

COAL AGE

MCGRAW-HILL COMPANY, INC.
JAMES H. MCGRAW, *President*
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Passing It Up to the Boss

IN MANY CORPORATIONS, the company president does not leave the solution of disputes between the manager and his subordinates to be determined between them, but takes a hand himself and frequently overrules the former to the advantage of the latter. After a while the manager realizes he is a mere figurehead and leaves all matters which are in dispute to the president.

The manager feels he is not the court of last resort, that the employees can always appeal against his judgment and he conforms to the condition thus presented to him. The president, who thus interferes, is no longer able to delegate matters, even though he protests vigorously against being drawn in. The manager is never satisfied that his judgment will not be overruled, and the subordinates are always hopeful that they can obtain a decision in their favor.

Ever since Theodore Roosevelt shook his big stick and settled an anthracite strike, both parties in anthracite labor disputes have left the decisions largely in the President's hands. Even if he refuses to undertake a settlement, both sides anticipate that the time will eventually come that he will compel one, and the appeals, as the public has noted, are not so much from operators to mine workers and mine workers to operators as from both operators and mine workers to the president and the public.

If the mine workers realized that the operators had the final power of decision, if they felt that the public would not interfere, they would be less disposed to wait patiently for such action. But they have learned that the public intervenes, that settlements are made on the basis of giving the least the mine workers are willing to accept, so they waste no time on the operator.

The administration declares, it is said, that this practice of passing the dispute up to the boss has to stop and really seems disposed to insist on that attitude; but if, in the end, the President is going to act, and we hope he will not, it would be better that he do it by an arbitral decision made in the absence of immediate peril rather than by a settlement dictated by the mine workers and based merely on opportunist considerations. Shall the difference be decided on its merits or shall the party most ready to submit itself to the exigence of public need be asked to make a patriotic sacrifice? The mine workers are hoping for the latter, being assured that if that is the final settlement they will receive at least a part of their demands. Let us hope that the resolution of the administration will be upheld, so that the union will be convinced that, not political exigence, but the economics of the anthracite industry will be the final basis of decision.

"SOFT-COAL INTERESTS are heartened by the possibilities of consolidations," says Archer Wall Douglas, eminent business observer. "There should be no difficulty in procuring the necessary funds. It must be clearly shown, of course, that the general public will

not suffer either in service or in unduly high prices." With the country full to overflowing with developed coal properties, a recurrence of prolonged high prices is the one thing that does not make us insomniac.

Keeping Up-to-Date

NO ONE COULD JUSTLY suggest that mine officials, especially purchasing agents, should treat too politely a salesman who approaches with an irritatingly presumptuous air; but certainly many mine officials—purchasing agents, and engineers—would do well to listen awhile when a good salesman calls.

Much of the equipment installed at mining properties today has been designed and introduced to the industry by salesmen and due to this fact it is the manufacturer's representative who knows most about it. Even coal-company records of service of machines are usually incomplete and when the operator wants to know anything about his equipment he frequently turns to the manufacturer.

The salesman has a specific job. He generally sells but a few lines and thus has greater opportunity to learn more about them than anyone else. His experiences with his equipment and the modifications which can be made to it are sometimes of great value to a coal company.

Few mining men have the time or opportunity to visit the other properties in their field but often the salesman does. And thus he obtains ideas regarding his product which will be helpful to his prospective customer. After all, if each of us had to depend upon his own ideas this would be a small world.

Where Fires Are Anticipated

IN SOME PARTS of the world, spontaneous combustion of the coal bed after partial extraction or during the process of mining is provokingly common. Two general causes are given for this ignition—ventilation and the presence of water. Where the water comes from the surface and where the area is stopped off and thus not ventilated through other parts of the mine, a partial cure for the water and a complete cure for the ventilation is furnished by filling or at least closing all holes where water or air may enter.

This should be done before any fire occurs. As fires eat away pillars and breed falls and falls breed fires wherever the coal has been incompletely extracted, it is better to fill up the holes that caving causes before a fire occurs, for otherwise new holes will be formed later, and the work will be only increased by delay. However, in some cases, where the crops have fires dating back perhaps to prehistoric time, the workings may enter such burning outcrops and so cause the extension of the ancient fires, which have been known to extend for a distance of more than a mile from the outcrop.

In some cases the driving of a tunnel in the rock to

meet the dip of the seam far beyond the point where the coal is burning may prevent much fire trouble, but just where the fire area ends is a large question. Unfortunately, that is rarely known, and so this expedient is difficult of accomplishment; but if the engineer cannot avoid entering fire areas he can do something at least to prevent their creation, for the closing of surface holes is not difficult. If done persistently it is calculated to prevent any bed, prone to ignite spontaneously, from indulging in that habit, and of reducing the difficulty in suppressing the fire in a seam if the ancient fires should, perchance, be disturbed.

Finish the Job

WITH A BLIND FAITH in the savings which will result from proposed changes, many mining companies have made large investments in improvements. To the man or men directly responsible for these changes there is rarely a doubt regarding the wisdom of such expenditures. The results obtained and the savings effected are so apparent to them that they often forget the necessity for collecting such data as will convince the other fellow.

As a result, modernization plans often go slowly because definite and positive information is not available to prove that work already done has brought about the desired results. Sooner or later some one denies the fact that certain changes have proved successful or asks for proof. Then, unless the evidence is presented, new developments are retarded or stopped.

Thus only half the job is done when an appropriation is obtained for new work; and only two-thirds of it when the improvement is completed. Performance data must not be forgotten. Many a coal company today is backward and unprogressive, not because it wishes to be so, but, because it fails to sell itself on its own improvements. Every coal mine operating man and engineer ought to do his level best to keep his company out of that classification.

One Job—Three Jobholders

IT IS USUALLY CONCEDED that the electrification of coal mines is economical. However, union labor can sometimes upset the nicest calculations. When the last general suspension in the anthracite region took place a certain operating company used steam pumps to drain one of its operations, two pumpmen being employed, each working 12 hours per day. Since then, not only has this pumping station been enlarged in capacity and electrified but all pumpmen have been put on 8-hour shifts. Under present conditions it is only necessary to operate this pumping station eight out of each 24 hours in order to drain the mine.

Now, here comes the rub. The agreement with the miners provides that maintenance conditions are to be the same as during the last suspension. The miners have, therefore, insisted that *three* pumpmen be employed to keep the water out of this operation during the present strike, although only one shift is pumped and only one pumpman is employed during normal operation. In order to avoid all argument, unpleasantness and friction the company now pays three men to do one man's work, those employed on two of the three shifts having practically nothing to do—except, possibly, to look wise. Such is the reasonableness of the United Mine Workers.

Haphazard Methods

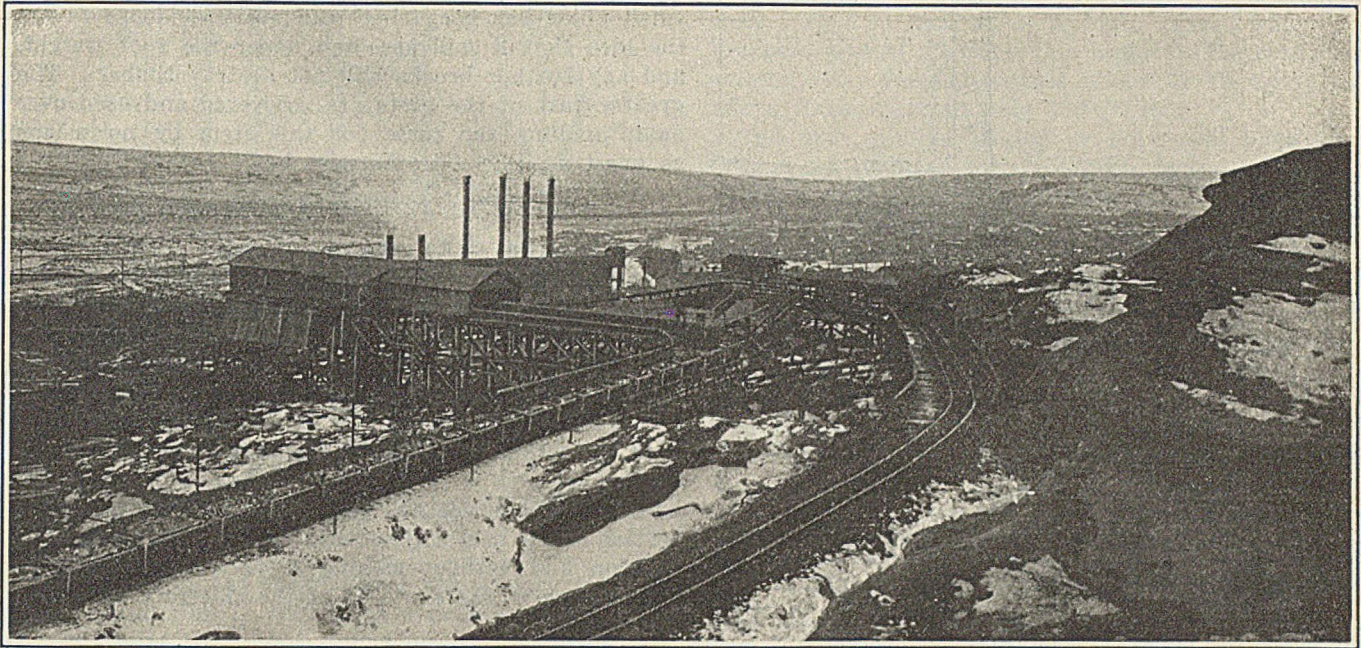
EVERY MINE has its peculiarities. The coal, the floor and the roof and the depth of cover vary, but comparatively little effort is made to ascertain exactly what are the characteristics of each and how they should modify mining methods. In many mines almost every item is left to the judgment of the miners. Ask what the system is and after you have heard how wide are the rooms and how thick the pillars you learn no more.

You are unable, quite often, to learn how the shots are placed, just how much coal is left in the roof or in the floor and other important details. These matters are quite generally left to the miners, and with the large turnover so customary in the mining regions, it is not possible to believe that every miner is a fit person to decide how the work shall be done as usually he has not been long enough on the job to develop a system. Long, painstaking study and experience is needed to find the best methods. Not only does the miner not give the matter careful consideration but usually he is not employed long enough to gain any proficiency.

The Phelps Dodge Co., Copper Queen Branch, has carefully formulated its standards of drilling and shooting, and it trains all its new men in these plans. It is careful not to give its instructions arbitrarily. It explains that the miner's own methods may be all right as applied to conditions in the Cœur d'Alenes, Butte, Globe or any other region from which he has come, but these are the methods the management has determined are best for the Copper Queen mines and for the conditions the miners at these mines have to face. When he is new to the job and so open to suggestion and not prejudiced by any experience in those workings they require him to perform every operation once under supervision.

Cannot coal mines do as much? At one mine with heavy cap pieces two feet long the props forced their way into the roof. What preparation for working in such mines would a man have who came from mines with a hard roof or with a floor where the weight had to be distributed over the "pavement" instead of over the roof? At another mine the shots were fired by electricity. Was any care given to show a man who entered the mine for the first time that the magneto must be actuated with a quick stroke and whether the shots should be in parallel or series and which shots should be fired by ordinary fuse and which by first-delay fuses, where such are used? Did the men know a parallel arrangement from one in series? Did they understand the method of connection? Did their shots fail from a lack of such knowledge and were they secretly relying on current from the trolley because they failed to use magneto and fuses correctly? Was the percentage of slack excessive because they went to their work without training? Worse yet, in some mines a few of the men have had so little instruction that it has been found that they do not even know how to "sound the roof."

WELL-KNOWN ECONOMISTS are prophesying that a settlement more permanent than usual will come out of the anthracite strike if outsiders will leave the situation alone. These experts do not know coal as does John Lewis. Without outside influence—skillfully and politically directed by John—how could the miners be assured of victory 100 per cent of the time regardless of the justice of their case? We pause for answer.



Three-Ton Scraper Pulls Coal from Face Swiftly

Moves Two Carloads Each Trip—Roof Control Greatest Difficulty but Triple Shifting Will Speed Up Extraction—Nine Rows of Props Maintained

By R. Dawson Hall

Engineering Editor, *Coal Age*,
New York City

LARGE SCRAPERS, like large cars, apparently have come to stay. Certainly, it is probable that the small scrapers that must come and go two or three times to take away a single ton of coal are about to be superseded by those which move more than a ton every time they travel from the face to the road or to the conveyor-way.

At the No. 4 mine of the Union Pacific Coal Co., Rock Springs, Wyo., a scraper is being operated that has an actual and regularly attained capacity of 2.7 tons. It brings that quantity of coal every trip to the chute, whence it is loaded into two cars, each of 1.35 tons capacity, the scraper pushing the coal along the chute and stopping while the cars are being shifted, so that part of one scraper load goes into one car and part into another.

It should be explained that the work so far done is purely experimental. This applies not so much to the scraper itself as to the action of the roof in the scraper workings. This constitutes the real unknown factor in the operation of mechanical loaders where long-face methods are practiced, yet George B. Pryde, vice-president and general manager and A. W. Dickinson, general superintendent, are certain that, as this experiment has succeeded, even greater success will be attained hereafter, for two important wherewithals were lacking in the trials. These were speed in extrac-

tion and a proper disposition of the break line in relation to the slips of the roof.

Good practice would require that the work be rushed not only daily but day and night, the cutting and shooting being performed during one shift, the spotting and erection of props during another and the scraping and loading during a third. It may be contrived to place the props during the cutting and shooting shift, and if that can be managed only two shifts will be necessary, but at least that number should be provided in order that rapid progress may be made.

Speed in operation also would demand either that each car be large enough to hold one whole scraper load or that a conveyor be placed below the chute, so that it will not be necessary to keep the scraper waiting for the filling of cars as is now the practice. These two methods, in which great speed might be attained—increasing the number of shifts and shortening the time the scraper remains at the chute—would so decrease the time of extraction that there would be far greater assurance that all the coal would be saved and that the face would not be closed in.

Another helpful factor in attaining complete and safe extraction would be afforded if the face of the working was arranged to parallel the natural break lines or slips of the roof. In this long-face operation the face line has reached a direction immediately at right-angles to the slips. Were the face parallel to the natural cleavage the breaks would be less likely to over-run the timbers. Another difficulty that future development will not have to face is that the work has been started without the advantage of any initial break.

The headpiece shows No. 8 mine of the Union Pacific Coal Co., at Rock Springs, Wyo., which is really part of No. 4 of the same company, where the other scraper experiments described in this article are being made. The big rock on the right with large holes eaten into it testifies to the sand-blasting powers of Wyoming winds. This is the rock over the coal. It has to be broken in the longwall work.

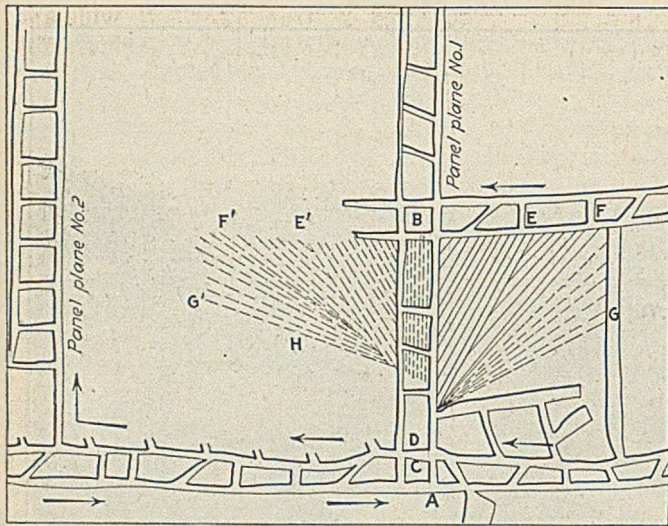


Fig. 1—Plan of Scraper Workings

On the right-hand side a slant face was developed between parallel headings making available a large tonnage of coal for each undercut made. On the opposite side of the scraperway similar long falls (*G', F', E'*) will be produced by taking successive slant cuts from the corner of the solid pillar *H*. The chief difficulty encountered in this process was the control of the roof.

The roof had to be fractured and caused to fall for the first time, if possible along the edge of the timbered area with props 8 ft. long and of not over 12 in. in diameter. This somewhat difficult operation of fracturing the roof was performed, not without losing timbers and some of the coal face but it was eventually accomplished and that gives assurance.

Because the conditions in the experiment have been so adverse Mr. Dickinson is more than hopeful that, when favoring conditions are arranged, no coal will be lost and no men or equipment imperiled. Even if the market should cause irregular working, it will not prevent the entire removal of the coal which will be achieved without any adverse circumstances.

The scraping and return hoists, one of 75 hp. and the other of 45 hp., were placed at *A* in Fig. 1. A double hoist was not available or it would have been used. Such a machine will be provided in future development. The scraper commenced operations by nibbling at the undercut corner *B* and was pulled by the scraping hoist down to *C* for unloading. Here a chute was placed about a foot above mine-car height, and the coal was dumped into cars as described, each taking 1.35 tons without any topping or careful arrangement of the car's contents.

METHOD OF CUTTING

The line *AB* is on the full pitch of the bed and is inclined at about 8 deg. After the corner had been removed cuts were made consecutively along lines such as are shown in Fig. 1, until the line *DE* was reached, the coal being removed by the scraper as soon as it had been shot down.

As fast as progress made it possible, posts from 8 in. to 12 in. in diameter were erected 10 to 12 ft. in the clear from the face, these posts being set on 3-ft. centers and in nine rows spaced 3 ft. apart.

After the line *DE* was reached the direction of cutting was deflected until the line *DF* was attained. It was about this time that a good break was effected which reached in places to the face, occupying about the area shown in Fig. 1. For this reason a thin rib had to be left, after which scraping was resumed.

It will be continued until the line *DG* is reached. The small pillar has been shot, and every evidence favors the idea that it will succumb under the roof weight, and any further breaks will not destroy timber. The greater part of the posts are recovered and used over again making the costs for this item by no means as great as it would otherwise be.

SCRAPER HELPS REMOVE CHAIN PILLAR

The intention is to remove the chain pillar between *B* and *C* with the aid of the scraper and then to proceed to undermine, shoot and scrape away the large unbroken pillar to the left of the area now occupied by the chain pillar, making cuts in the manner indicated and proceeding with the cutting upon lines bearing to the left of the chain pillar at an angle equal to that used in cutting to the right, but in the opposite direction.

In that manner it will be possible to remove a large portion of the coal without moving the hoist to another position and without making it necessary to change the position of the chute or of the sidetrack by which it is served.

With all the work, of undercutting, of spotting the props and placing them and of scraping away the dislodged coal, being done in a single shift, it has been possible to maintain an output of 150 to 200 cars a day or 200 to 270 tons in each 8 hr. except when the roof fall occurred and distributed the regularity of the operation. A greater tonnage will be attained, doubtless, when a conveyor is installed and a heavier hoist provided. A still larger output is assured when both cutting and shooting are done on the night shift.

SIX MEN ON SINGLE SHIFT

At present two men are employed at the chute and three at the face. A sixth man handles the two hoists alternately. Of course, a double- or triple-shift operation will make it necessary to employ four or five more men—a cutter, a bugdust shoveler, two timbermen and perhaps a man to run the scraper, not to drag coal from the face, for that will be done only during the day, but to move posts from the heading to the point where they are to be set.

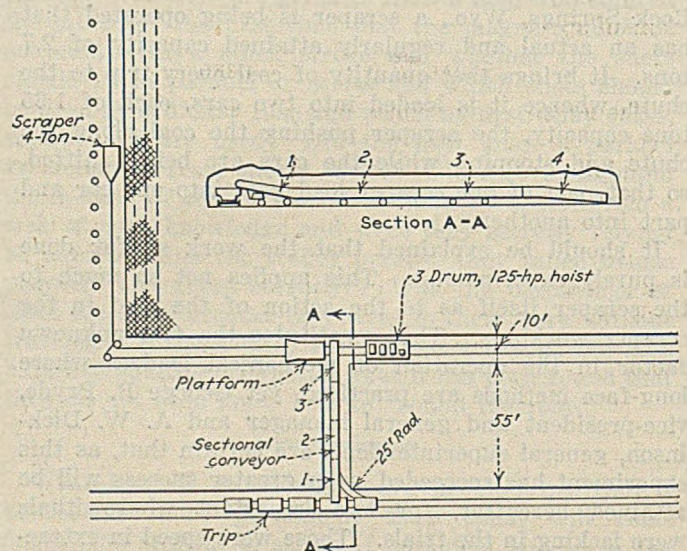


Fig. 2—Detail of Proposed Scraper Operation

Use of a big scraper in conjunction with small cars necessitates the employment of a conveyor. This will permit cars to be loaded during the time that the scraper is traveling to and from the face.

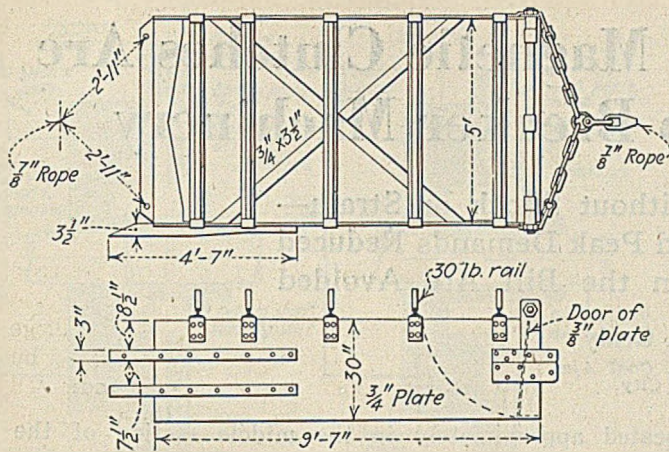


Fig. 3—Detail of New Scraper

This scraper is built heavy and strong, intended not only to move a large tonnage, but also to withstand for a long time the rough usage to which underground equipment is invariably subjected.

The depth of the cover where the scraper is working is about 500 ft. and from a drill hole sunk at a nearby point the roof immediately over the coal appears to be, either of mingled or of interstratified shale and sandstone presumably of no great strength. At a point about 82 ft. above the coal occurs a stratum of solid sandrock 81 ft. thick. This seems to be the measure from which the roof gains much of its strength. Above it the material is interstratified and free from beds of any such thickness. It is probably weak, therefore, from the massive sandstone bed upward. Whether this sandstone has broken in the recent falls cannot, of course, be ascertained and on its fracturing doubtless success greatly depends.

The mine cars, it is conceded, are altogether too small. They have only a 36-in. track gage and are but 50 in. wide. The side and end boards reach up to a point 44 1/2 in. above the rail. The bottom is not set down around the wheels but is flared out to overhang them. In order to make loading convenient, the track for loaded cars is raised at the chute about 18 in. above the main track in the entry, and the hump is so arranged that the cars tend to run past the chute being retarded or stopped at pleasure by the application of sprags.

COAL IS NOT DISTURBED

The scraper is provided with runners curved at both ends so that it passes over the coal without disturbing it unduly, entire dependence being placed on the gate for the transference of the coal to the roadway. This gate is pushed into place when the coal presses against it. Little coal is carried back by the scraper in returning to get a load, and what is thus disturbed is thrown back into place by the men working at the face.

It is the intention to place a Goodman scraper of from 4 to 5 tons working capacity in mine No. 8, which is really a part of No. 4, though the coal is taken to another tippie. This will be operated straight up and down the pitch, which is the direction of the slips, the double-drum hoist being moved forward with the face. This corresponds with the method of operation which Glenn Knox has adopted at the Gunn-Quealy Coal Co.'s Sweetwater Mine. A large or "Type B" scraper has recently been ordered and is now being constructed. It will be used in the No. 8 mine where the coal is from 6 to 9 1/2 ft. thick.

In this mine the entries are from 9 to 12 ft. wide and from 5 ft. 8 in. to 7 ft. 6 in. high. Fig. 2 shows the proposed plan of adapting this loader to the conditions encountered. Parallel entries about 55 ft. apart will afford faces approximately 300 ft. long.

The new winding engine or hoist will have three drums and be fitted with a 125-hp. motor. It will be mounted on a truck and so arranged that it may be held in any desired position by means of jacks. The drums will spool 800 ft. of 3/4-in., 1,200 ft. of 1/2-in. and 1,700 ft. of 3/8-in. rope, respectively.

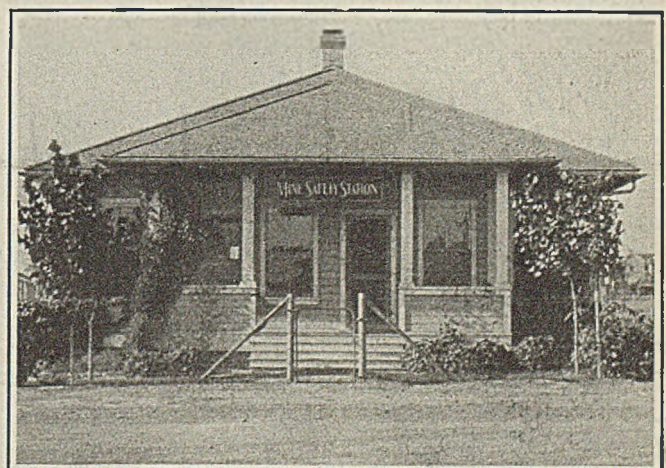
The loading chute or platform will be mounted on detachable wheels so that it can be either dragged along the bottom or transported on the mine track. The scraper itself is approximately 10 ft. long, 5 ft. wide and 2 1/2 ft. high. By means of the "automatic rope" this scraper can be made to negotiate the corner and deliver its load onto the loading platform. It is estimated that it will not be necessary to move the winding engine oftener than about once every ten days.

DESIGN SPECIAL SECTIONAL CONVEYOR

In order to transport the coal from the loading platform to the cars a special sectional conveyor has been designed. This is of the standard drag type and consists of four sections all of which are mounted on mine car wheels except the last one or No. 4. Section No. 1 will be the power unit driving the conveyor. For this purpose it will be fitted with a 30-hp. motor which should be amply strong to move all the coal with which the conveyor will ever be loaded during normal operation.

In order to allow of switching the four segments into position it was necessary to so arrange the machine that the fourth section can be jacked up and slid onto section No. 3. Sections Nos. 1, 2 and 3 may be disconnected and are so arranged that they can be moved from place to place by a locomotive by means of radial drawbar couplings. On section No. 1 the conveyor is so pivoted that its end, which normally extends over the car, can be lowered to clear the roof when moving.

In most cases where a 125-hp. hoist is used a conveyor such as this will be unnecessary. It is essential in the instance above outlined, however, because of the system of parallel entries employed.



Safety Headquarters at a New Mexico Mine

This home-like little cottage houses the safety station at Mine No. 5 of the Gallup American Coal Co. at Gamarco, N. M. L. M. Kuhn is the safety engineer in charge of this important part of the coal mining operation in Gamarco.

