223,792; Morgan, 182,294; Muskingum, 380,788; Noble, 493,201; Scioto, 1,868; Stark, 462,552; Summit, 14,694; Vinton, 86,043; Washington, 1,619; Portage, 83,396; Jackson, 160,937; Coshocton, 237,673, and Wayne, 7,289 tons.

#### Hard-Coal Operators to Run Two Traveling Shows

So successful was the Traveling Educational Exhibit of the Anthracite Coal Operators which closed at Bethlehem, Pa., early in June, that two traveling exhibits have been planned for the coming season. An Eastern exhibit will get under way at Portland, Me., on July 20 and a Western exhibit starts from Syracuse, N. Y., on Aug. 31. The Eastern exhibit, after a week in Portland will visit Nashua, Worcester, Providence, New Haven, Springfield, Montclair, Trenton, Reading, Camden, Wilmington and Washington. The Western exhibit, after a two weeks stay at Syracuse, will go to Buffalo, Toronto, Detroit, Grand Rapids, Chicago, Ft. Wayne, Toledo and Cleveland. In most of these cities the exhibit will remain a week, and in a few cities two weeks.

The new traveling exhibits will be on a more elaborate scale than the first, because they will attempt to enlighten the public on all of the advantages of using anthracite and will more nearly live up to the slogan earned by the first exhibit as "The Traveling University of Old King Coal." Approved heaters and coal-saving appliances together with devices for improving combustion, such as special grates and blowers, will be shown. There also will be devices that stoke a heater and draw off the ashes automatically, and appliances for making an ordinary heater burn the small sizes of anthracite. Cooking by coal will not be overlooked, as a range for this purpose will be among the exhibits.

A store or showroom in the heart of each city is hired for the exhibit. To these the public is invited through newspaper advertising, and combustion experts and heating engineers in charge will answer questions of those who call.

These exhibits are purely educational in scope and nothing is sold. Practical demonstrations show how to coal a heater properly, how to fix it for the night or in moderate weather so that it will give the maximum of heat with the use of the smallest quantity of coal.

There is an abundance of printed literature distributed free. "How to Cut Down the Cost of Heating Your Home" is a brochure full of facts for those who want to save, and an interesting leaflet, "Which Fuel," which describes the advantages and disadvantages of all fuels now being used for heating the home.

Advices were received in the New York financial district last week that the United States Coal Co., with J. O. Bledsoe, St. Albans, W. Va., as a central figure in the project, is being organized to take over several coal producing properties in Kentucky and West Virginia. It is said that the consolidation plans have advanced to the point where terms are being smoothed over between interested parties and that several banks have agreed to finance the new company, which will have an annual capacity of 75,000,000 tons.

### Mine Accidents in May Killed 181; High Rate Due to Major Disasters

Accidents at coal mines in the United States in May, 1925, resulted in the loss of 181 lives, according to reports from state mine inspectors to the U. S. Bureau of Mines. The death rate for the month was 4.15 per million tons of coal produced, as compared with 3.45 in the preceding month and 3.33 for May, 1924. The increased fatality rate was due mainly to an explosion at Sanford, N. C., on May 27, in which 53 lives were lost, and to an explosion at Piper, Ala., on May 31, which killed 6 men. Without these two disasters the death rate for the month would have been 2.80 per million tons of coal mined.

For bituminous mines alone the reports showed 143 fatalities, including the two explosions referred to above. As the production of bituminous coal in May was 35,474,000 tons, the fatality rate was 4.03, as compared with 2.98 for May, 1924, and 3.20 for the month of May during the ten years 1915-1924. For anthracite mines alone the death rate from accidents in May was 4.67 per million tons based on a production of 8,134,000 tons, as compared with a death rate of 4.78 for May last year and a ten-year average rate of 5.55.

Records for the first five months of 1925 show that 930 men have lost their lives in accidents at the mines. The total production of coal during the period was 234,978,000 tons, hence the

### Big Saving in Change From Oil to Coal

The Water Board of Kansas City, Mo., has decided to switch from oil to coal for fuel at its pumping station. This decision was based on an estimated saving of \$40,000 per annum, according to word received from W. L. A. Johnson, general commissioner, Southwestern Interstate Coal Operators' Association.

fatality rate was 3.96 per million tons. For the corresponding months last year the rate was 4.82. The five-month rate for bituminous mines alone was 3.59 in 1925 and 4.73 in 1924, while for anthracite mines alone it was 5.90 as compared with 5.29 in 1924. Production records show an output of 37,259,000 tons of anthracite and 197,719,000 tons of bituminous coal during the first five months of the present year.

Six major disasters with a total loss of 154 lives occurred during the first five months of the present year, as compared with 5 disasters and a loss of 384 lives for the corresponding months of 1924. A "major" disaster is defined as an accident causing 5 or more deaths. The fatality rate per million tons based exclusively on major disasters was 0.66 for the months of January to May, 1925, and 1.59 for the same period last year.

### Bureau of Mines Extends Safety Work

An extension of the work of the Bureau of Mines for greater safety in mining operations is the purpose of a new subdivision of the Safety Service of the Bureau, which began to function July 1, coincidentally with the transfer of the Bureau to the Department of Commerce from the Department of the Interior, according to an announcement by Dr. D. A. Lyon, acting director.

J. J. Forbes, who has served as district engineer in Alabama, has been designated as the chief of the new subdivision, which will be known as the Safety Extension Service. The new subdivision, with the Mine Safety Service, which, under D. J. Parker as chief engineer, has performed notable rescue work at numerous mine disasters and trained thousands of miners in mine-rescue and first-aid methods, will make up the Safety Service of the Bureau, under Dr. T. T. Read, Safety Service Director.

In addition to co-operating with local chapters of the Joseph A. Holmes Safety Association in promoting interest in accident prevention and first-aid training in mining communities, the new Safety Extension Service will, in co-operation with the Mine Safety Service and the Mining Research Division, make field demonstrations and exhibits to illustrate and explain the safety methods, equipment and procedure recommended by the Bureau of Mines.

## Coal-Mine Fatalities During May, 1925, by Causes and States

(Compiled by Bureau of Mines and Published by *Coal Age*)

State	Underground									Shaft				Surface					Total by States							
	Falls of roof (coal, rock, etc.).	Falls of faces or pillar coal.	Mine cars and locomotives.	Explosions of gas or coal dust.	Explosives.	Suffocation from mine gases.	Electricity.	Animals.	Mining machines.	Mine fires (burned, suffocated, etc.).	Other causes.	Total.	Falling down shafts or slopes.	Objects falling down shafts or slopes.	Cage, skip or bucket.	Other causes.	Total.	Mine cars and mine locomotives.	Electricity.	Machinery.	Boiler explosions or bursting steam pipes.	Railway cars and locomotives.	Other causes.	Total.	1925	1924
Alabama.....	4			6								10													10	6
Alaska.....												1													0	0
Arkansas.....	1											1													1	0
Colorado.....	1		1									3													3	4
Georgia and North Carolina.....				53								53													53	1
Illinois.....	2		3				1					6													6	3
Indiana.....																									0	1
Iowa.....																									0	1
Kansas.....																									0	1
Kentucky.....	6		3				1					9													10	17
Maryland.....	1											1													1	0
Michigan.....																									0	1
Missouri.....																									0	0
Montana.....																									0	0
New Mexico.....																									0	2
North Dakota.....																									0	0
Ohio.....	3											3													3	10
Oklahoma.....				1								1													1	0
Pennsylvania (bituminous).....	11		6					1				18													18	14
South Dakota.....																									0	0
Tennessee.....																									0	5
Texas.....																									0	0
Utah.....																							1	1	1	3
Virginia.....	2		1									4													4	3
Washington.....	1											1													1	0
West Virginia.....	14	1	3				3		6			29					2						2	31	24	
Wyoming.....																								0	0	
Total (bituminous).....	46	1	19	60	1		4		8			139					2					1	4	143	96	
Pennsylvania (anthracite).....	16	2	6	4	2						2	32	1				1			1	1	3	5	38	37	
Total, May, 1925.....	62	3	25	64	3		4		8		2	171	1				3		2	1	2	4	9	181		
Total, May, 1924.....	59	9	29	4	4		10		1		6	122							2	1	2	6	11		133	

## Writ of Error Saves Bittner from Jail Sentence; Federal Observers Study Conditions in West Virginia

A writ of error and supersedeas granted by Judge M. O. Little, in the West Virginia Supreme Court on July 10, in Charleston, stays the sentence of Van A. Bittner, chief international union representative in northern West Virginia, who was to have started to serve six months in the Monongalia County jail in Morgantown on charges of contempt of court on Sunday, July 12. The writ is returnable next January.

Bittner had made temporary arrangements to have others take active charge of the work in northern West Virginia, although he probably would have continued to generally supervise the strike from prison.

In addressing a miners' mass meeting in Fairmont Theater in Fairmont several months ago Bittner is alleged to have referred to "infernal injunctions" and intimated that when they ran counter to the rights afforded him under the Constitution of the United States the injunctions would be violated. In his address the speaker made a scathing attack on an official who had an injunction in Monongalia, an adjoining county to Marion, and the attention of Judge I. Grant Lazelle, of Morgantown, was called to his utterances.

### Says Notice Was Too Late

As a result he summoned Bittner to appear before the court and after delivering a decision which required almost one hour to complete, fined Bittner \$500 and imposed a sentence of six months in jail. Counsel for the defense in appearing before Judge Lazelle contended that Bittner never had notice served on him about the Continental Coal Co. injunction until after he had delivered the address.

Unquestionably the effort to jail Bittner has had a reaction in the region, and miners, who are naturally sympathetic, seem to be impressed with the alleged spirit of sacrifice that the union leader was willing to undergo.

In the first four days of last week non-union mines in northern West Virginia produced 5,012 cars of coal against 731 cars loaded by union mines. The open-shop plants loaded 1,311 cars on July 7, which was within five cars of the non-union peak of 1,316 cars, established June 30. Union mines produced 223 cars of coal July 9, which is more than was loaded on that basis for several weeks. On the average there were 151 non-union mines at work daily, while 10 union plants continued to work.

Mine No. 1 of the Gilbert-Davis Coal Co., in Scott's Run, has resumed operation on a union basis, according to reports. Some time ago the South Penn Coal Co., in the run, opened up on a union basis, it is reported.

It is reported from authentic sources that representatives of the U. S. Department of Labor are in the northern West Virginia coal fields making an investigation. The exact purpose of

their visit is not generally known, but it is presumed that they came because of a telegram that Van A. Bittner, chief international representative of the United Mine Workers, sent to Secretary of Labor James J. Davis, calling attention to the alleged abrogation of contract by the Consolidation Coal Co., the largest signatory to the Baltimore agreement in the region.

During the lull over the Fourth of July the United Mine Workers made an effort to get across some effective organization work quietly. As a result when Monday, July 6, arrived the working force at Pinnickinnick was reduced. The union miners claimed that the mining force was so curtailed that it retarded production greatly. The company said that 113 men were at work Monday and later in the week asserted that additional old employees had returned to this and other mines in the region.

The Consolidation Coal Co., which seems to have made it a rule not to open a mine unless there is business in sight for it to work five days a week, did not start any additional mines last week. It is reported that probably the next mines that it will open will be New England mine, at Watson, adjoining the city limits of Fairmont, and the mine at Monongah, which is joined to it by a breakthrough. The Robey mine of the Hutchinson Coal Co., near Lumberport, Harrison County, began work July 6, with a number of its old force of men, it is reported.

A conference of all the International organization force in the region was held in Fairmont July 8, when the entire situation was gone over. International representatives of the United Mine Workers will visit every local union in the field this week, it was said. It is believed that it is a move to strengthen the morale of the union miners, which up until this time has been firm.

### Lewis May Pull Through

The union miners held a series of mass meetings over the field last week, some of them outdoors, despite daily thunderstorms in the upper Monongahela Valley. General strike talk has been afloat for several weeks in the region and interest rekindled by this may help John L. Lewis to pull through in the region, after what everybody regarded "a lost cause" from the beginning. Some observers, however, hold firm to the belief that the union was beaten from the start, is defeated now and will be totally routed in northern West Virginia.

Attorney Thomas C. Townsend, of Charleston, general counsel of the United Mine Workers, happened into Fairmont last week and admitted that plans are under way for an organization campaign in the non-union fields of southern West Virginia. It is reported that he attended a conference several weeks ago at the residence of Attorney W. A. Glasgow, in Philadel-



Paved Boulevard at Lynch, Ky.

This unusual highway—for a mining town—owes its existence to the foresight of the United States Coal & Coke Co., owner of the Lynch Mines, which realizes the importance of good roads in otherwise isolated communities. The square building on the corner to the right is the mine office, and adjoining it is the bathhouse.

phia, when legal phases of the drive were considered.

Various local unions all over the region continue to pass resolutions pledging loyalty to the United Mine Workers and adherence to the Baltimore wage agreement.

The West Fairmont Shaft operation, which is in the limits of the City of Fairmont, is reported by the Consolidation Coal Co. to be turning away men daily, having more applicants than it can employ. It is said that twenty-five or thirty men who entered Pinnickinnick a week or two after it was started were "salted" there by the miners' union to foment a strike and disorganize the working force. In this effort the union was unsuccessful, the company asserts.

### Coal River Collieries Plans Increased Capacity

Plans were announced July 10 for an expansion of operations by the Coal River Collieries Co. in Boone County, W. Va. One mine which now produces from 1,000 to 1,200 tons daily is to be increased in capacity to 5,000 tons daily. A contract has been awarded by the collieries company for the construction of twenty-five miners' houses at Seth.

Sale to the Chesapeake & Ohio Railway Co. of the Coal River & Eastern R.R., a ten-mile line in Boone County, W. Va., has been definitely closed between the two companies at a price agreed upon by both sides, according to an announcement by the Coal River & Eastern company at Huntington July 10.

The Coal River & Eastern R.R. runs from Seth to Prenter. It was built by the Coal River Collieries Co., which is owned by the Brotherhood of Locomotive Engineers, to serve mines of that company located about ten miles from the main line of the Chesapeake & Ohio's Coal River division.

Approval by the Interstate Commerce Commission is necessary to complete the purchase, which includes only the main line and excludes switch and spur tracks.

## Court of Inquiry Ordered In British Mine Dispute; General Tie-Up Threatened

Stanley Baldwin, the British Premier, made formal announcement in the House of Commons July 13 that the government has decided to establish a court of inquiry to investigate the causes of the present dispute in the British coal mining industry. The chairman of the court will be H. P. MacMillan, a Scottish lawyer, who, though not a Labor Party man, has some sympathy with labor's aims. The second member is Sir Josiah Stamp, president of the London, Midland & Scottish Ry. The third is W. Sherwood, a trade-union leader and organizing secretary of the Municipal Workers' Association.

The appointment of this court had been communicated to the miners' leaders assembled at Scarborough for a federation meeting before it was announced in the House. They agreed to appear before it.

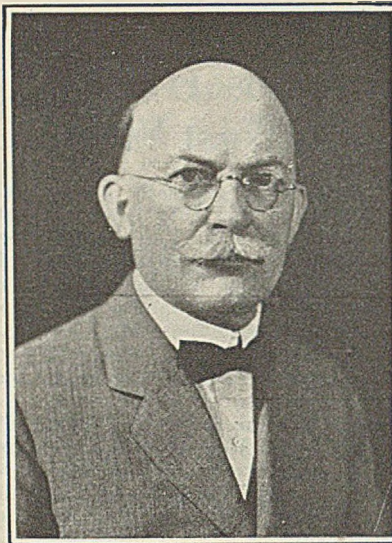
The government's first step toward intervening in the dispute was to name W. C. Bridgeman, First Lord of the Admiralty, as government conciliator. He was formerly Secretary of Mines and is well known and popular with both the mine owners and miners.

The government took a hand when the Executive Committee of the Miners' Federation decided to oppose the employers' demands for an eight-hour working day and a reduction in wages, at the same time refusing to enter into further negotiations until the mine owners' proposals were withdrawn.

