

COAL AGE

McGraw-Hill Company, Inc.
James H. McGraw, *President*
E. J. Mehren, *Vice-President*

Devoted to the Operating, Technical and Business
Problems of the Coal-Mining Industry

R. Dawson Hall
Engineering Editor

Volume 28

NEW YORK, AUGUST 6, 1925

Number 6

“Stop Thief!”

VICTORIAN-MINDED READERS who still cling to the belief that Dickens and Thackeray have not been crowded into the limbo of obscurity by such moderns as D. H. Lawrence and Arthur Schnitzler will recall the episode in “*Oliver Twist*” in which the Artful Dodger diverts suspicion from his own filchings by leading the pack in the cry of “Stop thief.” Something of the same time-honored strategy is strongly suggested in the persistent demand of spokesmen for the miners at Atlantic City that S. D. Warriner and W. J. Richards again take up the thankless and arduous rôles those two veterans of wage negotiations have so lately escaped—that and something more.

In the face of repeated official and unofficial denials that the operator members of the sub-committee cannot take final action without the approval of the retired veterans, the impression is assiduously spread that the miners’ adversaries in the present negotiations are powerless marionettes. Whether by design or not, the prolonged absence of Mr. Lewis from the inviting ocean front served to give a deeper color to that impression. Somewhere, somehow, hint these impressionistics, a miner—presumably the redoubtable Mr. Lewis himself—and an operator or operators—obviously Messrs. Warriner and Richards are meant—will sneak into secret conclave and sign another truce in the anthracite wage war.

But those who will take the trouble to examine the verities of the situation will appreciate the appositeness of the Dickensian comparison. The operators sitting at Atlantic City insist that they are fully empowered to negotiate an agreement, and there is no reason to doubt either the truthfulness of that statement or the sincerity of the men making it. The miner members of the committee, on the contrary, have absolutely no power to *negotiate* any agreement. They cannot vary one jot from the demands framed by the tridistrict convention at Scranton last month. Even if convinced that logic and justice were all on the side of the employers, Mr. Murray and his able associates could do no more than recommend to the tridistrict convention a recession from its position. That body, and not the miners at Atlantic City, have both the first word and the last word.

Under these circumstances it comes with poor grace for men who admit they have no power to charge a similar impotency to those who possess full freedom of action. It bespeaks both a wilful attempt to befog the issue and to mislead the public and a confession of the weakness of the miners’ case. How else shall we account for such a persistent perversion of the facts?

Psychiatry

THE study of diseased minds is psychiatry, and as all minds are diseased when obsessed with anger, we commend the study of this science to the coal industry. An example of a diseased mind comes to mind.

Two men were discussing the anthracite situation. One thought the prices of hard coal was scandalously high, and was incensed at the coal companies. Seeing the operators were having a dispute with the miners over the wage scale, he took the side of the miners and hoped they would get more money. Thus because he had to pay so much for coal he was ready to create a condition that would cause the price of coal to go higher.

This is no time for argument; the public needs a cure for its shattered nerves. In its jumpy condition it no longer is able to think. It blames the operator for suspensions, though it is the miner who causes them. It blames the producer for the high prices, though it is the miner whose wages have raised the cost. It blames the high wages for high costs and then insists that a settlement be made promptly at any scale the miner may present. It condemns the operator for not agreeing with the union and then terms an agreement when made mere collusion. That is a psychosis—derangement of the brain.

Crawling Under the Fence

HIGHLY DEVELOPED equipment can only be handled with technically trained help. Unless a man has had the proper training in the fundamentals of mechanism and electricity he cannot hope to make proper use of such equipment. He will oppose its introduction, knowing that his ignorance will be exposed and that he will be unable to meet the problems its operation will involve. It must be confessed that not every man who lacks technical training is prone to rely on past practice, but too many are.

It has been said that the college student relies on his instructor and has a repetitive mind, but that is far less obvious than it is in the non-technical man. He too often refuses to believe in what he has not seen and operated. The man of books may be a slave to printer’s ink, but how much wider is his horizon than that of the man whose range is limited to the experience of his daily task!

The printed word brings him information from everywhere. The man who depends on past practice and who stays in one place has only one source of instruction and that *has* dried or is drying up. The vices of book learning have been over-emphasized. There are such vices, it is true, but worse yet is the vice of relying on mere experience.

In defense of self-made men instances are frequently advanced of persons who are, only in a sense, self-made and in truth have been careful book students all their lives. Such men, do indeed, do well. Theirs is a working scholarship, and in these days of dances, movies, bridge parties, golf, tennis, radio and automobiles there does not seem much probability that the average man will tutor himself as well as he would be instructed at college.

To managers, superintendents and foremen who wish to have their sons follow their profession, we would

strongly recommend that they give them college training. The future generation will demand that the men in control are thus duly instructed and will be little disposed to recognize those who crawled under the fence.

The Facts in the Case

NO ONE could have believed that the public would close its eyes and its ears to the determination of the anthracite operators to avoid a suspension and submit the dispute with their employees to arbitration. Here were outstanding facts, simple and understandable, not merely hinted at but written in the plainest possible English, but to judge by all that is published and heard on the street the words might just as well never have been uttered. This shows how necessary it is to state and re-state facts for fear that there will be some who have not heard or read, or, having heard or read, have not understood. More than one man known to read his newspaper diligently has actually remarked that he thought the dispute was already settled.

For such ignorance, misapprehension and gross misstatement there is only one cure: reiteration in advertising. If the papers (unfriendly to the few who own mines and subservient to the many who work in them, to the even greater number who consume the fuel the mines produce, or to the legion who favor labor as against capital), will not carry the story editorially or on the front page and only meagerly on other pages, then there is no recourse but advertising.

In Great Britain the Information Department of the British Colliery Owners' Association is financed by a direct levy on a tonnage basis, and in 1922 the sum of one million pounds was expended to carry to the electorate the true story of British mining, the department being under the control of Philip Gee. One of the local secretaries who was a member of Mr. Gee's committee on publicity was in favor of a levy of six cents per ton to carry the facts to the public in 1926. Perhaps this sum has not been voted, but still it shows what some British operators feel should be done to meet the determination of the radical element to make unreasonable demands for the nationalization of the industry and for the granting of wage scales calculated to make mining unprofitable.