Synchronous Motors with Magnetic Clutches Are Successfully Applied to Breaker Machinery

They Start Heavy Loads Without Shock or Strain—
Power Factor Is Improved and Peak Demands Reduced
so That Penalty Charges on the Bill Are Avoided

By Edgar J. Gealy

Associate Editor, *Coal Age*
New York City

WHEN THE CHAUNCEY BREAKER of the George F. Lee Coal Co., near Avondale, Pa., burned down a few years ago it presented a good opportunity to build upon the old site a new breaker which would contain some of the most modern equipment available. From the way other companies have sent their representatives to visit and carry on tests at this plant, one is certainly assured that the aim of the management has been attained.

Even though the time allotted to build and equip the new structure was limited, Paul Sterling and A. J. Kutchera, who worked out the engineering features of the breaker with the management of the company, decided to install synchronous motors for the main drives.

An anthracite breaker, because of the enormous quantities of machinery employed in the process of preparing its product, usually requires a great deal of power. Whether this power is purchased or generated at the mines the power factor of the load becomes an important item. Consequently, the synchronous motors were used in the new breaker.

In spite of the fact that the installation of these motors necessitated some novel ideas in breaker construction and arrangement of machinery, the new \$124,000 breaker was put in operation 54 days after the building was started.

All the breaker motors are supplied with energy distributed from a fire-proofed, inclosed, switchboard room

located approximately in the middle section of the breaker. The largest motors are two 75-hp., 150-r.p.m., 440-volt, synchronous units, connected to their loads by belts. From the main switchboard room, circuits also extend to one 50-hp., two 30-hp., and two 25-hp. motors which drive small groups of equipment or individual machines.

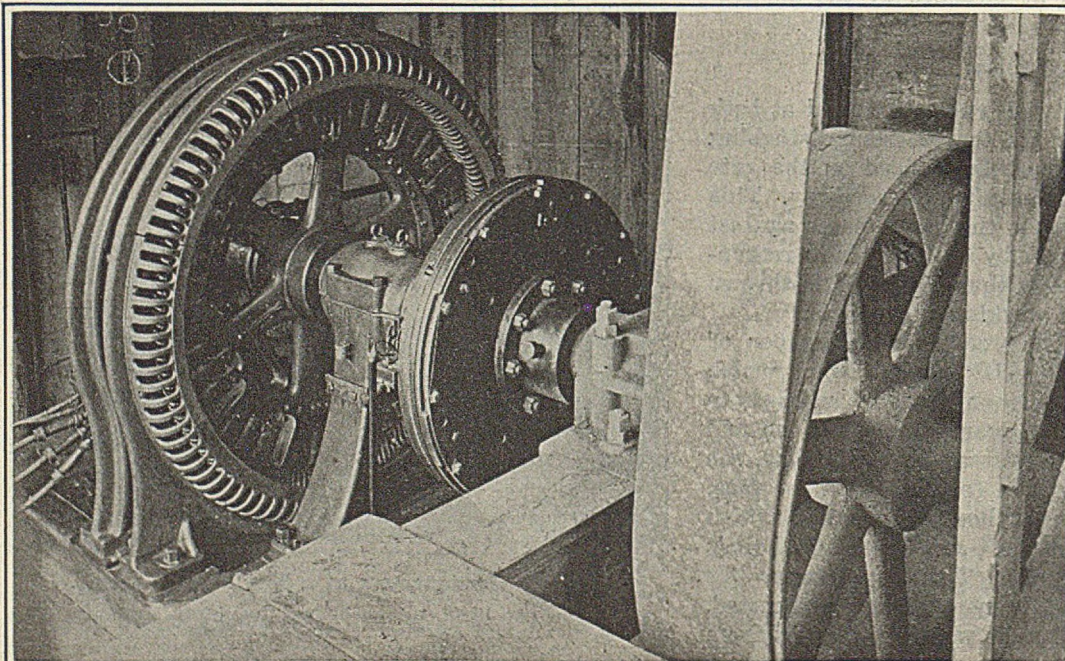
Each of the synchronous motors is equipped with a magnetic clutch. By means of this device the load can be accelerated smoothly and easily whenever the machinery is started. Control buttons are conveniently located near the motors or where a workman can see the equipment being driven. For slow-speed work, such as is required to unload a screen or clear a chute, a separate control lever is provided. Whenever new belts or ropes are installed inching is also easily accomplished.

Direct-current energy for the fields of the synchronous motors and also for the magnetic clutches connected to them is supplied from a 10-kw. motor-generator set located in the switchboard room.

AUTOMATIC CONTROL OF MOTORS

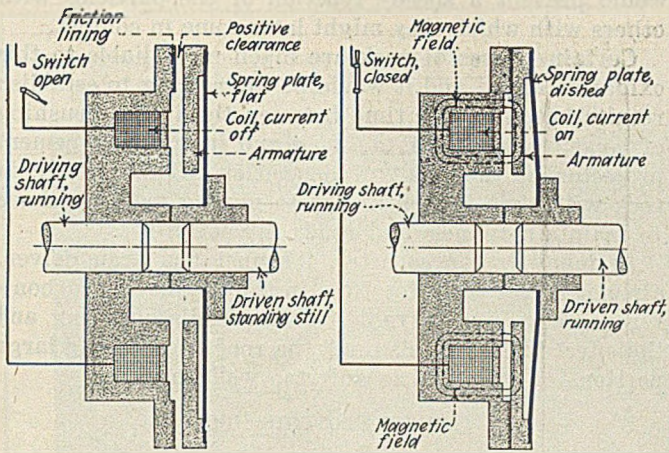
Automatic speed control and acceleration of the other motors is accomplished by means of operating panels having contactors connected to suitable resistance grids mounted behind them. These motors are also started or stopped by means of push buttons located near the machinery.

The application of synchronous motors to breaker



Motor and Clutch

Each synchronous motor is equipped with a magnetic clutch which makes it easy for the motor to start its load. This motor drives nine shakers through two belt and two rope drives.



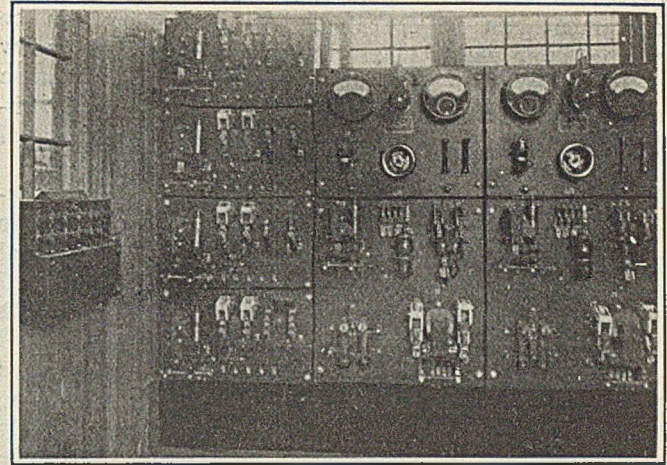
How the Magnetic Clutch Functions

The successful application of synchronous motors to machinery used at the mines almost invariably necessitates the use of a clutch. A magnetic clutch, such as shown here, not only permits the motor to start easily but also makes possible slow-speed operation and inching.

machinery is unusual, but, in keeping with the increasing necessity for more efficient operation of mining properties, they were selected and have since proved successful in this service. Electric power is purchased upon a schedule which contains a penalty for poor power factor. This was another reason for selecting synchronous motors for the largest power units.

When a breaker is electrically driven the difficulty of operating at a good power factor always presents a serious problem. Heretofore induction type motors have been most generally used and often little or nothing has been done to counterbalance the high reactive currents which they necessitate. Relatively high efficiency at slow speeds is another advantage obtained by synchronous motors. Induction motors frequently require double-reduction gearing so as to permit the use of slow-speed apparatus.

No other device has contributed more to the successful application of synchronous motors than the mechanical or magnetic clutch. At this breaker magnetic clutches are used with the synchronous motors. They were selected because of their ruggedness, ease



Control Board Regulates All Motors

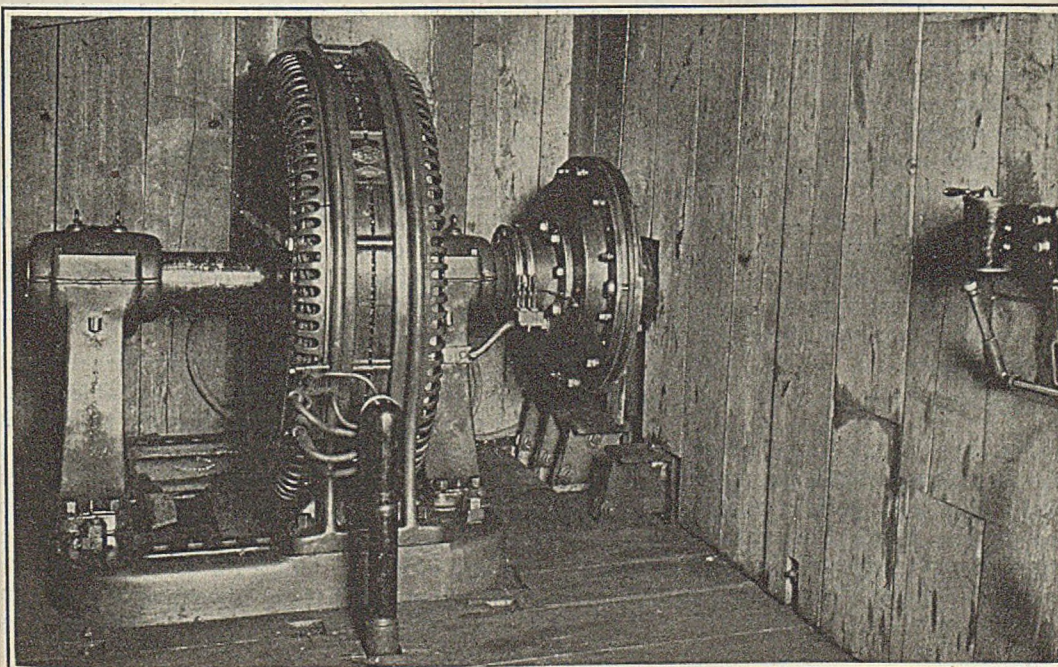
This is part of the switchboard located in the breaker. Timed accelerating contactors control the starting operations of the motors. On the extreme left the push-buttons, with covers removed, are shown.

of control and safety. This type of clutch consists of two parts, one contains a magnet coil and the other a spring plate. When electric power is applied to the coil the second member is pulled into contact with the first. Thereafter, the friction between the two surfaces, which are held in contact with each other by the magnetic pull of the energized coil, grips the two parts together and prevents slippage.

LOW FULL-LOAD SPEED

It will be noted from the data of the motors that their full-load speed is unusually low. This fact, together with the smooth operation of the clutch, enables the loads to be started without jerk or sudden strain. By limiting the current supplied to the magnet coil of the clutch slow speeds and short movements of pulleys can be obtained at any time, especially when replacing ropes or belts. Dash-pot and magnetic timing devices govern the acceleration of the induction motors used to drive the coal-cleaning system, conveyors, pumps, etc., located in the breaker.

Another advantage obtained by the use of electric



Inching Is Easy

On the wall near each of the synchronous motors, a control switch is located to vary the magnetic field of the clutch and thus enable the workmen to turn the machinery short distances at slow speeds.

drives in this breaker is the safety with which the equipment can be operated. All machinery can be started from points where the workmen have full view of the apparatus. By merely pushing a control button any group of machines can be started or stopped without delay. Emergency stops can be made from several conveniently located stations.

High efficiency, good speed control, safety and satisfactory power factor have contributed in a large measure to the success of this breaker. The usual stresses and strains which most machinery is subjected to are almost entirely eliminated and breakage of parts is below normal.

Apparatus at this breaker rarely, if ever, creates high peak loads on the power company's lines because the synchronous motors, which are the largest units employed, start their loads slowly. Incidentally, the power company serving this mine has a clause in its schedule which penalizes consumers for highly fluctuating loads. Instantaneous peak demands, under this schedule are expensive because they constitute a factor which raises the 15-min. maximum demand upon which a part of the power bill is based.

Does Scour Explain Why Gunitite Clings Tight to Rock?

That Blast Removes Oxidized Surface and Enables the Cementing Material to React with the Raw Rock Face, Is Theory Advanced

By J. Drummond Paton

Consulting Engineer, Manchester, England

THE EXCEPTIONAL strength of gunitite concrete and the unusual results obtained with a cement projector has forced me to look for reasons, other than density, to explain these effects.

Doubtless the particles of material in flight from the nozzle to the surface at which they are directed take up the usual "tadpole" formation and impinge with an "arrow-head" directness and action that causes the gaseous material to leave in a "tadpole tail" at the surface under treatment. This determines the assembly and growth of the structure formed. There is, however, still another action to be considered.

If we consider first principles even in the simplest of metal-joining operations—soldering—the first requirement for success is a clean surface on which the "flux" used to produce the amalgamation effect can operate directly. Such a surface may be described as a "nascent" surface with which flux not only can come in contact but with which it can even react. Just as an elemental atom when liberated appears to have ability to combine with other atoms, that atoms long free do not have, so these surfaces freshly made appear to be more ready to react with other materials than surfaces that have been long exposed.

PASSAGE CAUSES CLEANING

In the passage of the sand through the "gun" chambers there is much surface attrition or what one might term cleaning. It is probable therefore, that in passing from the storage hoppers to the nozzle the particles become burnished—i.e., nascent. If such particles were again submitted to air reactions alone their oxidation would commence, and the result would be an oxide film forming probably a highly insulating covering which

would prevent a speedy reaction of the particles with others with which they might later come in contact.

Certain classes of rock are much more liable to this oxidation effect, and it would be interesting to establish results based on the time between the initial crushing of large stone to $\frac{3}{8}$ -in.-to-0-dust and its use by a cement projector at the point of deposition. This change in rock with time is well known to mining men who have to maintain tunnels and roads in coal mines.

In many instances after a tunnel has been driven, air penetrates the interstices in the laminae of carboniferous rocks with a rapidity that is discouraging and the effect it has of "slaking" the roof and causing large portions of it to fall is only too well known.

GUNITITE PROTECTS ROCK

In other cases a form of efflorescence coats the face of a tunnel a few days after it is driven, with what is almost a protective dust, and the service which this dust gives to the rock suggests the value of gunitite protection, the gunitite acting in the same way as nature in coating, and thus defending the rock from the ravages of disintegration.

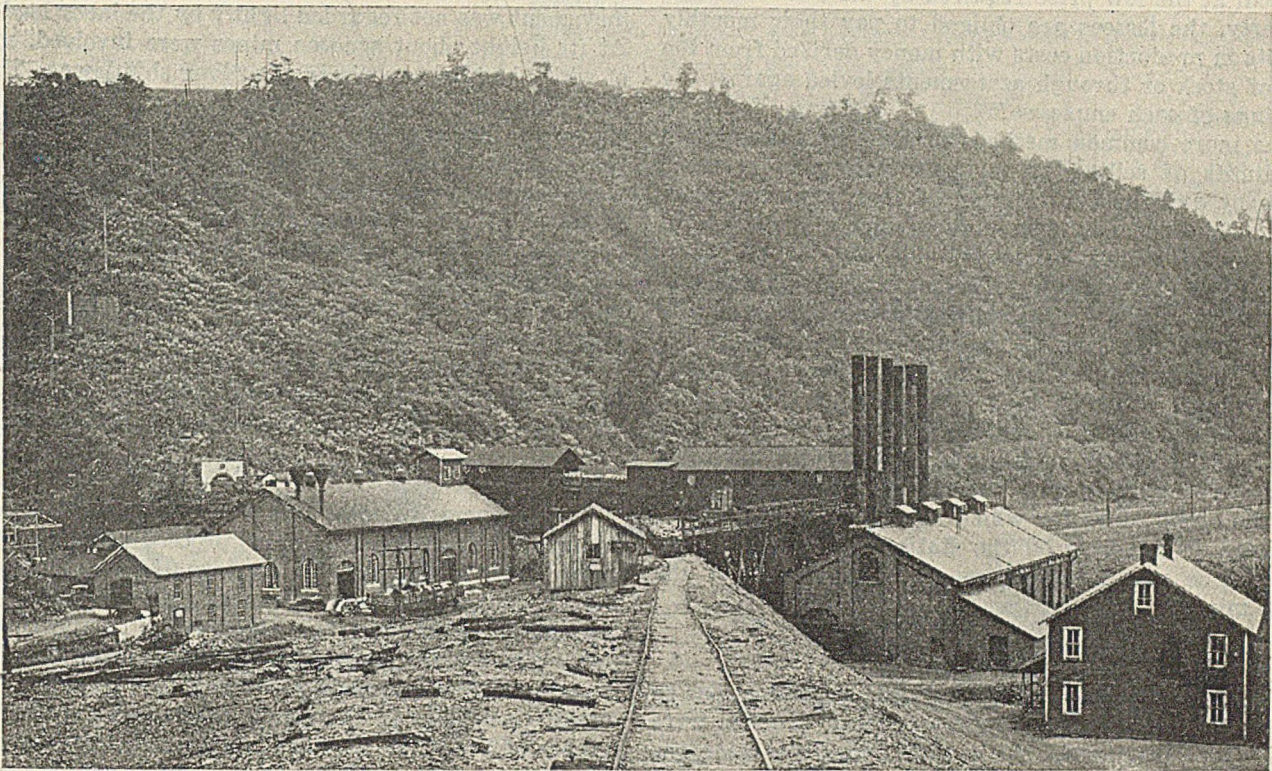
In a somewhat limited experience of concrete and its particular properties, I have found that it showed evidences of special strength under conditions thought by the unobservant to be entirely normal, for example: (a) At a granite quarry an excellent concrete is obtained on an 11:1 ratio. This material a few weeks later when used on a public contract work with the standard 4:2:1 conditions did not give any such evidences of unusual strength. (b) In a process for the manufacture of slabs, blocks, etc. the molds are pressed till the final volume is one-half of the bulk of the mold when first filled and before pressure is applied. The exceptionally high tensile strength attained, would be attributed possibly to the absence of voids. (c) In cases where cements are blended, where lime and silicate of soda are added or similar means of obtaining a strong concrete are adopted an unusually strong cementing material is obtained due to special cementitious properties attributed to the admixture.

OBSERVER SETS FORTH THEORY

I hold that the results are due: (a) To "nascent" surfaces characteristic of freshly crushed rock, which have not been allowed to oxidize sufficiently to insulate the surface from desirable cement reaction; (b) to the disruption of the rock and the production of "nascent surfaces" as much as to the density of the resultant concrete; (c) to the reactions that destroy the oxide insulation, merge the oxides in the eutectic and leave the nascent surface for adhesive reactions.

I can conceive a condition of aggregate where the surfaces are not integral to the core and where the coating adheres to the mass of material much as a walnut shell adheres to the core.

To test my theory, a rock of known characteristics may be taken that has been crushed to suitable aggregate size and exposed for one, two, three or four weeks to six months, and from that sample concrete test pieces may be prepared. Put the same parent rock fresh mined into a large crusher, then with the correct cement and water, crush the aggregate in the absence of air or under water, and eject into molds for comparative tests. The result will show whether the theory as to the value of nascent surfaces should be regarded as established or worthy only of rejection.



Banning No. 2 mine of the Pittsburgh Coal Co. operating on 1917 wage basis

Efforts to Break Mine Union's Grip on Central Competitive Field Make Slow Progress

By Sydney A. Hale

Special Contributor, *Coal Age*,
New York City

THREE SEPARATE MOVEMENTS to break the grip of the United Mine Workers of America in the Central Competitive Field have been started within the past few months. Indiana; southern Ohio, particularly in the Pomeroy Bend district; and most recently, the Pittsburgh Coal Co. in western Pennsylvania have led the revolt. Indiana's attempt to avoid the penalties of the Jacksonville agreement has been through the medium of co-operative mines. Genuine co-operative mining, of course, has been tried off and on for years—generally on a very small scale. Many of the country banks are ventures of this type. The Indiana experiment which provoked the wrath of the union involved larger operating units. One mine which came under the ban was producing 1,100 tons a day.

The Indiana system began to attract attention early in the year when several mines in Knox County were "leased" to groups of miners and former subordinate officials of the operating companies that had been in control. The terms of one of these leases provided that the former operators (the lessors) sell sufficient coal to enable the lessees (the miners' group) to operate four days a week and to hoist at least 900 tons of coal a day.

The sales agent of the lessors was to receive 10c. a ton for handling the coal. This particular lease is not cited as typical. Possibly no one lease could fulfill the specifications of a typical case as the arrangements offered full scope for the display of ingenuity. The core of the situation was that the arrangement, whatever, its terms, relieved the lessor operating company from the obligation to pay the union scale. That obligation presumably was passed on to the co-operative lessee organization or group. The lessor or his agent handled the coal, usually at whatever price he could obtain in the open market, and was compensated in sales commissions, royalties or depletion payments.

Although these co-operative mines ostensibly paid the union scale, in reality, so the United Mine Workers insisted, such was not the case. "An exhaustive examination of the financial and operating problems of each leased mine," declared an official circular to officers and members of District No. 11 (Indiana), warranted "the most severe condemnation of this system of mining. It appears that in many instances the owners of certain mining properties were unable to operate their mines in accordance with the agreed scale in District 11 and induced their employees to jointly take over the operating of the properties. The original owners thus are freed from any financial hazards and derive substantial revenue from the payment of royalties and commissions

Third of a series of articles describing the changes in the labor status of the different bituminous coal producing districts of the United States in recent years. Preceding articles appeared in *Coal Age*, Sept. 24 and Oct. 1, 1925. Another article will appear in an early issue.

on the sale of coal by the lessees. In order to produce the coal at the low price required by the owners of the property, the lessees are obliged to pay their monthly deficits in production costs with money derived from the sale of stock or through assessments levied against the earnings of each employee."

The more common methods of keeping costs within the limits of selling prices, however, were increased efficiency and the contribution of free labor for dead-work. The specialization under which the process of coal extraction has become a multiplication of segregated tasks performed by different individuals was supplanted by an era of despecialization in which each man would labor full time at the work which came to his hand. Something approaching the system credited to Henry Ford when he took possession of the Detroit, Toledo & Ironton R.R. came into vogue. Mr. Ford, it was said, could see nothing incongruous in having a locomotive engineer who had completed his run finish out the eight hours for which he was paid by hustling baggage or sweeping off the station platform if necessary. The new mine lessees were apparently of the same mind.

LESS DAY LABOR REQUIRED

Under the co-operative system the fine distinctions so jealously guarded by union precept and practice were no longer recognized. As a result, in some cases one man was able to do the work for which previously two men had drawn pay. In others, the functions of certain of the maintenance men were absorbed by the coal diggers. An efficiency committee at one operation dispensed with the services of three of the five blacksmiths employed and warned the two who remained that the same fate awaited them if they proved unequal to the smithing needs of the mine.

The union followed up its condemnation of co-operative mining in Indiana with a threat to revoke the charters of local unions whose members persisted in co-operative activities. A temporary injunction against the enforcement of this order was dissolved, largely on jurisdictional grounds, and the movement collapsed. For the most part, the men who were willing—eager in many instances—to work under the co-operative arrangement before it was banned by the United Mine Workers and who did not decry protection by injunction refused to jeopardize their union standing when the organization was in a position to make discipline an issue. Nor did the operators as a whole show any great desire to pursue the experiment further in the face of the determined opposition of the union.

INDIANA STICKS TO UNION

As a matter of fact, the operating association that has been the direct contact between the individual producers and the union declined to countenance the co-operative idea. According to an official of that organization, the producer who wished to try out the co-operative scheme had to withdraw from membership in the operators' association. At no time has it been suggested that Indiana as a whole expressed any desire to throw over the union. Indeed, only a few weeks ago Phil H. Penna, secretary of the Indiana Bituminous Coal Operators' Association, in an address before the Rotary Club of Terre Haute, declared that his organization would stick to the Jacksonville agreement to the end.

Nevertheless, the action of the union in threatening the revocation of local charters makes it plain that the movement was not regarded lightly by the labor leaders. At its height about a dozen mines were involved, some of which had been reopened after long shutdowns. Their daily capacity aggregated several thousand tons, and they were loading coal at a time when only a few of the strongest shaft mines and the low-cost strip pits were operating—and the shaft-mine tonnage was being produced at a loss. Union spokesmen asked how it was possible for these co-operative mines to work and pay the Jacksonville scale if the lessors of such operations, with all their experience, could not do it. The implication, of course, was that the scale was not paid. But it is not impossible that the revelation of what could be accomplished in cost-cutting by speeding up and lopping off was equally distasteful to the labor organization.

CO-OPERATIVE IDEA SPREADS

The co-operative idea, however, was not confined to Indiana, although the injunction proceedings referred to threw such a spotlight on the situation in that state that it is easy to overlook the fact that the same problem has presented itself in other parts of the Central Competitive Field. The 1925 district convention of the United Mine Workers in Ohio held the growth of co-operative mining in that state so menacing to the existence of the union that it adopted a resolution providing that workers employed in co-operative mines would be barred from union membership unless union officials were permitted to check the leases under which such mines were operated, examine the books of the companies "and take such other steps as might be deemed necessary to maintain union working conditions."

Doubtless this pronouncement of the union attitude has had some restraining influence upon the growth of the co-operative movement in the Buckeye state. Nevertheless, there has been a number of smaller operations which have continued despite the unfriendly stand of the miners' organization. Individual tonnages and the number of men employed at individual operations are small, but the mines in question are tippie, or commercial, collieries and not the local country banks the product of which, except in seasons of unusual demand, cannot enter into the general stream of coal traffic.

OHIO MINERS' ORGANIZATION ACTIVE

In southern Ohio, a canvass made several weeks ago showed about twenty-five of these four- to five-car capacity tippie mines working on the Hocking Valley Ry. and loading an average of 75 tons per mine daily and almost as many operations on the Toledo & Ohio Central and Zanesville & Western railroads combined, with a slightly lower daily average loading. Since that time, however, the state miners' organization has been more aggressive in its campaign against the co-operatives. It has succeeded in forcing the suspension of a number of smaller operations in the Nelsonville district by threatening the expulsion of members working at less than the Jacksonville scale.

Another reason, perhaps, why the fight on co-operative mining in Ohio has been less spectacular than in Indiana has been the open flaunting of the union by a few operators in the Pomeroy Bend district. These companies, except at one mine, have not resorted to any co-operative arrangement to resume operations, but have boldly reopened on the November, 1917, scale.