The owners declined to withdraw their notices but declared their willingness to meet the Miners' Federation "in a conference upon the question of taking up the discussions at the point where they were suspended." The new offer of the owners was passed on to the miners and the committee of the Miners' Federation made a brief response, expressing "regret to learn that the coal owners have refused our reasonable request."

With the direct actionists in a strong position in the General Council of the Trades Union Congress, there is a threat of a general strike of 5,000,000 workers if the dispute of miners and mine owners is not satisfactorily composed. A. J. Cook and other radicals have been trying to bring about a quadruple alliance of miners, railwaymen, engineers and transport workers to call a general tie-up in the event of the owners refusing to come to terms.

Since the Beckley Pocahontas Coal Co. was sold at public sale not long ago in Raleigh County the new owners have effected a reorganization of the company and have given it a new name—Lecony Smokeless Coal Co. of Besoco, with H. E. Moran, of 32 Broadway, New York City, as president; Richard R. Conant, of the same address, as vice-president and secretary-treasurer, and P. A. Grady, of Besoco, as general manager. This company was sold to the new owners for the sum of \$35,000. It had changed hands in 1920 for \$750,000. The property of the company is located on Stonecoal Creek, in Raleigh County, West Virginia.



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Charles W. Bryan

Nebraska's former governor announces that he is going into the coal business again next fall. He says he will be the largest wholesaler in the state.

## Bureaus Transferred July 1; Advisory Committee Named

No formalities surrounded the transfer of the Bureau of Mines from the Interior Department to the Department of Commerce on July 1. Dorsey A. Lyon, acting director, on that day was an early caller at the office of the Secretary of Commerce, where Judge S. B. Davis, the Department's solicitor, is holding forth in the absence of Secretary Hoover and Assistant Secretary Drake. Judge Davis affixed his signature to the documents which require the approval of the Secretary at the beginning of the fiscal year and the Bureau of Mines became an integral part of the Department of Commerce.

The transfer of the mineral resources division of the Geological Survey to the Bureau of Mines was accompanied by an informal assembly of the personnel of the mineral resources division in the meeting room of the Bureau of Mines, where F. J. Katz, head of the division, introduced each member of his staff to Dr. Lyon. In welcoming them into the Bureau, Dr. Lyon expressed the thought that their work might become more interesting, as the division is made up of those accustomed to deal with economic phases of the industry, which now are to be emphasized.

In the Bureau of Mines the title of the division will be that of "Mineral Resources and Statistics." Mr. Katz will report directly to the assistant to the director. This classification of the new division is temporary. There is no desire to make it permanent until the views of Secretary Hoover's advisory committee can be obtained.

Due to the absence of secretary Hoover there has been some delay in launching the work of the advisory committee, of which J. V. W. Reynders, the president of the American Institute of Mining & Metallurgical Engineers, is chairman. A meeting is imminent, however, as it is recognized as being highly desirable for the committee to be working in the absence of Secretary Hoover, so that its perfected recom-

## Bryan to Sell Coal Again

Charles W. Bryan, ex-Governor of Nebraska, announced, July 6, at Parsons, Kan., that he intends to enter the coal business again in his state next winter. Mr. Bryan said he had contracted for a large supply of southeastern Kansas coal while in Pittsburg that day, to be distributed through Nebraska this winter. As larger operators denied having dealt with Mr. Bryan, his contract evidently was made with small producers.

"When I was Governor," he said in Parsons, "I tried to get retailers to furnish coal at a reasonable price. They refused, so I bought coal by the carload and sold it to distributors in carload lots. They, in turn, sold it to the people at \$5 a ton less than the retailers. I estimate that this saved the people of Nebraska millions of dollars a year. I sold to dealers in 150 towns. The coal, I found, cost \$3.25 a ton. The freight rate was \$3.50, making \$6.75 the cost to the retailers. They sold the coal for \$14.50, which made a net profit of \$7.75 a ton.

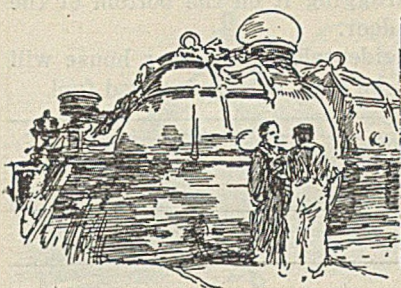
"Last winter I told the people that I would furnish them coal this winter at a reduced price. I am going to do this and I am probably the largest wholesale coal dealer in the State of Nebraska."

Mr. Bryan explained that he will not sell the coal at cost. "That would not be a good business proposition," he said.

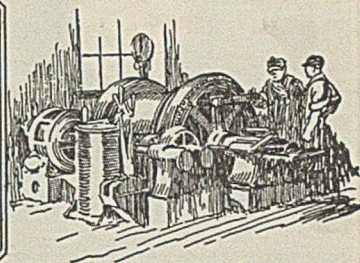
mendations may be laid before him on his return, about Aug. 1.

The American Mining Congress has named L. S. Cates, its president, as its representative on the committee. James F. Callbreath, secretary of the Congress, has been designated as his alternate. The National Coal Association has named J. G. Bradley to serve on the committee, while the United Mine Workers has selected Philip Murray. H. Foster Bain also is to be a member of the committee because of his intimate knowledge of the Bureau's work. As this is written, the other organizations which will be asked to designate members of the committee have not been determined upon finally.

A first-aid contest was held July 1 at Ebsenburg, Pa., for the championship of Cambria County with 24 teams participating. First prize was won by the Penelec Coal Corporation team, which averaged 99½ per cent for the five events. The prize was a huge silver trophy cup presented by Charles M. Schwab, of the Bethlehem Steel Co., controlling the Bethlehem Mines Corporation. The Monroe Coal Mining Co., of Revloc, won second honors with an average of 98 per cent, and third place went to No. 2 team from the Rich Hill Coal Mining Co., whose score was 97.33 per cent. The judges were state mine inspectors, including 10 past presidents of the Coal Mining Institute of America.



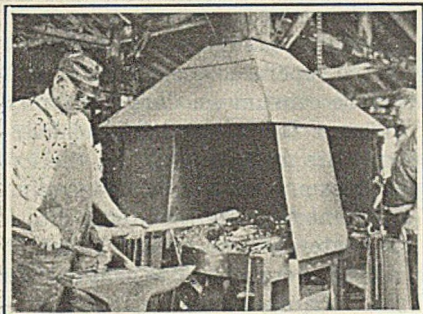
## Practical Pointers For Electrical And Mechanical Men



### Grouping of Forges Saves Space In Overcrowded Mine Shop

Many coal mine shops are more or less crowded and ample room in which the men may work is somewhat at a premium. Theoretically, a blacksmith with his forge and anvil should require a certain floor area in which to work, and this area cannot be reduced appreciably if efficient work is to be performed. As a matter of fact, forges may sometimes be arranged in such a way that the en-

namely, that the side plates extending from the smoke hood to the hearth frame are hinged at the top so that they may be folded up out of the way should a large or odd-shaped piece of work be encountered. This arrangement permits the heating of long pieces of straight or curved stock at a point near their middle, the heating of wagon or buggy tires and similar pieces preparatory to upsetting, and like jobs. It is, of course, possible to arrange a hood of this kind so that it can be raised and lowered, although the one here shown is stationary.



**Four Forges Under One Hood**

Each blacksmith has his own forge but one hood serves the entire group. The fires are separate yet less floor space is required than if each forge was installed as a separate unit.

tire group may occupy less space than would its constituent elements if set singly. This is particularly true if the floor area available is approximately square.

In the accompanying illustration made from a photograph taken in the shops of the Kingston Coal Co., Kingston, Pa., may be seen a group of four forges built up as a single unit and provided with a common hood. Four separate blowers are installed so that each fire may be controlled independently of all the others. Each smith stands at his own particular side of the grouped forges and in no wise interferes with the work of the others. To all intents and purposes his movements are as free and unhampered as if he had his own individual forge installed as a separate unit.

One interesting detail of this arrangement deserves special mention,

Ky. This switch is located about 20 ft. from the kick-back dump. The loads approach by gravity. The flange of the front wheel forces the jump-over rail into position thus providing a smooth crossing about 2 in. above the rail of the empty track. After the car has passed over, the switch is pulled back by a coil spring, thus clearing the rail of the empty track ready for the car as it is kicked back from the dump. Where the grade is naturally limited it is a distinct advantage to have the track friction minimized by the use of a continuous rail such as made possible by this device.

### Pumped Water Is Metered Over Glass Weir Lip

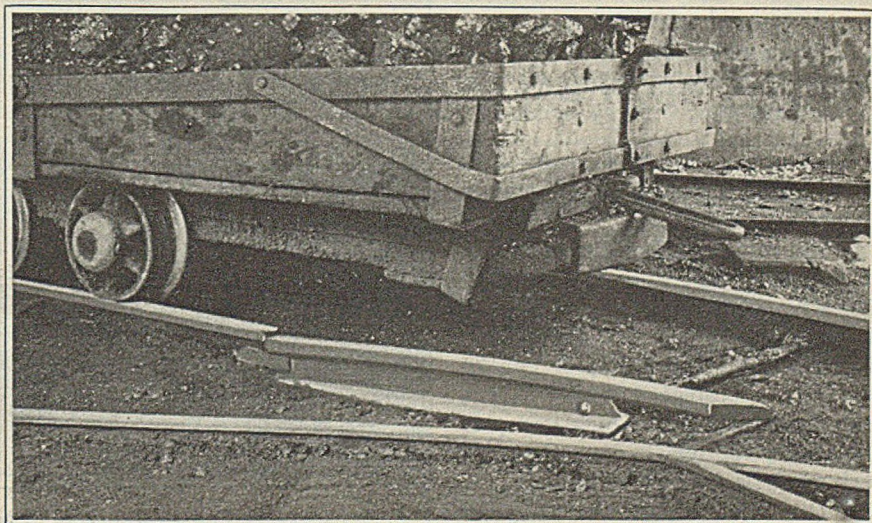
All the water pumped from the No. 2 shaft of the Susquehanna Collieries Co., near Williamstown, Pa., is metered. This is consistent with many other practices of obtaining accurate data on machinery employed by this company.

The interesting feature of the weir used at No. 2 shaft is the method by which accurate results are obtained for long periods. The edge of the weir is not a hardwood board; instead, it is a thick piece of plate glass with a beveled edge. Almost

### Jump-Over Switch Serves at Mine for Ten Years

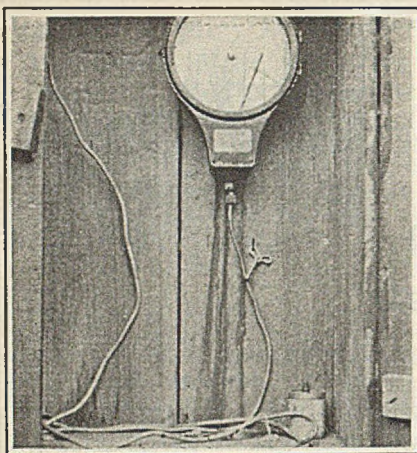
An old device which time has failed to displace is the jump-over switch or rail for use in place of a frog where it is an advantage to have minimum track friction and to have the two rails at slightly different elevations.

The photograph shows one of these switches which has been in service ten years at mine No. 2 of the Hazard Blue Grass Coal Corp., at Hazard,



**Cross-over Switch Has Long Service Record**

Time has failed to bring about the replacement of this device by a better one. This jump-over switch has been in use ten years at mine No. 2 of the Hazard Blue Grass Coal Corp., at Hazard, Ky.



**Meter Records Quantity of Water Pumped**

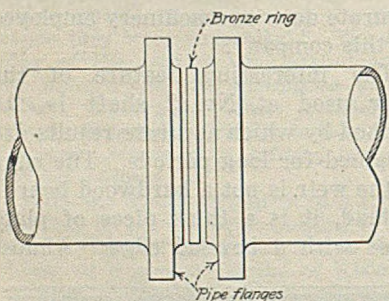
Accurate results are obtained by a 6-ft. glass weir lip. The chart indicates the volume of water raised during any period of the day.

any other material used for this purpose would require frequent replacement because of the gritty and acidulous nature of the water.

The accompanying illustration shows a meter connected to the measuring device. Thus daily records showing variations and the quantity of water raised are always obtained.

**Bronze Ring in Pipe Lines Gives Working Clearance**

When long pipe lines are laid tightly together without some kind of spacing ring between the ends of



**Ring Makes Repairs Easy**

Pipe sections are readily removed when spacing rings are placed at alternate joints.

the various sections it is always difficult to make a repair or change to the line.

At the mines of the Susquehanna Collieries Co. pipe lines are installed with a machine-faced bronze ring at alternate pipe joints. With this arrangement, a section of pipe can be removed or replaced easily. The rings are about 1/4 in. thick and permit plenty of clearance whenever work must be done on the line.

If the pipe stands vertically or nearly so it usually is difficult to remove a section if some clearance can-

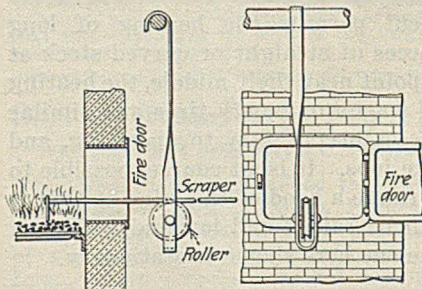
not be obtained. With a removable spacing ring at the joints, as described, sufficient clearance is easily obtained.

The ring is installed between two pieces of fabric which permit the joint to be pulled up tightly preventing leaks. The illustration shows how the material is assembled.

**Roller Rest Makes Fire Cleaning Easier**

The long scraper used to level off or pull the fire under a hand-fired boiler is usually heavy enough to cause any fireman to feel tired at the end of the day if he uses it frequently.

At the Shamokin power house of the Susquehanna Collieries Co. near



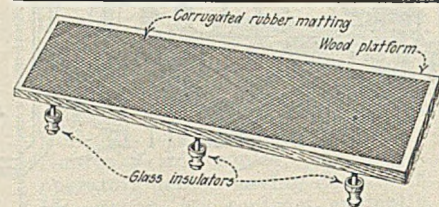
**Reduces Fireman's Labor**

The scraper rod rests on the roller and thus the work of leveling the fire bed and cleaning the furnace is made much easier.

Mount Carmel, Pa., one of the workmen has devised a rest for the scraper which makes its use much easier. This rest consists of an arm with a hook on one end and a roller on the other. The accompanying illustration shows how it is hung in front of the fire door. When the scraper is in service the fireman rests the long handle on the roller instead

of dragging it on the bottom of the fire door.

Incidentally this power house will soon be fired with pulverized fuel.



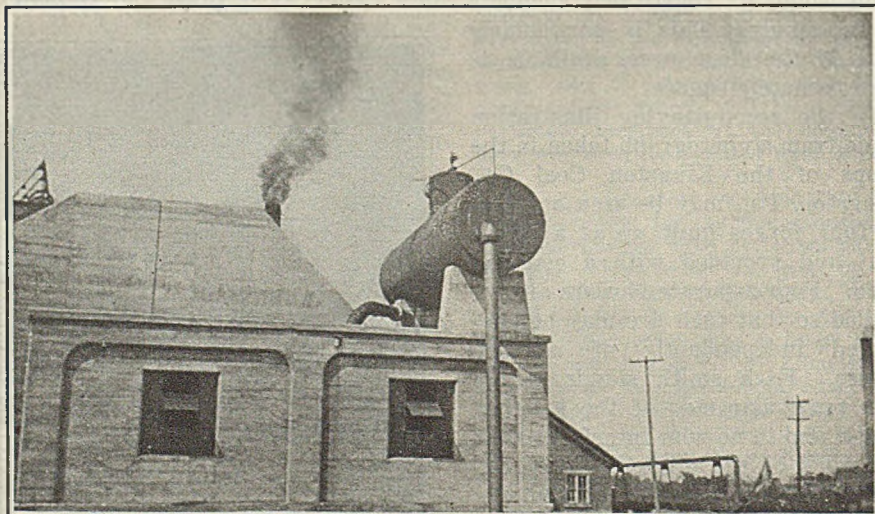
**This Platform Is Extra Safe**

Not being satisfied with the mere insulating qualities of rubber laid on a control-room floor, one coal company makes its switches safe to operate by the method here shown. Dirt and dust easily get ground into rubber matting.