This department is financed by a separate levy, but other large levies are made for the work of the local and national associations and these are many times bigger than the sums expended here in support of the National Coal Association. Certain it is that the union in this country rejoices in being able to use the papers to carry over to the public incorrect statements as to the situation and to do so with only trifling cost.

But, to return to Great Britain, twenty-five trained journalists work under the direction of Philip Gee and cover the many separate districts of England, Scotland and Wales. When any issue arises they are ready to discuss it intelligently and this they do by staging debates and in other ways. Letters are written to editors of the leading papers, and printed publications, each on some specific subject, are sent to the newspapers.

Conditions in the United States may not invite any such prodigious effort, but when one notes the mass of inaccurate and misleading information which passes muster for truth one soon realizes that its correction is too much to leave to busy men who have their mine duties to attend to. Organization is necessary and a

program. The operators cannot allow a false record to stand. They must be judged on the truth and the truth alone. The mass of incorrect data, the twists given to the facts, the innuendoes of journalists with a false slant on public affairs should be met completely and promptly. An unanswered argument is regarded as unanswerable, and allowed to stand for a while becomes "incontrovertible truth." It gets its roots deep into the soil and is hard to tear loose.

For this reason the operators who want to get the public ear should get it early and should not rest till the idea is "sold." The public should know what is causing strikes—namely, the success with which the union gets what it goes after. No one should be allowed to believe that the anthracite operators seek, cause or foster strikes. The facts as to the closed mines, as to the distress of miners in union districts, as to the shifts in operating centers should be known. These stories should be told with good copy so that the man on the street who in the end solves every problem rightly or wrongly may not decide blindly and inadvisedly.

Recent reports appear to show that the activity of the mine owners of England in combating false statements is bearing fruit. The public is arranging a subsidy settlement that seems to suit both parties. To us it seems an ill-advised compact and one that bears unduly on the public purse. It is another approach to socialism, but it testifies to a desire on the part of the public to be fair to the mine owner even at the risk of being unfair to itself. This is at least an advance over the old method of asking the operator to shoulder the burden. The Britisher realizes at last that the mine owner must go under if he pays the high wage rate, because he cannot shift his burdens on the foreign consumer by charging a high price and because the present high cost of fuel is sapping the life of British industry and reducing still further the available market.

Those Who Run Machines Should Tend Them

BY AND LARGE, the same care is not being given by operatives to mine electrical equipment nowadays as was given in the early days. It is true, unfortunately, that the making by the manufacturer of each improvement toward the foolproofing of a piece of electrical equipment is accepted by the runner as a sign to let up, in a degree, on inspection and day-by-day maintenance of that machine. When machines were a novelty, the attendants took pains to minimize breakdowns. As the novelty wore away less attention was given to preventive maintenance.

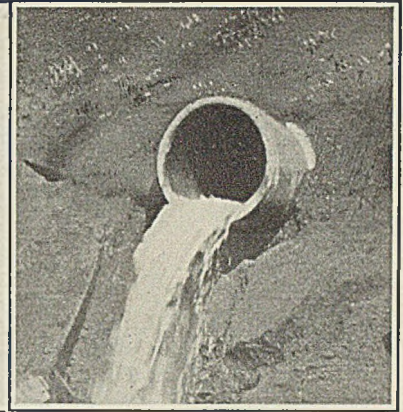
The old custom, making the operative directly responsible for the condition of his machine, should be revived by every coal company. Those men in closest touch with the several types of machines—as runners of cutting machines, motormen on locomotives, foremen on tipples, and the like—should be compelled to attend personally to the cleaning, lubricating and making of minor adjustments during idle periods or at the end of each shift. Repairs or adjustments which cannot be made by these men should be reported promptly.

Manufacturers ought not to be blamed for faults which result from laxity on the part of the mine management. It is more than a coincidence that those companies which adhere to the old custom of preventive maintenance are least vexed with electrical and mechanical breakdowns.

Long Tunnels Make Extensive Dip Workings Self-Draining

Water from Adjacent Mines Led to a Common Discharge
—Flooded Part of One Mine Caved to Workings Below
—Old Shafts Utilized—Gravity Makes Drainage Positive

By Frank H. Kneeland
Associate Editor, *Coal Age*,
New York City



IN MOST INSTANCES mine drainage is an unavoidable corollary to coal production. As a rule mechanical means must be employed to rid underground operations of excess water. If, however, the beds worked lie for the most part above the general water level of the region and the pitch is moderate and fairly uniform the force of gravity may be utilized to drain even an extensive chain or group of mines. Such conditions prevail in southern West Virginia, where, in some instances, foresight and good engineering have made it possible to almost entirely obviate the use of pumps, bailers and other water-handling equipment.

Two extensive gravity drainage systems, one of them with a tunnel nearly 7 miles long, have been installed by the United States Coal & Coke Co., the general office of which is located at Gary, McDowell Co., W. Va. One system is on the western or right bank (when facing upstream) of Tug River and Sand Lick Branch while the other is on the opposite bank. The first drains mines Nos. 9, 7, 6, and 2; the second drains mines Nos. 10, 3, and 1. The latter operation has been abandoned, at least, temporarily. Each of these systems encountered conditions and difficulties peculiar to itself and thus presented engineering problems of its own.

The total length of the drainage system on the west side of Tug River and Sand Lick is about 37,200 ft. In Fig. 2, the portions of the various mines connected

The headpiece shows the actual mouth or outlet of the smaller drainage system from mine No. 1 in the bank of Tug River. After having traveled for approximately five miles underground by a decidedly circuitous path, involving at one point a vertical descent of about 65 ft. from one coal bed to another and an equal perpendicular rise up old No. 1 shaft, this water finally escapes to a stream on the surface.