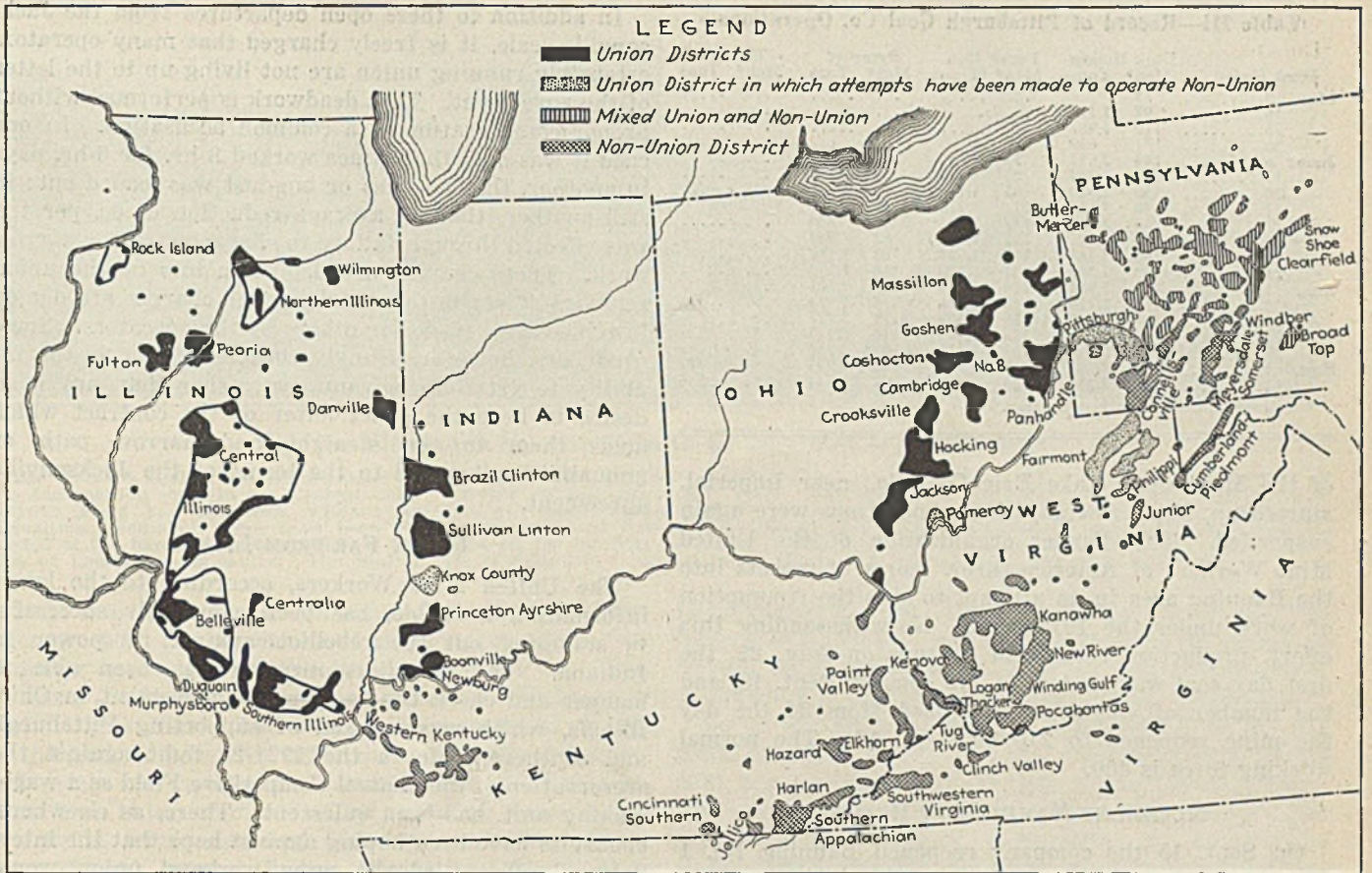


Fig. 7—The Central Competitive Field and Its Non-Union Rivals

The Central Competitive Field covers all of the coal producing area of Illinois, Indiana and Ohio. It also includes District No. 5 (western Pennsylvania), embracing not only the Pittsburgh, but the Butler-

Mercer district. As related in the text, the solidity of union control was challenged in the Indiana co-operative movement and has been broken in the Pomeroy Bend district of Ohio and in western Pennsylvania.

The economic reasons back of the struggle of Ohio and western Pennsylvania to shake off the union yoke can be visualized in the ring of semi-organized and openly non-union districts surrounding them.

This scale carries a basic day rate of \$5, as compared with \$7.50 under the Jacksonville contract, and knocks 24c. off the pick-mining rate. The posting of this scale, say the operators, was done after the miners had petitioned the companies to start up again.

LEWIS CALLED TO CHECK REVOLT

The union considers this revolt so serious that John L. Lewis went into the Ohio fields to hold the workers to their union allegiance by the power of a flood of defiant oratory. In this appeal, he reiterated his firm determination to insist that the Jacksonville agreement be recognized until the last minute of its term. How successful he was in checking the spread of the revolt cannot be told because nobody knows how many other members of the United Mine Workers in that part of Ohio were ready to accept the 1917 scale as the price of work.

Neither Mr. Lewis' vocal art nor the series of "accidents" which have befallen the Pomeroy Bend mines working on the 1917 scale, however, have been strong enough to force those particular operations back into the Jacksonville camp. Tipples have been burned, transportation facilities dynamited, power houses put out of commission, and the determined operators have rebuilt. Workers cut off from their connection with the United Mine Workers formed the Independent Mine Workers' Association, but have shown little interest in the substitute. The most recent reports available show for operations of the Pittsburgh Coal Co. at Dark Hollow, Forest Run, Syracuse and Thomas hoist-

ing over 900 tons per day. The tipples of the Blackstone mine at Rutland—formerly known as Maynard No. 4—was burned on June 17, but reopened Aug. 20. The Stalter-Essex Co. also continued operations despite fires.

So fast had the movement spread that by the middle of August about 900 out of 1,800 men normally employed in the Pomeroy Bend district were working. More than half of this number (approximately 520) were working at the 1917 scale. A number of others were working on a co-operative basis. To say, therefore, that over 75 per cent of the men employed had abandoned the Jacksonville agreement is conservative. Since that time the quickening demand attributable to the disturbances in the anthracite region has enabled some mines which had been down for several months to make another attempt to run on the full union scale.

A record of the Pittsburgh Coal Co. operations in the Pomeroy field since the movement to operate at less than the Jacksonville scale started is shown in Table III.

PITTSBURGH FALLS INTO LINE

The western Pennsylvania movement to operate on a cost-basis more nearly in line with that of directly competing fields is on all fours with the Pomeroy Bend experiment. It started on Aug. 20, when the Pittsburgh Coal Co., which on May 19 had closed down the last of its 54 mines which had been operating on the Jacksonville scale, reopened its Banning No. 2 mine, located 43 miles from Pittsburgh. On Aug. 24, the Boggs mine

Table III—Record of Pittsburgh Coal Co. Operations

Week Ended	Dark Hollow		Forest Run		Syracuse		Thomas	
	Men*	Tons	Men*	Tons	Men*	Tons	Men*	Tons
May 9.....	73	1,211	...	...	...	...	...	...
16.....	97	1,987	...	...	...	...	...	...
23.....	118	639	57	...	...	...	...	...
30.....	131	2,652	75	685	...	...	...	...
June 6.....	144	3,237	85	1,062	...	...	...	...
13.....	156	3,428	95	1,115	...	...	32	...
20.....	150	3,150	111	1,276	...	...	Fire	...
July 4.....	134	2,212	117	1,436	47	464	...	...
11.....	140	2,925	117	1,572	62	983	...	...
18.....	146	3,163	119	1,588	80	1,182	...	...
25.....	150	3,500	131	1,889	88	1,392	...	...
Aug. 1.....	149	2,814	129	1,960	103	1,701	...	...
8.....	151	3,779	128	1,996	116	2,124	...	...
15.....	149	3,437	129	2,004	119	2,127	...	...
22.....	156	3,377	126	2,103	110	2,345	27	157
29.....	160	3,396	127	2,117	109	2,257	49	1,082
Sept. 5.....	156	2,906	125	1,763	100	2,295	54	1,072
12.....	158	2,255	123	1,126	97	1,544	61	836

* Average number of workers per day.

of the Montour & Lake Erie Coal Co., near Imperial, started up, but a few days later operations were again suspended. The district organization of the United Mine Workers of America threw scores of pickets into the Banning area in an attempt to stop the resumption of work under the 1917 scale. Notwithstanding this effort, production rose from 75 tons on Aug. 22, the first day coal was loaded, to 715 tons on Sept. 18, and the number of employees increased from 24 the day the mine reopened to 210 on Sept. 18. The normal working force is 400.

MOVEMENT MAKES SLOW HEADWAY

On Sept. 15 the company reopened Banning No. 1 with 31 men at work. The next day the number increased to 37; on Sept. 17 it was 105 and on Sept. 18, the first day coal was loaded, it had gone to 141. The quantity of coal loaded was 143 tons.

The record for Banning No. 2 to Sept. 19 is set forth in Table IV.

Table IV—Record for Banning No. 2 to Sept. 19

Output and Number of Men Working at Banning No. 2					
Date	Men	Tons	Date	Men	Tons
Aug. 20.....	24	...	Sept. 4.....	197	558
21.....	39	...	5.....	202	547
22.....	66	75	8.....	204	502
24.....	89	137	9.....	222	647
25.....	110	139	10.....	214	679
26.....	128	219	11.....	222	653
27.....	129	297	12.....	215	723
28.....	168	427	14.....	210	623
29.....	155	493	15.....	211	651
31.....	155	408	16.....	209	577
Sept. 1.....	152	484	17.....	205	715
2.....	168	565	18.....	210	715
3.....	173	516	19.....	...	800

In addition to these open departures from the Jacksonville scale, it is freely charged that many operators ostensibly running union are not living up to the letter of the agreement. That deadwork is performed without proper compensation is a common accusation. In one case it was said that mines worked 8 hr. for 6-hr. pay; in another, that no fines or bugdust was loaded out; in still another, that an average reduction of 6c. per ton was effected through failure to charge extra for narrow work. These charges are denied in toto by the union representatives in the district. The charges are denied in some cases, evaded in others by the operators. Some producers, however, frankly confess that it is the inability to get these advantages, rather than any keen desire to keep the strict letter of the contract which holds them to the straight and narrow path of unqualified adherence to the terms of the Jacksonville agreement.

UNION FAR FROM LICKED

The United Mine Workers, according to the latest information available, has been completely successful in stamping out the rebellion against its power in Indiana. The labor organization has been able to hamper and check the co-operative movement in Ohio, Illinois, which was accused of supporting Pittsburgh and southern Ohio in the 1921-22 fight against the preservation of the Central Competitive Field as a wage-making unit, has been quiescent. There, as elsewhere, operators have been hoping against hope that the international officers of the mine workers' union would consent to a downward revision in the Jacksonville scale, but they have made no attempt to break with the organization for its refusal to entertain such a change. Illinois has felt the pincers of non-union competition less than the other three districts in the Central Competitive Field, but even in that state the pressure has been growing.

It is only in the Pomeroy Bend and the western Pennsylvania districts that the rebellion against union domination remains uncrushed. True, neither the tonnage nor the number of men so far involved is large enough to leave any impress on the market. District No. 5 of the United Mine Workers of America—the western Pennsylvania area—has a membership of approximately 45,000, of whom, according to union figures, 23,000 are now employed in the mines of the district—

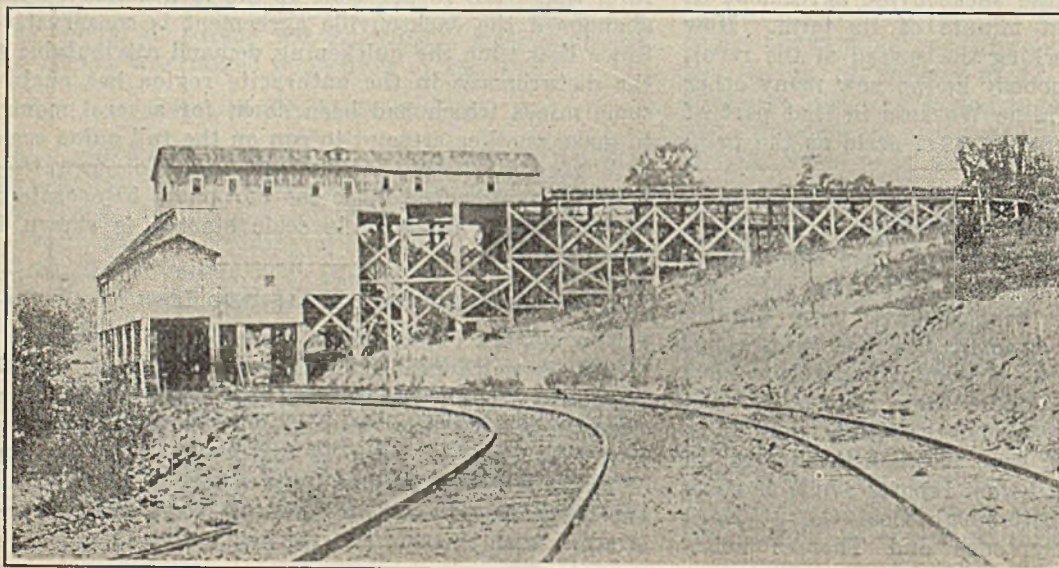


FIG. 8
Holds the Line
for 1917

Mine No. 7 of the Stalter & Essex Coal Co. in the Pomeroy Bend district has been operating on the November, 1917, scale since May 27. It now employs over 200 men and loads approximately 1,200 tons a day. This is the largest average daily tonnage yet reached by any mine breaking away from the union in the Central Competitive Field.

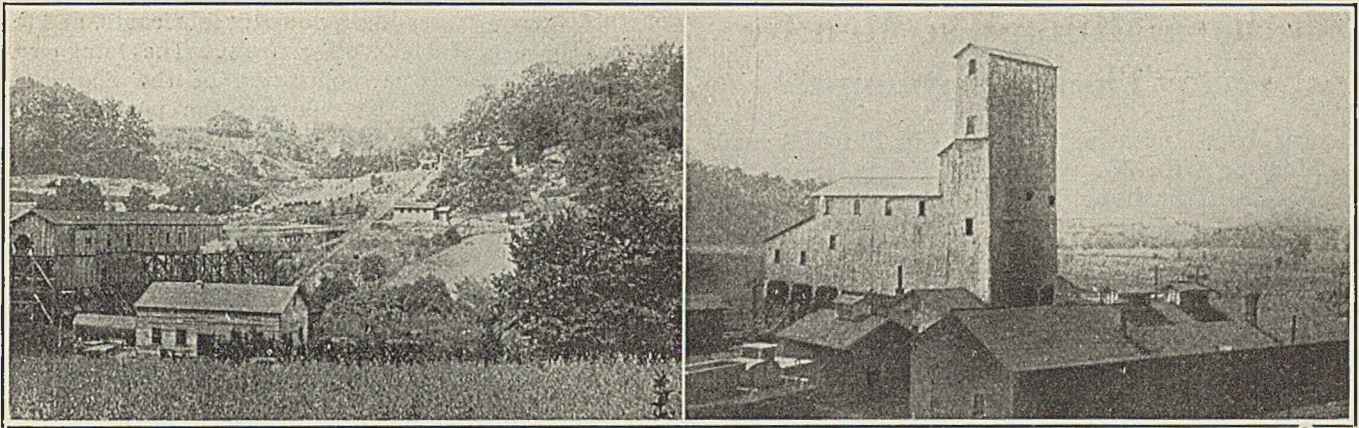


Fig. 9—Victims in the Struggle to Re-establish the 1917 Scale?

The warfare against the maintenance of the Jacksonville scale in the Central Competitive Field has not been without its casualties. Some of these have been recorded in the bankrupt courts, some in the files of insurance companies. The Stalter

& Essex Coal Co. was a pioneer in re-opening under the 1917 scale in the Pomeroy Bend district. Mine No. 5, shown on the left, was burned down before daylight on the morning of May 31. The tipple of mine No. 1, shown on the right, met

a similar fate on Aug. 1. The tipple of No. 5 has since been rebuilt and the mine was reopened about two weeks ago with approximately 80 men at work and an initial tonnage of 300 tons. It has been working steadily since that time.

for the most part, on broken time. Less than 400 men have accepted the conditions of employment at the two Banning operations of the Pittsburgh Coal Co. The Pomeroy Bend group of mines are included in District No. 6. This district had a union membership of 48,000 at the peak of power in 1920; the most claimed for the 1917 scale and co-operative operations in the Pomeroy Bend area is less than 700. The combined totals in the two fields, when compared with union membership of over 220,000 in the Central Competitive Field as a whole, is pitifully insignificant.

If the number of men and the tonnages mined at the 1917 scale could be held at approximately their present figures, the union might close its eyes completely to the secession. Of course, both operators and miners recognize the impossibility of maintaining such a static condition. While today only one company has challenged the union in the Pittsburgh district, that company is one of the largest producers in the country. Back of it now stands the Pittsburgh Chamber of Commerce, convinced that the maintenance of the Jacksonville scale is spelling the doom of the coal industry in western Pennsylvania.

PITTSBURGH COMPANY TAKES LEADERSHIP

The break with the union has been clear-cut, definite. Reliance is not placed on any boring-from-within process such as was tried by Myerscough and his fellows on the "International Progressive Mine Workers' Committee" in 1921, but in the frank recruiting of mine labor willing to abandon the shadow as well as the substance of United Mine Workers' control. To this end, the Chamber of Commerce has established a special department in charge of E. S. McCullough, former vice-president of the United Mine Workers and more recently labor commissioner for the Northern West Virginia Coal Operators' Association. His employment naturally has widened the breach. Neither the Pittsburgh Coal Co. nor the Pittsburgh Chamber of Commerce can now retire without a heavy loss of prestige.

The miners know this. The Addisonian sweetness with which labor leaders in Pittsburgh comment upon the venture is a pose which need deceive no one. If the movement gains further headway, it is most unlikely that the union will content itself with peaceful picketing and the sending of telegrams to Washington denouncing

the Pittsburgh Coal Co. as a contract-breaker. The history of the recent past in the struggle of the union to hold what it has and to further enlarge its sphere of influence is against such a comfortable conclusion.

Up to the present time, the Pittsburgh Coal Co. has made its fight alone. But the other operators in the field are watching day to day developments closely. Some of the commercial mines still running realize that their ability to continue work under the Jacksonville scale is due to the fact that so many of their competitors in the district have suspended operations. Many of the latter group are growing restive. If it appears to them that the Pittsburgh Coal Co. stands a reasonable chance of making a financial and an operating success of its venture, they will attempt to follow its lead and cut loose from the United Mine Workers.

The success of the movement initiated by the Pittsburgh Coal Co. would mean the end of the United Mine Workers in western Pennsylvania—and the disruption would not stop there.



Where Ford Coal Comes Out

Drift mouth of the main haulage way, No. 4 mine, Fordson Coal Co., Stone, Ky. The Stone division is producing over 170,000 tons per month with but six of the nine mines in operation. Although the Fordson company is experimenting with loading machines, none are in use in the mines of this division. Of the total output of the Fordson Coal Co., only about half is consumed by the Ford industries.

Southern Mining Co. Men Go Over Their Problems

Discuss Mine Operating Questions in Third Annual Meeting with Manufacturers' Engineers at Williamsburg, Ky., Headquarters

BY J. H. EDWARDS
Associate Editor of *Coal Age*

FEW, INDEED, were the Kentucky coal-producing companies able to "make their depreciation" during the past two years. The Southern Mining Co., with headquarters at Williamsburg, Ky., was one of the few. Some of the reasons for this were apparent during the third annual convention of the mining and electrical men of this company and its affiliations held at Williamsburg, Sept. 25 and 26. The four technical sessions and the get-together dinner brought out the facts that efficient personnel, up-to-date machinery and intelligent handling and maintenance of equipment combine in Southern service. But above them all is wide-awake interest.

Typifying the *esprit de corps* of his associates, F. A. Signer, electrical engineer, presided in a wheel chair over every session even though one leg was in a plaster cast and the other useless because of a sprained ankle. He had been hurt in a mine two weeks before.

More than sixty were in attendance. The coal company men were seated at tables and visiting engineers and salesmen along the "side lines" parallel to the tables. Chief electricians, mining engineers, and superintendents took part in the discussion, which, although it centered chiefly about problems of equipment maintenance and power cost, also included mining methods. On a wall blackboard near the chairman there was printed in large letters, "Our Slogan—Better Coal, Lower Cost."

The first subject, that of electrical department expenses, soon led to a discussion of the economical handling of supplies. L. A. Safriet, superintendent of the Gatliff Coal Co., which produces 1,200 tons per day, stated that by hiring a supply man to dispense material as needed, the supply expense was reduced 33 per cent. At the smaller mines where it hardly pays to keep a supply man, this work can be handled to advantage by the chief electrician. At one of the largest mines, that of the Southern Mining Co. at Balkan, Ky., G. L. Birch, chief electrician, buys and also distributes mechanical and electrical supplies.

Dirty tracks were cited as a likely cause for high power costs. At one of the mines the consumption dropped from 3.3 kw.-hr. per ton to 2.25 kw.-hr. per ton after the tracks were thoroughly cleaned. The importance of keeping one eye on the demand meter was indicated by an incident by which W. W. Troutman, chief electrician at the Golden Ash Coal Co., saved \$120 on a power bill by getting into communication by phone with the power company, explaining that an accident in the mine a few minutes before had caused a high overload on the substation, running the demand meter to a figure far above normal maximum for that month.

As with most other subjects discussed, Mr. Signer, when taking up that of lubrication, called for a report from each chief electrician of his troubles and successes during the last year. These reports showed the

general tendency to use higher quality lubricants, and to cut out the use of black oil entirely. The total cost of lubricants at the new operation of the Southern Mining Co. at Insull, Ky., during the period from October, 1924, to July, 1925, was 8 mills per ton.

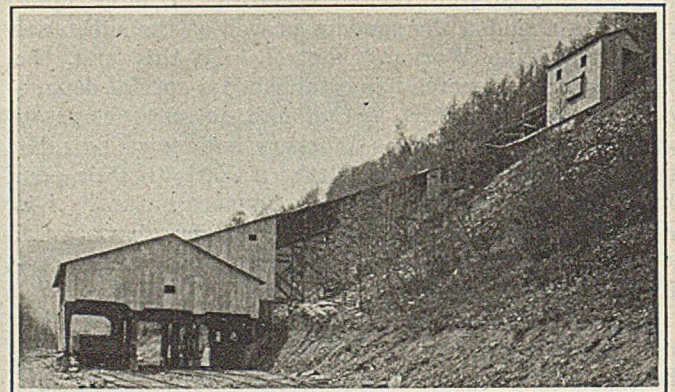
An excellent paper by T. W. Armstrong, general manager of the Fiskes Bros. Refining Co., on the production and "whys and wherefores" of good and poor lubricants was presented. The chief electricians then discussed their troubles with waste-packed bearings. It was brought out that the tendency for wool yarn to wrap around the journal can be overcome by using 15 to 20 per cent by weight of horse hair mixed with the yarn, instead of the usual 10 per cent. More time should be taken in packing a box. The yarn should be twisted into a loose rope and this worked back and forth in the box as it is put in.

Mine ventilation next came up for discussion. C. H. Trik, of the Jeffrey Manufacturing Co., read a convincing paper urging better airways in the mines and making plain the penalty in operating cost inflicted by cluttered air courses and by the use of inefficient fans. He explained the fallacy of depending on a water gage reading at the fan to indicate the condition of the airways. The anemometer is the only instrument which tells the true story. According to Mr. Trik, the best disk fans are not over 45 per cent efficient, and this type should not be used for work requiring more than $\frac{3}{4}$ -in. water gage.

Frank Morrow, president of the Morrow Manufacturing Co., of Wellston, Ohio, talked on the preparation of coal and the care of tippie machinery. He stated that a recent survey indicates that only about 20 per cent of the mines of the country are equipped with shaker screens. He called attention to the advantages of standardization of shaker equipment. A manufacturer who makes only a few sizes of shaker parts is thus able to give prompt service on repair material.

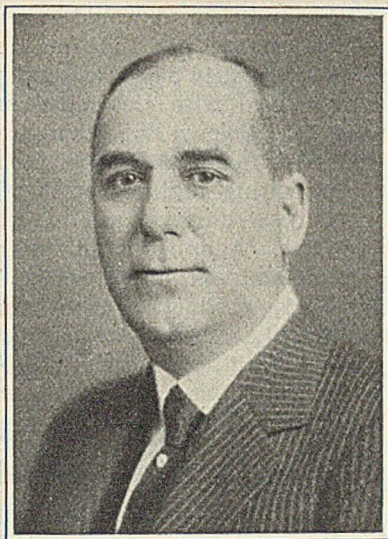
The usual practice is to operate a shaker at 90 to 110 r.p.m., and with a 6-in. stroke, however, strokes of from 2 to 10 in. have been tried. A change of screen plates in a shaker may require a higher speed to get the coal over. Proper balance of shaker screens and their effective lubrication are the two most important items affecting maintenance cost. Failure to provide walk-ways for convenient inspection and lubrication sometimes causes trouble with shaker equipment.

A discussion of mining methods was preceded by a talk on that subject by E. M. Denham, chief engineer. Inasmuch as most of the coal goes to the domestic mar-



One of the Southern Company's Tipples

This is at the Perkins-Harlan Coal Co. mine, Liggett, Ky. The present daily producing capacity of this property is 800 tons.



N. B. Perkins

He is vice-president and general manager of the Southern Mining Co. and a chief official of several of the affiliated companies.

ket, percentage of lump dictates in many instances the method of mining. No loading machines are used, and most of the mines employ the room-and-pillar system. In one mine a modified longwall system which was being tried had to be abandoned because of the decrease in the percentage of lump.

Next in order Mr. Signer brought up the question of ordering repair parts. He emphasized the necessity of a small but well-selected and properly maintained repair stock, and called attention to the delays, mistakes, and high cost of ordering supplies by telephone or telegraph and shipping by express. E. L. Thomas, of the Sullivan Machinery Co., urged the chief electricians to use more care in specifying parts, giving the name, part number, catalog number, and the machine serial number. Mr. Davis, of the General Electric Co., described his company's new method of cataloging mine locomotive repair parts by photographs.

Steel terminal electric-welded bonds are standard at all mines of the companies represented at the meeting. Reports of tests on bonding at the various mines showed a marked improvement during the past year. In one mine every bond was found in perfect condition. In several others the showing was close to 100 per cent. Mr. Palmer, of the General Electric Co., described a four-weld bond which utilizes the angle bar as a part of the bond. A number of this type are now on trial at a Pennsylvania mine. The chief electricians reported excellent results with the new "A" and "B" electrode metals for welding cast iron and thin steel.

The discussion of mining machine troubles soon narrowed to the relative merits of the five- and seven-position chains for cutting coal which tends to "set down" and bind the cutterbar. W. J. Henry, of the Sullivan Machinery Co., explained that the ability to cut coal under such circumstances does not depend so much on the number of positions in the chain as it does upon the lacing. The seven-position chain with the old staggered lacing, which puts more bits in the top and bottom positions than does the V lacing, is best for the work because it will cut its way free. He recommended the use of sprags to hold up coal back of the machine, saying that one or two sprags to a place are sufficient.

Locomotive troubles proved to be an interesting sub-

ject. The loudest demand of the chief electricians was for a satisfactory puller for armature bearings. One man suggested the use of a looser fit of the inner race on the shaft, and a light key to hold this race from turning. Considerable trouble with broken pinions was reported on those locomotives equipped with electric braking, and operating on severe duty. Tool steel pinions are now getting a trial on this service. Many other electrical and mechanical matters also were discussed at the two-day meeting.