**Fan Exhaust Heats Water for Boilers and Wash House**

At a mine of the O'Gara Coal Co. near Harrisburg, Ill., an unusual method of obtaining heated water for the wash house and boiler room, is employed. In the mine yard, not far from the power house and miners' wash room stands a large steam-driven mine fan.

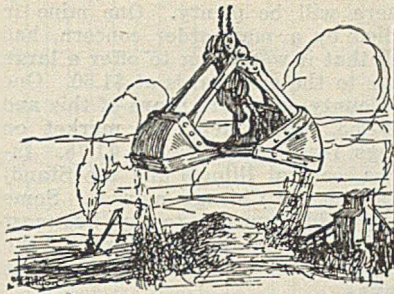
Like nearly all such units, this fan must be operated continually and therefore consumes a large quantity of steam. By means of special arrangements made at the fan, the exhaust steam pressure of the engine is sufficient to force the steam into a large heater which receives water of normal temperature. The heat energy of the exhaust steam warms the incoming water and raises its temperature sufficiently high to be used either as boiler feed water or for the wash room. The fact that this fan is so near the boiler house that the heat losses are low makes this method of heating water attractive.



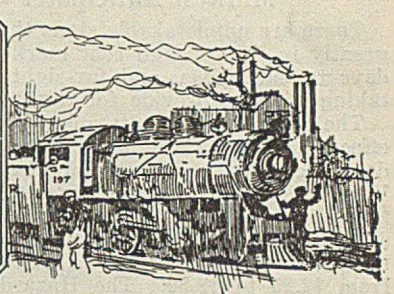
**A Fan Designed to Save the Exhaust Heat Units**

Whether the mine is operating or idle the fan is one of the most important devices on the property. Usually, it must run continuously. This one is equipped with a water-heating tank which utilizes the heat in the exhaust steam.





# Production And the Market



## Bituminous Coal Market Is Brighter; Anthracite More Active

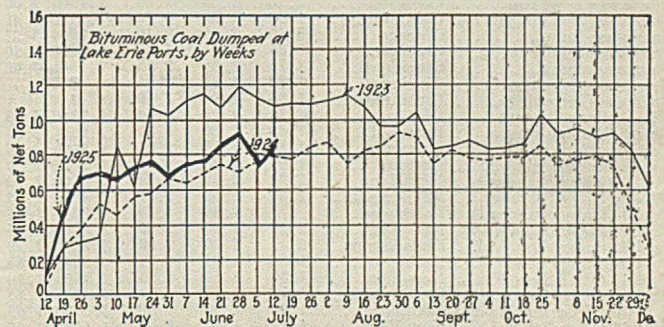
Despite the comparative sameness of day-to-day conditions in the soft-coal market, orders being scarce and prices floundering in the depths, the trade seems somewhat more cheerful. Some intrepid operators, in fact, have had the hardihood to announce an early advance in prices, among them Hazard (Ky.), Franklin County (Ill.) and West Virginia producers. These changes are expected to be reflected quickly in Indiana and Illinois coals, producers of which are preparing for an improvement. Meantime the trade is somewhat at a loss to understand the continued indifference of Midwestern consumers of steam coal. An interesting development of last week was the purchase of a large tonnage of 2-in. screenings at \$1.55 by a strong Franklin County operator from a mine controlled by a large mail order concern, which was about to offer it to the stockyards at \$1.50. This held the price fairly firm at \$1.75.

Kentucky coal is moving somewhat better, but prices in western Kentucky are unsatisfactory, screenings selling as low as 90c. Eastern Kentucky, however, is maintaining better prices. Business at the head of the lakes continues quiet, awaiting developments. Receipts at the docks for the first six months of this year were nearly 1,500,000 tons above those of a similar period a year ago. On the other hand, shipments off the docks fell more than 4,000 cars short of those of the first six months of 1924. Conditions are practically unchanged in the Southwest, being somewhat duller in Utah.

At Cincinnati the firmer tendency in evidence a week ago has disappeared and the market finds itself in much the same condition as in late June. Domestic trade is picking up in southern Ohio and the steam trade is about normal. Little change for the better is in evidence in eastern Ohio and Pittsburgh. The New England and other Eastern markets are somewhat firmer.

As expected, the anthracite market shows a marked increase in firmness as a result of the strike talk in the air. Demand is better and independent coal prices reflect a stronger tendency than a week ago. The upturn came none too soon, as some of the smaller mines were faced with the prospect of curtailing operations or suspending.

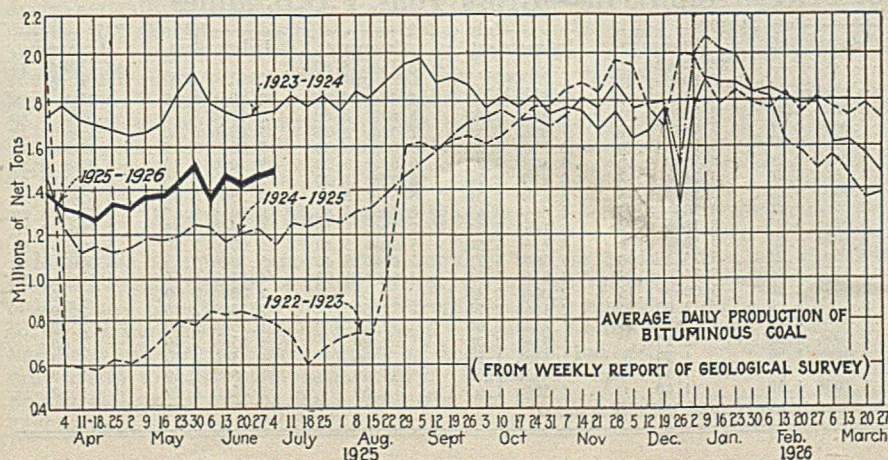
Bituminous coal output in the week ended July 4 is estimated by the Geological Survey at 7,381,000 net tons, compared with 8,671,000 tons in the preceding



week and 5,913,000 tons in the corresponding week a year ago. Anthracite production in the week ended July 4 was 1,514,000 net tons, compared with 1,844,000 tons the week before and 1,296,000 tons in the same week last year.

Coal Age Index of spot prices of bituminous coal receded slightly during the week, standing on July 13 at 160, or \$1.93, compared with \$1.94 last week.

Dumpings at Lake Erie ports during the week ended July 12, according to the Ore & Coal Exchange, were: Cargo, 784,370 net tons; steamship fuel, 47,520 tons—a total of 831,890 net tons, compared with 780,300 tons in the preceding week. Hampton Roads dumpings in the week ended July 9 totaled 468,804 net tons.



### Estimates of Production

	(Net Tons)	
<b>BITUMINOUS</b>		
	1924	1925
June 20 .....	7,434,000	8,402,000
June 27 (a) .....	7,608,000	8,671,000
July 4 (b) .....	5,913,000	7,381,000
Daily average .....	1,183,000	1,476,000
Cal. yr. to date .....	(c) 235,685,000	239,170,000
Daily av. to date .....	1,512,000	1,531,000
<b>ANTHRACITE</b>		
June 20 .....	1,823,000	1,788,000
June 27 .....	1,918,000	1,844,000
July 4 .....	1,296,000	1,514,000
Cal. yr. to date .....	(c) 46,441,000	45,949,000
<b>COKE</b>		
June 27 (a) .....	125,000	128,000
July 4 (b) .....	94,000	118,000
Cal. yr. to date .....	(c) 6,098,000	5,350,000

(a) Revised since last report. (b) Subject to revision. (c) Minus two days' production to equalize number of days in the two years.

**Midwest Anticipates Improvement**

There are unmistakable signs that conditions will improve greatly in the Chicago coal market during the next thirty days to six weeks, and far-sighted coal men are already taking steps to provide for this market improvement.

The Franklin County operators have announced that effective Aug. 1 there will be an increase of 25c. a ton on domestic sizes and some of the big producers of West Virginia splint coal, who have lately begun to cut quite a figure in the Middle West, notified their trade to look for an increase on July 15. These people contemplate raising the price of 3-in. block from \$2 to \$2.25 and of 6-in. block from \$2.25 to \$2.50. The Hazard operators, who feature somewhat in the Chicago market, contemplated an increase as of July 15 from \$2.30 to \$2.45 on one grade and from \$2.50 to \$2.65 on another. This improvement in circular prices is going to make itself felt very quickly on Illinois and Indiana coals, as it will enable the producers of these coals to increase their prices as well. Smokeless operators are having no difficulty in maintaining a minimum price of \$3 and it was confidently expected that before the middle of the month the price on good smokeless lump and egg would be \$3.25, with mine-run somewhere around \$2 to \$2.15.

The situation on steam coals in the Chicago market is difficult to understand. It is pretty well known that Chicago industries have no large amount of tonnage in storage;

nevertheless they maintain blithely that there is no need to bother about coal as there will be plenty. One mine in Franklin County, controlled by a mail order concern, had so much fine coal on track that it was going to offer a large tonnage of 2-in. screenings to the stockyards at \$1.50. One of the stronger Franklin County operators heard of this and purchased the coal at \$1.55, which kept the market on Franklin County screenings reasonably firm at \$1.75. Industrial coals from Indiana, central Illinois and the Standard district continue to lag on the Chicago market. Some west Kentucky coal is being sold from day to day, but most of it at low prices. Those "in the know" are firmly of the belief that steam coals will advance with domestic sizes during the next thirty days.

The situation in the Williamson, Franklin County and Saline County fields remain unchanged. The tonnage of domestic sizes moving out is unusually small for this season. Steam sizes are moving fairly well and some mines are crushing coal to make screenings. There is a little railroad tonnage from the deep-shaft mines but the bulk of it seems to come from strip mines. The shaft mines are giving one and two days a week to those that are working, while the strip mines are working nearly every day and are shipping a lot of mine-run and some screen sizes, and are doing some crushing.

There is no change in the price situation although Frank-

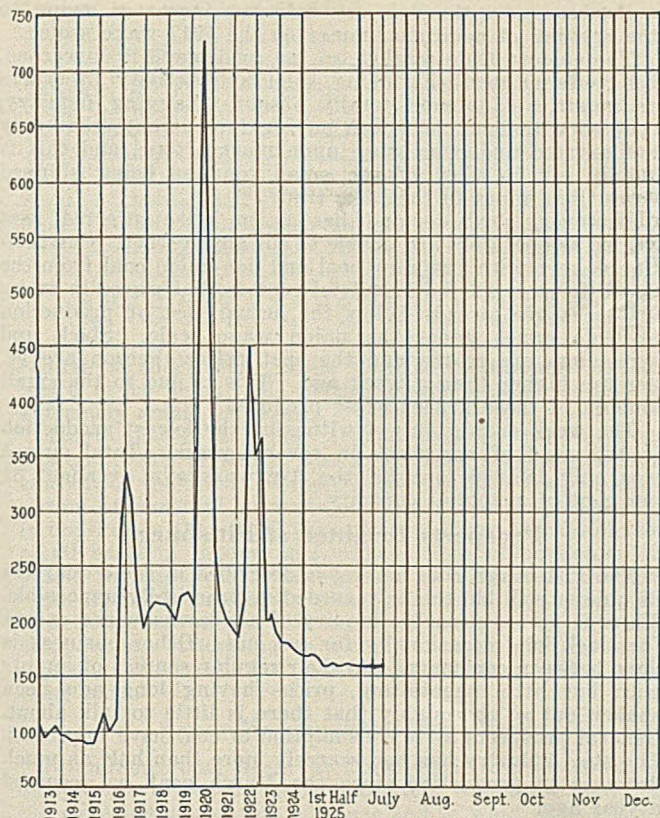
**Current Quotations—Spot Prices, Bituminous Coal—Net Tons, F.O.B. Mines**