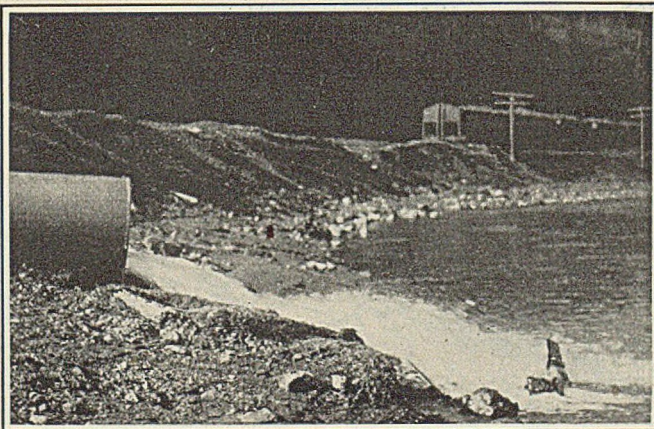


Fig. 1—Outlet of Larger Drainage System

Although variations in precipitation on the surface are reflected a few hours later in small changes in the volume of water escaping from this drain, it never fails. Year in and year out this stream of clear cool water finds its way to the Tug River.

by this drainage system are shown as well as the connection between them. Where a tunnel or drift is required for passage of the mine water this also serves as a means for the distribution of mine timber.

Along Tug River and most of its branches timber has become scarce so that it is necessary to bring in a supply from Long Branch. This enters the mines at the point where the mine track crosses this stream. From here it can be taken to any point in mines Nos. 9 W., 7, 6, or 2. All workings in these mines are in the Pocahontas No. 4 bed and, consequently, tunneling through rock in order to obtain passage for the water is unnecessary. This drainage system, therefore, resembles an underground water shed with various branches and tributaries such as are found in natural water sheds on the surface.

The volume of water discharged from these workings is fairly uniform, seasonal changes making comparatively little difference in the rate of efflux from the outlet pipe. As this water shed embraces some areas in which the pillars have been drawn and the roof has caved to the surface there is a certain increased influx after heavy rains. It requires the lapse of only a few hours for this to reach its maximum.

Where the main watercourse traverses caved areas of this kind provision was made for keeping the waterway open before the pillars were drawn. To this end a ditch about 4 ft. wide and 2 ft. deep was dug in the mine floor. This was then concreted up the sides and over the top. When the roof caves over a ditch of this kind the fallen material "arches" over the top and the ditch cover has to support only a few feet of the roof rock. The ditch thus becomes a long aqueduct.

Mines on the opposite side of Tug River presented a drainage problem somewhat more difficult because here operations are carried on in both the Pocahontas No. 3 and No. 4 beds. The interval between these measures is about 65 ft., the No. 4 bed being uppermost.

Workings of mine No. 10 are in the No. 3 bed, those of mine No. 3 are in the No. 4 bed and those of mine No. 1, a shaft operation now abandoned, are in both beds. An old drift of this operation driven in the No. 4 bed comes out in the bank of Tug River slightly above the high water line. This has long been known as the Hood opening. It formed the logical outlet for the water from the mines on the east side of the river and the drainage system was planned accordingly.

The drainage system for these mines starts in the No. 3 bed in mine No. 10. The water is led through various workings in this operation until approximately the northwest boundary of the mine is reached. From here drainage headings were started to connect with the

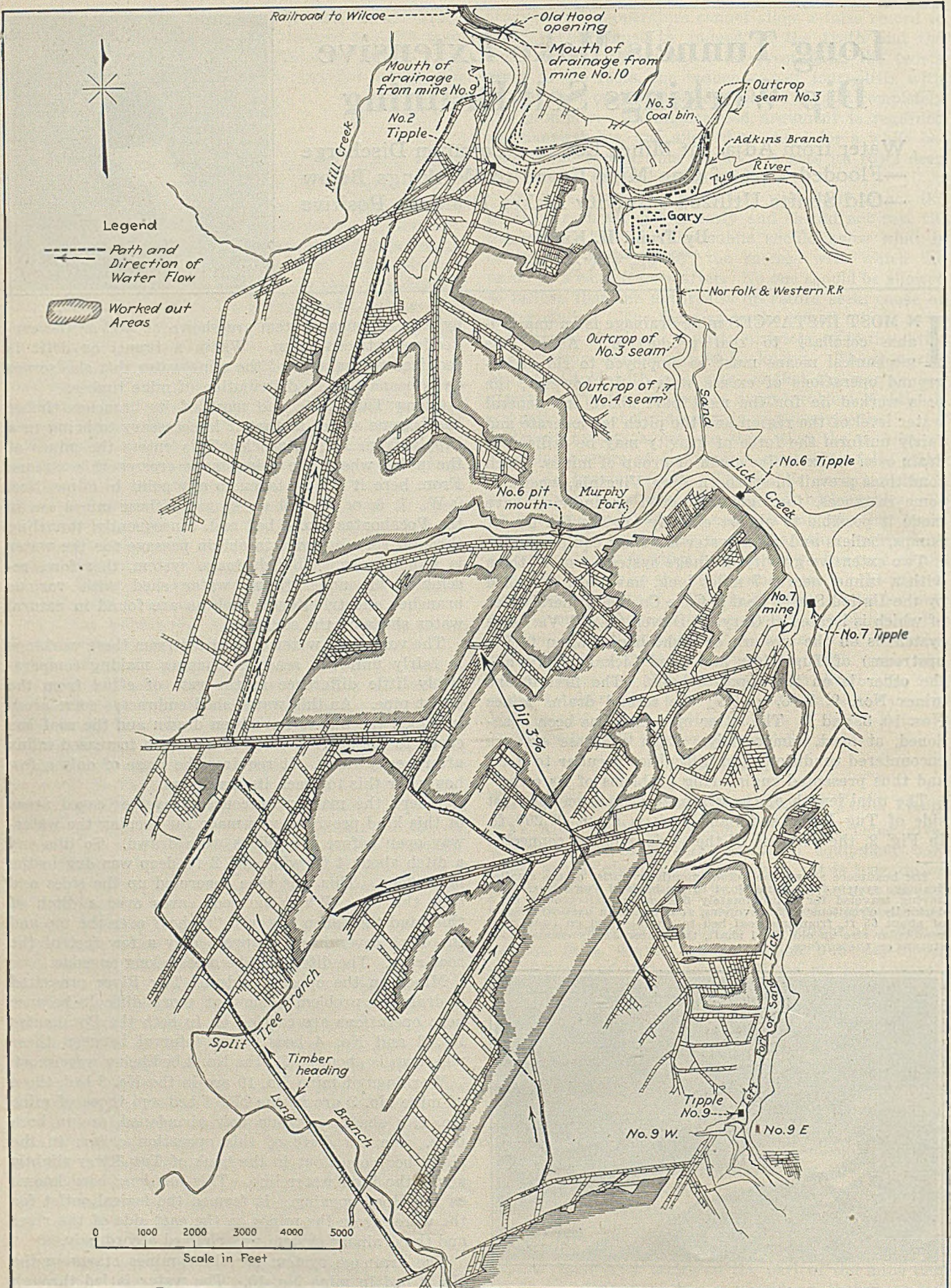


Fig. 2—Drainage System Voiding Water from Four Good-Sized Mines

It will be observed that the underground drainage here roughly parallels the natural drainage of the surface. Like the natural