The companies represented at the conference have a total daily output of approximately 8,000 tons in Whitely, Bell and Harlan counties of Kentucky, working coal from 28 in. to 44 in. thick. In addition to the Southern Mining Co., which has mines at Balkan, Insull and Colmar, Ky., the affiliated group includes, the High Splint Coal Co., High Splint; Gatliff Coal Co., Gatliff; Perkins-Harlan Coal Co., Ligett; Perkins-Bowling Coal Corp., Anco; Golden Ash Coal Co., Kitts; Mahan-Ellison Coal Corp., Ligett, all of Kentucky, and the New Carryville Coal Co., Carryville, Tenn.

Roberts Tells Engineers Why Mechanical Cleaning Pays

Declares Sizing Alone Has Limited Value—Ash Content of Small Coal Is Excessive Unless Mechanical Cleaning Is Employed

THE CLEANING of nut coal on picking tables is a useless process which should be eliminated under any condition at any mine. Hand picking should be confined to larger sizes; nut and slack should be cleaned mechanically. These points were among the many brought out by Col. Warren R. Roberts, president of the Roberts & Schaefer Co., of Chicago, in a talk on "The Value of Improved Preparation of Pittsburgh Coal," at the bi-monthly meeting of the Engineers' Society of Western Pennsylvania (Mining Section), in Pittsburgh on Sept. 29. N. F. Hopkins, consulting civil engineer, of Pittsburgh, presided.

Colonel Roberts did not confine his talk to the Pittsburgh coal seam alone. He intimated that the value of coal from practically all seams can be greatly increased by improved preparation. Without going into details as to how such preparation can be effected, he told his audience why such practice pays, substantiating his statements by some cost figures.

Delayed progress in better preparation of bituminous coal is natural, Colonel Roberts believes. The vastness of our coal resources and general distribution methods have made us wasteful. Progress has been slowed by the general indifference toward quality coal on the part of the consumer who, in the past, bought coal on price alone. A change in this respect is taking place. Large consumers are now beginning to buy on analysis.

Unfortunately, it is often the sales department rather than the operating department which has to force the issue for better preparation. The operating department is slow in getting into action and recommendations from the sales department for changes in methods of preparation are pigeonholed until the sales manager convinces the other officials that the company is losing its markets. Then action is taken in which the operating department assumes the lead. Thus, it is

the attitude of the engineer which decides, in large measure, the degree to which preparation is to be carried out. The old-time operators could not see the advantage of new preparation methods as do their younger successors.

Aside from any premium which might be commanded from coals by reason of advanced preparation methods, the mine owner retains his old markets and gains new ones, according to Colonel Roberts. His coal properly prepared draws a premium over coal from an identical seam which gets only haphazard preparation. He saves rebates on rejected coal. As he corrects facilities for preparation other improvements throughout the plant become more obvious and many faults are remedied with the outlay of little additional capital.

In speaking of the value of clean coal to the nation, Colonel Roberts showed the country-wide saving in freight which the bituminous industry could effect by reducing the average ash content by 3 per cent. This saving based on a yearly consumption of half a billion tons at an average freight rate of two dollars would aggregate \$30,000,000.

Sizing without cleaning, as so generally practiced in Illinois, has limited value, he said. An operating company in northern West Virginia, wanting to find out whether this is so, carefully sized a carload of 1x2-in. coal which was passed over a table and picked by ten men. This coal was shipped to a testing plant where it was dry-cleaned. Analyses before and after showed that the dry-cleaning process lowered the ash content by more than 9 per cent.

Another West Virginia operator shipped to this testing plant a car load of 2-in. screenings which was sized, sampled, dry-cleaned and again sampled, displaying the following results: Ash content in 2x1-in. size reduced from 18 per cent to 8 per cent by dry cleaning; 1x½-in. size reduced from 15 per cent to 7 per cent; ¾x¾-in. size reduced from 9 per cent to 5 per cent. The fines analyzed 6 per cent ash and, therefore, were not cleaned. A sample of the car before cleaning analyzed 12 per cent ash. The cleaned sizes when remixed had an average ash content of 7 per cent. This test showed that sizing alone would not help this operator to sell his coal and that it was the low ash content of the fines which helped him to sell the smaller sizes mixed.

This operator is working the Pocahontas No. 3 seam. The roof in his mine breaks into fairly small sizes but does not crumble, accounting for the freedom of refuse in the fine coal and the high percentage of refuse in nut and pea sizes. He contemplated a dry cleaning plant and on inquiry learned that a plant handling 206 tons per hour, or 400,000 tons in a 200-day year, could be erected for \$120,000. The cost per ton of cleaning was estimated at 9c., figuring \$7,200 for annual interest, \$16,800 for operating and maintenance per year and \$12,000 depreciation per year (plant written off in 10 years). In the cleaning 5 per cent of the coal or 20c. per ton (slack at \$2) would be lost. The total charge to cleaning, therefore, would be 29c.

His coal as smokeless mine run was selling in Cincinnati on Sept. 24 at \$2.50 per ton. If this same coal had been cleaned to permit its respective sizes to stand on their own merit, the sizes would have yielded the following prices: Lump (20 per cent), \$5; egg (15 per cent), \$4.50; nut (40 per cent), \$3; and slack (25 per cent), \$2. The average realization per ton from

this coal, when sized and cleaned, would have been \$3.37. Deducting the 29c. charge per ton for cleaning, his realization per ton of cleaned and sized coal would have been \$3.08 as compared with the mine-run price of \$2.50, a margin of 58c., Colonel Roberts figures.

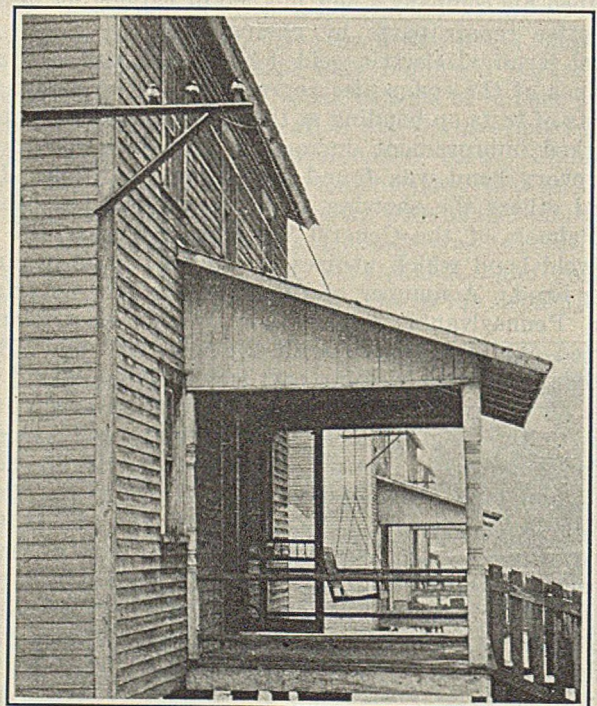
A brief discussion followed Colonel Roberts' talk. Graham Bright, consulting engineer, of Pittsburgh, emphasized the need of a uniform ash analysis of coal shipped from a plant. A uniform product will give a steady run to a mine and will, in most cases, enlarge its markets, giving lower production costs if not higher realization per ton. A uniform product cannot be obtained very well except by mechanical cleaning he thinks.

House Brackets Displace Poles

After five to fifteen years of service wood cross-arms and wood poles begin to show signs of decay and unless they are given constant attention will present a rather unsightly appearance. Moreover, it is always difficult to keep small wood poles in proper alignment.

In certain streets of the town of Raleigh, W. Va., the Raleigh Coal & Coke Co. has taken out the original wood poles and placed the 110-volt secondary lighting circuits on steel brackets fastened to the houses. At first thought it might appear that this would hurt the appearance of the street. However, this construction is much neater than a line of poles in front of the houses with the necessary service lines to each house.

Conditions which make this method applicable on certain of the streets of Raleigh are that the houses are two-story, are of uniform design, and are built with the fronts on a straight line. It will be recognized that supporting the wires on brackets is much cheaper than supporting them on poles. Besides the saving in poles shorter service leads are used and maintenance is lowered.



House Corner Serves as a Pole

Formerly there was a pole line in the street in front of these houses. When the poles got into bad condition they were taken out and the line supported as shown for economy's sake.

Coal Mining Men from Many States Talk at National Safety Council Meeting

By a Staff Correspondent

COAL MINE SAFETY received attention at the fourteenth annual congress of the National Safety Council held in four Cleveland, Ohio, hotels, Sept. 28 to Oct. 2. Mining men from a number of coal mining regions, and safety men from everywhere were in attendance discussing safety in industry and in the ordinary daily life of America. It was the Council's largest congress, indicating a growing importance of the organization. John Barton Payne, chairman of the central committee of the American Red Cross, at one of the meetings, said the Council's work is a bigger job than even that of the Red Cross. Rear Admiral Sims was one of the principal speakers at a general session. The Council elected as its new president, Charles B. Scott, of the Chicago Bureau of Safety. W. H. Cameron was re-elected managing director. B. C. Yates, general superintendent of the Homestake Mining Co., of Lead, S. D., was made chairman of the mining section for the coming year.

At the mining session of Tuesday under the chairmanship of R. Dawson Hall, two subjects, falls of roof and coal and "fear psychology," occupied attention, the debate being unusually active. E. A. Holbrook, dean of the School of Mines and Metallurgy, Pennsylvania State College, stated that much greater safety from falls of roof and coal might be attained if more shift bosses were employed. One engineer, he declared, had assured him that his own inquiries had led him to believe that if his company would appoint one shift boss to every twenty-five men the accident rate in his mines would so greatly decrease that greater economy in operation would result than was attained by having only one shift boss to about sixty men.

T. T. Read, safety service director of the U. S. Bureau of Mines, exhibited a chart showing that accident rates from all causes did not rise and fall with the rates for falls of roof and coal and that the latter rates did not correspond in any way with the production of coal per man per day.

IS MORE TIMBERING THE CURE?

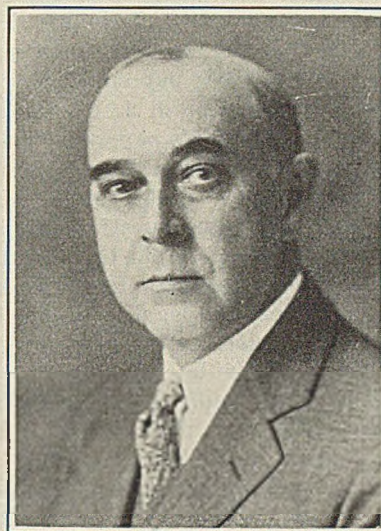
He stated that in Great Britain it had been found that the accidents from falls of roof and coal were more frequent where the roof was good than where it was bad, showing that the care under bad roof more than overcame its inherent danger. He deduced from that the idea that more timbering would be no cure—a statement which, strange to say, was neither approved nor challenged.

Rush N. Hosler, supervisor of compensation rating for coal mines, Harrisburg, Pa., declared that closer supervision would do much to correct the evils arising from bad roof, and R. V. Ageton, safety engineer, Tri-State Lead and Zinc Ore Producers' Association, declared that in the lead and zinc mines of the Joplin district it had been found that only 20 per cent of the accidents from roof falls occurred during the seven summer months, the rest happening during the winter.

To Francis Feehan, U. S. Bureau of Mines, it seemed

a small matter to obtain greater safety. If the manager of a mine would declare that accidents must be stopped, stopped they would be. If the order were firmly expressed it would be obeyed and it would not be necessary to "fire" many foremen or discharge many workmen. The will to safety, said Mr. Feehan, has not been sufficiently exhibited at many mines, and accidents continue.

The chairman took exception to the inferences likely



Charles B. Scott

New president of the National Safety Council who has served as vice-president and treasurer. He is a pioneer safety man and is now director of the Bureau of Safety in Chicago.

to be drawn from E. A. Holbrook's statement that falls of roof and coal formed much the same percentage of the total accident rate in the United States and Great Britain. Seeing that the rate for all accidents in Great Britain per thousand men employed is far less than in the United States, the similarity in the percentage rate of all accidents in the two countries for accidents due to falls of roof and coal, exhibits the fact that the falls accident frequency is less in Great Britain than in the United States. Anyone, said the chairman, who knows the immobility of labor in Europe, the tendency of laboring men to live and to die in one single village, will be convinced that it is a great adventure that brings a man to America, often, in the past, without a dollar to sustain him during his search for work.

AGGRESSIVE AND CHANCE TAKING

Such an immigrant is a chance taker. It must seem, to those who remain in Europe, that he takes a long chance. Such a man is likely to take big risks and to regard family ties more lightly than those who stay at home. That being so, by this process of selection the people of America, all of whom have come from Europe, have ever been of adventurous type and in the same manner the chance takers of Europe have been eliminated. All sorts of fatalities—as from drowning and

even from suicide—have been more frequent in the United States than in European countries.

F. C. Gregory, resident engineer, U. S. Bureau of Mines, Duluth, Minn., said that every man engaged by the Phelps Dodge Corporation was always obliged at the time of his hiring to perform every mining operation under supervision once and was required to do the work according to the "Copper Queen methods" which were explained to him carefully. As a result the company believes it has greatly reduced its accidents while increasing the effectiveness of operation.

The manager of the industrial relations department of the Davis Coal & Coke Co., Thomas, W. Va., C. A. MacDowell, declared that his company had established the rule that every man in its employ should have training in first aid from the U. S. Bureau of Mines, thus reducing the severity of accident and any man who violates safety rules gets a little note in his pay envelope—a hazard card—calling attention to his dereliction of duty. It is noted that the men are quite anxious not to find any such cards in their pay envelopes.

At the Wednesday session J. J. Forbes gave a brief outline of Daniel Harrington's paper on "The First Year of Utah's Drastic Coal Mine Regulation" regarding which the discussion was quite brief. Mr. Read remarked, however, that some question had arisen as to the constitutionality of attempts to delegate the legislature's powers to commissions. However, he added, no one had seen fit to test the legality of the Utah Industrial Commission's order, and, moreover, should it be tested it would probably be found within the fundamental law of the state and nation, the Industrial Commission having been given powers similar to those entrusted and used by state health boards. The latter have been found constitutional. Mr. Read declared that he believed that the legislature was not fitted to pass on a bill full of technical details such as a mining bill must be, nor was it advisable to leave such matters to a legislature which by its very nature must proceed slowly and might be out of session when action was greatly needed.

The conduct and value of mine rescue stations was the subject of a paper by K. T. Sparks, safety engineer, Central Mine Rescue Station, Wallace, Idaho.

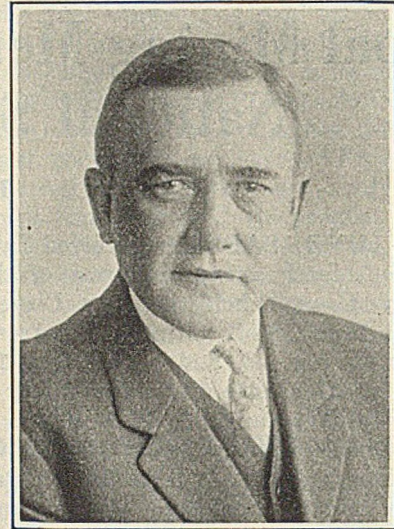
SEARCHLIGHT IS INDISPENSABLE

Responding to Mr. Read's query as to the value of searchlights in rescue work, Mr. Boardman declared that, in working in low places or amid fallen rock and in the presence of smoke from a fire, the searchlight was indispensable, as cap lamps are utterly unequal to the work, their light being adequate only in reasonably fresh air.

"An advanced course in fire fighting and rescue work" was Mr. Gregory's characterization of mine-rescue maneuvers. He believed that fresh-air methods of training the men using apparatus failed to beget confidence. Even with gas-chamber training the men are "not under the nervous strain that accompanies a trip of greater distance in gas," but that is better than outdoor practice, at least.

"Ordinary training methods," said Mr. Gregory, "do not teach discipline, develop leadership or train the men to do unaccustomed work under normal conditions with a minimum of supervision."

To Mr. Gregory it seemed that the work of a rescue-man was one not to be entrusted to any man just



C. L. Close

A National Safety Council director. He heads the U. S. Steel Corporation's department of safety, sanitation and welfare.

because he was someone who could be most readily spared. The fact that he was not an essential part of the mine personnel, or could be readily replaced, was usually a poor recommendation for him. Careful and thoughtful selection should be expended on the men for the job or the money spent on training will be wasted. The men should be given a thorough medical examination by a physician, and their nervous reactions while wearing the apparatus should be carefully watched.

The maneuvers described by Mr. Gregory were made in smoky but not irrespirable air. Much of the way the smoke was so thick that travel was by touch rather than by sight. In building canvas stoppings, however, nine teams traveled an average of 43 ft. vertically and 2,490 ft. horizontally in the smoke, carrying tools, canvas and light slats, but no heavy timber, built their stopping and were out in one hour and seven minutes. Hunting and bringing out a dummy took four teams an average of one hour and six minutes, during which the distances were 150 ft. vertical and 2,470 ft. horizontal. The rescue of a live man took an hour, and the team traveled 130 ft. vertically and 3,200 ft. horizontally.

The distances to be covered were purposely made long. In an irrespirable atmosphere the bureau recommends, said Mr. Gregory, that explorations under apparatus should not exceed 2,000 ft. for the round trip on a nearly level, unobstructed course with a height of 5 ft. or more and air clear enough that the vision of the rescue crews is not materially obscured. Exploration should never be undertaken on pitches exceeding 30 deg. unless there is reasonable assurance of saving life. These rules were not followed in this instance as the risks were eliminated and the purpose was to give confidence in the apparatus.

Mr. Forbes said that at one mine it was found that out of fourteen sets of apparatus only two were in condition and yet the apparatus was relatively new. Careful inspection was at all times necessary. The safety service of the U. S. Bureau of Mines was introducing an advanced course in mine rescue and fire fighting, the curriculum extending over five days and occupying 37 hours. At the Orient Central Rescue Station, Orient, Pa., fifty-eight men took this course.

It was expected that many men would drop out disheartened by the thoroughness with which the subject was covered, but fifty-seven men passed the examination.

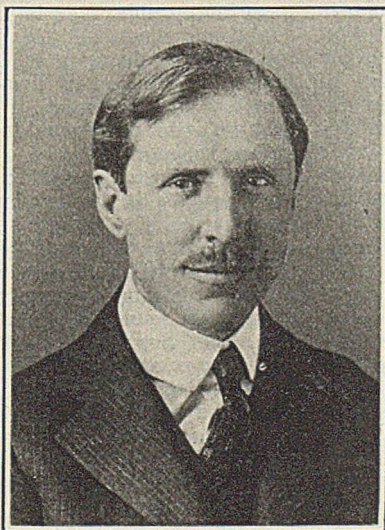
The course deals with new equipment and practices. Instruction is given on gas analysis, pyrotannic methods of ascertaining the presence of carbon monoxide, self rescuers, all-service gas masks, barricades, their value and use, stoppings, lifelines, signals and surface-organization plans. Mr. Forbes said that long, dangerous trips in apparatus were not necessary and should be prevented. The fresh-air base can be moved forward so as to minimize the risk. He said that the Bureau had found that some canaries would outlast a man in carbon monoxide. He, therefore advised that three be carried by a rescue party in actual service instead of only one.

The two final days of the course were spent in actual maneuvers underground, the instructions to the men being marked on the stoppings in the mine, so that they found the work they had to do clearly indicated. The men entered into the sport of the occasion and relinquished the maneuvers only with regret.

FRESH AIR IN RESCUE WORK

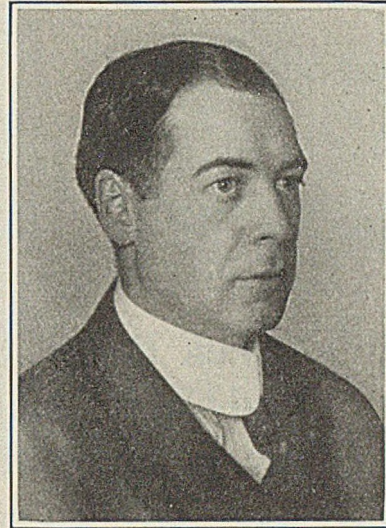
J. W. Reed said that not enough had been said as to the fresh-air end of rescue work, a matter that was most important. The bringing up of supplies, the furnishing of suitable headquarters, the inspection of rescue apparatus, the maintenance of communications, all these have much to do with successful rescue work. F. M. Correll declared, however, that there were too many men who preferred fresh-air work and some apparatus men when an emergency came were unwilling to make use of the training they had received.

At the close of Wednesday's session of the Council the following officials for the mining section were elected: B. C. Yates, general superintendent, Homestake Mining Co., Lead, S. D., chairman; B. F. Tillson, assistant superintendent, New Jersey Zinc Co., Franklin Furnace, N. J.; first vice-chairman, C. A. McDowell, Davis Coal & Coke Co., Thomas, W. Va., second vice-chairman; Robert E. Talley general manager, United Verde Copper Co., Jerome, Ariz., third vice-chairman; A. W. Dickinson, general superintendent, Union Pacific Coal Co., Rock Springs, Wyo., fourth vice-



W. H. Cameron

Re-elected managing director of the National Safety Council at the Cleveland meeting.



B. F. Tillson

Chosen first vice-chairman of the National Safety Council's mining section for 1925-26. He is general superintendent of the New Jersey Zinc Co.

chairman; T. T. Read, safety service director, U. S. Bureau of Mines, Washington, D. C., secretary.

At the Thursday session A. W. Dickinson, general superintendent, Union Pacific Coal Co., not being present, Mr. Read briefly introduced his paper which detailed not only the ventilation practices but also the safety methods of the company. As the chairman pointed out, little was said in the paper as to the new fans which the Union Pacific is introducing wherever thereby the distance the air has to traverse can be greatly decreased.

For the most part the coal around Rock Springs is not of great depth and by taking advantage of the valleys it has been possible to construct shafts, not of excessive depth, that will do much to economize power, to increase ventilation and to shorten the distance which the germ-laden return air has to travel. In the old mines where the timber is highly infected with fungus, a shortening of its travel means a large saving in timber infection and a great reduction in the number of roof falls that have to be loaded out and timber sets that have to be removed. The new shafts also may be expected to aid in rescue work if any should have to be done.

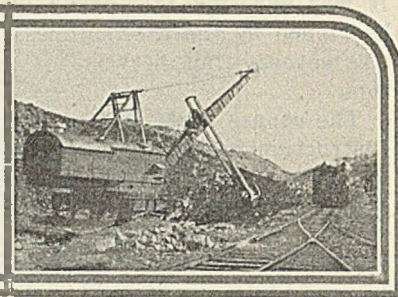
Later the safety practices of the Cleveland-Cliffs Co. were described by William Conibear, safety engineer of that company. Mr. Conibear stated that his company intended to have the committees examine all accidents, whether trivial, serious or fatal. In many cases the triviality of an accident was due merely to chance, the accident had all the possibilities of being fatal and failed of that end only by a hair.

A. A. Bowden, safety engineer, of the Pickands Mather Co., objected to miners being allowed to close fire doors in case of a fire. He believed that as each mine has its characteristics the work of closing doors should, in general, be left to certain authorized persons.

In the final afternoon meeting a round-table discussion of the work of the section was held under the chairmanship of Mr. Yates. At the annual banquet, Cary R. Gray, president, Union Pacific R.R., was the principal speaker and the election of Mr. Scott president, and Mr. Cameron managing director, was announced.



News Of the Industry



Both Sides Seek Public Support As Hard-Coal Strike Drags On; Repeal of Certification Law Urged

The second month of the anthracite strike begins with neither operators nor union officials showing any signs of a willingness to recede from their respective positions. For the time being, at least, the conference chamber has been forsaken for the public forum and the daily newspapers in an attempt to capture popular support. The only known recent effort to bring the warring interests together again for a peace parley—that launched by the Scranton Chamber of Commerce—still suffers from malnutrition.

Spokesmen for the producers declare that, barring irresistible intervention, they are ready to hold out indefinitely to block increased prices to the consumer and to prevent a repetition of the present suspension. Union representatives are equally firm in announcing their unalterable opposition to the operators' proposals for arbitration.

If the producers' advertising campaign in the region papers designed to break down the solidarity of union allegiance has made any headway, that fact has not been dragged into the open. Personal appeals by the operators to industrial and political leaders in the anthracite region have led to some sharp exchanges of opinion in which several of the political heads, notably Mayor Durkan of Scranton, have expressed their sympathy with the union's claims.

Extend Publicity Battle

During the past fortnight the battle of publicity has been waged in several sectors, including New York, Philadelphia, Boston, Buffalo and Coaldale, Pa. On Sept. 29, in New York City the Department of Industrial Relations of the National Civic Federation, under the leadership of V. Everitt Macy, heard the views of John Hays Hammond, chairman of the defunct U. S. Coal Commission; Adam Shortt, former chairman, Canadian Mediation Board; Matthew Woll, vice-president, American Federation of Labor, and William H. Taylor, president, St. Clair Coal Co.

Repeal of the Pennsylvania mine's certification law is the first step necessary toward a resumption of operations, declared Mr. Hammond, who denounced the strike as indefensible. The statute which requires a man to work two years as a contract miner's laborer before he is permitted to mine hard coal was characterized as discriminatory.

There are many competent bituminous miners, asserted Mr. Hammond, who would be glad to accept the more regular employment in the anthracite fields.

"Furthermore," continued Mr. Hammond, "there is no doubt that many of the anthracite employees now on a vacation strike will be eager to return to work if the strike is long continued, and this despite the moral suasion of the leaders of the union. The fear of molestation in the different ways practiced at such times would undoubtedly deter many of them from returning. By the guarantee of the Commonwealth of Pennsylvania of immunity from interference the required complement of miners and other employees could be assured."

Strike Indefensible: Hammond

Although Mr. Hammond was of the opinion that some anthracite workers "are underpaid and that there exist glaring inequalities in the payment of others, creating reasonable discontent," nevertheless he condemned the strike on the ground that "the grievances of either side could be redressed without adding to the cost of production, by following the recommendations of the Coal Commission."

The increases to the lower-paid workers and equalization of rates could be effected without increasing the price of coal, he intimated, if the miners would agree "to eliminate restriction of production, petty strikes and other unnecessary but costly annoyances to the company. "Certain it is," he declared a moment later, "that the demand for an increase of \$1 per day for company men, with a flat increase of 10 per cent for tonnage miners and the check-off, is unreasonable."

Seizing upon statements of Mr. Hammond that certain mine workers were entitled to an increase and that some wholesalers and retailers profited, Mr. Woll attacked the preceding speaker for denouncing the strike and recommending the repeal of the miners' certification law. The main portion of Mr. Woll's remarks, however, were devoted to an impassioned attack upon government restraint and meddling with private business. He scored compulsory arbitration and political settlement of industrial disputes and pled for an amendment to the anti-trust act to permit freer combinations in business. His misinterpretations of Mr.