	Market Quoted	July 14			July 13		Market Quoted	July 14			July 13		
		1924	1925	1925	1925†	1925†		1924	1925	1925	1925†	1925†	
<b>Low-Volatile, Eastern</b>													
Smokeless lump.....	Columbus....	\$3.85	\$2.85	\$2.85	\$2.75@	\$3.00	Franklin, Ill. lump.....	Chicago.....	\$2.75	\$2.60	\$2.60	\$2.50@	\$2.75
Smokeless mine run.....	Columbus....	2.20	1.85	1.85	1.75@	2.00	Franklin, Ill. mine run.....	Chicago.....	2.35	2.35	2.35	2.25@	2.50
Smokeless screenings.....	Columbus....	1.30	1.30	1.30	1.25@	1.40	Franklin, Ill. screenings.....	Chicago.....	1.70	2.00	2.00	1.75@	2.25
Smokeless lump.....	Chicago.....	3.60	3.10	3.10	3.00@	3.25	Central Ill. lump.....	Chicago.....	2.35	2.35	2.35	2.25@	2.50
Smokeless mine run.....	Chicago.....	1.85	1.85	1.85	1.65@	2.10	Central Ill. mine run.....	Chicago.....	2.10	2.10	2.10	2.00@	2.25
Smokeless lump.....	Cincinnati.....	3.75	2.85	2.85	2.75@	3.00	Central Ill. screenings.....	Chicago.....	1.65	1.75	1.75	1.65@	1.90
Smokeless mine run.....	Cincinnati.....	1.80	1.85	1.95	2.00		Ind. 4th Vein lump.....	Chicago.....	2.60	2.60	2.60	2.50@	2.75
Smokeless screenings.....	Cincinnati.....	1.35	1.25	1.30	1.25		Ind. 4th Vein mine run.....	Chicago.....	2.35	2.35	2.35	2.25@	2.50
*Smokeless mine run.....	Boston.....	4.30	4.25	4.20	4.20@	4.35	Ind. 4th Vein screenings.....	Chicago.....	1.70	1.80	1.80	1.65@	2.00
Clearfield mine run.....	Boston.....	1.80	1.80	1.80	1.65@	1.95	Ind. 5th Vein lump.....	Chicago.....	2.35	2.25	2.25	2.15@	2.40
Cambria mine run.....	Boston.....	2.20	2.10	2.05	1.90@	2.10	Ind. 5th Vein mine run.....	Chicago.....	2.10	1.95	1.95	1.85@	2.10
Somerset mine run.....	Boston.....	1.95	1.90	1.90	1.75@	2.00	Ind. 5th Vein screenings.....	Chicago.....	1.55	1.50	1.50	1.40@	1.60
Pool 1 (Navy Standard).....	New York.....	2.70	2.55	2.55	2.40@	2.70	Mt. Olive lump.....	St. Louis.....	2.85	2.50	2.50	2.50	
Pool 1 (Navy Standard).....	Philadelphia.....	2.80	2.60	2.60	2.45@	2.75	Mt. Olive mine run.....	St. Louis.....	2.50	2.25	2.25	2.25	
Pool 1 (Navy Standard).....	Baltimore.....	1.85	1.85	1.85	1.80@	1.95	Mt. Olive screenings.....	St. Louis.....	2.00	1.75	1.75	1.75	
Pool 9 (Super. Low Vol.).....	New York.....	2.10	2.00	2.00	1.85@	2.15	Standard lump.....	St. Louis.....	2.15	2.25	2.25	2.25	
Pool 9 (Super. Low Vol.).....	Philadelphia.....	2.15	2.00	2.00	1.85@	2.20	Standard mine run.....	St. Louis.....	1.80	1.80	1.80	1.75@	1.90
Pool 9 (Super. Low Vol.).....	Baltimore.....	1.85	1.75	1.75	1.65@	1.85	Standard screenings.....	St. Louis.....	1.45	1.70	1.50	1.50	
Pool 10 (H.Gr. Low Vol.).....	New York.....	1.80	1.85	1.85	1.75@	1.90	West Ky. block.....	Louisville.....	2.10	1.95	1.95	1.25@	1.60
Pool 10 (H.Gr. Low Vol.).....	Philadelphia.....	1.75	1.70	1.70	1.60@	1.85	West Ky. mine run.....	Louisville.....	1.60	1.10	1.10	1.10@	1.40
Pool 10 (H.Gr. Low Vol.).....	Baltimore.....	1.65	1.60	1.60	1.55@	1.65	West Ky. screenings.....	Louisville.....	1.25	1.05	1.10	.90@	1.15
Pool 11 (Low Vol.).....	New York.....	1.55	1.55	1.60	1.50@	1.66	West Ky. block.....	Chicago.....	2.05	2.00	2.00	1.90@	2.15
Pool 11 (Low Vol.).....	Philadelphia.....	1.45	1.55	1.55	1.50@	1.60	West Ky. mine run.....	Chicago.....	1.60	1.35	1.35	1.15@	1.60
Pool 11 (Low Vol.).....	Baltimore.....	1.55	1.40	1.40	1.35@	1.45	<b>South and Southwest</b>						
<b>High-Volatile, Eastern</b>													
Pool 54-64 (Gas and St.).....	New York.....	1.50	1.50	1.50	1.40@	1.65	Big Seam lump.....	Birmingham.....	3.20	2.00	2.00	1.80@	2.25
Pool 54-64 (Gas and St.).....	Philadelphia.....	1.50	1.50	1.50	1.45@	1.60	Big Seam mine run.....	Birmingham.....	1.80	1.75	1.75	1.50@	2.00
Pool 54-64 (Gas and St.).....	Baltimore.....	1.45	1.35	1.35	1.30@	1.45	Big Seam (washed).....	Birmingham.....	2.00	1.85	1.85	1.75@	2.00
Pittsburgh sold gas.....	Pittsburgh.....	2.40	2.40	2.40	2.30@	2.50	S. E. Ky. block.....	Chicago.....	2.10	2.45	2.45	2.30@	2.65
Pittsburgh gas mine run.....	Pittsburgh.....	2.10	2.15	2.15	2.10@	2.25	S. E. Ky. mine run.....	Chicago.....	1.50	1.70	1.70	1.60@	1.85
Pittsburgh mine run (St.).....	Pittsburgh.....	1.85	1.95	1.95	1.90@	2.00	S. E. Ky. block.....	Louisville.....	2.10	2.10	2.10	2.00@	2.50
Pittsburgh slack (Gas).....	Pittsburgh.....	1.20	1.50	1.50	1.40@	1.60	S. E. Ky. mine run.....	Louisville.....	1.55	1.55	1.55	1.35@	1.60
Kanawha lump.....	Columbus.....	2.10	1.85	1.85	1.75@	2.00	S. E. Ky. screenings.....	Louisville.....	.95	1.10	1.10	1.00@	1.15
Kanawha mine run.....	Columbus.....	1.50	1.40	1.40	1.35@	1.50	S. E. Ky. block.....	Cincinnati.....	2.50	2.30	2.25	2.25@	2.50
Kanawha screenings.....	Columbus.....	1.00	1.05	1.15	1.10@	1.20	S. E. Ky. mine run.....	Cincinnati.....	1.45	1.50	1.55	1.25@	1.50
W. Va. lump.....	Cincinnati.....	2.10	2.10	2.25	2.00@	2.50	S. E. Ky. screenings.....	Cincinnati.....	.90	1.16	1.15	1.00@	1.25
W. Va. gas mine run.....	Cincinnati.....	1.35	1.50	1.55	1.35@	1.60	Kansas lump.....	Kansas City.....	4.50	4.00	4.00	4.00	
W. Va. steam mine run.....	Cincinnati.....	1.35	1.30	1.40	1.25@	1.50	Kansas mine run.....	Kansas City.....	3.50	3.00	3.00	3.00	*
W. Va. screenings.....	Cincinnati.....	.95	1.10	1.15	1.10@	1.15	Kansas screenings.....	Kansas City.....	2.50	2.50	2.50	2.50	
Hocking lump.....	Columbus.....	2.45	2.15	2.15	2.00@	2.30	* Gross tons, f.o.b. vessel, Hampton Roads.						
Hocking mine run.....	Columbus.....	1.70	1.50	1.50	1.40@	1.65	† Advances over previous week shown in heavy type; declines in italics.						
Hocking screenings.....	Columbus.....	1.35	1.30	1.30	1.25@	1.40	‡ The term block is used instead of lump in order to conform to local practice, but the same coal is being quoted as heretofore.						
Pitts. No. 8 lump.....	Cleveland.....	2.35	2.20	2.20	1.90@	2.50							
Pitts. No. 8 mine run.....	Cleveland.....	1.85	1.85	1.80	1.80@	1.90							
Pitts. No. 8 screenings.....	Cleveland.....	1.10	1.40	1.40	1.40@	1.50							

**Current Quotations—Spot Prices, Anthracite—Gross Tons, F.O.B. Mines**

	Market Quoted	Freight Rates	July 14, 1924		July 6, 1925		July 13, 1925†	
			Independent	Company	Independent	Company	Independent	Company
Broken.....	New York.....	\$2.34		\$8.00@	\$8.95		\$8.15@	\$8.80
Broken.....	Philadelphia.....	2.39		8.80@	8.95		8.70	
Egg.....	New York.....	2.34	\$8.75@	\$9.00	8.55@	8.95	\$8.50@	\$8.75
Egg.....	Philadelphia.....	2.39	8.90@	9.60	8.90@	8.95	8.60@	9.40
Egg.....	Chicago.....	5.06	7.99@	8.10	7.94@	8.00	7.86@	8.50
Stove.....	New York.....	2.34	9.00@	9.25	8.55@	9.20	9.05@	9.30
Stove.....	Philadelphia.....	2.39	9.25@	9.90	8.95@	9.10	9.40@	9.75
Stove.....	Chicago.....	5.06	8.30@	8.40	8.24@	8.34	8.22@	8.70
Chestnut.....	New York.....	2.34	8.60@	9.00	8.55@	9.05	8.25@	8.60
Chestnut.....	Philadelphia.....	2.39	8.75@	9.70	8.90@	8.95	8.80@	9.65
Chestnut.....	Chicago.....	5.06	8.08@	8.23	8.18@	8.24	8.14@	8.35
Pea.....	New York.....	2.22	4.50@	5.25	4.50@	5.00	5.00@	5.80
Pea.....	Philadelphia.....	2.14	5.75@	6.25	5.75@	6.00	5.50@	5.75
Pea.....	Chicago.....	4.79	5.13@	5.45	5.36@	5.91	4.91@	5.36
Buckwheat No. 1.....	New York.....	2.22	2.00@	2.50	3.00@	3.15	2.00@	2.50
Buckwheat No. 1.....	Philadelphia.....	2.14	2.50@	3.00	3.00		2.15@	2.75
Rice.....	New York.....	2.22	1.50@	2.15	2.00@	2.25	1.75@	2.00
Rice.....	Philadelphia.....	2.14	2.00@	2.25	2.25		1.85@	2.00
Barley.....	New York.....	2.22	1.00@	1.50	1.50		1.35@	1.50
Barley.....	Philadelphia.....	2.14	1.50		1.50		1.40@	1.50
Birdseye.....	New York.....	2.22	1.10@	1.50	1.60		1.35@	1.60

\* Net tons, f.o.b. mines. † Advances over previous week shown in heavy type; declines in italics.



Coal Age Index of Spot Prices of Bituminous Coal F.O.B. Mines

Index .....	1952			1924
	July 13	July 6	June 29	July 14
Weighted averaged price	\$1.93	\$1.94	\$1.94	\$1.96

This diagram shows the relative, not the actual, prices on fourteen coals, representative of nearly 90 per cent of the bituminous output of the United States, weighted first with respect to the proportions each of slack, prepared and run-of-mine normally shipped, and, second, with respect to the tonnage of each normally produced. The average thus obtained was compared with the average for the twelve months ended June, 1914, as 100, after the manner adopted in the report on "Prices of Coal and Coke; 1913-1918," published by the Geological Survey and the War Industries Board.

lin County domestic sizes will be increased on Aug. 1 as per circulars mailed out this week. Lump and egg will be \$3; No. 1 nut, \$2.75. In the Duquoin field conditions are unchanged. A couple of mines are getting a few days a week and the others are idle, and every mine has "no bills" on track. In the Mount Olive field conditions are unusually quiet. A little railroad coal is moving out and some mine-run is being crushed. In the Standard district a few mines are working a little and they have a lot of unbilled coal on hand, except screenings, and there is no unusual demand for these.

The St. Louis retail trade continues quiet—practically nothing being delivered. The most noticeable decrease is in the higher grade coals such as anthracite, smokeless and Arkansas as well as coke. The higher grade Illinois coals are practically at a standstill and only the cheap coals are moving on summer apartment business, and this is going at a loss. There is no indication that the situation will show much improvement in the next few weeks. Wagon-load steam is unusually quiet and there is no real activity in carload steam. Country domestic continues quiet and country steam is difficult to find. There is no change in prices.

### Kentucky Movement Heavier

Louisville shippers report better inquiry, but no actual increase in business as a result of the threatened anthracite strike. General coal movement from Kentucky appears to be a trifle better than it had been. Western Kentucky has been offering a larger supply of screenings, but general prices are far from satisfactory. Screenings are reported selling as low as 90c., while the top on best block coal is said to be around \$1.60.

Eastern Kentucky is getting a good movement and has been able to maintain screenings at \$1, with best block at \$2@2.25, and specialty coals selling all the way from \$2.25 to as high as \$3. Steam coal is moving well as a result of industries and railroads being busy. Domestic coal is starting to move a little better and lake movement is the best that eastern Kentucky has ever handled.

It is reported that a good many eastern Kentucky mines are running full. Several companies in the Elkhorn fields are adding long strings of miners' houses and boarding houses, putting on more men, and increasing tonnages. Western Kentucky strip mines are reported at about capacity, but shaft mines are operating one to three days a week.

### Northwest Industrial Demand Not Dead

Trade at the head of the lakes is still dead, but there is some sign of life in industrial demand. Salesmen are being kept on the road, but are doing nothing but spot business. All are waiting for future developments in the mining business.

When bids were opened in Virginia, Minn., for 20,000 tons of splint screenings two of the dock companies and three local dealers all quoted at the market, \$4. It is thought the contract will be divided.

A new schedule of rates between Kentucky mines and Wisconsin, Minnesota, Iowa and North and South Dakota which is to go into effect July 19 will raise the rate on Pocahontas into the Twin Cities and will give the docks the advantage of an additional 25c. a ton.

Prices are steady, with the exception of Pocohontas lump, which is now \$7 at the dock.

Figures on shipments from the docks since the first of the year disclose that 95,214 cars went out during the first six months of this year, whereas last year 99,503 cars were shipped. In June 11,955 cars were shipped from the docks. This compares with 13,401 cars in June of last year and 12,302 cars in March of this year.

Forty-two cargoes were received at the local docks last week, as compared with 51 the week before. Of these, seven were hard coal. Eleven cargoes are reported on the way from lower lake ports, of which one is anthracite.

Receipts at the docks for the first six months of the year came to 1,420,556 tons above the first six months of 1924, according to figures of the District Engineer's office. There was an increase of 214,908 tons in hard coal and of 1,205,648 in soft coal. During last month 151,939 tons of hard coal and 1,295,190 tons of soft coal was received. This brings the total for the first six months to 537,317 tons of soft coal and 2,871,537 tons of soft coal, a grand total of 3,408,854 tons.

The coal trade in Milwaukee is a little better than it has been, but, considering the strike outlook at the hard-coal mines, the consumers in this section are rather apathetic. Dealers report from 30 to 50 per cent less coal in household bins at the present time than on the average in July. The docks are well supplied, but managers yearn for a demand that will make room for further receipts toward carrying them through the winter of 1925-26.

Receipts by cargo up to July 1 total 311,355 tons of anthracite and 805,018 tons of bituminous coal—an aggregate of 1,116,373 tons. Up to the same date of 1924 the receipts were 281,138 tons of anthracite and 586,612 tons of bituminous coal—867,750 tons in all. Receipts for July of this year, up to the 9th, total 94,546 tons—18,500 tons of anthracite and 76,046 tons of bituminous coal. All-rail receipts at Milwaukee during June were 4,320 tons of anthracite and 29,855 tons of bituminous coal.

### Southwest Prepares for Livelier Market

Conditions in the Southwest have changed little since last week. There is a light threshing and school demand, but activity is increasing in the field in preparation for the livelier market expected the latter part of this month and next. There has been no change in the Kansas shaft-coal market, but that for Kansas shovel is a little firmer at \$3@3.50 for lump, \$3@3.25 for nut, and \$2.50 for screenings and crushed mine-run, the same price as is asked for shaft screenings.

Conditions are unchanged in the Colorado coal business. Mines are operating about two days a week. The operators do not look forward to any change for the better until the last week in July in preparation for abnormal movement

on account of the rate reductions which go into effect Aug. 4. Prices have undergone no change.

The Utah trade describes the coal market as a little duller than it has been at this time of the year for some time. This is explained by the fact that no storage rates have been offered this year. Everyone is still convinced that storage rates are not worth while. Industrials outside of the mines and smelters are taking very little coal. Leading operators say they are producing just about enough slack to supply the demand. Dealers other than the mine-owned yards are taking no storage coal. There are quite a few "no-bill" cars on the tracks, consisting of larger sizes of coal. Working time is around two days a week. The labor and car situations are good.

**Cincinnati Situation Puzzling**

The Cincinnati market continues to have difficulty in getting its bearings. Mine-run, which showed signs of strength, after an advance of 10c.@15c. has fallen back almost to the status of the last week in June. Domestic is still in the ruck, and while slack still holds at \$1.10@\$1.15 it does not carry with it the assurance it did last week.

The tonnage movement continues steady and strong, though some embargoes have been imposed by the Baltimore & Ohio against Toledo shipments, but this has caused no tremendous backing up of loads. Country dealers and retailers have by no means responded to the anthracite situation.

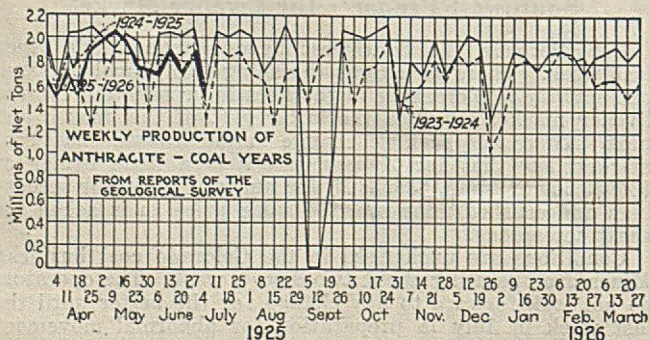
In smokeless the situation is much the same. Only one firm is quoting July deliveries of lump at \$2.75, the rest of the standard people making the basis \$3. Egg is getting most of the attention, being quoted \$2.25@\$2.50, with nut at \$2.25. Mine-run jogs along with a slightly better feeling; there are practically no \$1.75 quotations, most of the New River and Pocahontas firms holding for \$2. Screenings have dropped back to \$1.25.

Heavy rains have interfered with barge movement on the river but are a blessing in that they will hold the water to a level that will permit free movement for some time. The movement is running here and down-the-river ports to 12,000 to 15,000 tons a week.

**Domestic Trade Increasing at Columbus**

At Columbus domestic trade is showing more activity in all directions and producers as well as wholesalers believe that domestic trade will show a considerable increase during the remainder of July. Retailers are beginning to be anxious as to stocks, which are low. Strength is appearing in many lines of domestic coal, particularly in smokeless and splints. Advances in prices are looked for around the middle of the month.