streams the one underground grows continuously throughout its entire length.

No. 3 bed workings in mine No. 1. These headings passed under the workings of mine No. 3.

When the drainage headings from No. 10 mine approached the No. 3 workings of No. 1 mine drill holes, or what might be called "feelers," were, of course, put into the coal ahead of the advancing faces. This proved to be an extremely wise precaution, for when these feelers holed through into the No. 1 workings marsh gas under pressure was encountered. It should be stated that No. 1 mine had been allowed to fill with water to the level of the Hood opening. The rise workings of this mine in the No. 3 bed thus were water-sealed, which accounts for the presence of the gas under pressure. This methane, however, bled off in the course of about 24 hr.

No. 3 mine contained two areas that originally had been driven more or less to the dip and had been allowed to flood. In order to drain the first of these, or what was known as the "J" mine, short headings were driven to a point (marked B in Fig. 3) below the lowest point in these workings. Here an area about 300 ft. square, or comprising approximately two acres, was worked out clean, the roof being supported meanwhile by means of heavy timbering. When this work was completed the roof supports were withdrawn and the strata between the two coal beds allowed to cave up into the old workings of No. 3 mine. Water from the flooded area thus was drained off in about 24 hr.

At a later date a rock tunnel was driven through the want or pinched-out area (marked C in Fig. 3). This allowed the water from the second flooded area to reach the headings leading to No. 1 mine.

Water from mines Nos. 10 and 3 enters mine No. 1 through the workings in the No. 3 bed. In this mine the shafts form the connection between the two coal measures. Up these shafts the water rises to the workings in the No. 4 bed, finds its way through the Hood headings and eventually escapes to Tug River through the Hood opening. The headpiece shows the actual discharge to the river. This is several feet below the rails at the mouth of the Hood opening. The tile thus was depressed in order to carry the water under a railroad track, which here is laid between the river bank and the Hood opening.

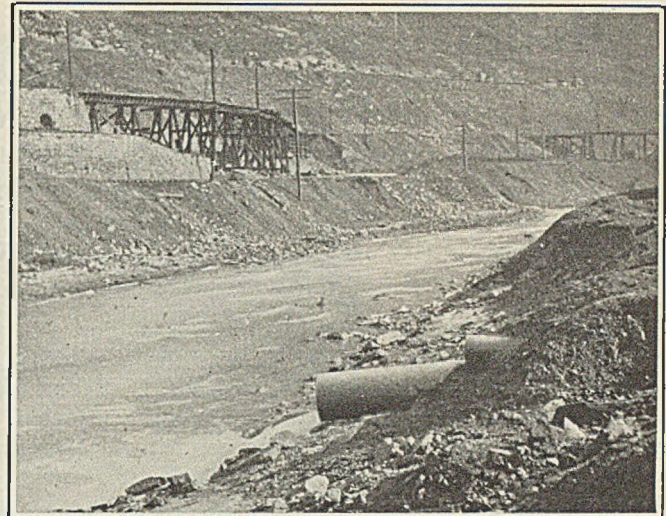


Fig. 4—Downstream from the Lower Outlet

In the foreground may be seen the outlet of the larger drainage system. The old Hood mine opening is across the river behind the larry trestle leading to the coke ovens. The actual discharge of the water to the stream is in the left hand bank almost in line with the end of the upper trestle.

Completion of these drainage systems has simplified the problem of dewatering the mines served by them. Every practical mining man hates to install a pump if its use can be avoided. This is not alone because of the cost entailed in pumping mine water but also because of the fact that any and every mechanical device, regardless of its kind or type, is less reliable than the constantly-acting forces of nature. Thus, gravity may be depended upon to operate day and night, in season and out of season, whereas such a device as a pump must be shut down occasionally for inspection or repair.

And, although all the workings of all the mines above mentioned cannot be unwatered naturally (swamps, swags, dips and swales are occasionally encountered which can be drained only by pumping) yet the United States Coal & Coke Co. uses fewer mine-drainage pumps today than it has at any time in its history. Furthermore, taken by and large, its mines are now more nearly free from water than ever before.