Hammond's statements drew the fire of Dr. Edward T. Devine, a fellow member of the U. S. Coal Commission.

Mr. Shortt described the workings of the Canadian mediation law. Mr. Taylor presented a "plan for final settlement of the questions involving the mining, shipment and marketing of bituminous coals," advocating the compulsory closing down of enough mines to permit others operating 285 to 300 days to supply the fuel demands of the country. Owners or lessees of the mines closed down would be compensated for their idle investment in a tax included in the price of coal sold by operating mines.

On the evening of the same day the New York section of the A. I. M. E. heard E. W. Parker, director, Anthracite Bureau of Information; R. V. Norris, mining engineer; Roderick Stephens, Stephens Fuel Co.; F. R. Wadleigh, former Federal Fuel Distributor; C. T. Starr, chief, Bureau of National Resources, Chamber of Commerce of the United States, and C. Kemble Baldwin, Robins Conveying Belt Co., discuss the future of anthracite and the issues in the strike. There was general agreement that the public need have no fear of a fuel famine, although it might soon have to forego the use of anthracite.

Must Use Substitute Fuels

Reserve stocks of the larger sizes now in the retail yards of the dealers in Greater New York, explained Mr. Stephens, would not last much beyond Oct. 15, pea stocks might hold out a month longer and the first of the year would see the end of the supply of No. 1 buckwheat. Byproduct coke, the next most acceptable fuel in this territory, could not meet all the demands that might be made upon it, but that fuel, plus a liberal run of low-volatile bituminous, supplemented, if need be, by high-volatile coal, would see the consumer through.

Mr. Baldwin brought a more cheering word as to the development of byproduct coke production. Mr. Starr pointed out that New England, the section from which demands for government interference usually came first, was in an unusually comfortable position. On Sept. 1 domestic consumers had approximately 50 per cent of their normal supply of hard coal in their bins and retail yards were carrying enough coal to cover 33½ per cent of the requirements.

Speaking at a celebration at Coaldale on Oct. 1, John L. Lewis expressed himself as satisfied with the progress of the strike and again turned his oratorical guns on Mr. Hammond for the latter's attack on the miners' certification law.

Safety Methods Discussed at Pittsburgh Institute

At the meeting of the Pittsburgh Coal Mining Institute, Oct. 3, J. J. Forbes, of the Safety Service of the U. S. Bureau of Mines, addressed the meeting on the work in which he was engaged. The bureau is giving a sort of extension course of five days' duration. Mr. Forbes delivered himself regarding the menu of the course but also gave some of the meat. He said that at one mine safety lamps perfectly assembled flashed when tested in gas.

Someone struck a match on the gauze of one of them. That lamp flashed when put lighted into gas, and the secret was solved. The firebosses had been using the gauzes of their lamps for the striking of matches, and enough phosphorus had been left in the meshes to convey the flame. A mine in the West was exploded by a disassembled safety lamp and another by a doubled gauze. Safety lamps, said Mr. Forbes, are safe only if proper care is taken of them.

Of 2,900 men killed in several explosions 1,500 had died of burns and violence and 1,400 of carbon-monoxide poisoning. The self-rescuer would have saved all these latter men.

The Bureau of Mines has approved these self-rescuers for one-half-hour service. If but one man ever comes out with a self-rescuer the idea will go over strongly, but meantime the device, which could be made of immense value, is practically unknown, said Mr. Forbes.

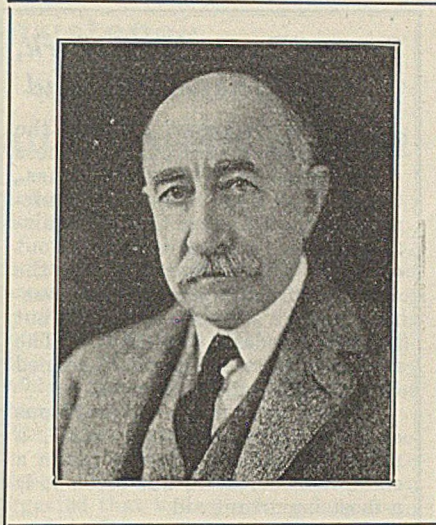
R. Dawson Hall, engineering editor of *Coal Age*, followed with an account of the Rocky Mountain Coal Mining Institute's meeting at Price and of the sessions of the Mining Section of the National Safety Council. This was followed by a question box with safety in pillar drawing a leading feature.

Vancouver Island Teams In Safety Meet

The Crows Nest Pass Coal Co.'s Coal Creek team won the mine-rescue contest at the tenth annual field day of the Vancouver Island Mine Safety Association, held Sept. 7 on the Central Sports Grounds, Nanaimo, B. C. The winners, captained by John Caufield, had a score of 98.4 per cent. The Lady-smith team of the Canadian Collieries Co. (George Carson, captain) was second, with 92.4 per cent; Cumberland No. 1 third, with 91.6, and Cumberland No. 2 fourth, with 91 per cent.

The British Columbia Department of Mines cup for first aid was won by the Granby company's Cassidy team (A. Mc-Lauchlan, captain); second, Canadian Collieries Ladysmith team (G. Carson, captain). The latter team was composed of a father and his four sons. Cumberland team of the Canadian Collieries, captained by W. Beveridge, captured the W. L. Coulson cup for first aid, with Captain D. Simpson's Nanaimo team runner-up.

The V. I. M. S. A. ladies' cup was won by Cumberland, led by Mrs. Hudson. Captain L. Wharton's team from Nanaimo won the Juvenile cup; C. Wharton's team from Nanaimo took



John Hays Hammond

The chairman of the defunct U. S. Coal Commission has again provoked the wrath of John L. Lewis by his denunciation of the Pennsylvania miners' certification law. The repeal of that statute, declared Mr. Hammond in an address before the Department of Industrial Relations of the National Civic Federation last week, is the first necessary step toward a resumption of mining in the anthracite field.

the two-man event, and Beveridge and Waterfield, of Cumberland, carried off the one-man trophy.

William Sloan, Minister of Mines, distributed the prizes.

Banning No. 2 Output Hits 1,000 Tons in Day

Miners at Banning No. 2 mine of the Pittsburgh Coal Co., Whitsett Junction, Pa., have reached a goal toward which they have aimed since the pit was reopened Aug. 20 at the November, 1917, wage scale. Their objective was a production of 1,000 tons a day, and on Saturday, Oct. 3, the 225 men working made a day's run of 1,188 tons. Total output for the week was 5,225 tons. Production for the week at Banning No. 1 mine, Van Meter, Pa., was 2,472 tons, with 165 men working. The aggregate output at the two mines of the company in the Youghiogheny Valley was 7,697 for the week.

Shipping concerns are keenly interested in the forthcoming tests of pulverized coal as marine fuel which are to be carried out at the League Island Navy Yard, Philadelphia, under the joint supervision of the Navy Department, the Shipping Board and the Bureau of Mines. The Board has already authorized an appropriation for the purchase of 500 tons of coal to be used in the tests, during which several types of burners will be used in order to determine which of them is best adapted to merchant ship and Navy use. It is learned that one New York concern manufacturing a special type of burner has applied to the Shipping Board for the loan of a ship in which to give the burner a tryout with pulverized coal. The League Island tests are to begin as soon as the necessary appliances can be assembled.

Triadelphia Mine Explosion Due to "Unknown Cause"

After a thorough investigation into the explosion in the Triadelphia (W. Va.) mine of the Elm Grove Mining Co., which claimed the lives of three workmen during the week ending Sept. 19, a coroner's jury on Sept. 24 failed to fix responsibility for the blast, the verdict being that it was due to "an unknown cause."

Two probable causes were given in the testimony of District Mine Inspector A. E. Lafferty. In his opinion the explosion could have been caused by sparks from a lighted cigarette or cigar lighting on the powder spilled from defective powder cans or by a spark from a defective trolley bell. It was shown that all of the cans had not exploded at once, which led the jury to believe that powder had been dropped from the cans to the floor of the motor trailer. The trolley bell introduced as evidence was burned by a high-powered electric current, small pieces having been torn away from the main insulating part of the bell.

Assistant Prosecuting Attorney Fred Brinkman was assisted by District Mine Inspector V. E. Sullivan, an assistant of R. M. Lambie, chief of the Department of Mines.

\$1,000,000 Coal Land Deal Closed in Ohio

Columbus, Ohio, Oct. 6.—The Hammerford Coal Co., being organized under Ohio laws, has purchased the stripping operations and coal acreage of the Kehota Mining Co. in Hocking and Perry counties at a consideration in excess of \$1,000,000. The new corporation was formed by William S. Harman, of the W. S. Harman Coal Co., Columbus, and E. R. Meyer and John Winefordner, of Zanesville. The property just acquired consists of upward of 4,000 acres of coal lands, four miles of railroad, large stripping units and three tipples. The property is served by the Hocking Valley, Zanesville & Western and the Baltimore & Ohio railroads. The daily capacity is 3,000 tons.

Big Muddy Hearing Starts

The government opened its hearing at the Federal Building, St. Louis, Oct. 1 for the purpose of getting facts and figures on the possible tonnage of coal that might be moved on the Big Muddy River from the Williamson and Franklin County (Ill.) field in the event that an appropriation of \$5,000,000 asked for was obtained for making the Big Muddy navigable to a point about ten or fifteen miles above Murphysboro. Several witnesses were heard, but with the exception of W. K. Kavanaugh, of St. Louis, none had anything tangible to present or seemed to be familiar with the possibilities of river navigation.

The Chicago & Northwestern Ry. has announced a reduction in coal rates from Hudson, Wyo., to Mitchell, S. D., giving a \$4.70 rate on bituminous, a reduction of 64c.

Deploras Delay in Printing Coal Commission Report

"With the mining of anthracite coal completely stopped, the delay in publishing the report of the late U. S. Coal Commission furnishes an object lesson in disservice to the public that is likely to have serious consequences when winter comes," declared Thomas L. Chadbourne, president of the American Association for Labor Legislation in a statement on Oct. 3.

Mr. Chadbourne says that during the negotiations between miners and operators which preceded the strike newspapers had called attention to the fact that the delay in publishing the coal commission's findings had deprived the President and the public of a "weapon" that might have been used to protect the consumers.

Mr. Chadbourne criticizes the delay as "unreasonable" and a blow at the principle that the work of a fact-finding commission is not completed until its full report of all the facts is published to guide law makers and the public.

Bell Indicted on 14 Counts

John A. Bell, coal magnate and former president of the closed Carnegie Trust Co., Pittsburgh, Pa., is to be placed on trial at an early date for alleged irregularities in the financial affairs of the trust company. Bell was indicted Oct. 1 by the Grand Jury on fourteen counts, charging embezzlement of \$1,161,995.64 of the funds of the institution, and District Attorney Gardner said the case probably would be called within a month or six weeks.

The indictments charge Bell with embezzlement and abstracting moneys and with making false entries on the books of the bank in connection with "withdrawals" by county officials and the Carnegie Coal Co., of which Bell formerly was president. A new development was a charge in the true bills that Bell had misappropriated nearly \$200,000 more than was contained in the information on which he was arrested on Aug. 4.

Success Due to Hard Work, Not Luck, Says Hammond

Defining "success" before the twelfth annual National Business Conference at Wellesley, Mass., Oct. 3, John Hays Hammond, chairman of the Harding Coal Commission, advised his hearers to get out of their minds that luck is the determining element of a successful career. "It is welcomed, but is not dependable," he said. "The real crop must be sown and reaped by the sweat of one's brow."

"There are many adventitious aids to success. For example, a pleasing address; this may seem a small consideration, but often it is a most important aid.

"It is likewise of advantage to be by nature a good mixer, not, however, an artificial kind of 'glad-hand artist,' who endeavors to win popularity by selfish purposes and at the sacrifice of principle and self-respect. Popularity of the latter kind is of short duration. The born good mixer is one who has tact, and tact comes from a kindly nature.

"What is inelegantly, but aptly, termed a 'grouch' is a very unfortunate obsession. Do not undermine your resolution, nor waste your energy in proclaiming that the 'time is out of joint' and that the world is going to the dogs. On the contrary, it is getting better and better every day."

Northwestern Goes to Oil

The Chicago & Northwestern Ry. has decided to shift over all its locomotives on the Nebraska and South Dakota divisions to oil from Wyoming, calculating that this fuel will be cheaper than Illinois and Iowa coal produced under the Jacksonville wage scale. The Northwestern has coal mines in both states.

Fair Price Coal Commission Revived in New York

The Fair Price Coal Commission established by Governor Smith of New York following the 1923 hard-coal strike has been revived. At the request of the Governor, Major General Charles W. Berry, N. Y. N. G., chairman of the local committee, has called together his former associate commissioners, Dr. Frank J. Monaghan, New York City Commissioner of Health, and George W. Eltz, commissioner, Coal Merchants Association, to determine upon procedure to be followed in handling any situation which may arise as the result of the present strike. In addition, the Governor has specifically requested the commission to investigate the status of the proposals to establish rates from West Virginia to New York and other northeastern points and to advise the Governor what action, if any, New York should take on the matter.

The state commission, of which Major General Berry is also head, met at the Hotel Biltmore on Oct. 5 to perfect its organization. Two vacancies were filled by the appointment, by the Governor, of W. C. Capes, Albany, secretary, State Mayors' Conference, and Major Charles B. Staats, president, New York State Coal Merchants' Association.

Orders Lower Rates on Slack

Reductions in rates on slack coal from the Bevier (Mo.), Pittsburg (Kan.) and Henryetta (Okla.) districts to Superior, Neb., have been ordered by the Interstate Commerce Commission in its mimeographed decision in Nebraska Cement Co. vs. A. T. & S. F. Ry. Co. et al. The complainant alleged unreasonableness and a prejudicial relationship in favor of Omaha and Lincoln, Neb. The Commission found that the existing rates of \$2.86 from Bevier, \$2.55 from Pittsburg and \$5.35 from Henryetta were unreasonable to the extent that they exceeded \$2.25, \$2.45 and \$3.45 per ton.

Production of Mining and Industrial Electric Locomotives In 1923, 1924 and 1925

	Quarter Ending— March 31, 1925	June 30, 1925	Six Months Ending June 30, 1925	March 31, 1924	Quarter Ending— June 30, 1924	Sept. 30, 1924	Dec. 31, 1924	Year Ending— Dec. 31, 1924	Dec. 31, 1923
Number of locomotives shipped:									
Mining locomotives:									
Trolley type.....	104	91	195	112	98	100	118	428	1,024
Storage-battery type*.....	47	29	76	28	36	41	35	140	249
Total.....	151	120	271	140	134	141	153	568	1,273
Industrial locomotives:									
Trolley type.....	4	4	8	19	9	3	10	41	10
Storage-battery type*.....	3	15	18	26	12	6	4	48	51
Total.....	7	19	26	45	21	9	14	89	61
Grand total.....	158	139	297	185	155	150	167	657	1,334
Value of locomotives shipped:									
Mining locomotives:									
Trolley type.....	\$487,638	\$436,352	\$925,990	\$554,950	\$486,493	\$488,407	\$545,871	\$2,075,721	\$4,628,981
Storage-battery type.....	163,275	90,089	253,374	90,974	124,396	145,598	122,701	483,669	833,369
Total.....	\$659,913	\$526,441	\$1,179,364	\$645,924	\$610,889	\$634,005	\$668,572	\$2,559,390	\$5,462,350
Industrial locomotives:									
Trolley type.....	31,480	35,178	66,658	147,139	150,112	14,570	162,560	474,381	60,942
Storage-battery type*.....	11,331	101,716	113,047	105,463	49,902	20,755	18,231	194,351	199,739
Total.....	\$42,811	\$136,894	\$179,705	\$252,602	\$200,014	\$35,325	\$180,791	\$668,732	\$260,681
Grand total.....	\$693,724	\$663,335	\$1,357,059	\$898,526	\$810,903	\$669,330	\$849,363	\$3,228,122	\$5,713,031

* The data for storage-battery locomotives has been revised to show only the value of the locomotives, exclusive of the value of batteries, charging equipment, and the like.

This table was prepared by the Department of Commerce, Washington, D. C., from reports made by ten manufacturers who comprise practically the entire industry.

Washington Notes Inconsistence In Lewis' Address at Fairmont; Hard-Coal Intervention Distant

By Paul Wooton

Washington Correspondent of *Coal Age*

Washington has not failed to note the inconsistency in the position of the United Mine Workers revealed in John L. Lewis' speech at Fairmont, W. Va., Sept. 26. In that address he urged the federal government to take a hand in the bituminous situation, where the union is weak, when at the same time his position is one of unflinching opposition to arbitration or public intervention in the anthracite situation, where the union is strong.

Mr. Lewis addressed a group of mine workers from the Fairmont district but his remarks really were intended for federal officials and union operators. The fact that the text of his speech was furnished the press in advance for release at the time of its delivery lends color to the view that it was intended primarily for other ears than those of the Fairmont miners. It is not customary for the union to issue mimeographed press releases to its own membership. Such an address as that delivered at Fairmont takes on all the characteristics of a speech from the throne.

Would Force Federal Aid

The address is the most direct indication yet given by the union that it hopes to force the federal government to intervene in the protection of the Jacksonville agreement. There was no effort made to convey the point by inference, for Mr. Lewis said:

"The federal government has an obligation in the premises. The Jacksonville agreement was negotiated and executed with the aid and co-operation of high government officials. By the same token the industry has a right to expect that the moral influence and power of those same government officials will be utilized to preserve the integrity of the agreement and to maintain in the public weal the tranquility of the coal industry. There can be no misunderstanding or beclouding of the issues involved in this question. The mine workers simply ask that those coal operators who executed the three-year wage agreement with the United Mine Workers of America be compelled to live up to their contracts."

It even is said that the renewal of the strike call in West Virginia is designed to influence the federal government. In spite of these efforts it is apparent that federal intervention is more remote than before. The anthracite strike is more than a month old and none of the consumers has called upon the federal government for protection. New England, through its official spokesman, John Hays Hammond, chairman of the committee appointed by the governors of the states in that section, breathes confidence in its ability to take care of itself. Mr. Hammond not only expresses lack of fear

for the winter but feels that sentiment among the anthracite workers is not strong for continuing the strike. He is quoted to the effect that many men already would return to work were they confident that police protection could be furnished.

About the last thing any administration would undertake is an attempt to enforce a labor contract. It has been suggested that before asking help from the federal government the union should make use of the means within its own reach. The Jacksonville agreement, as Mr. Lewis is fond of saying, is a contract in writing. If it is as binding on the Pittsburgh Coal Co., for instance, as he maintains it is, the contract should be enforceable at law. If the injury done is as serious as he alleges, it should be a proper subject for damages.

A review of court decisions will show many that uphold the side of labor. The Kansas Industrial Court decision is a recent reminder to labor that the courts are the same bulwark to its vested rights and contract guarantees as corporations have found them to be.

Mr. Lewis concluded his speech with this sentence: "It is the purpose of the organized mine workers to exercise their strength and influence to preserve the honor of their wage agreement and to demand that under its provisions fair treatment be accorded them."

Before this the union has exerted its "strength and influence" in the form of strikes. Does Mr. Lewis mean that if necessary to enforce the contract obligation he is preparing to call a general strike? Such an act, at least, is not disavowed in the Fairmont address.

Locomotive Fuel Costs Decline Slightly in July

The cost of coal used by Class 1 railroads in locomotives in transportation train service was slightly lower last July than during June, according to figures prepared by the Bureau of Coal Economics of the National Coal Association.

The average cost of the coal per net ton to the railroads, including any freight paid on it, in the Eastern district in July was \$2.72; in the Southern district, \$2.18; in the Western district, \$3.01, and for the entire country, \$2.68.

These averages are 1c. per ton lower for the Eastern and Southern districts than in June; 3c. per net ton lower for the Western district and 2c. for the entire country. Compared with July of a year ago there is a decrease in the averages of 31c. per net ton in the Eastern district; 30c. per ton in the Southern district; 23c. per ton in the Western district and 30c. for the whole country.

Retail Coal Reserves At New York Dwindle

Reserve stocks of domestic anthracite in the yards of the retail coal merchants of Greater New York are rapidly dwindling, according to a careful canvass completed a few days ago. By Nov. 1, it is estimated, there will not be 1,000 tons of the sizes above pea—if the scant supply now on hand lasts that long. Pea will be among the missing by the middle of November or the first of December if the strike continues that long. Stocks of No. 1 buckwheat probably will hold out until the end of the year. The comforting side of the picture is that many consumers laid in full stocks before the suspension began.

New England's position is in marked contrast to that of New York. Approximately 50 per cent of the normal winter's supply was in the consumers' bins on Sept. 1. Retail yards at that time were carrying a supply sufficient to carry over for several weeks. It is estimated, therefore, that winter would be flirting with spring before there was a pinch in the Northeast.

There is no danger of freezing or even of discomfort, however, as the combined supplies of byproduct coke, low-volatile bituminous coal and high-volatile fuel will be more than sufficient to cover any requirements of the domestic consumer who has emulated the foolish virgin.

Industrial Coal Stocks Gain

Industrial consumption of anthracite and bituminous coal in August was 22 per cent larger than during July, according to the monthly report of the National Association of Purchasing Agents. The August consumption in industry, exclusive of coal used in heating buildings, is estimated at 35,776,000 tons, as compared with the total of 29,300,000 used in July. This is the greatest estimated monthly consumption since January of this year. Coal stocks in industry were greatly increased during August in anticipation of the anthracite strike, the association reports. Industry on Sept. 1 had an estimated stock on hand of 54,487,000 tons of anthracite and bituminous combined, sufficient to last 46 days based on the daily consumption in August.

The committee on waters of the Conservation Council of Pennsylvania has approved the tentative draft of an anti-stream pollution bill which the council proposes to have introduced in the Legislature of 1927. Changes providing for wilful stream pollution as a penal offense were agreed upon at a recent meeting of the committee at Harrisburg. After the bill has been rewritten in parts it will be sent to thirty-eight organizations affiliated with the council. Each of these will be asked to use its influence to have local legislative candidates agree to support the bill if they are elected.

Blame Squirrels for Lower Output In Strike Region of West Virginia; Says Rockefeller Decries Abrogation

While the strike call issued by the United Mine Workers to non-union miners in northern West Virginia Sept. 25 cut down production somewhat last week, it was not a potent factor, according to coal operators. In the first four days of last week the non-union mines produced 6,088 cars, a decrease of 600 cars compared to the previous week, but part of the decrease was attributed by the producers to the lull over pay day and the opening of the squirrel season. A number of large producers assert that they did not lose a single miner by the strike. The union mines produced 1,105 cars of coal in four days.

Few coal operators take the strike very seriously, declaring that the union has lost out in northern West Virginia. The failure of the price of coal to come back has automatically killed them off, operators declare, and nothing short of a runaway market can breathe life into the organization.

The strike call seems to have affected the Monongahela Ry. mines the most, there being a drop of 301 cars in the first four days of last week compared to the corresponding period of the previous week. The Monongah division, B. & O., dropped off 251 cars.

Non-Union Labor Shortage?

In a statement issued Oct. 2, Van A. Bittner said "there is a well founded rumor that John D. Rockefeller, Jr., who is one of the largest stockholders of the Consolidation Coal Co., is not in sympathy with the policy of that company in abrogating its agreement with the United Mine Workers." Bittner asserts that non-union operators are beginning to feel a real labor shortage and he predicts that it will become more acute as the weeks go by.

The union miners are putting forth another furious drive, holding scores of meetings in the field. Large meetings were held in Clarksburg and at Rivesville on Oct. 4. For almost a year quiet reigned at Brady, Monongalia County, and no gatherings were held there since the new miners' hall was dedicated more than a year ago, until Oct. 1, when another big gathering of striking miners along the Monongahela River front met and resolved to remain firm until the terms of the Baltimore agreement were agreed to by coal operators. The miners' officials say they will make further efforts to organize the Brady mine of the Brady-Warner Coal Corporation and the plants of the Clark Coal & Coke Co.

Fifty-three union miners were hailed into court Oct. 5 for violating an injunction granted to coal miners employed at New England Mine of the Consolidation Coal Co., which forbids picketing. Ignoring the injunction the union miners picketed a few hours before appearing in court.

A new stunt was pulled by the union miners in appearing without counsel, presuming that the court would appoint

attorneys and the county would pay the bill. Judge Winfield Scott Meredith, in the Marion Circuit Court, did not do so, but thundered: "The orders of this court must be observed, if it takes the entire man power of the county, the state and nation to enforce them."

The miners say they are picketing in conformity with what Governor Gore has determined as legal picketing. It may require the greater portion of the week to dispose of the cases.

In a statement issued Oct 1 Bittner charges tampering with jurymen in connection with the trial of Milan Kreweski, a Grant Town miner, charged with being implicated in dynamiting the Wood's Run bridge of the Baltimore & Ohio R.R. on June 17. The trial was held in the Marion County Criminal Court, in Fairmont, last week. The jury failed to arrive at an agreement and the case will be retried later.

"I am confident," said Bittner, "that if any member of the United Mine Workers had attempted to tamper with jurymen during this or any other trial he would have been exposed, and rightfully so, and made to suffer the full penalty of the law. But I doubt if the gentlemen representing the Baltimore & Ohio R.R. who were attempting to tamper with jurors in this case, will ever be brought to trial for their unlawful acts or the facts in the case given to the people of West Virginia."

The union strike headquarters of the United Mine Workers of the Panhandle section has been removed from Wheeling to Sixth Sub District Ohio headquarters in Bellaire, Ohio.

Whipple Team Triple Winner In New River Co. Meet

The sixth annual first-aid meet of New River Co. employees, held at Scarbro Ball Park, Scarbro, W. Va., Sept. 26, was one of the most successful in the history of the company. The Whipple team, David Bryce, captain, took first prize in the main contest, scoring 100 per cent in each of the three problems. The same team also won first prize as the neatest appearing team and in the best captain drill contest.

Second prize in the main event was awarded to the machine shop, which made 98 per cent and also won a prize as the second neatest appearing team on the field. In the main contest Scarbro and Mabscott tied for third place with 97.3 per cent. Scarbro won when a special problem was given to break the tie.

Six teams tied for first place in the artificial respiration contest, each having a score of 100 per cent. This contest was finally won by Prudence.

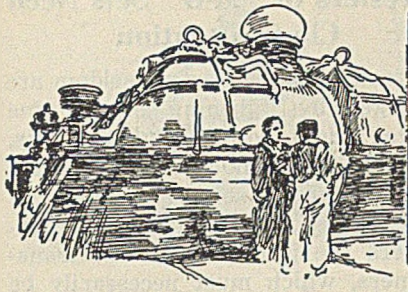
R. M. Lambie, chief of the West Virginia Department of Mines, introduced Dr. T. T. Read, chief of the safety department, U. S. Bureau of Mines, who presented the prizes to the winners.