Steam trade is about normal with only a few contracts being made. The larger consumers are still content to buy on the open market rather than enter into agreements, but with reserves rapidly decreasing it is believed that better buying will develop soon. Railroads are taking a considerable tonnage and public utilities also are good buyers. School coal is moving and proposals for tonnage for municipalities and public institutions are being asked for. Country dealers are placing small orders to take care of the threshing trade in farming sections. On the whole the steam trade shows a better tone although the volume of business has not increased to any marked degree. It is believed that the worst of the slump is over, however, and that August will show much better business in every way. Lake trade is progressing satisfactorily with some tonnage going from Ohio mines. Railroads leading to the lower lake ports are crowded with coal trains.



Production in the Pomeroy field has increased owing to the opening of additional mines on the 1917 wage scale.

The eastern Ohio market, so far as demand is concerned, has suffered another sinking spell and activity in orders or inquiries is almost totally absent. Lagging industry, coupled with hand to mouth buying for current needs only has exerted undue pressure upon market tone, and this is keenly felt in view of the small tonnage being shipped from Ohio mines in the Lake trade.

However, slow demand has in no wise affected spot prices, as operators are unable to cut any further. Competition is keen with stripping coal and non-union coal from the South in most all the industrial centers, but prices in many instances are already below the actual cost of production at Ohio mines under the union wage scale. Slack and screenings are scarce and the spot prices thereon are 5c. per ton higher than a week ago. This is due to the small amount of these grades being produced.

The week ending July 4 witnessed the lowest production in this field of any week in several years. Total output was only 183,000 tons for the five workdays, or about 31 per cent of potential capacity.

**Prospects Brighter at Pittsburgh**

The Pittsburgh coal market is described in some quarters as quieter still but this is regarded as practically impossible. There is no open market inquiry of any consequence except for slack, and occasionally for gas nut. Other business is done between consumers and their regular sources of supply with but little negotiating, prices having long ago been shaken out so thoroughly that there is little to talk about. General prospects as to consumption of coal have improved. The steel industry has had scarcely more than half as much decrease in production since the March peak as occurred a year ago.

Another week has passed without any definite developments as to mines in the district reopening at a reduction from the union scale, and there is no sign that anything along this line will occur in the near future.

The Buffalo market is weak and unsteady, some offices having closed because they cannot be maintained at a profit. There is not quite as much complaint of West Virginia encroachment as there was. Certain Allegheny Valley and other Pennsylvania operators, who have lately started up under reduced miners' wages, say that they can compete with West Virginia and in fact they are obliged to if they would stay in business.

The Canadian trade is not in good condition. So many complications have come up that the expected advantage from the giving up of the freight-prepayment rule has about been lost. There is no change in the price situation.

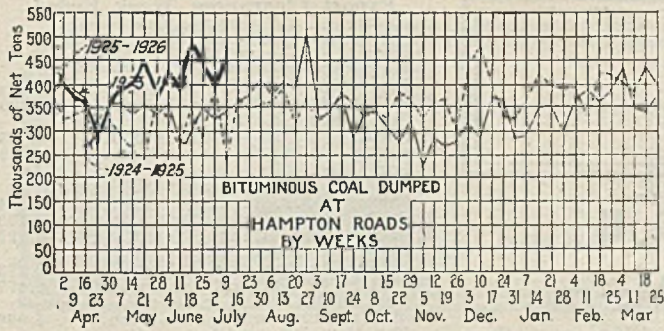
As a result of the predictions of an anthracite strike in the fall, Toronto householders have been laying in large stocks of coal, dealers having been literally swamped with orders for the past two weeks. With the exception of stove coal, supplies are plentiful, and there is little difficulty in filling orders. Prices remain unchanged, as follows: Anthracite, \$15; Welsh anthracite, \$16.50; Pennsylvania smokeless, \$5.85; steam lump, \$6.40; slack, \$5.60; coke, \$12.

**Firmer Front in New England**

The trade in New England has the impression the market is in rather better form than had been the case for several weeks. Less coal appears to be sent forward to the piers on consignment, and while no new buying has materialized there seem fewer soft spots than have been characteristic hitherto. Perhaps part of the reduced output is because of the holiday, but several of the Hampton Roads agencies appear to have adopted a firmer attitude toward sales at less than the \$4.25@\$4.40 range that is their present aim.

Only scattering inquiry has developed thus far for spot coal f.o.b. vessels at Norfolk and Newport News for coastwise delivery. Volume shipments are confined to contracts, and there are no indications now of further contract tonnage being closed for the next few weeks.

On cars at Mystic Wharf, Boston, as well as at Providence and Portland the situation is somewhat better in hand, but there are still openings for the purchase of either spot coal or for deliveries through September and October at levels that are about the same as those that have prevailed since early spring. A range of \$5.20@\$5.25 is by no means impossible, especially at Boston, but among the smaller shippers there is a more determined effort to



realize \$5.30@5.35. While \$5.40 is mentioned we have heard of no actual sale at this figure, unless possibly for extremely small tonnages.

There also is a firmer attitude on the part of retail dealers in this territory, who up to July 1 seemed to throw caution to the winds in their desire to place coal in anticipation of constant arrivals on seasonal arrangements. It is understood that \$7.50 per net ton delivered is the present retail basis in Boston, although a large proportion of the year's tonnage was definitely sold on a much lower level.

On Pennsylvania coals all-rail there is no news. The situation drags along with no relief in sight. A few large shippers are struggling to increase output with a view to reducing overhead, but on present mining costs orders come hard.

**Freer Movement at New York**

Bituminous coal users at New York are watching developments in the hard-coal situation, wondering how long the expected suspension will last and to what extent it will affect the soft-coal industry.

There is a freer movement of coal, but no changes in prices, so far as classified coals are concerned. Quality coals frequently are offered at from 15c. to 20c. below current quotations for the better grades, while individual producers of the best grades frequently quote 10c. higher than the maximum market quotations for those classes of coal.

Buyers here are not anxious to increase their standing orders. Contract coals are moving freely, but free coals are hard to move unless an attractive offer is made. There is very little of Pool 1 coal offered at the local tidewater piers.

At Philadelphia the looked-for improvement after July 1 is slow to present itself. There are days now when improvement is noticeable, but it quickly vanishes. It does seem at times as if the moderate buyer is beginning to look to his supplies and is ordering somewhat better than ordinarily. Stockpiles around all plants, except the utilities, however, are meager for this season.

Even if there is a hard-coal suspension it will take a long time to affect soft coal, as the anthracite companies have millions of tons in storage. The threat of a general strike, including soft coal, is looked upon as mere talk.

Tide conditions are unchanged. The only expectation of better business lies in the direction of bunkering.

The soft-coal industry at Baltimore is largely living for the future. There are promising signs for the near future in the home field and a strong expectation that the export and bunker business is due for an increase. The expectations of improvement are based on expected troubles in the coal fields here and in Great Britain.

**Birmingham Market Featureless**

The Birmingham market is devoid of any features of special interest. Inquiry for spot domestic is said to be slightly better than it was in June; more coal is moving on contracts and mines are managing to book enough business to move the surplus high-grade coals without unreasonable delay, but much solicitation is required.

Steam demand is just about as it has been for some weeks as a whole. Some agents and brokers report inquiry as showing a little strength as compared with last month, and production records would seem to indicate a slight gain in movement of commercial coal, but buying for the most part is still on a hand-to-mouth basis. Prospects are said to be good for further displacement of oil in favor of coal on the part of industries in this territory. There is no change in bunker trade, consumption in this direction being about normal for the season. Prices are unchanged.

**Strike Gossip Stiffens Anthracite**

Strike talk has strengthened the anthracite market at New York. Demand has increased and independent coals are bringing better prices than last week. Preparations are under way for increasing the quantity of Welsh coal imported into this market by the establishment of agencies with local houses. It is believed that the coal can be delivered at prices below those charged for Pennsylvania anthracite.

Operators of small mines admit that if market conditions had not improved during the last week or ten days they would have been obliged either to curtail output or suspend operations entirely

Stove is the size most asked for and egg is in fair shape. Chestnut continues to drag along, with pea coal increasing in demand, especially along the line. Rice and barley are being stocked in large quantities by the smaller operators. No. 1 buckwheat is in fair condition.

The Philadelphia hard-coal situation fails to improve, and the retail trade is just dragging along. There is some increase of buying due to the strike threat, but it is far less than was expected. Retail dealers seem more inclined to buy, although their difficulty is to find room for additional coal. Occasionally blocks of pea and nut sell a little off price, but as a rule operators are shutting down for a day or two rather than cut prices. Of course, company producers are holding to their schedules.

Pea has become draggy during the past week and chestnut is at its heels. Stove is in strongest demand. Egg is moving only fairly well. Steam sizes are troublesome and the independents are willing to take a cut on both buckwheat and rice to move them. Barley is perhaps in better demand.

Although the air is full of rumors regarding the likelihood of a strike in the anthracite regions there is no general response from Baltimore consumers in the matter of storing against the needs of the coming fall and winter. There are some exceptions, such as the award of a contract by the city for 6,000 tons of hard coal for immediate delivery. Consumers seem to wait until the last minute before ordering, and this condition has become more pronounced with each raise in the price.

The Buffalo anthracite trade is about as quiet as it ever is at this time of the year. As a rule consumers are not paying much attention to the prospect of a fall strike, which a good many people regard as pretty certain to take place.

The coke trade has not shown much life lately and it will be quiet till the fall coolness starts the house furnaces up. Then, if prices remain as low as they are, the trade ought to show a good activity.

The lake trade is quiet. For June the shipments were only 296,400 tons, as against 383,900 tons in June last season, and for the season to July the shipments were 986,964 tons, as against 854,000 tons to the same date last season.

**Connellsville Coke Market Drags**

The Connellsville coke trade is not at a settled gait until improvement comes in the iron trade. There have been no developments in the past week and there can hardly be any in the future, until some change occurs in the position of consumers. Most of the blast furnaces that use purchased Connellsville coke are out and those now in will certainly stay.

Contract furnace coke remains nominal at \$3@3.25, there being no negotiations. Spot furnace coke remains at \$2.75@2.85, on the basis of small lot buying by non-metallurgical consumers.

Spot foundry coke is moving slowly, at \$3.75@4.25 as the general range, hitherto quoted, but with sales chiefly at \$3.75@4. There hardly will be more activity until foundry operations increase.

**Car Loadings, Surplusages and Shortages**

	Cars Loaded	
	All Cars	Coal Cars
Week ended June 27, 1925.....	991,341	159,473
Previous week.....	982,600	153,663
Week ended June 28, 1924.....	908,251	144,753

	Surplus Cars		Car Shortage
	All Cars	Coal Cars	
June 30, 1925.....	307,495	109,404	.....
June 27, 1925.....	308,825	111,820	.....
June 30, 1924.....	356,389	162,343	.....

## Foreign Market And Export News

### British Coal Market Still Dull Despite Possible Tie-Up

Events appear to be moving rather rapidly in the Welsh coal industry. At the end of June the employers gave notice of the termination of the national wage agreement with the miners on July 31. Therefore South Wales has entered an anxious period, and although for several weeks past conditions have been very depressed and trade has not shown any revival, much may happen in the course of the next month.

A rise to the highest point for eighteen months in South American freight rates impedes business in this direction and, with growing stocks and consequent tying up of rolling stock, the collieries are working irregularly. The low level of the lira and franc contribute to making a negligible new inquiry from France and Italy. Spain is the busiest spot at the moment, although buying is below the average. Coaling depots are holding off.

The Newcastle coal trade was not upset so much as usual by the race week holidays, there being little to upset. In the coal fields there was less dislocation, too, as so many miners are idle in any case. Pits continue to close down, and though two of the big groups which were expected to suspend have been able to carry on it is only on a day-to-day notice system. Prices on all grades are substantially unchanged, but in no case is there a testing in the market. Inquiries are scarce and mainly on account of small Continental gas concerns for small parcels.

Output by British collieries in the week ended June 27, a cable to *Coal Age* states, totaled 4,420,000 tons, compared with 4,465,000 tons in the preceding week.

#### Hampton Roads Trade Reacts To Strike Rumors

Business at Hampton Roads last week began to react slightly to rumors of the impending strike. The trade was reluctant to sell in advance of twenty days deliveries, although mines in this territory were not increasing their production in anticipation of a possible walkout.

Strike rumors had not served to

strengthen prices, however. Some fairly heavy foreign movement took place during the week, but was regarded as simply a flurry which frequently occurs. The tone of the market was fairly strong.

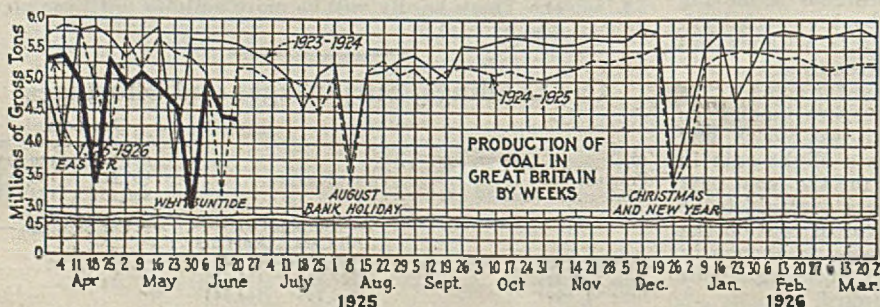
#### Industrial Demand Subnormal In French Market

The French coal market is weaker. Demand from power plants, metallurgical works, certain branches of the textile industry and glass works are below normal. Sugar factories alone seem decided upon increasing their orders, in view of the autumn campaign. Owing to these conditions, prices for industrial coals, although not officially changed, are subject to concessions. Foreign competition also obliges French collieries to show some conciliation, in order not to lose business.

Import licenses on German fuels have not yet been re-established and the Nord, Etat and Orleans railways have objected to granting reduced freight tariffs from the Nord and Pas-de-Calais to the Western region. The Orleans and Midi railways, however, have agreed to make concessions for the transport of coal from the center region toward Bordeaux and the ocean side.

The coal output in May was 3,829,000 tons for twenty-four working days, against 3,919,000 tons in April for twenty-five working days. The daily output in May was 159,530 tons for 310,686 persons employed, as against 156,760 tons in April for 312,381 persons employed, and 136,147 tons, the 1913 monthly average for 203,208 persons employed.

The May coke output was 255,000 tons, which means that for the first time the prewar average of 245,000 tons in 1913 has been exceeded. It should be noted that the mines in northern France, which were wrecked when flooded by the Germans during the war, are now producing more than before the war. The daily output of such mines is 95,000 tons, which is 3,708 tons greater than the daily average in 1913.