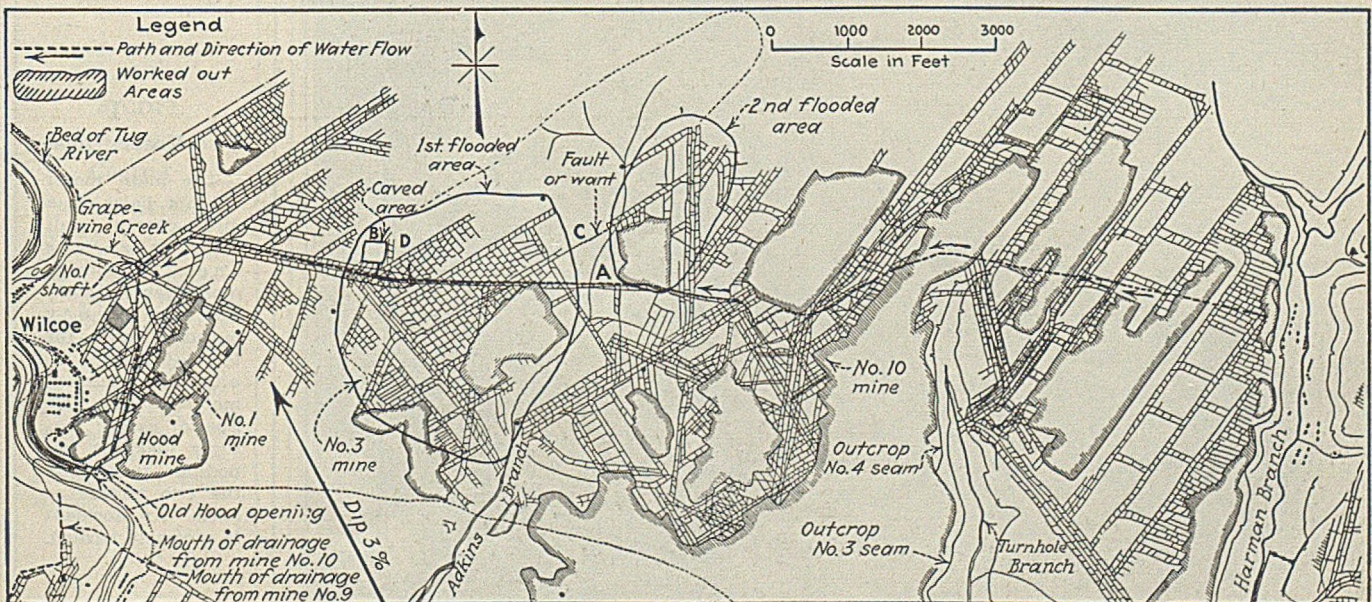


Fig. 3—Draining Nos. 10, 3 and 1 to a Common Outlet

This system of drainage is particularly interesting because it lies partly in one bed and partly in another. At the point B the

water from No. 3 mine descends from the upper to the lower bed through strata that have been purposely caved. It then pro-

ceeds with the water from mine No. 10 to No. 1 shaft, up which it rises and escapes to the surface through the Hood opening.

Modernized Equipment Effects Large Savings

Steam-Driven Apparatus Was Electrified Because It Could Be Operated Cheaper—Idle Day Losses Are Not So Heavy When Mine Is Equipped with Electric Drives

By A. W. Spaht

Electrical Engineer, Old Ben Coal Corporation, Chicago, Ill.

ECONOMICAL operation always is a major consideration in coal mining. It was the possibility of reducing the cost of producing coal that caused the Old Ben Coal Corporation to change its equipment from steam to electric drive. The company operates twelve mines in the Franklin County field of Illinois. The mines range from 3,000 tons to 7,000 tons daily capacity. A 33,000-volt transmission line, owned by the company, interconnects them all. This makes it a simple matter to operate the mines from a circuit having one main meter, thus giving the coal company the benefit of a large diversity factor. Also by arranging the schedule of operation of the various mines it is possible to maintain a comparatively high load factor based upon the maximum demand. This load factor was approximately 40 per cent last October.

The results of our modernization program obtained at No. 14 Mine are no doubt of general interest to the mining industry. This mine has a total lift of 519 ft. from bottom to dump. The average weight of coal per trip is 8,500 lb. Self-dumping cages are used, making 165 dumps per hour, or 700 tons per hour. The caging period is 4 sec.

The steam plant at this mine was a fairly modern outfit. Hence the contention that it was obsolete and should have been discarded cannot be made. It consisted of five water tube boilers having a total rating of 1,800 hp. Draft was furnished by a 200-ft. brick stack. The boilers were equipped with mechanical stokers, bunkers, and coal conveyors bringing coal directly from the tippie to the boiler plant. A suitable feed-water treating plant with filter, and feed-water

heaters were provided. Steam pressure of 165 lb. gage, was carried. An ash blower took the ashes directly to railroad cars.

The hoisting engine was a 28x48-in. first motion unit with a 9-ft. cylindrical drum. The fan was driven by an 18x24-in. direct-connected, 4-valve engine. The exhaust from the hoisting engine and from the fan engine was used in a 500-kw. low pressure turbine for generating electric power for the mine locomotives and cutting machines. In addition to the turbine-driven generator there were two units, one a 250-kw. and the other a 200-kw. machine driven by direct-connected 4-valve engines.

The mine is now entirely electrically operated. The hoist with all its electrical equipment was designed and manufactured by the Allis-Chalmers Manufacturing Co. The hoist is equipped with a main direct-connected direct-current motor and an auxiliary alternating-current geared motor.

To show the brake operating mechanism and safety devices more clearly a view of the No. 12 hoist is shown in Fig. 1, which is a duplicate, except that it is of the opposite hand from the No. 14 hoist. The hoist drum is of the cylindro-conical type, being 6 ft. 6 in. in diameter at the small ends and 11 ft. 6 in. in diameter at the center. It is served by a parallel-motion post brake 10 ft. in diameter with a 12-in. face having structural steel posts. The brake is of the gravity type set by a weight and released by an auxiliary oil operated brake engine. The brake engine is free from objectionable leakage so that drip pans are not required.