Latin America during the first six months of 1925 used more than 500,000 tons of bituminous coal exported through the ports on Hampton Roads, according to statistics compiled by the Hampton Roads Maritime Exchange and issued by the Virginia State Chamber of Commerce. The imports by countries follow: Argentina, 49,909 tons; Brazil, 323,856 tons; Canal Zone, 183,903 tons; Chile, 10,151 tons; Colombia, 1,269 tons; Guatemala, 2,519 tons; Mexico, 11,435 tons; Peru, 5,138 tons; Uruguay, 7,796 tons; Venezuela, 250 tons.

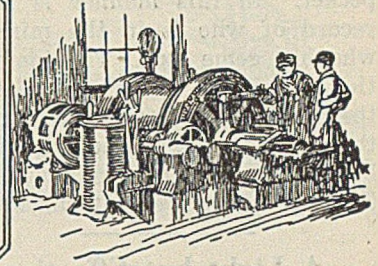


Pittsburgh Coal Co. Officials at Banning No. 1.

This picture shows W. G. Warden, chairman of the board of the Pittsburgh Coal Co., with officials and miners at the tipple of Banning No. 1 mine, the second mine in the Pittsburgh district reopened by his company at the November, 1917, wage scale. Banning No. 1 was opened Sept. 16. It is located on the Youghogheny River, 40 miles from Pittsburgh. The number of men at work is 153, and a daily maximum of more than 400 tons has been established. At Banning No. 2, the pioneer mine, more than 200 men are at work, with a daily record of 1,183 tons. In the first row, left to right, are: Oscar Steckman, mine superintendent; Arthur Neale, general manager of mines; C. E. Leshar, assistant to the president; William Lauder, division manager, and W. G. Warden, chairman of the board.



Practical Pointers For Electrical And Mechanical Men



These Well-Designed Brake Shoes Do Not Grind Wheel Flange

Long experience in the use of carborundum or an equivalent abrasive as an agent in brake shoes for grinding down false flanges on tires on mine locomotives has enabled the Island Creek Coal Co. to get good results. In Fig. 1 are shown an end and an under-side view of the brake shoe. The end view shows that an unusually deep and wide channel on the brake shoe is provided. This channel is 2 in. deep and will accommodate the flange of a locomotive tire even after the latter is worn considerably. This feature of the design is such as to rob the shoe of the braking effectiveness of the channel area but at the same time it insures over-all rub on the tire tread.

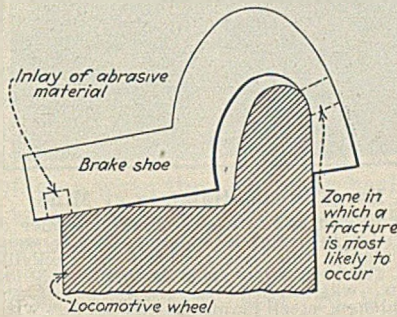


Fig. 2—Effect of Improperly Setting Brake Shoe

When a narrow and shallow channel is incorporated in the design of a brake shoe it rides in a tilted position, resting on two points. Excessive wear occurs on the outer rim of the channel, and in this part of the shoe a fracture will most readily develop.

Many types of abrasive brake shoes are provided with shallow channels in which the flange of a tire rubs after the tread is worn only to a slight extent. The reason sometimes given for the adoption of this feature is that about 20 per cent of the braking power can be obtained by letting the flange of the tire rub in the channel of the shoe. But this is not true and the disadvantage of this provision is clearly shown by the simple sketch in Fig. 2.

The brake shoe rides on the flange of the tire as one point of support and on the outer side of the tread as the second point of support, leaving a part of the tread out of contact with the flat surface of the brake shoe. Because the shoe is tilted the flange of the tire in a short time wears through the outer rim of the channel. This wear occurs at the wrong point and necessitates frequent replacements of shoes. Consequently no advantage is derived from this old design.

The coal company has found that while inlays of abrasive material on the outer side of the brake shoe are effective in preventing the occurrence of false flanges—in fact so much so that this application is standard on practically all of its

locomotives—yet it discourages the use of abrasive material in the channel of a brake shoe as a means to take off any increased height in the true flange. Shoes provided with inlays of abrasive material in the channel have been tried and have failed. The greatest trouble came from inopportune fracturing of the brake shoe along some part of the channel. Another disadvantage noted was unequal wear of the false flange and the true flange.

Checkboard Loaded Indoors Slides Out for Men's Use

At the mine of the Gunn-Quealy Coal Co., Quealy P. O., Sweetwater, near Rock Springs, Wyo., is a checkboard mounted on a bar over which two hangers are passed which enable the board to be pushed through the side of the building into the open. Each man after leaving the mine deposits his identification check in a slotted box on the outside of the shed. The check is then hung on the appropriate hook. In the morning when the men go to work the board is pushed out, and each man

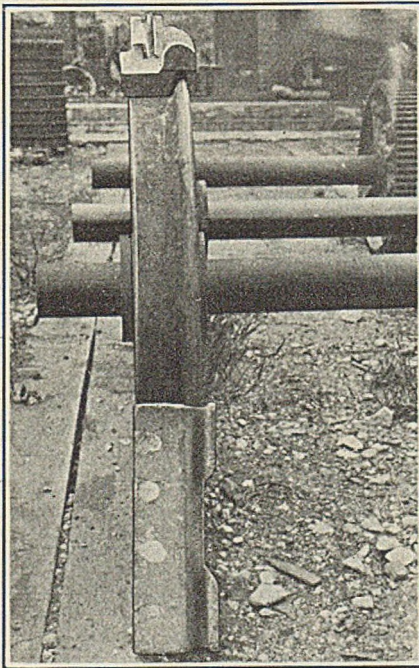
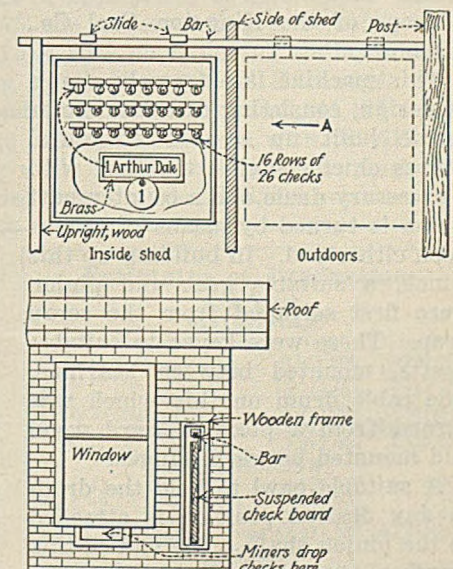


Fig. 1—Abrasive-Lined Brake Shoe

Here is shown the brake shoe designed by the Island Creek Coal Co. for the more effective use of abrasive inlays. The location of these inlays is shown in the under-side view of the shoe leaning against the locomotive wheel. No attempt is made to use abrasive material for grinding down the flange of the tire. The end view of the shoe resting on top of the wheel shows how deep and wide the channel for the flange is made to accommodate the true flange even after the tire has been subjected to considerable wear.



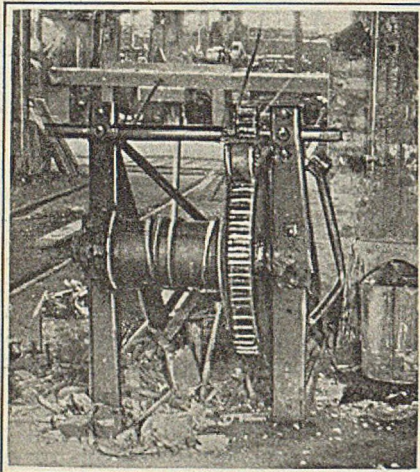
This Check Plan Works Well

The checkboard is slid out through the wall in the morning and each man takes his brass identification tag. In the evening the checks are dropped into the slot under the window.

takes his check and puts it in his pocket. In this manner is kept a record of who is in the mine and who has come out. The identification tag above the hook on which the check is hung contains not only the number but also the name of the holder of the check. As arranged, the board is convenient and orderly.

A Light but Effective Home-Made Winch

For use about the mine, particularly in the shops, or for facilitating the construction or building work that the shop force is often called upon to perform, a small winch or crab is almost indispensable. The accompanying illustration shows a machine of this kind that forms part of the regular equipment in the No.



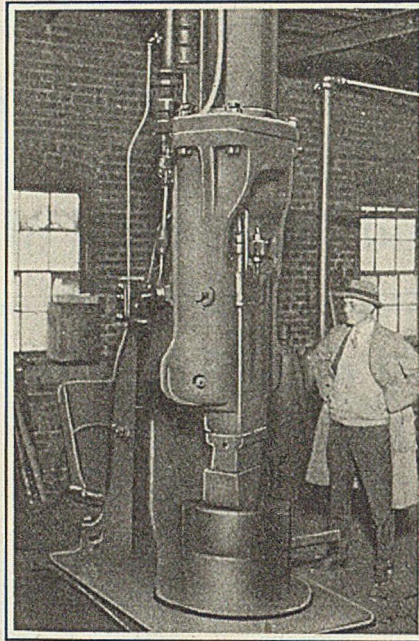
Useful in the Shop and Elsewhere

This little winch was built up from odds and ends by the shop force and has long been used by the car repair gang to lift mine cars or to turn them over. The pawl on this machine is particularly ingenious.

4 shops of the Kingston Coal Co., Kingston, Pa.

This machine is extremely simple in design, consisting of a triangular frame built up of old structural shapes chiefly angles, together with a necessary drum and a countershaft which is turned by means of cranks upon either end. In building up this winch, a suitable gear and pinion were first salvaged from the scrap heap. These were keyed to suitable shafts, mounted between bearings. The cable drum on this winch was turned from a piece of hard wood and mounted between flanges.

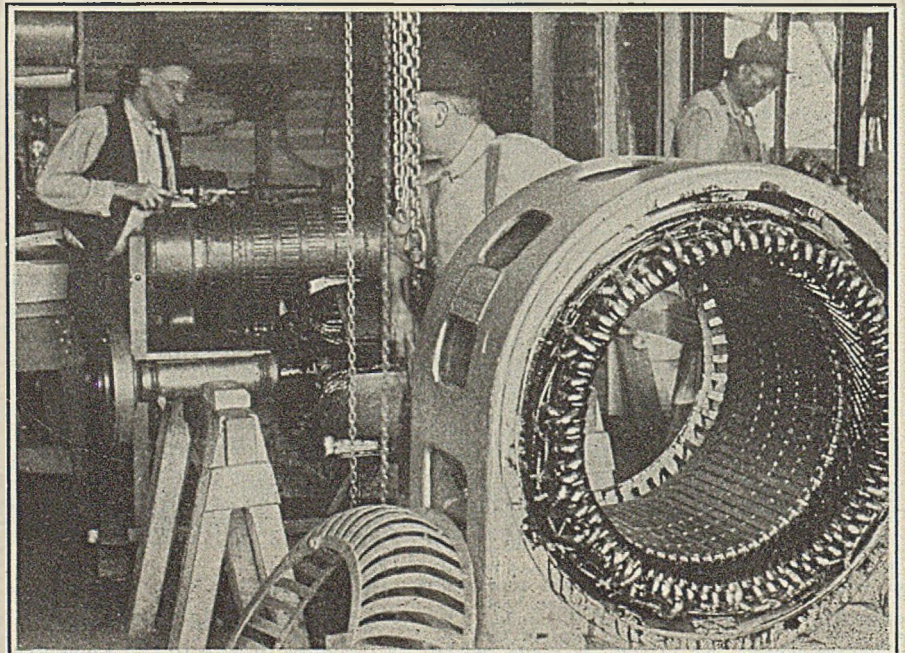
A suitable pawl to hold the drum in any desired position is attached to the pinion shaft. The end of this member is split and straddles the pinion, the split ends being bent around the shaft completely encircling it. The opposite end of this pawl is bent at such an angle that



Large Steam Hammer at Mine

It is unusual to see a steam hammer of this size in use at a coal mine repair shop. No doubt this one at the Barrackville (W. Va.) mine of the Bethlehem Mines Corp., was transferred from one of the Bethlehem steel plants to the mine.

it may be dropped between the teeth of the drum shaft gear in which position it will hold the drum from turning in either direction. The bottom and the inclined edges of the triangular frame are suitably cross-braced with scrap iron holding the two parts rigidly together. As here mounted in the shop, the whole frame is bolted to the floor, but it might with equal facility be mounted on skids for ready transportation.



A Rewind Job on a 225-Hp. 2,300-Volt Synchronous Motor

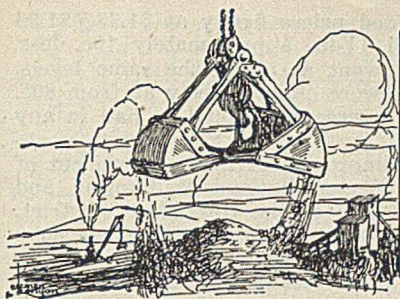
In the foreground of the photograph, snapped in the repair shop of a large coal company, is the stator of a motor-generator set. Damage to motor-generator sets by lightning is too common. Closer attention to the arrester equipment would prevent much of this trouble.

Arresters of "M-G" Sets Need Close Attention

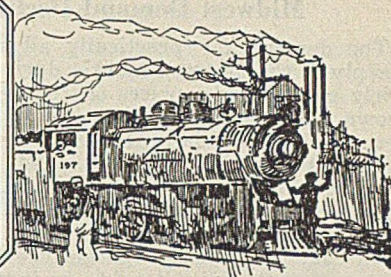
Synchronous converters seldom are damaged by lightning or by line surges due to other causes. This, however, does not hold true for motor-generator sets. The difference is explained by the fact that converters are protected by the transformers, which must necessarily be used between the machine and the line. A transformer has such a high reactance that the surges are reduced, ordinarily, to harmless intensity before reaching the converter. Moreover, the insulation to ground in a transformer is such as to withstand much higher potentials than can be withstood by the winding of a motor.

While it is important to protect a converter with arresters, it is more important to protect a motor-generator set. The very best type of arrester should be used and high-reactance choke coils installed on the machine side. Special attention should be given to the ground connection. If the substation is located on a dry, rocky ledge, the ground wire should be carried to some point where earth is always moist.

Next in importance is the protection of the ground wire from damage. A large wire should be used and this installed so that there will be little chance of mechanical injury. In addition, regular inspections, probably in April and July, should be made of the ground connections.



Production And the Market



Increasing Softness Marks Soft-Coal Market; Anthracite Unresponsive to Strike

Precedent has been set at naught in the soft-coal market to the extent that despite the fact that production of anthracite has been at a standstill for more than five weeks, conditions in the trade give but slight indication of boom or runaway characteristics. On the contrary, the market has experienced and still feels the inevitable reaction that follows overplaying and hasty running up of prices such as were in evidence when the hard-coal suspension began. In haste to be on the "safe" side, large consumers and dealers alike stocked up generously and prices started to climb, but the promise of a rush market was short-lived as demand soon simmered down to normal proportions while idle mines began to resume operation and production mounted.

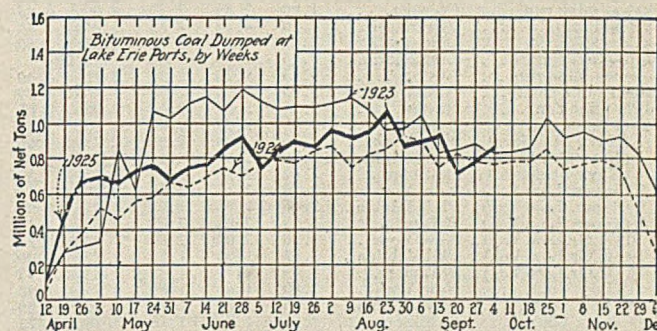
The tendency to softness in smokeless coal is still quite marked, prices showing a drop of 10c. to 15c. in some instances. Demand for practically all grades declined in the Midwest market last week, though prices remained fairly firm except for some shading to move tonnage. Screenings prices are unsatisfactory, however, consumers professing to be well fixed for supplies. More mines are resuming in Kentucky and the market held firm last week, the general demand for steam fuel being good. The sharp advance in prepared sizes of a few weeks ago has disappeared, however, due to keen competition and heavy output.

Cincinnati saw a buying flurry by lake shippers last week, more buyers being in evidence than at any time since spring. Slack is very active, but the domestic market suffers from adverse weather conditions. Business at the Head of the Lakes continues to improve and the same is true of Kansas. Trade in southern and eastern Ohio and at Pittsburgh is rather quiet. A slowing tendency prevails in New York and the other seaboard markets, especially in New England.

Regardless of the approach of colder weather, hard-

coal consumers preserve an attitude of comparative indifference as the strike enters its sixth week. Stock coal largely makes up the offerings of wholesalers, the larger sizes being pretty well cleaned up. Stray cargoes of domestic sizes at New York bring \$17.25 alongside for egg, \$19 for chestnut and \$20 for stove. Pea and buckwheat are still being shipped by the companies, one company having added 25c. to the price of pea and 10c. on buckwheat last week. Retail yards have fair stocks of domestic sizes, demand for stove being strongest.

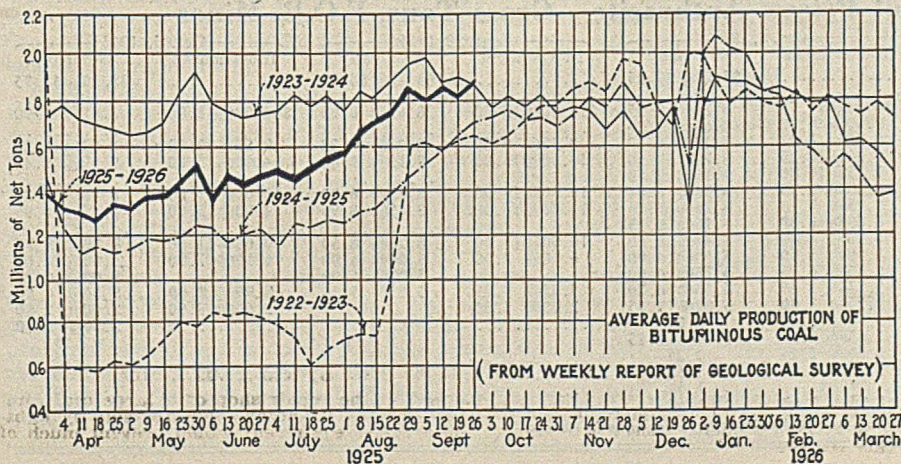
Output of bituminous coal during the week ended Sept. 26 is estimated by the Geological Survey at



11,199,000 net tons, compared with 10,881,000 tons in the preceding week, as shown by revised figures. Anthracite production, presumably from dredges and small washeries, totaled 13,000 net tons.

Coal Age Index of spot prices of bituminous coal on Oct. 5 stood at 175, the corresponding price being \$2.11.

Dumpings at Lake Erie ports during the week ended Oct. 4, according to the Ore & Coal Exchange, were: Cargo, 792,975 net tons; steamship fuel, 44,435 tons—a total of 837,410 net tons, compared with 789,617 tons in the preceding week. Hampton Roads dumpings during the week ended Oct. 1 totaled 458,996 net tons.



Estimates of Production

(Net Tons)

BITUMINOUS

	1924	1925
Sept. 12.....	9,835,000	9,983,000
Sept. 19 (a).....	10,156,000	10,881,000
Sept. 26 (b).....	10,458,000	11,199,000
Daily average.....	1,743,000	1,867,000
Cal. yr. to date..... (c)	339,027,000	360,314,000
Daily av. to date.....	1,492,000	1,583,000

ANTHRACITE

Sept. 12.....	1,820,000	5,000
Sept. 19.....	1,851,000	9,000
Sept. 26.....	1,942,000	13,000
Cal. yr. to date..... (c)	67,371,000	61,666,000

COKE

Sept. 19 (a).....	122,000	171,000
Sept. 26 (b).....	132,000	176,000
Cal. yr. to date..... (c)	7,380,000	7,090,000

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

Midwest Demand Declines Sharply

The demand for practically all grades of coal fell off sharply in the Midwest market during the past week. As a fairly general rule, prices on the better grades and better known coals remained firm, but in some cases quotations were shaded materially in order to move the tonnage.

In southern Illinois the demand for 6-in. lump coal is still strong enough to hold the price firm at \$3.25; 6 x 3-in. furnace coal is in fair demand, but concessions have been made in some instances. This is true also of the 4 x 2-in. small egg. The same situation prevails in the Clinton and Linton Fourth Vein districts in Indiana. Pocahontas prepared coal continues to slide in the Chicago market, as a large tonnage of it, and first class coal too, was offered during the week as low as \$3.75 to the wholesale trade. It was extremely plentiful at \$4, though the circular price to the retail trade appeared to be around \$4.35. Good smokeless mine-run sold at \$1.90@\$.2.25, the general average being around \$2.15. West Virginia operators who offered splint coal in this market had to shade their prices as low as \$2.25. In some cases West Virginia 4-in. block sold at \$2.

Not much progress is being made toward establishing better prices on screenings from any of the fields depending on the Chicago market. Buyers appear to be independent, saying they have enough coal in reserve piles to last for some time. The Franklin County operators, as is

usually the case, maintained prices firmly at \$1.65@\$.1.90 for 2-in. screenings, with 1½-in. approximately 10c. less. Saline County screenings went at about the same levels. West Kentucky screenings were offered freely at from 80c. up and Fifth Vein Indiana screenings could be had in any quantities at \$1.35@\$.1.60.

Last week saw a slight improvement in the movement of domestic sizes from the Carterville and Williamson and Franklin County fields as well as the Harrisburg district. Lump moved freely but egg and nut have been rather slow. There has been a slight increase in demand for steam size's because production slowed up. Railroad tonnage is light at shaft mines and fairly active from strip mines. Shaft mines get three or four days a week—occasionally a day better—while the strip mines work pretty nearly full time.

In the Duquoin district conditions have improved in the last few days and working time as well as movement of all sizes is better. The Mt. Olive field has been hit hard by the slump but is gradually getting back; some railroad business is now moving. Three days a week seem to be the limit for working time and coal generally is hard to move on account of the price. Standard district coal is still selling at cost and the mines are working haphazardly, some getting two days a week and some four days a week. All sizes are difficult to move, with no hope that conditions will improve until cold weather sets in. Railroad tonnage is fairly good. There has been no change in prices in any of the fields.

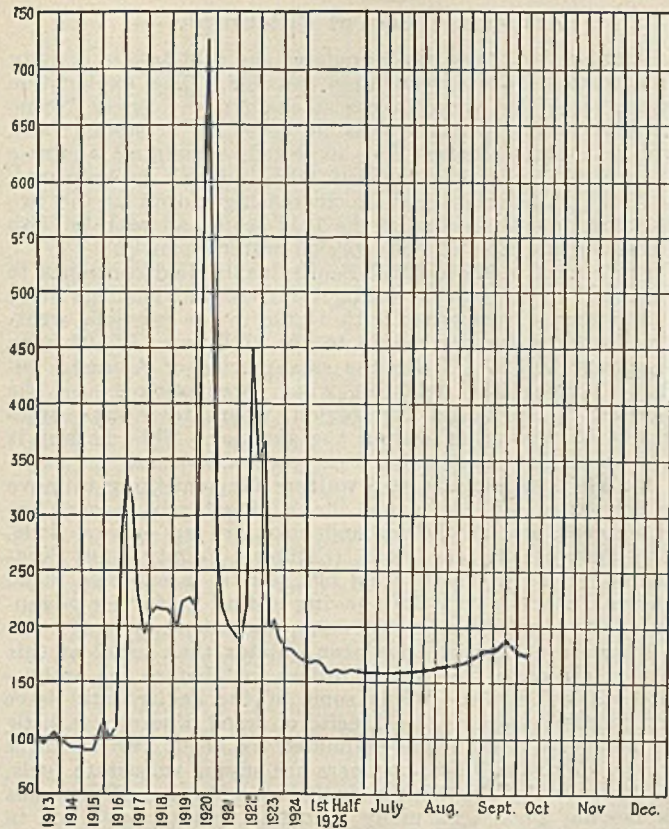
Current Quotations—Spot Prices, Bituminous Coal—Net Tons, F.O.B. Mines

Table with columns for Market Quoted, Oct. 6, Sept. 21, Sept. 28, Oct. 5 (1924, 1925, 1925†) for Low-Volatile, Eastern; Midwest; High-Volatile, Eastern; and South and Southwest. Includes various coal grades like Smokeless lump, Pool 9, Pittsburgh, Kanawha, etc.

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

Table with columns for Market Quoted, Freight Rates, Oct. 6, 1924, Sept. 28, 1925, Oct. 5, 1925† for Broken, Egg, Stove, Chestnut, Pea, Buckwheat, Rice, Barley, Birdseye.

* 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	1925			1924
	Oct. 5	Sept. 28	Sept. 21	Oct. 6
Weighted average price ..	\$2.11	\$2.13	\$2.24	\$2.07

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.

Slightly colder weather in St. Louis has improved domestic demand for all coals, especially middle grade, although the high grades and lower grades are still moving slowly. Anthracite, smokeless and coke are below expectations. Country demand is picking up and is fairly active on middle grades. Price is becoming a serious factor on account of the low prices of eastern Kentucky coals, with which dealers who handle Illinois coals find it hard to compete. Western Kentucky also seems to be getting a better hold all the time. Local wagonload steam is coming along unusually well. Carload is fairly active on account of the supply, while country steam has showed little improvement. Prices are unchanged.

Market Firm in Kentucky

The Kentucky market continued quite firm over last week, especially in steam coal, which was in good demand. The only weakness was in 4-in. eastern Kentucky lump, which dropped to around \$2.50@2.75, due to heavy offerings and lack of strong demand.

Industrial, utility, railroad and general demand for steam fuel is good. Eastern Kentucky has no difficulty in moving screenings at \$1.10@1.35 and there is a fair movement of byproduct coal on a mine-run basis at \$1.50@1.75. Nut, egg and small lump can be had at \$2@2.50. In western Kentucky 6-in. block is \$1.85@\$2; lump and egg, \$1.65@1.85; nut, \$1.40@1.65; mine-run, \$1.25@1.50; screenings, 80c@1.10.

More mines are resuming after being down for months. Car supply and general movement are quite fair, but competition is keen, production heavy and the sharp advance in prepared coal of a few weeks ago has ceased, due in part to the anthracite strike having failed to materially affect output west of Pennsylvania so far. Eastern Kentucky operations are on a fair scale, but western Kentucky could take much additional business without being rushed.

Northwest Still Gaining

Progressive improvement continues in the coal trade at the Head of the Lakes. Cooler weather brought an influx of orders to dock operators for both anthracite and bituminous coals from a wide territory, including the agricultural districts of western Minnesota and eastern North Dakota, sections that had been little heard from since the war adjustment period. Municipalities and public utilities hereabout have been buying more steam coal lately than for several months and have been ordering on contracts placed some time ago. Interest in coal in industrial quarters, including furnace plants over Minnesota and Wisconsin, has been more marked in the last ten days. Retailers also are taking fair quantities in preparation for the cold-weather rush. Some of the docks have been working overtime lately for the first time since early last spring.

The market is stiff in all lines of bituminous coal. One of the docks issued a list advancing everything except screenings all along the line, but as the other docks have failed so far to follow suit the market may be said to be unchanged. One of the docks announced an advance in Kentucky screened lump to \$6.50, but the general average remains at \$6.25, with stove at \$6, dock-run at \$5.75 and screenings at \$4.25. Pocahontas lump, egg and stove are \$8.50; mine-run, \$5.25@5.50, and screenings, \$4.25.