#### Export Clearances, Week Ended July 11, 1925

FROM HAMPTON ROADS	
For West Africa:	Tons
Ital. Str. Fortunato, for Dakar.....	6,109
For France:	
Fr. Str. P. L. M. 15, for Rouen.....	5,583
Nor. Str. Hellen, for Marseilles.....	6,209
For Italy:	
Span. Str. Astor Mendi, for Porto Ferrajo.....	6,854
Ital. Str. Valsavoia, for Porto Ferrajo	7,700
Ital. Str. Clara Cannis, for Venice..	4,225
For Nova Scotia:	
Nor. Str. Factor, for Halifax.....	2,273
Br. Str. Trickenham, for Sydney....	7,477
For Danish West Indies:	
Nor. Str. Annavore, for Curacao.....	5,006
For New Brunswick:	
Dan. Str. Christiansborg, for St. John.	4,679
Nor. Str. Speed, for St. John.....	1,520
For Canada:	
Nor. Str. Thorsdal, for Three Rivers.	3,156
Ital. Str. Monte Nevoso, for Montreal	7,005
Br. Str. Wabana, for Quebec.....	7,406
Nor. Str. Cubano, for Montreal.....	7,321
Br. Str. Kamouraska, for Quebec....	7,164
Br. Str. Daghlid, for Quebec.....	11,349
For Mexico:	
Nor. Str. Alaska, for Santa Rosalia..	2,510
For Brazil:	
Br. Str. Dovenby Hall, for Rio de Janeiro.....	3,632
Br. Str. Induna, for Rio de Janeiro..	7,000
Br. Str. Pensilva, for Pernambuco...	6,136
For Cuba:	
Nor. Str. Askeladden, for Havana... 3,792	
Br. Str. Berwindmoor, for Havana... 9,471	
For Dutch Guiana:	
Amer. Schr. Emerett, for Paramaribo	962
For Argentina:	
Swed. Str. Sagoland, for Puerto La Plata.....	7,995
For Newfoundland:	
Br. Str. Shearbrook, for St. Johns... 2,471	
For Canal Zone:	
Nor. Str. Frem, for Cristobal.....	300

#### FROM BALTIMORE

For Cuba:	
Nor. Str. Wascana.....	4,000
For Chile:	
Br. Str. Apsley Hall, for Antofagasta (coke).....	1,467

#### Hampton Roads Pier Situation

N. & W. Piers, Lamberts Pt.:	July 2	July 9
Cars on hand.....	1,839	1,368
Tons on hand.....	117,458	84,656
Tons dumped for week.....	111,958	130,388
Tonnage waiting.....	20,000	22,000
Virginian Piers, Sewalls Pt.:		
Cars on hand.....	908	787
Tons on hand.....	67,050	51,000
Tons dumped for week.....	85,150	91,676
Tonnage waiting.....	5,160	2,891
C. & O. Piers, Newport News:		
Cars on hand.....	4,648	2,391
Tons on hand.....	186,725	114,065
Tons dumped for week.....	161,002	196,511
Tonnage waiting.....	6,990	12,200

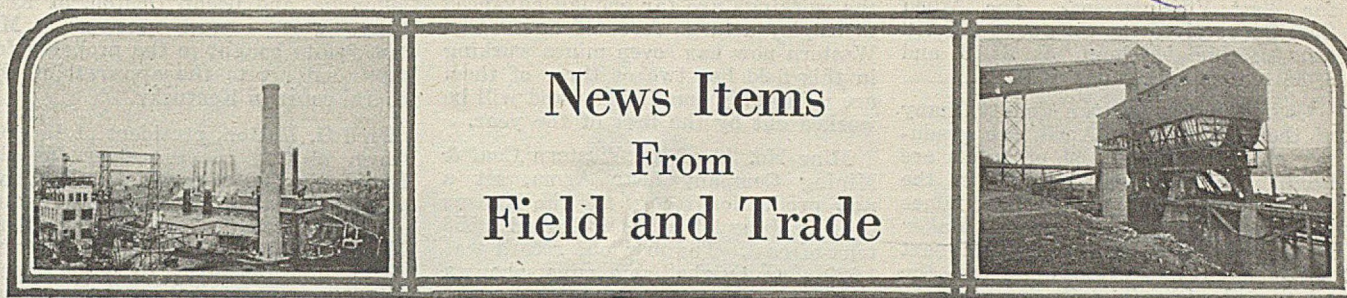
#### Pier and Bunker Prices, Gross Tons

	PIERS	
	July 3	July 10†
Pool 1, New York...	\$5.40@5.70	\$5.35@5.60
Pool 9, New York...	4.75@5.00	4.75@5.00
Pool 10, New York...	4.50@4.60	4.50@4.60
Pool 11, New York...	4.25@4.50	4.25@4.50
Pool 9, Philadelphia...	4.65@4.90	4.65@4.90
Pool 10, Philadelphia...	4.35@4.55	4.35@4.55
Pool 11, Philadelphia...	4.25@4.30	4.25@4.30
Pool 1, Hamp. Roads	4.20	4.25
Pool 2, Hamp. Roads	4.08	4.20
Pools 5-6-7, Hamp. Rds.	4.00	4.00
	BUNKERS	
Pool 1, New York...	\$5.65@5.95	\$5.60@5.85
Pool 9, New York...	5.00@5.25	5.00@5.26
Pool 10, New York...	4.75@4.85	4.75@4.85
Pool 11, New York...	4.50@4.75	4.50@4.75
Pool 9, Philadelphia...	4.80@5.05	4.80@5.05
Pool 10, Philadelphia...	4.60@4.80	4.60@4.80
Pool 11, Philadelphia...	4.45@4.65	4.45@4.65
Pool 1, Hamp. Roads	4.30	4.30
Pool 2, Hamp. Roads	4.15	4.20
Pools 5-6-7, Hamp. Rds.	4.10	4.10

#### Current Quotations British Coal f.o.b. Port, Gross Tons

Quotations by Cable to <i>Coal Age</i>		
	July 4	July 11†
Cardiff:		
Admiralty, large.....	24s.6d.@26s.	26s.6d.
Steam smalls.....	15s.6d.	15s.@16s.6d.
Newcastle:		
Best steams.....	17s.@17s.6d.	17s.@18s.
Best us.....	18s.6d.	18s.
Best bunkers.....	15s.@16s.3d.	17s.@18s.

† Advances over previous week shown in heavy type; decline in *italics*.



## ALABAMA

Judge Elbert H. Gary, chairman of the board of directors of the United States Steel Corporation, is scheduled to arrive in Birmingham this week for a visit of several weeks. Developments of importance are expected to follow his trip, which will be his third trip to the district in the past three months, during which he has closely inspected the properties of the Tennessee Coal, Iron & Railroad Co. and its subsidiaries.

The Alabama By-Products Corporation, Birmingham, has been awarded an order for a large amount of coal to be consumed by the American Sugar Refining Co. in the New Orleans territory, replacing oil in the Louisiana sugar fields it is announced. The contract will require approximately 700 tons per day, which will be shipped from the Alabama fields by the Warrior River barge line.

The Woodward Iron Co., Woodward, of which Frank H. Crockard is president, is sinking a shaft, air shaft and slope at the new Crockard mine, near Mulga. Dormitories and a dining hall are under construction and hoisting and power house, boiler house, machine shop and blacksmith shop are to be built. The mine will be served by a 4½-mile switch, now under construction, and the output will go to the washery at Woodward, to be manufactured into coke for use in the manufacture of pig iron for the company.

The State Board of Mine Examiners will hold its mid-year session in the offices of Chief Mine Inspector Charles H. Nesbitt July 27-30 for the consideration of applications for certificates of competency to hold positions as mine foremen and firebosses in Alabama coal mines. These examinations are held semi-annually in January and July.

## ARKANSAS

Mines of the Fort Smith-Spadra Coal Co. are now operating on a union basis, according to William Pendergrast, manager. Recently the management announced that the 1917 wage scale would be adopted and an explanation of the recent change was refused. The mines are said to be running at practically normal capacity since the re-adoption of the 1924 contract. Previously miners in the local field and from Denning picketed the mines and paraded in automobiles in the streets of Alix, Denning and Altus. Four mines are running open shop in the union field and it is reported union

miners are attempting reorganization of these mines under the 1924 wage agreement.

## COLORADO

The State Industrial Commission on June 30 handed down an award allowing the Leyden Coal Co., operating mines in Jefferson County, to reduce the wages of its miners to the 1919 scale, amounting to a cut of 20 per cent. The company, along with numerous other companies operating in the northern Colorado field, had asked permission to reduce to the 1917 scale—about a 30 per cent cut. The miners protested and the matter went to hearing before the commission. The award is identical with those made in ten other cases in the northern field.

Colorado coal mines produced 604,393 tons in May and 3,943,374 tons during the first five months of this year, according to the monthly report of James Dalrymple, state coal mine inspector. The report shows that for the first five months of 1925 there has been a decrease in coal production in Colorado from the figure for the same period of 1924, which was 4,403,647, or a decline for 1925 of 460,273 tons. In May, Las Animas County led in coal output with a total of 243,832 tons.

## ILLINOIS

The Scott-Smith Coal Co., of St. Louis, operating a large strip mine at Duquoin, has sold its entire holdings to a number of business men of Duquoin, headed by James McSherry. The mine was owned by E. J. and Thomas Scott, both of St. Louis, and was managed by M. D. Maguire, of Duquoin.

The Nason Coal Co. is operating its mine at Nason full time, producing about two thousand tons of coal per day. The payroll is running from \$40,000 to \$50,000 every two weeks. The company recently received the contract for supplying the city of Woodstock with coal after that city had completed the chemical analysis of the coals of the four lowest competitive bidders.

Edwin H. Conrades has resigned as president of the Merchants and Manufacturers Investment Co., holding company for the Donk Brothers properties. He has been succeeded by Erle S. Ormsby, who was vice-president. It is understood that the holding company is to dissolve and that the stockholders will exchange their holdings for Donk Brothers Coal & Coke Co. stock, share for share. The holding company, cap-

italized at \$1,000,000, was formed to handle the various Donk Brothers properties, which included approximately 30,000 acres and three railroads. The railroads were sold several months ago. The stock of the Donk Brothers Coal & Coke Co. is said to have a book value of approximately \$325 a share.

The Chicago, Wilmington & Franklin Coal Co. has announced plans for opening Orient Mine No. 1, at Orient, for the balance of the year. The mine, one of the biggest producers in the state, has been closed down for a month or six weeks.

A. D. Lewis, formerly assistant director of the State Department of Mines and Minerals of Illinois, has been named as director, succeeding Martin Bolt, who died June 23. Governor Small made the appointment on July 3. Mr. Lewis is a brother of John L. Lewis, president of the United Mine Workers.

The Astoria Fuel Co., Astoria, has resumed mining operations. This is known as the Bucher mine.

The Fairbury Coal Co., Fairbury, operating the west mine at that town, has abandoned the workings to the north of the shaft on account of bad roof and low grade of coal and is now driving entries to the southwest into a field where the roof is good and a satisfactory grade of coal obtained. Rooms are being provided for about twenty miners.

A. W. Hinkle has sold his mine near Astoria to John Wherley and Charles Butler, for a consideration of \$3,500.

After being unused for several years, the coal mine at Rutland has been leased for a year by August Calvetti and Veness Copp, who will soon place the property in a workable condition.

Mathew O'Donnell will open a new mine on his farm near St. Augustine, where a 4-ft. bed of coal is located only 30 ft. below the surface. Coal was mined there many years ago. This will make the sixth mine to be operated in the vicinity of St. Augustine.

## INDIANA

The Bickett & Shirkie Coal Co., of Terre Haute, has filed a certificate of dissolution with the Secretary of State.

The contract for providing the city schools of Indianapolis with coal for the coming winter, entailing an expenditure of nearly \$100,000, has been awarded to the Peoples Coal & Cement Co., of Indianapolis, and the Indianapolis Coal Co. on a joint bid of \$5.37

for West Virginia coal. The Allied Coal Co. received the contract for 9,018 tons of Indiana lump at \$4.18 and 8,488 tons of screenings at \$3.48.

Coal mines in Sullivan County, many of them down since April, are gradually resuming work, and prospects are bright for increased activity in the field. Peerless, one of the best mines in the county, is at work again. Baker mine may start working in the next ten days. Ebbw Vale mine and the mine of the City Coal Co. are working and some of the shafts of the Vandalia Coal Co. are working part time. Glendora and Reliance mines have been working a few days each week all summer and their schedule will be increased soon.

### IOWA

The Pearson Coal Co. has struck a good bed of coal at a depth of 45 ft. at the new coal mine which the company is sinking near Hawleyville.

### KANSAS

The appointment of four members to the State Mine Examining Board was announced by Governor Paulen, July 6. R. A. Gray and Fred Kempster, both of Pittsburg, were reappointed. William Devlin, of Scammon, and John B. Fulton, of Frontenac, will be new members of the board. At a meeting of the four appointees in Pittsburg, July 8, Prof. J. A. Yates, of the State Teachers' College, at Pittsburg, was selected as the fifth member of the board. This will be the fifth year Professor Yates has served in this capacity. Mr. Gray and Mr. Fulton represent the operators, Mr. Kempster and Mr. Devlin, the miners. The first examination by the new board will be in Pittsburg July 18.

J. S. Patton, who has a lease on the Hamilton Coal Co. mine No. 7, near Frontenac, has announced the mine will reopen on a co-operative basis. Every worker in the mine, which ordinarily employs eighty men, will be expected to buy shares in the company, with a maximum of ten shares, par value \$100 each, to a man. Each purchaser will be required to pay cash for one share, 25 per cent of his net earnings to be deducted each month until the remainder of his allotment is paid for. In the lease are included 850 acres of coal land. Matt L. Walters, president of district 14, United Mine Workers, has announced that district officers will not sanction the plan.

The Verdigris River Coal Co., controlled by Eastern capital, has obtained options on approximately 31,100 acres of coal lands about four miles southwest of Independent. The coal bed is down about 800 ft. and is thick and of good quality.

The Western Coal & Mining Co., it is reported, will within 30 days begin sinking shafts for two large mines. One will be near Arma in Crawford County while the other will be at Minden, Mo., just across the state line. The former will employ 350 men and the latter 250 after development, but it will be some time next year before

the workings are far enough advanced to employ a large force of men. The Western now has seven mines working in this field but two or three of them are using only small shifts and will be worked out by the first of the year.

Mine No. 20 of the Western Coal & Mining Company near Arma, set a new production record for the Kansas field on June 30, when it loaded 1,553 tons of coal. The previous record was 1,529 tons, by the same mine, about a year ago.

The Jackson-Walker Coal & Mining Co. has leased its No. 17 mine, a large shaft near Frontenac, to James Murphy and Samuel Thornberg. The lease is for ten years. Improvements costing \$3,000 will be made before the mine is started, late in July. It had been idle since April 1. The new firm will place its coal on the local markets. Leasing this mine leaves the Jackson-Walker without a mine to be operated by itself, all the mines controlled by the company being leased.

### KENTUCKY

Joseph Briscoe, receiver for the Stevens Branch Coal Co., of Alphoretta, has received permission of Judge A. M. J. Cochran of the U. S. District Court for eastern Kentucky to lease this property to a company which will be incorporated under the Kentucky laws and will be composed of gentlemen from that state.

Reports from Pineville and other eastern Kentucky sections show that there has been some interruption to coal mining since July 1 on account of heavy rains and electrical storms, some mines having been flooded as a result of cloudbursts sweeping down valleys, while power lines have been down and in trouble as a result of lightning striking them.

Bloodhounds were responsible for the capture of Howard Childress, charged with an attempt to burn the tippie of the Mary Helen Coal Co., in Harlan County. Officers had to fire into a shack in which he had taken refuge, before he gave himself up.

C. W. Fleming, president of the Elkhorn Coal Corporation, of New York, recently announced at Fleming that his company had let contracts for fifty additional miners' homes at the Wheelwright plant of the company and was considering as many more at the Hemphill mines. Carpenters are now at work on 100 new miners' homes at McRoberts, for the Consolidation Coal Co.

All of the property of the Alma-Thacker Coal Co., which had headquarters in Columbus and which operated three large mines in Pike County, Kentucky, was purchased at receivers' sale June 15 by Attorney D. N. Postlewaite, of Columbus, representing a syndicate which probably will take over the mines and start operations. The property consists of modern equipment for three mines, 100 acres held in fee simple and a lease on approximately 3,000 acres more. The company went into the hands of receivers about a year ago when Robert L. Laylin, of

Columbus, and Glenn Deaton, of Kentucky, were named receivers. Mr. Postlewaite bought in the property for \$5,000 subject to the approval of the federal court in Kentucky.

Fred G. Hatton, president of Hatton, Brown & Co., Inc., receiver for the Himler Coal Co. of Himlerville, Ky., announces that production at the mines is being steadily increased. Judge Hough, in the federal court at Columbus, ordered the mines to resume operations soon after the receiver was named. About 200 men are employed and it is hoped to have the tonnage brought up to about 1,600 daily soon. The company holds about 3,000 acres of coal lands on a lease. A portion of the tonnage produced is going into the lake trade.

### MISSOURI

The sinking of the shaft at the new coal mine on the Watson Brothers farm, south of Richmond, is again under way after delays due to water. All the water has been pumped out and work resumed. The shaft is now down about 50 ft. It is thought the shaft will have to be sunk about 80 ft. No more trouble is expected from water.