An interesting feature of the brake engine is that the

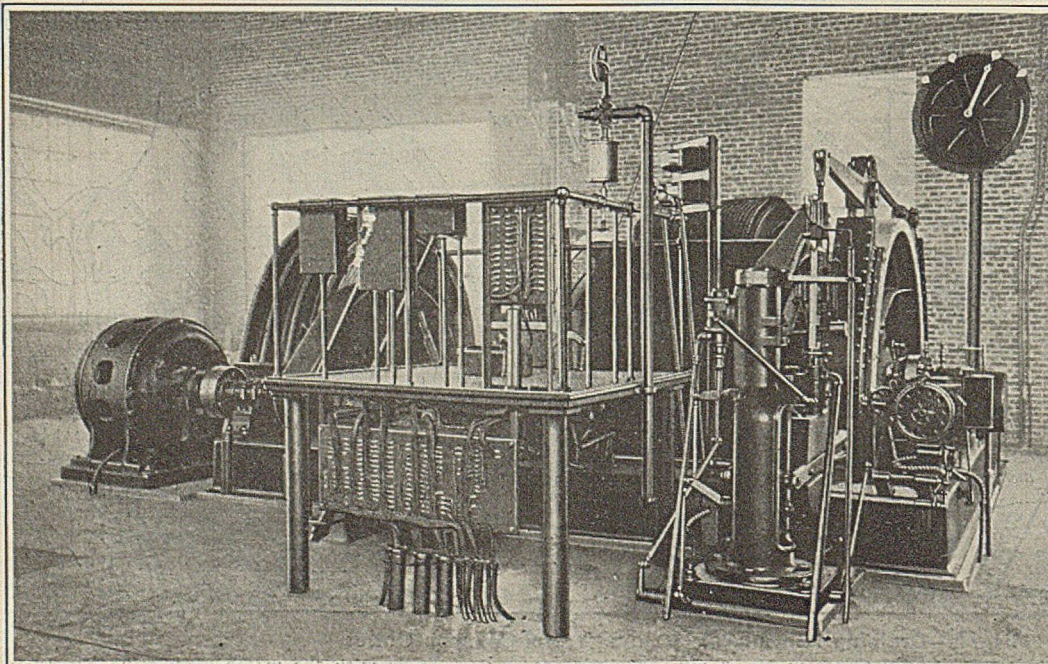


FIG. 1

Two-Motor Hoist

The main motor of this hoist is a direct-current unit which receives energy from a motor-generator set. For emergency purposes and for idle-day service an alternating-current motor is connected. Special safety features make it impossible to operate the two motors at once. An accident is a remote hazard.

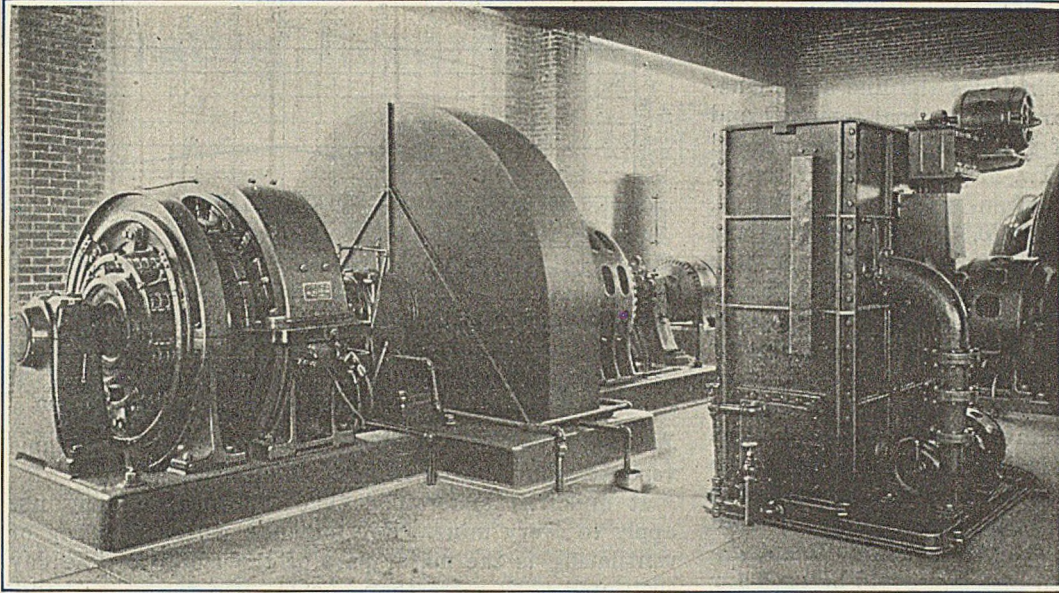


FIG. 2
Power and
Control
Apparatus

This picture shows the 800-kw. motor-generator set and liquid slip regularly used with the No. 14 mine hoist. The steel plate flywheel on the set weighs 22,000 lb.

auxiliary valve, which acts in connection with the safety devices to automatically apply the brake, is operated by both a direct-current and an alternating-current solenoid each functioning entirely independent of the other and so arranged that complete safety protection is afforded when the hoist is driven by the direct-current motor or the alternating-current motor. The oil pressure system provided for the operation of the brake is so designed that it eliminates all glands and stuffing boxes, valves, etc., and is neatly and cleanly installed.

The direct-current motor is rated 1,100 hp., 72 r.p.m., 600 volts. The power for this motor is taken through a motor-generator flywheel equalizing set consisting of a 750-hp., 720-r.p.m., 2,300-volt alternating-current motor, an 800-kw., 600-volt direct-current generator, a 22-kw., 250-volt exciter and a 22,000-lb. steel plate flywheel 10 ft. in diameter. Fig. 2 shows this set, together with the starter and automatic liquid slip regulator. Exceptionally close power control is obtained on the

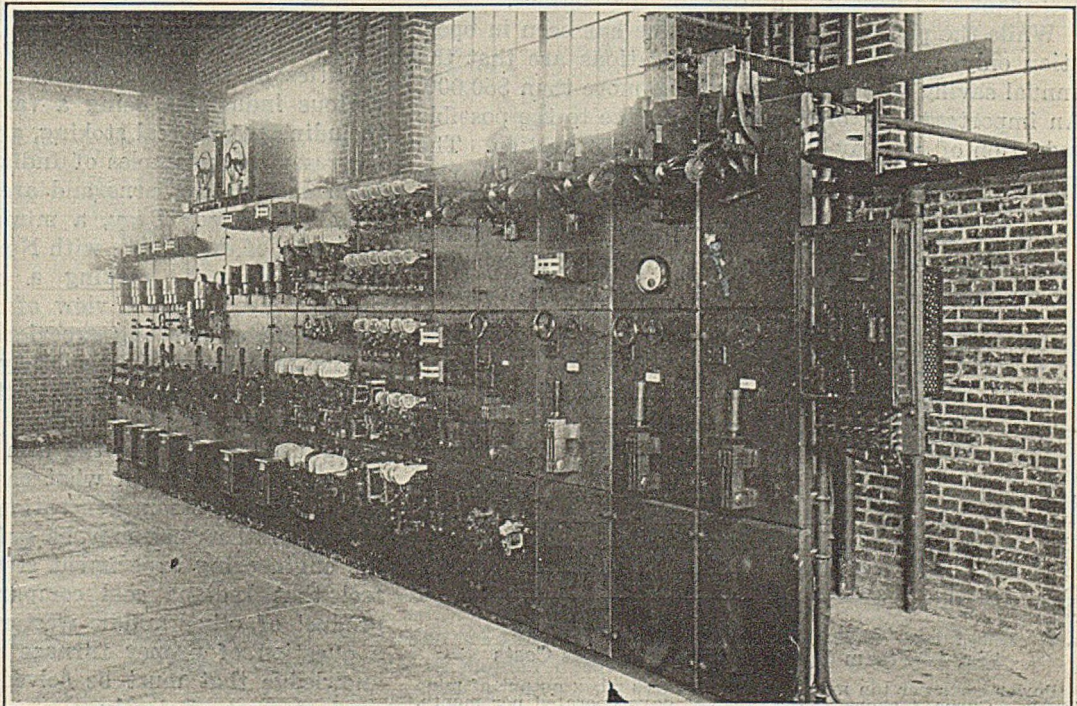
flywheel set with this regulator. The set can be stopped in case of an emergency in a little over 2 min. with the current inrush approximately equal to full load current.