Twenty-nine cargoes, including one of anthracite, were unloaded at the docks last week, and eleven cargoes, all bituminous, were reported en route. Dock men expect a run of coal in sufficient quantities to take care of full requirements up to the opening of navigation next spring. Stocks of bituminous coal on commercial docks at Duluth and Superior are about 3,600,000 tons and anthracite 250,000 tons. The United States Steel Corporation has over 1,000,000 tons of steam coal stored at the Duluth, Missabe & Northern R.R. docks for the use of its nearby subsidiaries.

Business in the Milwaukee coal market is exceptionally quiet for this time of the year. Prices remain unchanged. Although anthracite has practically ceased coming in by lake, receipts of bituminous coal are heavy, totals to Oct. 1 being 488,234 tons of anthracite and 2,109,515 tons of bituminous coal, or 2,597,749 tons in all. Last year -- Oct. 1, 572,654 tons of anthracite and 1,640,310 tons bituminous, a total of 2,212,964 tons, were received by lake.

Kansas Lump in Better Demand

Improved demand for Kansas lump resulted Oct. 1 in stabilizing the price for this grade at \$4.50. While some operators have been asking \$4.50 for the last month, others asked \$4.25. With the increased production of lump to fill the growing demand a slight surplus of screenings has begun to accumulate, a situation that is being balanced by discontinuing the crushing of coal except in those shovel mines whose product is too soft to screen. And these are being closed down.

In Colorado continued warm weather has caused a slump in the demand for domestic sizes of coal, which has reduced mine operations about 3 per cent in the last week. There has been no change in prices, however. Local anthracite operators are receiving orders from territory which they have never reached heretofore. The mines are operating without any labor trouble or transportation difficulties. To increase the use of nut coal, which apparently has been a drug on the market, operators are advertising for a slogan that will encourage the use of this size by householders.

The coal business in Utah continues satisfactory and output is greater than at any time since last January, but it is not heavy enough to offset the low production of practically every intervening month since. Prices remain steady and the labor situation is good. The mines served by one of the principal railroads lost considerable time last week through a shortage of cars, but taking the state as a whole the industry is not yet suffering seriously from a car shortage, though it may do so soon as the result of coal cars being taken to move the sugar-beet crop.

Buying Flurry at Cincinnati

At Cincinnati the lake situation has held much interest of late as more buyers have appeared in the last ten days than at any similar period during the spring and summer. It appears that replacements at the docks at the head of the lakes have caused the flurry in buying. Two months

ago 2-in. stuff had a price which the lake buyers made almost arbitrary, but with most of the choice West Virginia and Kentucky coal placed, buyers are now in the market with a price said to range from \$2 to \$2.25.

Activity in slack continues strong. Late buyers of smokeless, finding that this has been pretty well taken, were eager to get what tonnage was loose with the opening of the new month. Only low grades could be bought in the high-volatile line-up around \$1.15 during this week. All better grades had jumped to \$1.25; high gases were worth even as high as \$1.35@ \$1.40, with the same range for Harlan and good Elkhorn.

Again the weather has hit the domestic market. The best Hazard block is \$2.75 asked, with some as low as \$2.50. This is on a parity with the Logan County (W. Va.) lump price named by some of the biggest producers from that section. High grade Big Sandy and Elkhorn have a range of \$2.75@ \$3.25 and some specialized coals from West Virginia are still quoted at \$2.75@ \$3, though sales at the top are infrequent.

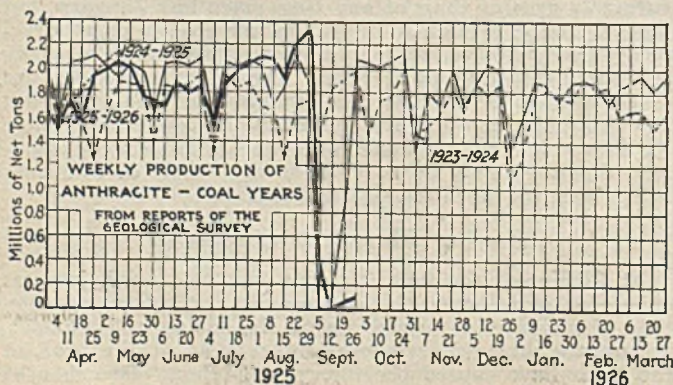
In the smokeless market, prices are still in the process of "finding themselves." The run-up to \$5 and over was too hasty, some of the operating concerns now admit. One big company's October circular is \$4.25, another at \$4.50 for lump and egg, and the spot market is somewhere in between. Stove sizings are \$3.25@ \$3.50; mine-run, \$2.25@ \$2.50, and slack, \$2.

Car reports show that 14,175 loads went through the Cincinnati gateway last week, a decrease of 132 from the preceding week but an increase of 2,873 over the corresponding week of last year. Of these, 2,595 were en route to the lakes, a decrease of 207 from the week before.

Trade at Columbus is still rather quiet, as the weather has been warm and dealers stocked up heavily during the spurt of a month ago. Householders are still coming in to a certain extent but the large majority covered their early winter needs by earlier orders. There is a small amount of free coal on the Columbus market, but the amount is not sufficient to cause any concern. Shipping on consignment has been stopped as a rule and only the smaller operators indulge in the practice. Prices at the mines on all domestic grades have been fairly firm.

Steam business shows practically no change. Buying by manufacturing concerns is limited as a rule, as steam users show little concern over the situation outside of wanting to make contracts after holding off for several months. A considerable tonnage used in this section is under contract and thus little price change is expected in the near future. Screenings are rather firm at recent levels. Mine-run is holding its own and other steam sizes are unchanged. The large state contract to supply the various Ohio institutions has not been closed and buying on the open market is resorted to.

Demand in eastern Ohio is unusually quiet for this time of year. Industrial consumption is about normal and then too many manufacturers and retailers stocked up six weeks ago due to the anthracite scare. Slack and nut-and-slack are abundant and weak in price. The softening in spot prices on these grades is said to be caused by the heavier production incident to increased shipping by Ohio mines of lump sizes to the Lakes and the comparatively slow demand from local steam users. Prices on other grades are holding firm at levels of the past few weeks, and show no tendency to weaken. Eastern Ohio output in the week ended Sept. 26 was 277,000 tons, or about 39.6 per cent of potential capacity. This is 1,000 tons less than in the preceding week and 57,000 tons under the corresponding week a year ago.



Interest Flags at Pittsburgh

Pittsburgh district coal is quieter and a little less activity is reported from surrounding districts. The explanation seems to be that there is less stocking now. Prices are no weaker in tone, with the possible exception of steam slack, which is doing better than expected, remaining quotable at \$1.30@ \$1.35. The general labor outlook is improved, with the Pittsburgh Coal Co. increasing output at the two Banning mines working at the 1917 scale and with the two strikes in the Connellsville region waning slowly.

Production in the central Pennsylvania field continues to increase. In the week ending Sept. 26 the loadings were 16,145 cars, as compared with 15,208 in the previous week. The loadings for the month to the 26th were 57,506 cars, compared with 50,562 for the same period of August. Included among the fields in which production is on the increase is the Broad Top region, where there was practically no production during the summer. This district is now producing practically 50 per cent of normal.

Buffalo coal men are still waiting for something to move in the trade. There is not the slightest stir in ordinary bituminous and smokeless and coke are up only a little. The advance in smokeless (Cambria County and Pocahontas) is hardly more than 50c., but it is expected to go higher. Slack is very dull, having lost all its former advantage, and is selling close to bottom quotations.

Business at Toronto has been quieter than usual at this season owing to the rush of orders just before the anthracite miners' strike. While some of the dealers still have considerable stocks of anthracite on hand others have little or none, the total being estimated as about two or three weeks' supply. Many consumers are buying substitute fuels, more especially Pocahontas smokeless and coke. Bituminous is moving slowly, as many industrial plants have laid in stocks in anticipation of possible trouble in the soft-coal fields.

Business Slack in New England

The market for steam coal in New England is admittedly quite slack. Purchasing agents scoff at predictions of possible shortages later and the course of prices in the past four weeks has not been of the kind to inspire confidence. Accumulations are heavy at Hampton Roads, and only a renewed policy of restricted output will save the smokeless operators from further reductions of the f.o.b. price. On No. 1 Navy standard Pocahontas and New River only a few of the agencies profess to hold their coals at the \$5 level, and there have been repeated efforts in the past few days to place demurrage coal at \$4.75@ \$4.80 per gross ton on board vessels for the coastwise trade. In no direction do the industries seem disposed to buy in any volume.

The special news of the week should include the recent award of a 900,000-ton contract by the Boston & Maine R.R. to C. H. Sprague & Son, of Boston, on Island Creek coal. The deliveries are to extend to a year from next April 1, with certain options for a further period of five years. The price has not yet been made public, but it is the consensus of the trade that the successful bid was around \$5.10 per gross ton alongside Boston, or 25c. more than was paid by the N. Y., N. H. & H. R.R. some months ago.

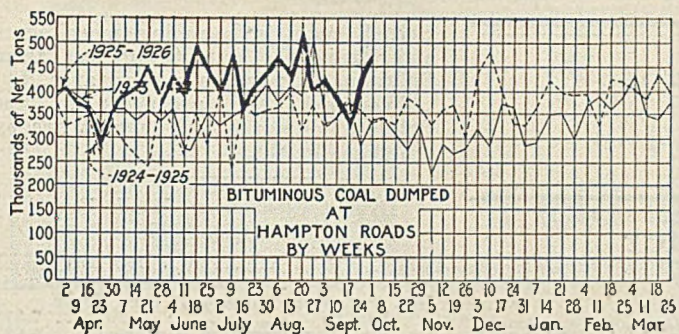
There are further indications that anthracite stocks are dwindling. In smaller communities, especially along the seaboard, where retailers are accustomed to store coal for the winter months, present supplies appear to be ample for months. The larger cities are by no means so well off, but not yet is there any pronounced demand for substitutes.

Shippers of Pennsylvania coal all-rail are quite active and prices of lump, egg and nut have been advanced several times in response to moderate demand. Quotations on prepared coal range from \$3.50 to \$5 and even higher per net ton at the mines.

For shipment inland from tidewater discharging plants the various factors have modified prices to \$6 and less on cars, Boston or Providence. Most mine-run from the Virginia terminals is coming so slack that there is no interest in them for eventual household use. Tidewater retailers are turning to screened coal all-rail and to coke in cases where they are beginning to feel pressure from the public.

Trade Slower at New York

The easing tendency in bituminous coal at New York continues. Demand as well as prices fluctuate somewhat, with the result that shipments are not moved as easily as



a few weeks ago. It is said that some heavy buyers are so well stocked that they will be out of the market in the next few weeks unless there is a decided change in temperature. Much will depend also on the continuance of the anthracite strike, operators and salesmen expecting important developments if the suspension continues another four or six weeks.

Consumers are taking full shipments on standing orders but in general show no desire to increase their receipts. It is said that some of the railroads are stocking heavy tonnages.

There is a fair tonnage of free coals at the piers but not enough to affect prices or to force sales at lower than current market quotations.

At Philadelphia the market seems to be hesitating. No ground has been lost, but inquiry for coal is slower. Demand for screened low-volatile coal for domestic use is strengthening, especially since some producers of byproduct coke are sold up.

At tide there is a slight improvement in cargo movement offshore, with some business still coming along. Bunkering is fair to good. Prices remain unchanged.

Oct. 1 brought little change in the soft-coal market at Baltimore. Loadings on the railroads continue unusually heavy, and there is a surplus at tide, created by shipments above the immediate absorption point. Prices remain stationary, and there is no real snap to the market, although some seasonal buying for stocking up has encouraged the trade. There was an increase of more than 100 per cent in the export fuel trade from Baltimore during the third quarter of 1925 over the entire first six months of this year.

Light showers and cooler temperature at Birmingham have heartened the domestic trade to some extent, though there has been no very material improvement in buying and movement in the past week. The market is still extremely laggard for this season, both in wholesale and retail channels, and orders are coming in very slowly.

Steam coal is being bought on a fairly satisfactory basis, demand being good for the better grades of mine-run and washed product, on which prices are firm, slight advances being obtained on some grades. Medium and lower grades, while not especially active, are moving with a fair degree of promptness at quotations which have held for several weeks. Due to insufficient rains steam power plants are consuming a large amount of fuel. Spot sales are somewhat heavier, with deliveries over a more extended period. Cessation of work in the anthracite field has not been felt materially in the local coal market so far but has served to stimulate the buying of domestic coke in the North and West, the movement from this section being heavier than usual, egg being quoted at \$4@4.25 ovens and nut at \$3.50@3.75 per ton. Foundry coke is selling somewhat better, prices ranging from \$4.75 for byproduct to \$5 for beehive product, f.o.b. ovens. Some gas-house coke is moving at \$3.50@4 per ton.

Coal production is around 400,000 tons per week or slightly better.

Hard-Coal Trade Not Upset

Neither the strike nor the nearness of colder weather has affected the anthracite market at New York. There is no semblance of a rush by consumers and retail dealers show no inclination to pay the prices asked for stray lots of coal. Local retail yards hold a fair supply of all sizes, with the demand for stove heaviest.

Stock coals predominate in the offerings by wholesalers. The largest sizes are pretty well cleaned up. Pea and buckwheat are most in evidence and it is said the latter size

is being gradually absorbed for use by mining and railroad companies.

One of the large producing companies has increased its price of No. 1 buckwheat to \$2.60, an advance of 10c. over the September price.

Quotations for stray cargoes of domestic coals are around \$17.25 alongside for egg, \$20 for stove and \$19 for chestnut. Stock chestnut is \$15@16 f.o.b. mine and pea \$9@9.50. No. 1 buckwheat is \$2.50@3.15 f.o.b. mine and rice \$1.90@2.25. Barley is practically out of the market, only a small tonnage being offered.

Coke is in fair demand with quotations ranging around \$11 alongside.

Supplies are beginning to shrink in Philadelphia retailers' yards. The only family size running is company storage pea and dealers complain that this is not arriving in accordance with the amount ordered. The companies are holding this strictly to regular customers; and one producer on Oct. 1 advanced the price 25c. a ton. Cool weather last week caused pea to move well at retail at last, and it won't take long to use up stocks on hand.

Of substitute fuels coke is in the lead, of which a fair volume of byproduct is for sale. The principal size offered is nut, and the price varies from \$4.50 to \$7 a net ton.

In steam coals, rice is off the market, except for some river coal. There is plenty of buckwheat to be had, but this size is fast picking up in demand. Of course, there is no barley, as this was all moved some time ago.

The hard-coal supply at Baltimore continues to dwindle, as cooler weather is causing more consumers to place orders, but dealers are not willing to pay premiums for independent coal in any quantity. An effort is being made to pass a city ordinance to allow dealers to sell hard coal on the net-ton basis of 2,000 lb. instead of the gross ton as the law now requires. Dealers state that the reduction in the ton requirement would be met by a proportionate cut in price.

At Buffalo there is still a supply of pea and buckwheat coal and the demand is moderate. It is expected to last till there is mining again. The demand is good enough to make a market for a good many sorts of so-called smokeless coal, the price running all the way from \$6 to \$8 at the curb. More coke is being burned than formerly. Prices vary with an upward tendency.

Quiet Envelops Connellsville Coke Market

The quietness that stole over the Connellsville coke market a fortnight ago is becoming more marked in contrast with the way the market stiffened in August, when various Eastern buyers were picking up tonnages at advancing prices. The last important Eastern buying was at around \$3.40 or \$3.50, not much being done above \$3.50, but somehow operators got the market up to a quotable level of \$3.75@4 and some maintained two or three weeks ago that little if any coke could be had at less than \$4. But in the past few days coke could be bought at \$3.75 without difficulty, producers taking the initiative in offering it, and it has been a question whether a buyer might not be able to do \$3.50. The opinion expressed in some market circles in August that the price movement was coming fully 30 days too soon in relation to the anthracite suspension seems to be fully confirmed.

Blast furnaces show no interest. Those operating are covered to the end of the year and no idle furnaces, such as use purchased coke, are likely to go in. The Port Henry (N. Y.) furnace is going in, but it is covered by a long-term arrangement.

Spot foundry coke has been particularly dull in the past week, remaining quotable at \$4@4.50.

The labor scare is largely past, as the Washington and Jamison-Bethlehem strikes have been waning slowly and no trouble has developed elsewhere.

Car Loadings, Surpluses and Shortages

Week ended	Cars Loaded		Car Shortage
	All Cars	Coal Cars	
Sept. 19, 1925	1,098,428	171,601	
Previous week	975,434	157,357	
Sept. 20, 1924	1,076,847	189,486	

Date	Surplus Cars		Car Shortage
	All Cars	Coal Cars	
Sept. 22, 1925	150,453	63,320	
Sept. 14, 1925	160,368	59,929	
Sept. 22, 1924	143,345	72,279	

Foreign Market And Export News

British Coal Trade Steadier But Far Below Normal

The Welsh steam coal trade seems to be steady, though there is an almost entire absence of any material improvement. The slight expansion of business reported last week still leaves the industry at less than two-thirds of that required to give full-time employment to the Welsh collieries. In many cases pits are forced to suspend operation on account of the lack of empty cars, these being held up on railroad and dock sidings with full loads, waiting for buyers.

The chief improvement in the business is due to a better demand for larger coals, it being still difficult to find buyers for the lower grades of large coal. Small coal does not sell at any price, as the market for this quality seems to be practically dead.

Altogether, the Welsh anthracite collieries are operating full time, though in the other classes few pits are engaged more than half time and many cannot work more than one or two days a week.

The tone of the Newcastle market is steady and the outlook for early October is distinctly better. Business matures very slowly and German competition is keenly felt.

Output by British collieries during the week ended Sept. 19, according to a special cable to *Coal Age*, totaled 4,435,000 tons, compared with 4,110,000 tons in the preceding week.

French Market Changes Little; Russian Coal Still Coming

On the whole, there is no change in the French coal market. Quiet is still the prevailing note in industrial grades while there is a gradual increase of activity in house coals.

Belgian producers have, we are assured, fixed the price of ovoids for sale in France, from October to March, at 85 fr. and, if this information is confirmed, the price of French ovoids will be raised to 101 fr., in order to preserve the usual margin between the prices of the Belgian and French products.

The Russian anthracite which arrived in Rouen was sold locally or in the Paris area; its price f.o.b. Rouen was

300@310 fr. per ton, which is 50@60 fr. less than the Welsh anthracite of corresponding description. A cargo of Russian anthracite also has arrived in Marseilles, comprised, as the first one, of nuts and cobbles.

During August France received from the Ruhr 703,000 tons of indemnity fuels, including 432,200 tons of coal, 242,700 tons of coke and 28,100 tons of lignite briquets, as against a total of 671,500 tons in July.

Business Continues to Slacken At Hampton Roads

Business at Hampton Roads slowed up last week, the market being weak and demand falling off. Only the bunker trade was normal, with a fair demand. Heavy buying at the time the hard-coal strike began apparently had overstocked much of the trade, which, combined with continued and unexpected warm weather, has had a tendency to cut down movement.

Supplies at the piers were heavy, no foreign business was being developed and New England trade was very light. Coastwise movement has fallen off, and movement to Canadian territory is below the average of the last three or four months.

Belgian Producers Glum Over Industrial Fuel Outlook

Except for domestic coals, the Belgian market lacks animation. Anthracitic and other sorts of house coals, including ovoids, are in a quite satisfactory situation, a further rise of 5 fr. per ton having just been announced in Brussels for the prompt delivery of small tonnages of anthracite. Output of the latter sort of fuel is much restricted, and its consumption is increasing.

Industrial fuels, on the other hand, remain dull, though there has been a slight improvement in demand, which includes coke, due to the restarting of a few works and foundries. It is still far from what it should be, however, as important iron works are still idle. Besides, competition of German and

British coals is becoming more acute and France is purchasing less from Belgium, even in the eastern area.

Therefore, the prospects of the Belgian industrial coal market are by no means bright.

Export Clearances, Week Ended Oct. 3, 1925

FROM HAMPTON ROADS	
For Canada:	Tons
Ital. Str. San Giuseppe, for Three Rivers	7,219
Br. Str. Penolver, for Montreal	5,623
Br. Str. Wearbridge, for Quebec	6,398
Latvian Str. Kangars, for Montreal	4,138
For Italy:	
Ital. Str. Monviso, for Genoa	3,503
Ital. Str. Volturno, for Portovecchio di Piombino	7,195
Ital. Str. Stromboli, for Genoa	7,448
For French West Indies:	
Br. Str. Dunrobin, for Fort de France	7,025
For Egypt:	
Br. Str. Diomed, for Port Said	2,112
For Canal Zone:	
Amer. Str. Achilles, for Cristobal	12,048
For Newfoundland:	
Nor. Str. Haraldshang, for Argentia	2,738
Nor. Str. Thorgerd, for Clarenville	3,662
For Cuba:	
Br. Str. Domira, for Havana	3,002
For Brazil:	
Br. Str. Kalimba, for Rio de Janeiro	5,854

FROM PHILADELPHIA	
For Cuba:	
Br. Str. Mountpark, for Antilla	—
For Miquelon:	
Nor. Str. Urter, for St. Pierre	—
FROM BALTIMORE	
For Algeria:	
Ital. Str. Roana, for Algiers	9,338
For Chile:	
Nor. Str. Jacob Christensen, for San Antonio (coke)	2,429

Hampton Roads Pier Situation

(Gross Tons)		Sept. 24	Oct. 1
N. & W. Piers, Lamberts Pt.:			
Cars on hand		2,105	1,841
Tons on hand		129,385	113,938
Tons dumped for week		161,313	162,229
Tonnage waiting		20,000	15,000
Virginian Piers, Sewalls Pt.:			
Cars on hand		1,274	1,370
Tons on hand		98,100	107,600
Tons dumped for week		71,862	95,558
Tonnage waiting		192	3,682
C. & O. Piers, Newport News:			
Cars on hand		2,430	2,990
Tons on hand		149,800	151,610
Tons dumped for week		139,471	152,031
Tonnage waiting		9,895	17,940

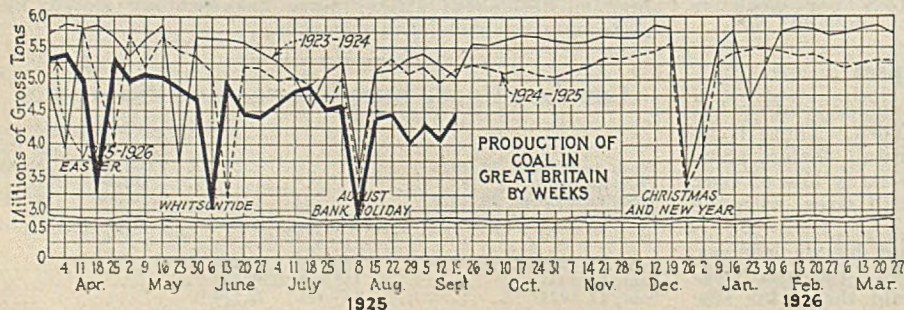
Pier and Bunker Prices, Gross Tons

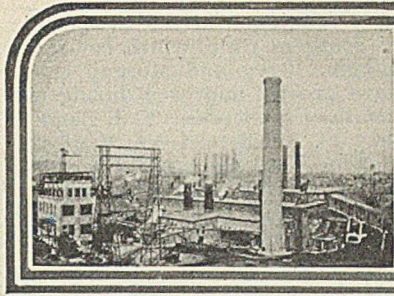
PIERS		Sept. 26	Oct. 3*
Pool 1, New York	\$5.35@5.60	\$5.35@5.60	\$5.35@5.60
Pool 9, New York	5.00@5.25	5.00@5.25	5.00@5.25
Pool 10, New York	4.80@5.00	4.75@5.00	4.75@5.00
Pool 11, New York	4.50@4.75	4.45@4.70	4.45@4.70
Pool 9, Philadelphia	4.85@5.05	4.85@5.05	4.85@5.05
Pool 10, Philadelphia	4.55@4.75	4.55@4.75	4.55@4.75
Pool 11, Philadelphia	4.35@4.55	4.35@4.55	4.35@4.55
Pool 1, Hamp. Roads	5.25	5.00	5.00
Pool 2, Hamp. Roads	5.10	4.85	4.85
Pools 5-6-7, Hamp. Rds.	4.85	4.60	4.60
BUNKERS			
Pool 1, New York	\$5.60@5.85	\$5.60@5.85	\$5.60@5.85
Pool 9, New York	5.25@5.50	5.25@5.50	5.25@5.50
Pool 10, New York	5.05@5.25	5.00@5.25	5.00@5.25
Pool 11, New York	4.75@5.00	4.70@5.00	4.70@5.00
Pool 9, Philadelphia	5.05@5.25	5.05@5.25	5.05@5.25
Pool 10, Philadelphia	4.75@4.85	4.75@4.85	4.75@4.85
Pool 11, Philadelphia	4.60@4.75	4.60@4.75	4.60@4.75
Pool 1, Hamp. Roads	5.35	5.10	5.10
Pool 2, Hamp. Roads	5.15	4.75	4.75
Pools 5-6-7, Hamp. Rds.	4.95	4.60	4.60

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

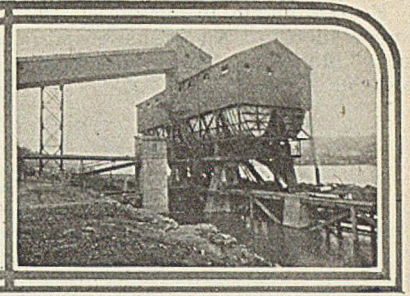
Quotations by Cable to <i>Coal Age</i>		Sept. 26	Oct. 3*
Cardiff:			
Admiralty, large		24s.	24s.
Steam smalls		11s.3d.	11s.3d.
Newcastle:			
Best steams		14s.9d.@15s.	16s.6d.
Best gas		16s.6d.	16s.6d.
Best bunkers		14s.6d.	15s.@15s.6d.

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





News Items From Field and Trade



ALABAMA

E. E. Ellis, for many years general land agent for the Tennessee Coal, Iron & Railroad Co. and its subsidiaries, in the Birmingham district, has been transferred to the New York Offices of the United States Steel Corporation, where he will be connected with the general land office department. He was succeeded at Birmingham by Ted Joy, who has been assistant land agent there for the corporation.

The St. Louis & San Francisco R.R., which recently purchased the Muscle Shoals, Birmingham & Pensacola R.R., which has been in the hands of a receiver for several years, now has a corps of engineers in the field surveying the proposed extension of the line from Kimbrough, where it makes connection with the Mobile Division of the Southern Ry., to Glen Allen, where it is planned to make a connection with the main line of the Frisco. The line now extends from Kimbrough, south to Pensacola, Fla., a distance of 143 miles, and the distance from Kimbrough to Glen Allen will be 146 miles. Confirmation of the sale is pending before the Interstate Commerce Commission. The extension, if authorized, will penetrate the coal fields of Walker County and give the Frisco R.R. a direct connection with the port of Pensacola, where it is understood the purchased line owns valuable terminal facilities.