C. H. Krause, vice-president and treasurer of the Willis Coal & Mining Co., of St. Louis, Mo., states that the *Coal Age* report of June 25th that his company had gone into voluntary bankruptcy was incorrect. Instead, the action was an equity receivership brought about by some of the stockholders and creditors of the company for the purpose of protection and conservation of the property "during this time, when the entire coal business in Illinois has been having hard times to contend with."

### MONTANA

Steps are being taken for the formation of the Montana East Belt Coal Co., to operate a property near Great Falls. The trustees will be Edward Reese, George D. Ayers and H. N. Stockett. "The coal is almost anthracite and the best left in the Northwest," said Mr. Reese. "It lies flat and in a property having an area of 1,500 acres. The three coal seams are 6 to 18 ft. thick and separated by streaks of slate an inch thick. The covering is sandstone and the base is fireclay. The covering is 400 ft. in thickness. The coal is above the water level and has been entered by seven tunnels. The Great Northern Ry. and the Anaconda Copper Mining Co. have mined in the district for many years."

### NEW YORK

Percy E. Barbour has announced his resignation as assistant secretary of the Mining Institute of Mining and Metallurgical Engineers and as editor of *Mining and Metallurgy*.

Creditors of the New York & Brooklyn Fuel Co., of 113 Ninth Street, Brooklyn, protested last week to Bankruptcy Referee McDonald in Brooklyn against accepting the \$800,000 bid of





Courtesy Bertha-Consumers Co.

**Playground at Rachel Mine**

The Bertha-Consumers Co. does its part in keeping the younger element contented, as is attested by the playground at its Rachel mine, at Rachel, W. Va. Slides, swings and other amusement features are provided. The building in the background is a school maintained by the company.

the Lee Coal Co., of Wilkes-Barre, Pa., and 17 Battery Place, Manhattan, for the company's plant and the \$8,000 offer of R. M. Egan & Co., Inc., of 1 Broadway, Manhattan, for 2,000 tons of coal in the plant.

On account of the Maher Collieries Co., of Cleveland, going into a combination, the Buffalo office, opened several years ago by O. E. Southard as resident manager, closed July 15. Mr. Southard may continue the business on his own account.

**OHIO**

The attitude of public officials in the Pomeroy field, where the labor situation has been intense recently due to the reopening of several mines and efforts of United Mine Workers officials to call the men out, is strikingly shown in the action taken by Meigs County, O., commissioners, who, July 9, appropriated \$2,000 to take care of the salaries of deputy sheriffs appointed to guard properties of the Pittsburgh Coal Co., the Statler Essex Co. and the Great Lakes Mining Co. A tippie of the Pittsburgh Coal Co. was burned in that district more than a week ago.

Armed guards are patrolling the substations of the Southern Ohio Power Co., which furnishes electrical energy for the Pomeroy district, following recent disorders between union and non-union coal mining factions. All undergrowth has been cut away for a considerable distance around the property and powerful lights have been set up on the premises. The company furnishes power to all the mines and other business enterprises.

**PENNSYLVANIA**

Lightning on July 10 struck the coal tippie of Montour mine No. 9 of the Pittsburgh Coal Co., 2½ miles northwest of McDonald, and set it on fire. Firemen were unable to check the blaze and the tippie was destroyed with a loss of \$100,000. The building was equipped with the most modern machinery, hav-

ing been built in 1917. It served two shafts. The tippie was more than 500 feet long.

The biennial convention of District 1, United Mine Workers, will be held July 20 in the Wilkes-Barre Y. M. C. A.

Mine No. 2 of the Rosedale Coal Co., located at Poland, the tippie of which was burned several weeks ago, resumed operations on July 7, and on a non-union basis. Over 50 miners have been employed by the company and loading at the outset was at the rate of about 400 tons a day. It is stated by officials of the company, however, that the mine will be operating in full within a year. When running to capacity the Poland mine has a daily output of about 1,000 tons and employs about 150 men. The mine of the same company at Morgantown, on Scotts Run, is being operated on a full-time basis and independent of any agreement with the union.

As was expected, the board of directors of the Lehigh Valley Coal Co. at its meeting June 30 declared a dividend of \$1.25 per share on the certificates of interest in the capital stock to be distributed by the trustees on Aug. 1 to certificate holders of record on July 11, 1925, who have filed affidavit of non-ownership of Lehigh Valley Railroad Co. stock, as provided in the final decree of the U. S. District Court, Southern District of New York, dated Nov. 7, 1923.

The Reading Co. during the month of May, 1925, transported 1,324,784 tons of bituminous coal as compared to 1,285,587 tons in May, 1924.

A public statement that probably will bring an end to the factional disputes in progress for months at the Woodward colliery in Edwardsville of the Glen Alden Coal Co. has been issued by John L. Lewis, international president of the United Mine Workers. Mr. Lewis has declared that local union 1145, Woodward colliery, headed by Adam Dunn, has "the full co-operation of the international organization while it complies with our constitution and contract."

The Ruth Coal Co., of Natrona, has gone into bankruptcy. The first meeting of creditors has been called for July 21. The schedules show assets of \$16,340 and liabilities of \$29,672.94.

**UTAH**

E. E. Jones, superintendent; Joseph Parmley, chief clerk of the Utah Fuel Co. at Castlegate, and other employees of the company in Carbon County, together with a number of other men were on June 30 released from the Carbon County jail on heavy bond to stand trial in connection with the lynching of a negro murderer near Price some weeks ago. The trial is expected to come up in the fall. The men will be charged with first degree murder. The negro's crime was of a particularly savage character and the accused are heroes in the county.

**WEST VIRGINIA**

Belief is expressed here that something definite will develop in the \$100,000,000 coal merger in northern West Virginia within a short time. Fairmont representatives of the merger interests have been summoned to New York City. It is reported that 60 coal companies in Harrison, Marion and Monongalia counties are interested in the merger.

In the first six months of this year the coal mines of northern West Virginia loaded 9,341,250 net tons compared to 10,205,050 tons in 1924, 14,205,600 tons in 1923, 5,275,200 tons in 1922 and 7,003,850 tons in 1921.

The Mineral States Coal Co. and Richland Marshall Coal Co., of Marshall County, which had been served with notices by Sheriff Fred McNinch that their plants would be closed unless delinquent taxes aggregating \$12,000 were paid, appeared in Circuit Court at Moundsville with their attorneys, July 6, and sought permission to continue operation upon the promise to make payment soon. The court granted the request.

C. P. Collins, consulting engineer, announces that he has purchased the interests of the Clarksburg Engineering Co., Inc., with offices at 801-2 Goff Bldg., Clarksburg.

The property of the Smith Pocahontas Coal Co., of Caloric, Wyoming County, for which stockholders refused an offer of \$500,000 a few years ago, was sold in front of the court house at Princeton, Mercer County, on July 3, to satisfy a mortgage of \$75,000 held by J. C. Pack, of Freeman. Mr. Pack was the only bidder. Stockholders will receive nothing for their stock nor will the holders of other claims. There were few outstanding claims against the company as a matter of fact. General depression in the coal industry and the inability of the company to produce coal at a price that would yield a profit are given as the reasons for the failure of the concern, which is equipped to mine and ship 10,000 tons of coal a month. The holdings of the company are on the main line of the Virginia Ry. and enjoy Eastern and Western railway connections.

Four mines of the Richland Coal Co. in the Panhandle District of West Virginia were ordered closed July 6 by Circuit Court Judge Brennan after the receivers of the company, John P. Arbenz and the Dollar Savings & Trust Co., had filed a petition declaring that the mines could not be operated at a profit at present. The mines, which normally employ about 2,000 men, have been operating with reduced forces since May 1.

In the first quarter of the current year the Island Creek Coal Co. produced about 1,245,000 tons of coal and earned, after reserves for depreciation and depletion and the period's dividend of \$1.50 on the nearly 50,000 shares of preferred stock, a sum sufficient to cover the regular dividend of \$2 on the 118,801 shares of common, as well as an extra dividend of \$1. In the quarter just ended the Island Creek established a new high record for the three months output.

### CANADA

Quiet has latterly prevailed in the Cape Breton strike area. The inquiry into the death of William Davis, the miner who was shot by the police at New Waterford on June 11, was opened before Police Magistrate J. J. Smith on July 7. True bills have been found in the Supreme Court against 21 men concerned in the recent rioting for various offenses, and these cases have been set for trial at the October session of the court. All have been admitted to bail except Jean Jeanoff, of Glace Bay, charged with placing railway ties on the Sydney & Louisburg Ry. line. Operations at the Sydney steel plant of the British Empire Steel Corporation have been greatly curtailed.

E. N. Rhodes, who as the result of the recent provincial election, will soon become Premier of Nova Scotia, speaking at Halifax July 8, promised to take immediate steps to settle the coal strike. "Immediately after I am called upon," he said, "to assume the responsibilities of administering the affairs of this province and having full regard to government duties, I shall be the first to remove myself to Cape Breton and I shall remain there until this strike is settled."

There have been no disturbances at the six mines in Edmonton, Alta., where between 400 and 500 miners who are members of the Edmonton and District Miners Federation are affected by the strike which commenced on July 1. The Chinook mine offered to take back its employees at the old rate pending arrival at a satisfactory settlement, but the men at a meeting held July 2 rejected the proposal because the operators refused to recognize the union. The strikers decided to await the arrival of Fair Wage Officer Harrison, who it is expected will act as mediator between the parties to effect a settlement.

An official communication from C. P. Hotchkiss, executive-secretary of the Dominion Fuel Board, to Mayor Mitchell of Windsor, Ont., states that the federal government will establish large coke ovens in the Windsor dis-

trict before winter. The coke, gas, benzol and other byproducts manufactured will be sold to consumers at cost, making a sharp reduction in fuel prices and relieving the coal situation, which has been acutely felt in past winters.

The Crow's Nest Pass Coal Co. has declared a dividend of 3 per cent covering operations for the first half of this year.

Charles McCrea, Minister of Mines for Ontario, states that the strikes of Alberta coal miners will have no effect on the shipment of the 25,000 tons of Alberta coal to Ontario as arranged for. The coal is ready for shipment and the Canadian National Rys. has given instructions for haulage so that no further delay is anticipated.

As the result of the examination held recently at Victoria, B. C., under the Coal Mines Regulation Act, two men qualified as mine managers, two as mine overmen, one as mine surveyor, and ten as firebosses. Twenty-six men were examined.

### Traffic

#### Clinchfield Coal Corp. Seeks Cut In Rates to Tidewater

The Clinchfield Coal Corporation has filed a complaint with the Interstate Commerce Commission, Docket 17135, against the Carolina, Clinchfield & Ohio and Norfolk & Western railroads, attacking a rate of \$2.77 on coal from mines on the Clinchfield to Lamberts Point, Va., via St. Paul and/or Carbo, Va., and the N. & W. Ry. The N. & W. publishes a rate of \$2.52 per gross ton from mines in the Clinch Valley District No. 2 to tidewater at Lamberts Point for transshipment to vessels. Complainant asks that defendants be required to apply the \$2.52 in lieu of the present \$2.77 rate on shipments from Clinchfield and Dante, Va., via the N. & W. to tidewater at Lamberts Point, Va., for transshipment beyond the capes.

The Clinchfield Coal Corporation also has filed complaint in Docket 17136, versus the Clinchfield, Chesapeake & Ohio and Hocking Valley railroads attacking rates on coal from mines on the Clinchfield to Toledo and Toledo Dock, Ohio, for transshipment via lake. Present rates to these points via Elkhorn City, C. & O. Ry. and connections, are per net ton as follows: From Clinchco, Va., \$2.39; from Clinchfield, Va., \$2.64; from Dante, Va., \$2.64. The complaint alleges that because the defendants apply the domestic rate on shipments from complainant's mines to Toledo and Toledo Dock, Ohio, for transshipment via lake, which is a differential of 48c. per net ton from Clinchco, Va., over the rates from Elkhorn City, and 58c. from Clinchfield and Dante, Va., over the New River district rates, they are giving undue preference to coal mines at points on C. & O. and Sandy Valley & Elkhorn. Complainant asks for a rate of \$1.91 from Clinchco, Va., and \$2.06 from Clinchfield and Dante, Va., in lieu of present domestic rates of \$2.39 and \$2.64, respectively.

#### Committee Named to Study New Indiana Rate Schedule

Representatives of shippers and receivers of coal in Indiana, coal operators and traffic experts, held a conference recently at the State House in Indianapolis with representatives of the Indiana Public Service Commission to consider intrastate coal rates. The rates submitted by the carriers of the state were inspected by those who attended and a committee was named to meet with attorneys to determine whether the proposed coal rates will be satisfactory to all interests of the state.

A. B. Cronk, Indianapolis attorney, who acted as chairman of the conference, discussed briefly the proposed coal rates. Officials of the Indiana State Chamber of Commerce also spoke. Recommendations were made by the conference that a committee of ten traffic men be named to go over the rate schedules submitted by carriers for intrastate coal shipments and make recommendations. The committee is to make its findings within a short time. It may submit other recommendations which it feels will solve the present rate situation in Indiana.

One of the southern Indiana representatives attending the meeting was L. Lacroix, Evansville, traffic manager of the Evansville Chamber of Commerce, who also represented a number of coal operators in that section.

#### Must Guarantee Freight Charge On Slack to Canada

A. M. Dudley, general coal freight agent of the Chesapeake & Ohio Ry., has advised shippers in that territory through the Northeast Kentucky Coal Association that it has been brought to his attention that delays have been experienced on slack coal intended for Canadian territory because of the fact that guarantee of payment of freight did not follow shipment and that investigation develops that the Canadian lines have legally published tariffs requiring a guarantee of freight charges on shipments of slack coal. He further states that in order to prevent any misunderstanding or delay it is suggested that such information be disseminated among the coal operators. The published tariff in no way affects the arrangement for forwarding Canadian traffic on a collect basis.

#### Virginian Rate Order Held Up

The Interstate Commerce Commission has issued an order in the Wyoming Coal Co. vs. Virginian Ry. and others, case, postponing the effective date of its order entered May 19, 1925, to Aug. 25, 1925. This is a case in which the commission ordered the Virginian to publish through rates westbound.

Coal merchants and consumers of Fulton, Ky., have filed complaint with the Kentucky Railroad Commission, charging unfair rates from western Kentucky mines on the Illinois Central R.R. to Fulton, and asking for reduced rates and reparations for overcharges.

**Recent Patents**

**Cutting and loading Machine;** 1,534,461. Edward O'Toole, Gary, W. Va. April 21, 1925. Filed Feb. 20, 1923; serial No. 620,246. Renewed Oct. 8, 1924.

**Cutting Machine with Dust Remover Attachment;** 1,534,462. Edward O'Toole, Gary, W. Va. April 21, 1925. Filed Feb. 20, 1923; serial No. 620,247.

**Combination Cutting and Loading Machine,** the loading conveyor element containing flow flights; 1,534,463. Edward O'Toole, Gary, W. Va. April 21, 1925. Filed Aug. 13, 1924; serial No. 731,810.

**Coal-Bunker System;** 1,534,667. Edwin C. Sharpe, Piedmont, Calif. April 21, 1925. Filed June 25, 1923; serial No. 647,532.

**Apparatus for Operating Mine Doors, Switches or the Like;** 1,534,702. Edward H. Grim, Dott, W. Va. April 21, 1925. Filed June 20, 1923; serial No. 646,731.

**Skip Hoist;** 1,534,893. Robert H. Beaumont, Philadelphia, Pa., and Harvey Marette, East Orange, N. J., assignors to Beaumont Mfg. Co., Camden, N. J. April 21, 1925. Filed April 30, 1924; serial No. 710,195.

**Briquet of Charcoal and Pit-Coal;** 1,534,962. Erminio Josue, Ancona, Italy. April 21, 1925. Filed Sept. 24, 1924; serial No. 739,710.