The 300-hp., 2,300-volt alternating-current auxiliary motor is provided for driving the hoist at night or on idle days. Special interlocking arrangements are provided so that the pinion which meshes with the drum gear must be entirely out of mesh before the main direct-current motor can be operated and the pinion must be completely in mesh before the auxiliary alternating-current motor can be operated. It is absolutely impossible to operate the control circuits for both motors at the same time.

Fig. 3 shows the complete station switchboard. An interesting feature is that in addition to the panels for the control of the main alternating-current and direct-current circuits to the flywheel set the contactor panels for the main direct-current motor and the alternating-current motor are incorporated in the switchboard. Power for the locomotives and cutting machines is pro-

FIG. 3
Switchboard
Control

Both hoist motors receive power through this switchboard. The contactor panels in the middle of the switchboard control the alternating-current motor. Direct-current circuit breakers on the mine feeder are shown in the foreground.



vided by two synchronous motor-generator sets, one of 500 kw. capacity and the other 300 kw.

The electrical energy taken by this mine last October was 447,050 kw.-hr. This includes the line and transformer losses which are borne by the coal company and charged against the cost of power. This figure enabled us to determine that 5.11 kw.-hr. was used per ton of coal hoisted. This figure when properly distributed, was as follows: Main hoist, 0.95 kw.-hr.; auxiliary hoist, 0.06 kw.-hr.; fan, 1.64 kw.-hr.; motor-generator sets for cutting, hauling and pumping, 2.20 kw.-hr.; main screens, shop, car-pullers, and yard lighting, 0.26 kw.-hr. The hoisting equipment takes 0.77 kw.-hr. per ton when hoisting steadily. This is 2.52 per cent less than calculated. The men are lowered into the mine and taken out with the main motor which causes the kilowatt-hours per ton taken by the flywheel set to be greater than 0.77 kw.-hr. The auxiliary motor saves over 20,000 kw.-hr. per month. This motor is used for night and idle day hoisting. It has sufficient capacity for handling a loaded car, and could be used for hoisting coal in case of trouble with the main motor. The daily tonnage would, of course, be greatly reduced.

The hoist is equipped with the following safety features: overwind protection; overspeed protection; automatic acceleration and retardation; slow speed control of main motor for man hoisting; an emergency switch at the ground landing for stopping the hoist in case the engineer starts the hoist in the wrong direction when handling men; automatic stopping in case of power failure. After an emergency stop the brake lever must be placed in the "set" position and the controller brought to the "off" position before the brake can be released.

The power costs at the Old Ben mines include the cost of purchased power, maintenance of transmission system, losses in transmission system, maintenance of transformer and converter stations, and switchboard attendance. When steam was used the boiler room labor and maintenance, fuel supplied, the piping system maintenance, engine and generator maintenance, and switchboard attendance were included. The switchboard attendant was usually the oiler for the engines.

While the plant at the No. 14 mine has been in operation only a few months, the indications are that the annual saving in power costs will be more than \$50,000. An important part of this saving is due to the possible reduction of idle day costs with electric operation. The curves in Fig. 4 show how the power cost per ton varies with the number of days worked per month, or the running time. These curves compare a typical steam operated mine, with an electrically operated mine. The records are given for a period of thirteen months, from

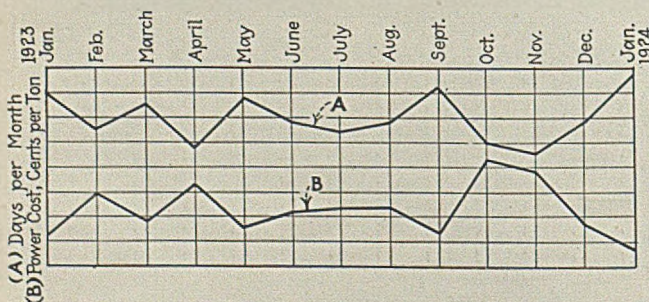


Fig. 4—Steam Operated Mine Increases Costs

Power costs per ton mount to high figures when output of mine is low. Curve A shows the number of days operated per month. Curve B shows power costs per ton.

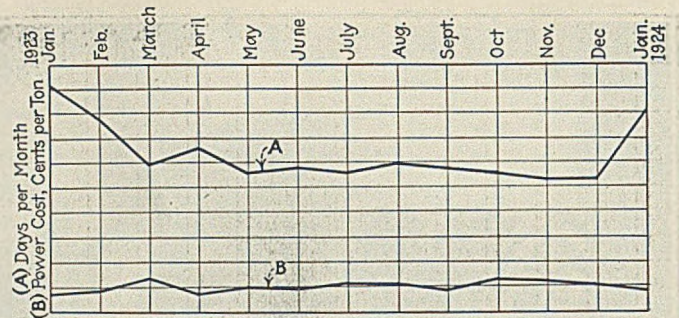


Fig. 5—Electric Operation Reduces Costs

Costs for electrical energy remain about the same even though the number of days operated per month vary between wide limits. The number of days operated per month are shown by curve A. Note how straight is curve B, representing power costs per ton.

January, 1923 to January, 1924 inclusive. The same vertical scale is used in both illustrations.