W. F. Hull, of New York, a stockholder and director of the DeBardeleben Coal Corporation, was in Birmingham recently on a tour of inspection of the properties of the corporation and attended a meeting of the executive board. He also is a stockholder in the Pratt Fuel Corporation.

ARKANSAS

Mine No. 18 of the Western Coal & Mining Co., at Jenny Lind, opened Sept. 28 under the 1917 wage scale, according to J. T. Buckner, of the Consolidated Sales Co., at Muskogee, Okla., which has leased the property. The mine had been idle for several months. The mine is the largest in the Jenny Lind field and was producing 500 tons of coal daily at the time it closed. About 125 men were employed. A few small mines have been in operation in the field, but there was little activity.

Union miners have lost their fight against a receiver for district 21, United Mine Workers, and must see their funds pass into the hands of State Senator J. F. Brewer, designated some time ago as receiver for the union. Chancellor J. V. Bourland ruled that

there was no reason why the receivership should be set aside, recognized the need for such a state and ended the controversy which has been raging for some time between union miners and mine operators. The receivership was granted Aug. 31 by Chancellor Bourland upon petition of the Greenwood, Mammoth Vein and Backbone Coal companies, alleging the union to be bankrupt and endangering the operating companies.

A temporary injunction enjoining members of District No. 21, United Mine Workers, from interfering with employees or the properties of the Bernice Anthracite Coal Co. and the Bernice Investment Co. at Russellville, Bernice and other points in western Arkansas, was issued Sept. 22 by Judge Jacob Trieber in the U. S. District Court at Little Rock. Judge Frank A. Youmans, at Fort Smith, previously had issued a temporary restraining order to await the return of Judge Trieber. The order is directed against 32 locals of the miners' union in Sebastian, Franklin, Logan, Johnson and Pope counties, which revolted against employment under the wage scale of 1917 recently placed in effect at the expiration of the 1924 scale.

COLORADO

The State Supreme Court has overruled Governor Morley's recess appointment of Carl DeLochte as member of the State Labor Industrial Commission in place of W. I. Reilly. Mr. Reilly will hold his position as member of that commission for the term ending Jan. 1, 1928.

ILLINOIS

W. H. D. Gibson, who has long been prominent in the coal trade, has been elected vice-president of the J. K. Deriving Coal Co. of Chicago, with which concern he has been associated since its organization. In this capacity he is the official in charge of sales.

Voting trustees for the common stock of the United Electric Coal Companies, Danville, have declared a dividend of 50c. payable to certificate holders of record Oct. 3, 1925. This marks the resumption of dividends upon the stock of this company, and it is believed that the company's production will justify increased dividends in the near future.

The Indiana and Illinois Coal Corporation's two large mines, No. 12 and No. 14, located at Witt, in Montgomery County, will open in the near future,

it was announced by the mine officials. Present plans of the company include a union of the two mines by the construction of a new steel tippie at mine No. 12, and the use of that shaft for the new consolidated mine in connection with the completion of the immense power plant now in course of construction by the company. The old tippie at Mine No. 12 is being torn down and will be replaced at once by a modern tippie of the best possible steel construction. When running at capacity the new consolidated mine will employ 800 miners.

INDIANA

Announcement has been made that work is to be resumed at the Wabash mine, in the Terre Haute field. Operation has been suspended for some time on account of gas leading through a cut made into the old workings of the speedwell mine. The Eagle mine, in the same field, has been reopened, as has the Vermillion mine, in the Clinton field. At Bicknell only one large mine remains idle. From the Petersburg field and other points along the E. I. & T. H. R.R. come favorable reports. All of the large stripping mines in this territory are working to full capacity and most of the deep-shaft mines now are working. The railroads are putting more crews to work each week.

KANSAS

T. F. Brown, of Pittsburg, for ten years a mining engineer with the Clemens Coal Co., in the southeastern Kansas field, entered the service of the U. S. Bureau of Mines Oct. 1 as a first-aid and mine-rescue expert, assigned to Car No. 10, operating in Iowa and Missouri, out of Mason City, Ia.

Mine No. 7 of the Girard Coal Co., near Radley, idle since the spring of 1924, has been electrified and was reopened Sept. 25, under lease by Mike Wagner of Kansas City, Mo., and William Hudson, of Radley. The mine was leased by the two men a year ago but opening was delayed a year by weak demand. It is on 200 acres of coal land and employs eighty men.

Mine No. 14 of the Crowe Coal Co., near Croweburg, has been leased by William M. Curley, one-time auditor for the United Mine Workers, of Pittsburg, and John O'Donnell, of Arma, and was reopened Oct. 1. The operating company is known as the Croweburg Coal Co. The mine has been idle since February, this year. It will give work to between 100 and 150 men.

Coal is being uncovered by the new steam shovel of Ed Brennan and others near Mulberry, and loading will be started soon.

KENTUCKY

Jack Boucher, 46 years of age, owner of several small mining properties, and one or more mines at Fredonia, Ky., is likely to die as a result of four wounds received when Bryan Bennett, an employee, became enraged over Boucher's refusal to meet wage demands, and started shooting. Bryan Bennett surrendered to officers at Princeton.

Excellent rains over the latter part of September have improved water conditions at some of the mines which were short of boiler water, and transportation is again near normal on the upper Ohio River and the Kentucky River. Boats are able to navigate again also on the lower Ohio River, and river coal movement, which was practically at a standstill, is getting under way again.

The Columbus Mining Co., at Allais, near Hazard, has started rebuilding about a dozen miners' homes which were recently destroyed by fire.

Negotiations are in progress for the sale of the property of the Alma-Thacker Coal Co., which had offices in Columbus, Ohio, and which operated four mines on Tug River. E. F. McClure was named receiver about a year and a half ago and in July D. N. Postlewaite, of Columbus, representing the creditors, bought in the property. Now outside parties are negotiating for the property, which consists of about 2,000 acres of excellent coal lands in addition to four tipples. The mines have not been operated since the receivership.

Except for a few boats powered with gasoline or oil-burning engines, boats on the Ohio and Mississippi rivers have been operated by coal-generated steam power almost exclusively up to the present time. Cheap fuel oil in the lower Mississippi River, however, is said to be responsible for an experiment now being made by the Mississippi and Warrior River Federal Barge lines, which placed the steamer Wynoka on the marine ways at Paducah, Ky., and fitted it up with oil burners to make a test of oil fuel for handling barge service in the district. The boat has been revamped and has been waiting for higher water to go South.

MINNESOTA

The State of Minnesota has placed contracts for about 110,000 tons of coal for the ensuing year. The Berwind Fuel Co., Minneapolis, received the order for dock coal, at \$1,600; Saline Coal Corporation, Minneapolis, for Illinois coal, amounting to \$201,000; Chicago, Wilmington & Franklin Co., \$7,800; North Western Fuel Co., St. Paul, \$238,000; Northern Coal & Dock Co., St. Paul, \$255,000; Pittsburgh Coal Co., \$38,000; C. Reiss Coal Co., \$5,300.

MISSOURI

Kansas City coal dealers will not advance coal prices this fall or winter, according to H. S. Mitchell, manager of the Coal Credit Bureau, speaking for the largest coal concerns of the city. Coal prices will be lower than they were last winter, in all probability, said John Sargent, vice-president and general manager of the Central Coal & Coke Co.

The new shaft being sunk by the Western Coal & Mining Co., near Minden, to be known as the company's mine No. 23, has reached coal at a depth of 60 ft. Main entries are now being worked, and production is expected to begin within a few weeks.

NEW YORK

The P. J. Conway Coal Co., Inc., has been incorporated under the laws of New York and has opened offices in the Woolworth Building, New York City, to carry on a general business in the mining and shipping of anthracite and bituminous coal, as well as coke. The company owns extensive soft-coal properties in West Virginia. The officers of the company are P. J. Conway, president; Joseph McDonough, first vice-president; J. W. Sullivan, second vice-president; John F. Conway, secretary; J. Clyde Lewis, treasurer.

NORTH DAKOTA

Lignite mine owners anticipate an increased demand for their product as a result of the hard-coal strike. They are prepared to double their output.

The Northern Lignite Coal Co., of Minot, is preparing to develop a new mine at Benedict, south of Minot, where 330 acres have been purchased.

OHIO

Dumpings at the Hocking Valley Ry. docks at Toledo up to Oct. 1, 1925, totaled 6,219,986 tons as compared with 5,015,548 tons up to Oct. 1, 1924. The T. & O. C. Docks at Toledo, operated by the New York Central Lines, loaded 790,443 tons originating on its lines up to Oct. 1, as compared with 45,315 tons last year to the same date. The T. & O. C. docks in addition have dumped 23,584 cars, or 1,165,030 tons, originating from the Big Four and L. & N. railroads. The total dumpings at the docks to Oct. 1 were 1,955,366 tons.

The Clarkson Coal Mining Co. is operating No. 1 mine at St. Clairsville with a shift to handle excess coal loaded during the day. Loaders shovel into the mine cars more coal than can be taken care of by the regular day shift, so a special force was put to work nights getting the fuel up the shaft and over the tipple screens. The situation is unusual in the eastern Ohio field. The company's Dungen mine is operating steadily.

After being idle for almost three years the Wilbern mine, located near Crooksville, has resumed operations, giving employment to about 75 miners. The mine is loading considerable railroad fuel.

Mining conditions in the Crooksville field of southern Ohio, which embraces Muskingum, Perry and Morgan counties, have greatly improved during the past month or six weeks. F. J. Bender, secretary of Subdistrict No. 6 of the United Mine Workers, reports only one of the larger mines in that district not in operation. In all approximately 2,500 miners have more or less steady employment.

William A. Lama, who was formerly secretary of the Consolidated Mining Co., of Columbus, has resigned to accept a responsible position with the Preston-Morgan Coal Co., a jobbing concern with offices in the Atlas Building.

PENNSYLVANIA

Vandals are using dynamite in certain parts of Clearfield County to intimidate operators paying the 1917 scale. On the night of Sept. 30 an explosion destroyed the fan house at the Betz mines and the previous night fire destroyed the mule barn at the Davis mine. Both these operations are owned by B. Swoope, of Merion and Curwensville.

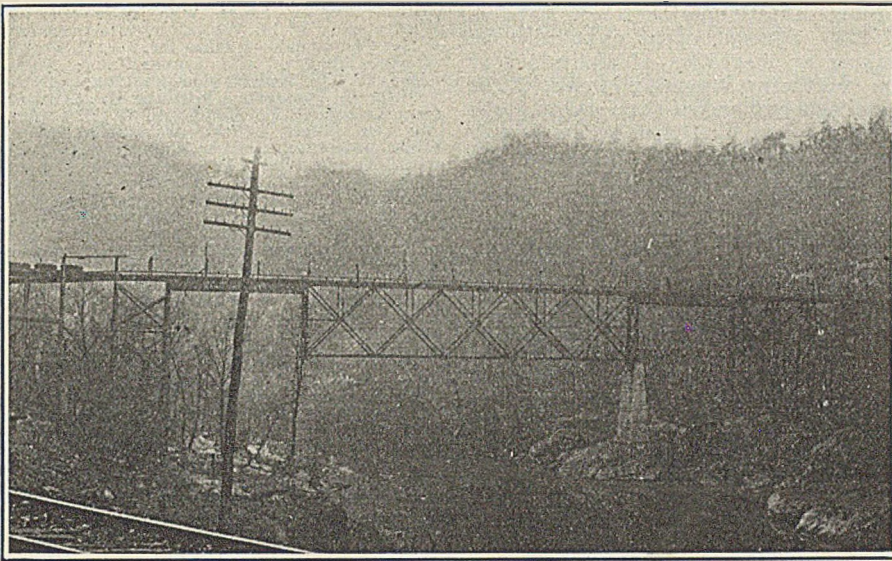
Twelve acres of coal, bordering on a mine fire which has been burning for the last 30 years, are to be mined through a slope 220 ft. long which is being constructed into the Davidson mine, near Connellsville. About 20 years ago brick walls were built to cut off the fire. More stoppings will be built where necessary. The slope will be 10 ft. wide and 8 ft. high. Three months will be required in construction. It will be driven under the ovens at the Davidson plant.

The Bertha Consumers Co., Chamber of Commerce Building, Pittsburgh, has called a special meeting of stockholders for Nov. 10 to act upon a contemplated increase in the indebtedness of the company from \$2,000,000 to \$2,500,000.

The Nebo Coal Mining Co., one of the concerns affected by the decision in the mine drainage case which went against the coal operators of the Indian Creek Valley, has found a way to surmount its difficulties. The company has pumped the drainage water from the mines into an old fireclay working—a lake of considerable size. Much of the water is lost by evaporation and seepage, and in this way the company expects to continue operations.

It is reported that the United Mine Workers will make another attempt to organize the miners in the Connellsville coke region this fall and winter.

The capital stock of the Acme Gas Coal Co., which has mines at Shannon and Rimersburg, has been bought by Joseph J. Eagan, Buffalo coal shipper, and Charles E. Buckholz, formerly vice-president of the Rochester & Pittsburgh Coal & Iron Co., but now president of the Bowersville Coal Mining Co. at Punxsutawney. Mr. Buckholz will be president of the Acme company



Steel Span Over Big South Fork, Cumberland River

Electric mine locomotives haul the coal across this bridge and dump it at the Worley or No. 4 tipple of the Stearns Coal & Lumber Co., Worley, Ky., the sidetrack being located on the Kentucky & Tennessee Ry.

and Mr. Eagan, vice-president. The mines have a daily capacity of 2,000 tons, most of the output of which will be sold in Buffalo.

M. C. Stoner and William H. Speer, Chambersburg, have recently purchased from the Pilling Co., of Philadelphia, a tract of land containing 285 acres on the Broad Top mountain, underlaid with three seams of coal. This is the property that was leased by the Joseph E. Thropp Co. to the Louise Coal Co. The Broad Top Fuel Co., with a capital of \$100,000, has taken over the personal property of the Louise Coal Co., and is preparing to resume operations. The offices of the Broad Top Fuel Co. will be at Chambersburg. W. H. Speer & Son will act as selling agents, with offices at Chambersburg.

The Valley Camp Coal Co. has reopened its Soudan mine at Van Voorhis, near Monongahela, after being idle for 10 months. The Jacksonville scale will be paid, it was said. Normally, 500 men are employed at the mine and coal will be produced after cleaning up some time this week. It is understood the company will have monthly pay days, which will help keep down the overhead to some extent. It is likely other economies will be put into effect.

Robert Y. Stuart, Secretary of Forests and Waters, has sent a letter to the district presidents of the United Mine Workers in the anthracite region of Pennsylvania asking their co-operation in preventing forest fires. The head of the state department in charge of forest protection asks the miners' officials to call the attention of the miners now on strike to the fact that the fall forest fire season is here and to ask their aid in preventing and checking such fires.

The Penn-Pitt Coal Co. plans a number of changes at its river tipple near Greensboro, on the Monongahela River. The loading pier will be raised 8 ft., ice breakers will be enlarged and new mooring piers will be erected.

UTAH

Lester D. Freed, prominent Salt Lake City capitalist and owner of coal properties in Huntington Canyon, near Huntington, obtained samples of coal from these properties recently with the view of having them tested for coking qualities. Fifty sacks of the coal have been shipped to Los Angeles for this purpose. It is believed that coking qualities of the coal will prove entirely satisfactory, in which case, it is understood, the properties in question will be developed.

The United States Fuel Co. has just awarded prizes for the best lawns and vegetable and flower gardens at Hiawatha, Heiner and Mohrland. The contest was in the interest of a movement for worth-while hobbies started by the company. Officers and salaried employees were not permitted to compete for prizes, but some of their gardens and lawns were highly commended by the committee.

Utah mines produced 385,413 tons of coal in August compared with 386,192 tons in the corresponding month last year and 479,000 tons in August, 1920.

The National Coal Railway Co. has been granted permission by the Interstate Commerce Commission to construct 8.5 miles of railroad in Carbon County. The line will develop a coal field not at present served by a railroad.

A runaway coal train the other day on the Kenilworth branch line of the Denver & Rio Grande Western R.R. in Carbon County stopped all hauling operations from that line for about 36 hours. The train wrecked itself at a curve. Seven hundred and fifty tons of coal was being brought from the mines to the switching yards near Helper when the brakes failed to act. It is estimated that the tie-up affected the output of the Independent Coal & Coke Co. to the extent of about 4,000 tons.

VIRGINIA

The Norfolk offices of the West Virginia Coal Co. will close Nov. 1, it has been announced, and A. F. Jakeman, the manager, has not decided where he will go. The company has maintained offices at Norfolk and Newport News and the tidewater business has not been sufficient to maintain both places. The company's main offices are in Richmond.

WEST VIRGINIA

In a statement issued by the State Department of Mines attention is called to the large labor turnover in the state, the largest in its history, according to Robert M. Lambie, chief of the department, who cautions officials to look after safety features more closely.

The Algonquin Coal Co., on the main line of the Virginian and the Widemouth branch of the Norfolk & Western Ry., which has been down for a year, has resumed coal shipments. It is owned by the M. E. Kinsley interests, of New York city, but has been in the hands of a receiver for some time. Roy T. Wright, of Matoaka, the receiver, is credited with getting things in shape for resuming operations.

Because of labor troubles the Consolidation Coal Co. did not have a special observance of Fire Prevention Week, Oct. 4-10 in northern West Virginia. Under ordinary conditions the company usually has special exercises in schools at the mining towns, displays in the company stores, and shows motion picture films on the subject.

Coal movement has been increasing recently on the B. & O. R.R. over the Alleghany Mountains, east of Grafton, according to reports. Seven hundred loads of coal are moving eastward daily, officials say.

Colonel and Mrs. W. D. Ord, of Landgraff, plan to leave the Pocahontas Coal field to make their home near Washington, D. C. They have purchased a part of the Mount Vernon estate and expect to make their home in the house that was built by George Washington for his overseer—a house which is about 150 years old. The house will be left intact until some time next year, when it will be remodeled. Colonel Ord, who is president and general manager of the Empire Coal & Coke Co., one of the larger producing companies in the Pocahontas district, and is president of the Smokeless Coal Operators Association of West Virginia, has been a resident of the Pocahontas field for about 30 years.

The resignation of William Roy, vice-president of District 6 and one of the leaders in the strike campaign now being waged against non-union mines in the Panhandle, has given rise to reports of a wrangle with Lee Hall, district president, although such reports are not confirmed. There also are rumors of a change in policy in the district, as a result of the resignation, especially toward the federal court in-

junctions now protecting the non-union operators and their properties. Roy had been identified with the union in District 6 for more than 15 years as a sub-district and district official. He gives ill health as his reason for resigning.

WYOMING

Production in the Rock Springs field is increasing materially, several groups of mines now working four to six days a week. This increase is reflected in the re-employment of many men on the rip track forces of the Union Pacific R.R. in Rock Springs and in the camps.

The Union Pacific Coal Co. has taken another step in the safety field. Acting upon recommendations in the report of engineers who made the annual inspection of that company's properties, this corporation has announced that it is putting into effect a daily morning inspection of all of its mines. It is hoped by the company's officials that by such an examination prior to the men going to work every morning the number of accidents will be materially reduced. In the past year the U. P. has taken several important steps in the safety field, among which are the introduction of permissible powder for shooting, copious rock dusting of all workings, electric cap lights and the safety patrol system.

Rock dusting is gaining favor in the southern Wyoming district. Recently the Central Coal & Coke Co., of Kansas City, which operates a mine here, ordered a carload of shale dust from the Union Pacific plant in Rock Springs and is experimenting with the dust. Arthur Vaile is superintendent. Several weeks ago the Quealy interests purchased shale dust from the U. P. for use near Kemmerer and at Sweetwater, near Rock Springs. This company is using a combination pulverizer-blower. The latest company to evince interest in dusting is the Colony Coal Co., which has extensive workings at Dines. Recently Chief Engineer Pierce, of the Denver offices of that company, spent several days in Rock Springs studying the methods used by the U. P., and it is understood that this company will have rock-dusting operations under way soon.

Three thousand seven hundred and twenty-four miners were employed in 65 active mines in the State of Wyoming during the second quarter of 1925, according to the quarterly report of the state mine inspector, Hugh McLeod, made public last week. More than half, or 1,877, of these miners were in the employ of the Union Pacific Coal Co.; the Sheridan-Wyoming company was second with 420. These figures are only for men employed underground. Fourteen of the active mines were wagon mines. Fifty-four non-fatal accidents were reported, all of which occurred in the southern district, which includes the Kemmerer and Rock Springs fields. Four fatal accidents occurred, two in Superior, one in Hanna and the fourth at Owl Creek, in the Northern district.

State Mine Inspector Hugh McLeod, of Rock Springs, spent September in making an inspection of the mines of the northern Wyoming fields. The state inspector's offices are now at Rock Springs. John L. Dykes is the deputy for the southern district, having his office with Mr. McLeod.

CANADA

Coke production in Canada in August totaled 95,297 tons, as against 89,221 tons in the preceding month. This rise of 7 per cent, according to a statement by the Dominion Bureau of Statistics, was due to increased blast-furnace activity and the settlement early in August of the five months' strike of Nova Scotia coal miners which commenced in April and continued for a period of approximately five months.

Peat Fuels, Ltd., a Montreal company, which has been manufacturing standard peat fuel at Alfred, Ont., during the past summer, is offering through Capital Investment, Reg'd., \$75,000 7 per cent cumulative preferred shares, with a bonus of common stock. The company controls enough raw material at Alfred to produce 25,000 tons annually for twenty to thirty years. It is purposed to bring the capacity of the plant at Alfred up to 250 tons per day and plans are under way to establish similar plants in other favorable localities in the acute fuel areas of central Canada.

Southern Okanagan Collieries, which has acquired title to 1,280 acres of coal lands between Princeton and Fairview, in the Nicola-Princeton coal field, is floating a 15-year 7 per cent bond issue, to provide funds for the further development and the equipment of the property. Diamond drilling indicates the existence of six seams of a good grade of bituminous coal under the area owned by the company. The authorized capital of the company is \$750,000, of which \$457,150 is outstanding.

Association Activities

The Baltimore Coal Exchange, composed of retailers, held its annual meeting on Sept. 27, when the following officers were elected: Hugh C. Hill, president; Benson Blake, Jr., first vice-president; L. C. Wilcox, second vice-president; J. E. Woesche, treasurer, and J. F. Palmer, secretary. The directors chosen were Mr. Blake, John J. Bauer, Graham Eckel, Charles Gross, Albert F. Gross, Mr. Hill, D. L. Harrison, Horace Isaacs, John J. Kelly, B. F. Lucas, O. P. McComas, William Magee, C. N. Parkinson, H. S. Reinicker, John J. Reahl, H. G. Von Heine, E. A. Watts, J. Harry West, Mr. Wilcox, Mr. Woesche and J. H. Walles. The executive committee will consist of Mr. West, chairman; Mr. Von Heine, Mr. Wilcox, Mr. Hill, Mr. Blake and Mr. Woesche.

The Smokeless Coal Operators Association of West Virginia held its second annual "rodeo" meeting at White Sulphur Springs, W. Va., Sept. 15-18. Ways to take the fullest advantage of the opportunity presented by the establishment of an all-rail rate to New England, which becomes effective Oct. 15, were discussed. The members also made an analysis of the work of the Holly Stover Statistical Bureau, of Chicago, and named a committee to study the national advertising campaign for smokeless suggested by Mr. Stover. The event came to a close with a banquet, over which W. D. Ord, head of the association, pre-

sided. Among those who delivered addresses were F. M. Whitaker, vice-president of the Chesapeake & Ohio Ry.; A. R. Smith, vice-president of the Louisville & Nashville; W. J. Jenks, vice-president of the Norfolk & Western; William C. Atwater, John Laing, C. H. Mead and G. H. Caperton. On behalf of the association, E. E. White presented a silver loving cup to Robert H. Gross, who was president of the association in 1923-24. Trophies also were presented to P. M. Snyder of Mt. Hope, who won the invitation golf tournament, defeating J. B. McCahey, of Chicago, 3 and 2, and to Isaac T. Mann, of Washington, winner of the operators' tournament, who defeated Rodman Page, Jr., of Philadelphia, 4 and 3. Ralph Knode, of Philadelphia, won the Tierney Cup, and the Holly Stover trophy was won by W. J. N. Jenks.

The West Kentucky Coal Bureau, meeting on Sept. 8, at the Seelbach Hotel, Louisville, Ky., for the first time since June, handled some routine matters, named K. U. Meguire, of the Dawson Daylight Coal Co., a member of the Executive Committee, and wound up the meeting without much of interest developing.

Obituary

E. R. McClelland, for many years identified with the Caperton interests in the New River field and superintendent of the Brooklyn mine of the Scotia Coal Co., at Finlow, in Fayette County, W. Va., was killed in an accident at the mine during the last week in September. He was accompanying General Manager Gaston Caperton on an inspection trip through the mines at the time of the accident. Observing the approach of a motor trip of mine cars and fearing for the safety of Mr. Caperton, Mr. McClelland was too late in reaching one of the safety holes along the entry and was struck by the motor and killed instantly. He was 34 years of age.

George B. Beatty, head of the Beatty Bonanza Coal Co., Kansas City, Mo., died at his home in Kansas City, Sept. 26. Mr. Beatty operated mines at Higginville, Mo., and in Arkansas, and had been in the wholesale and retail coal business in Kansas City forty years. He was born in Georgetown, Ky., seventy years ago. He is survived by his wife, two daughters and two sons.

Coming Meetings

American Gas Association. Annual meeting, Oct. 12-16, at Atlantic City (Steel Pier), N. J. Secretary-manager, Alexander Forward, 342 Madison Ave., New York City.

National Conference of Business Paper Editors. Annual meeting, Oct. 14 and 15, at Congress Hotel, Chicago, Ill. Secretary, D. G. Woolf, 334 Fourth Ave., New York City.

Kanawha Coal Operators' Association. Annual meeting, Oct. 15, at Kanawha Hotel, Charleston, W. Va. Secretary, D. C. Kennedy, Charleston, W. Va.

Electric Power Club. Fall meeting at Briarcliff Manor, N. Y., Oct. 19-22. Secretary, S. N. Clarkson, B. F. Keith Bldg., Cleveland, Ohio.

American Welding Society. Fall meeting, Oct. 21-23, Massachusetts Institute of Technology, Boston, Mass. Secretary, M. M. Kelly, 33 West 39th St., 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.

Illinois Mining Institute. Fall meeting, Nov. 6 and 7 at West Frankfort, Ill. Secretary, Frank F. Tirre, St. Louis, Mo.

Harlan County Coal Operators' Association. Annual meeting, Nov. 18, at Harlan, Ky. Secretary, E. R. Clayton, Harlan, Ky.

American Society of Mechanical Engineers. Annual meeting at New York City, Nov. 30-Dec. 3. Secretary, Calvin W. Rice, 29 West 39th St., New York City.

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.