**Industrial Notes**

The **Conveyors Corporation of America**, 326 West Madison St., Chicago, announces the appointment of the **Chicago Electric Co.**, 740 West Van Buren Street, Chicago, as district representative for the sale of American mono-rail cable conveyors in northern Illinois and northern Indiana.

The **Trico Fuse Mfg. Co.**, of Milwaukee, Wis., has opened a new Chicago district sales office at 1742 Monadnock Block, 53 West Jackson Boulevard.

The **Fuller-Lehigh Co.**, Fullerton, Pa., has acquired the pulverized fuel interests of the **Bonnot Co.**, of Canton, Ohio, including exclusive rights to the Blake water tube bottom (water screen), Blake vertical firing and Sherban and Pomeroy unit-air-ball mill, now known as the Fuller-Bonnot unit ball mill. Some of the engineering personnel of the Bonnot Co. has been retained.

The **Chicago Fuse Mfg. Co.**, of Chicago, manufacturer of Union and Gem fuses and Union outlet and Gem switch boxes, has moved its Philadelphia office from the Weightman Building to 517 Packard Building.

**Coming Meetings**

**Rocky Mountain Coal Mining Institute.** Summer meeting, Aug. 26-29 at Price, Utah. Secretary, Benedict Shubart, Denver, Colo.

**American Institute of Mining and Metallurgical Engineers.** 132d meeting, at Salt Lake City, Utah, Aug. 31 to Sept. 3. Secretary, F. F. Sharpless, 29 West 39th St., New York City.

**Oklahoma Coal Operators' Association.** Annual meeting, Sept. 10 at McAlester, Okla. Secretary, A. C. Casey, McAlester, Okla.

**New York State Coal Merchants' Association.** Annual convention, Sept. 10-15, at Richfield Springs, N. Y. Executive Secretary, G. W. F. Woodside, Arkay Bldg., Albany, N. Y.

**National Safety Council.** Annual meeting Sept. 28 to Oct. 2, at Cleveland, Ohio. Managing Director, W. H. Cameron, 168 No. Michigan Ave., Chicago, Ill.

**Tenth Exposition of Chemical Industries.** Sept. 28 to Oct. 3, at Grand Central Palace, New York City.

**Canadian Institute of Mining and Metallurgy.** Annual western meeting Nov. 3-5, Winnipeg, Manitoba, Can. Secretary, George C. Mackenzie, Drummond Bldg., Montreal, Que., Can.

**Fourth National Exposition of Power and Mechanical Engineering.** Nov. 30 to Dec. 5, at Grand Central Palace, New York City.

**Coal Mining Institute of America.** Annual meeting, Dec. 9-11, Pittsburgh, Pa. Secretary, H. D. Mason, Jr., P. O. Box 604, Ebensburg, Pa.

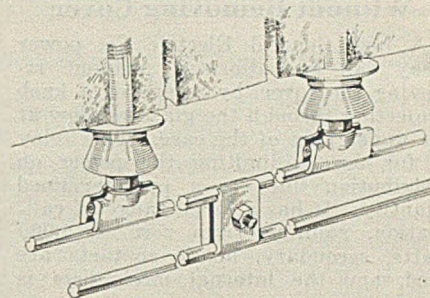
**New Equipment**

**Cushioned Trolley Increases Haulage Reliability**

Heavier loads in mine haulage demand greater current-carrying capacity for the feeder lines and higher speeds make it necessary that the trolley be "cushioned," that is to possess a certain flexibility vertically. To obtain these results the General Electric Co., offers the type of trolley construction and fittings shown in the accompanying illustration.

The basic idea here embodied is the use of two wires, one supported from the other at approximately the mid-points of its span. By this means the trolley wheel never traverses any portion of the wire that is rigidly supported, and its upward thrust is always exerted against a wire that is free to give somewhat and no abrupt changes in trolley contour or grade are possible. As a result the wheel will follow the wire much more surely than it will follow a trolley mounted in the ordinary manner. It seldom jumps.

Little comment on the accompanying drawing is necessary as it is practically self-explanatory. The lower or contact wire although held rigidly in position



Details of Double Trolley Construction

Not only is the current-carrying capacity of this trolley approximately twice that of the ordinary single-wire type, but the construction is such that the action of the trolley wheel is always cushioned and the wheel, therefore, seldom jumps.

horizontally, is free to move vertically. Naturally the current-carrying capacity of this arrangement is approximately double that of a single wire. Connections from a paralleling feeder cable may be made to the upper wire only. The construction is extremely simple throughout and where reliability and continuity of exacting operation are of prime importance the results obtained fully warrant the increased expense.

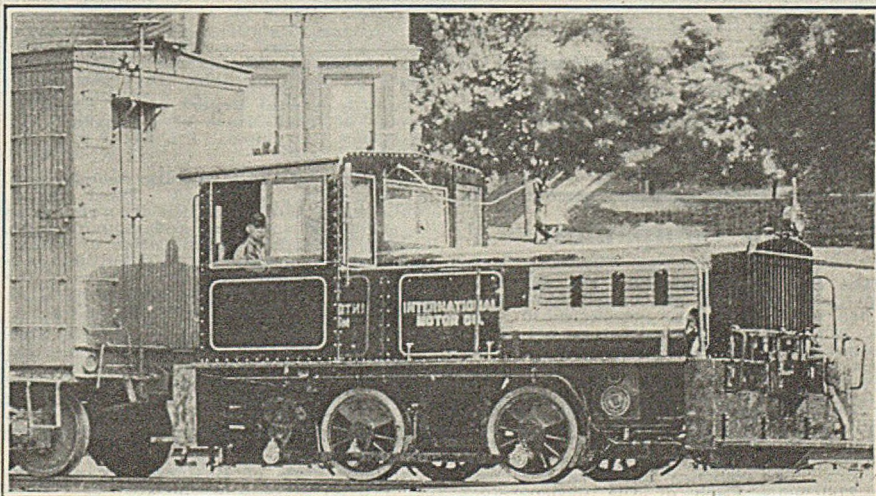
**Gasoline Locomotive Is Big Enough for Mine Yards**

To meet the prevailing demand for heavier gasoline locomotives, the **Vulcan Iron Works**, Wilkes-Barre, Pa., has built a new 20-ton machine, to be known as **Model HS-20**. The manufacturing company has designed and constructed this locomotive along the same lines as its other heavy models. Steam locomotive practice is followed very closely in the chassis construction. Springs are of elliptic type with cross-equalizing arrangement giving three-point suspension. On standard gage track, in shifting railroad cars—for which work this

machine is primarily adapted—the locomotive is furnished with **M.C.B. automatic couplers**, with spring buffer and draft rigging arrangement in the bumpers. This device takes up the shocks encountered in coupling and relieves the strains in pulling and pushing the heavy railroad cars.

The locomotive is powered with a **6-cylinder, 125-hp. motor**. The motor is a heavy duty industrial type with crank shafts accurately machined as well as counter balanced, thus permitting the engine to run at a moderately high speed without undue vibration.

It is designed for four speeds forward and four speeds reverse and is



**New 20-Ton Vulcan Gasoline Locomotive**

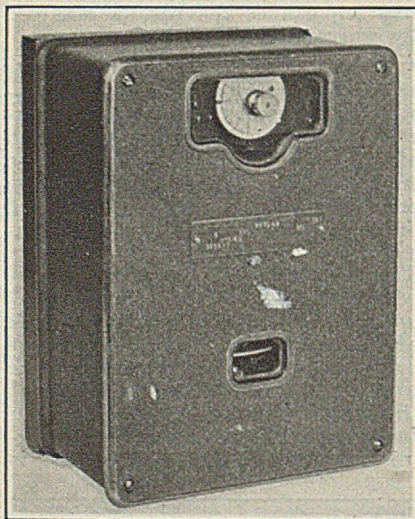
The machine is shown undergoing a test in the manufacturer's yard. It can be used for shifting cars in mine yards for its capacity is 12,000-lb. drawbar pull.

geared from 2 to 15 m.p.h., with a maximum drawbar pull of 12,000 lb. It has a comparatively short wheel base to negotiate reasonably sharp curves.

### New Power Relay Can Be Set Without Removing Cover

A new General Electric Co. power relay can be calibrated, without removing the cover, by means of a knob projecting through the glass window at the upper part of the case. This relay is for use in limiting the power on distribution lines to a predetermined quantity. It has a large range of calibration, running from zero to 1,000 watts, secondary, heavy contacts are used, and the internal mechanism is simple.

This relay is manufactured in three forms; the IG-102, an over-power and under-power device with contacts for controlling either alternating or direct current, and two over power devices, one for alternating current and the other for direct current known as the IG-103 and IG-104, respectively. By rotating the knob at the window, the relay may be adjusted for operation at any deviation from the desired load. A graduated dial, mounted beneath a fixed needle, rotates with the calibrating knob, giving visible indication of the load setting.



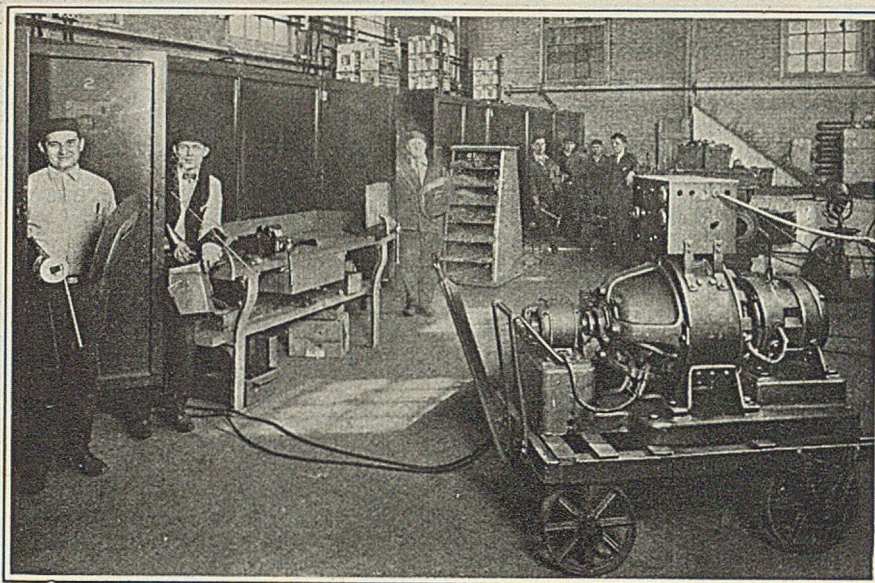
#### No Need to Remove the Cover to Set This Relay

The knob on the outside of the cover makes it easy to set the tripping loads of this new instrument. Dirt and dust are always excluded from the interior.

### New Companies

The Cleveland Cash Coal Co. has been chartered with an authorized capital of \$5,000 to operate coal properties in Ohio and other states. Incorporators are E. R. Levin, J. A. Fatica, H. A. Harn, H. A. Feck and Nathan Herstram.

Articles of incorporation have been filed by the Schrolucke Coal Co., of Indianapolis. William H. Howe, William Schrolucke, William K. Proule, William H. Abraham and George Hilgemeier were named as directors. The company has a capital stock of \$100,000. Each of the incorporators now is engaged in the coal business in Indianapolis. The object of the incorporation is to combine the resources of the individual companies and handle the output of several mines now being operated independently.



### Westinghouse Welding School Enlarges

In order to keep abreast of advance in autogenous welding, particularly the progress made in arc welding, the Westinghouse Electric & Mfg. Co. recently has enlarged and centralized the school it has been conducting for some years in order to provide adequate and systematic training for its own employees as well as those of other companies utilizing this process. Here each student during his training performs a series of exercises arranged in progressive sequence. At first only simple problems are

given him, but these become more and more intricate as skill is acquired. The school room itself is divided into booths so that each student may work undisturbed and unhampered.

New and up-to-date apparatus including a 1,000-amp. motor-generator set fitted with six outlet panels, arc-cutting apparatus varying from 400 to 600 amp., a portable 200-amp. arc-welding set and all other necessary equipment have been installed.

### Publications Received

Twenty-Sixth Annual Report of the Mining Industry of Idaho for the year 1924, by Stewart Campbell, Inspector of Mines. Pp. 249; 6 x 9 in.; illustrated.

Coal Mine Fatalities in the United States, 1924, by W. W. Adams, Bureau of Mines, Washington, D. C. Pp. 95; 6 x 9 in.; tables.

Superheat Engineering Data. The Superheater Co., New York City. Sixth edition; revised. Price, \$1. Pp. 208; 4½ x 7 in.; illustrated. A handbook of the generation and use of superheated steam and related subjects.

Production of Oil and Gas Field Equipment Against Corrosion, by R. Van A. Mills, Bureau of Mines, Washington, D. C. Bulletin 233. Pp. 127; 6 x 9 in.; illustrated.

What the Coal Commission Found, by E. E. Hunt, formerly secretary of the Coal Commission. Williams & Wilkins, Baltimore, Md. Price, \$5. This book is one of the "Human Relations Series." Most of the chapters were written by persons who were connected with the commission, and it has a foreword by John Hays Hammond.

Twelfth Annual Report of the State Inspector of Coal Mines of Colorado, 1924, by James Dalrymple. Pp. 61; 6 x 9 in.; tables.

Standards of the Hydraulic Society. Pp. 34; 6 x 9 in.; illustrated. Third edition. Contains, in addition to the information in the earlier editions, new and valuable data, such as a standard classification of pumps, standard nomenclature and definitions pertaining to the industry, etc. Copies of the book may be had on application to C. H. Rohrbach, 90 West St., New York City.

Standard Specifications. Carnegie Steel Co., Pittsburgh, Pa. Tenth edition. Pp. 140; 5 x 7½ in.; illustrated. Covers steel for bridges and buildings, locomotives and cars, boiler and boiler rivets, commercial and forging bars, reinforcement bars, forgings, railway and industrial wheels, axles and shafts.

Fundamentals of Business Organization, by Webster Robinson. McGraw-Hill Book Co., 370 Seventh Ave., New York City. Price, \$2.50. Pp. 230; 5½ x 8 in. Presents an analysis and explanation of the character, value and application of those factors and relationships which are essential to an effective organization structure.

### Obituary

J. Fred Morlock, head of the Morlock Collieries Co. and certain auxiliary concerns, was found dead in his chair at his office in Ellicott Square, Buffalo, July 10, of apoplexy. He had been in the trade more than 30 years. His age was about 60 and he leaves a wife. He entered the business as an anthracite dealer, but later handled mostly bituminous.

### Trade Literature

U. S. Auto-Start Motor. U. S. Electrical Mfg. Co., Los Angeles, Calif. Four-page folder illustrating and describing the starting and running of this automatic self-starting squirrel-cage motor which accomplishes magnetically what has heretofore been done mechanically.

The Organization and Functions of the Institute of Research of Lehigh University, Bethlehem, Pa. Circular No. 1. Pp. 19; 6 x 9 in.

Tests for Railway Material and Equipment, by Henry Knauer. Simmons-Boardman Publishing Co., New York City. Pp. 257; 4½ x 7½ in.; illustrated. Price, \$3. A book for railroad men who have to pass upon the merits of railway material and appliances.

The Total and Partial Vapor Pressures of Aqueous Ammonia Solutions, by Thomas A. Wilson. Engineering Experiment Station, University of Illinois, Urbana, Ill. Bulletin No. 146. Pp. 50; 6 x 9 in.; illustrated. The determination and calculation of the total and partial vapor pressures of aqueous ammonia solutions and their application to the absorption ammonia process, illustrated by a concrete example, are the subjects dealt with in this bulletin.

Mechanical Underground Loading in Metal Mines, by Charles E. Van Barneveld. Published as co-operative work between the U. S. Bureau of Mines, Mississippi Valley Station, and the Missouri School of Mines and Metallurgy. Pp. 639; 6 x 9 in.; illustrated. The book sells for \$1 and copies can be procured from the Librarian, School of Mines and Metallurgy, Rolla, Mo.

Cast Iron Storage Tanks. Conveyors Corporation of America, Chicago, Ill. Pp. 11; 4 x 8½ in.; illustrated.