It must be understood that these curves may not apply to every mine. For instance, where pumping or ventilating is the major part of the load, the idle day costs will vary more than shown. On the other hand, if pumping and ventilating is less than at the mines illustrated, the curve should vary less. But the important fact clearly stands out, that with electric operation the idle day costs can be kept under better control than with steam driven equipment. There are no boilers and steam engines that must be repaired on idle days or nights. Our experience shows the electric hoist requires less repairs and less "time out" in regular daily operation, than steam hoisting equipment.

Experiments May Aid Indiana Coal

A thorough series of investigations and experiments with Indiana coal have been started by the engineering experiment station of Purdue University, the results of which are expected to prove of great value to users of Indiana coal. The work is being carried on under the direction of Dr. A. A. Potter, dean of engineering and director of the Purdue engineering experiment station. The following are actively engaged: Prof. A. W. Cole, Prof. J. L. Bray, W. E. Gray and J. P. Walstead.

Particular attention is being given to the steaming qualities of the coal. Boiler tests are being made at various industries using a variety of firing methods, including mechanical stoking, and all types of furnaces. Representative samples of Indiana coal are being taken from Indiana concerns and are being analyzed chemically. Professor Bray, a mining specialist with over ten years of experience with North and South American coal products, is making a critical study of mine methods used with a view of giving to mine owners the benefit of his long experience.

The investigation is entirely a fact-finding process and no opinion will enter into the investigations. Coal from practically every mining district in the state is being used, and it is the aim of those in charge of the work to set forth what can be expected from Indiana coal for steam generation. It is hoped that the results of the work may be published as a bulletin of the engineering experiment station. The Purdue men feel that Indiana coal compares favorably with the product of other middle western states, but that it is a question of proper furnace design and engineering knowledge that must be solved to utilize the Indiana product most efficiently.

Operating Records Aid in Designing New Layouts

By O. E. Kenworthy

Field Electrical Engineer, Lehigh Valley Coal Co.,
Wilkes-Barre, Pa.

MANY LARGE POWER companies today have in their files records of the performance of practically every piece of electrical equipment in their service. Together with this they have cost and maintenance data with depreciation rates charged against each piece of electrical apparatus. Such records tell at a glance the value of each class of equipment.

Wide-awake manufacturing companies who have to depend largely on the continuous operation of their machinery keep constant records of the performance of all their equipment. These data include, primarily, a study of the main driving units or the real "works" of the apparatus. The records these companies obtain are their experiences. When the time comes for expansion of their plants the engineers in charge are able to cope with the problems easily and can make proper decisions relative to the exact equipment necessary to handle the job.

The keeping of such records and the compiling of statistics of the cost, maintenance and depreciation of electrical apparatus is just as important to these companies as the cost accounting done on the materials which they manufacture.

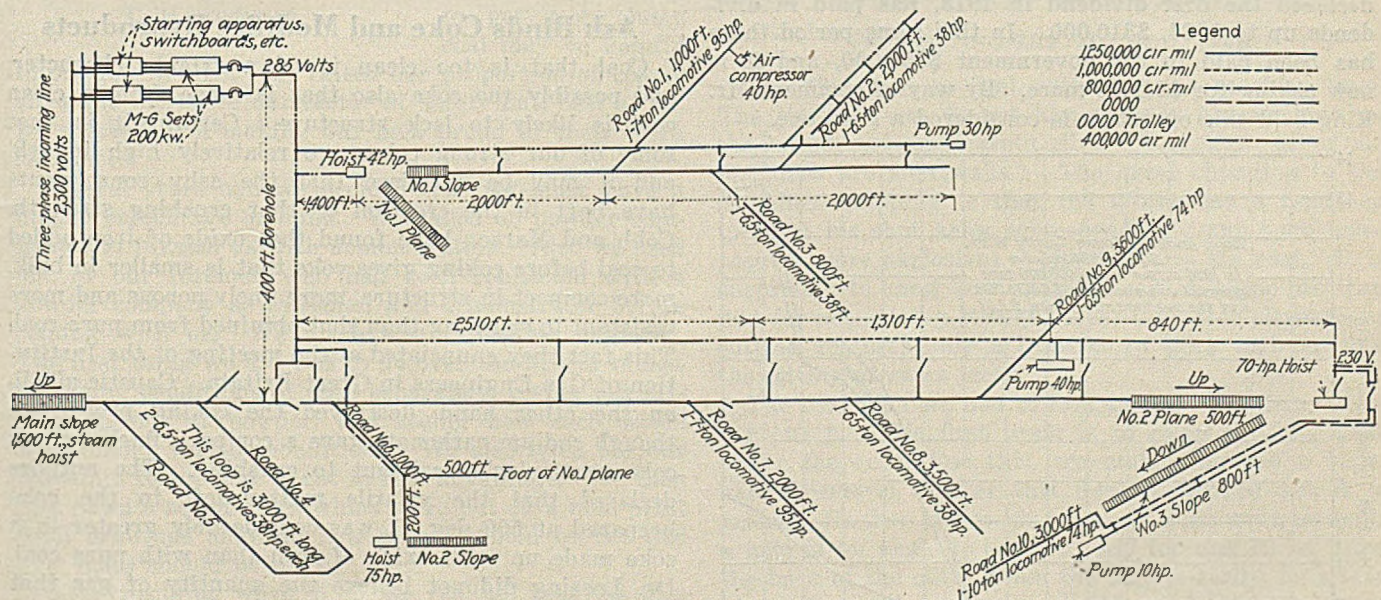
With this in mind let us turn to the coal mining companies. In the application of electricity to mining much thought has been given to the design of equipment for the service to which it is applied. Some valuable data have been collected and compiled in convenient form for the use of electrical engineers, and others connected with coal companies, relative to the operation of practically every type and make of mine locomotive, pump, fan, hoist, motor, coal cutter and electrical control apparatus in general. However, in most cases this information has been gathered by the manufacturers of the equipment. Due to the belief that mining is, in a

general sense, a hazardous occupation, much electrical equipment has been installed in what might be termed a haphazard manner, with the belief that anything "gets by" in the mines. One must not, however, take the latter statement too seriously, for every mining enterprise has its own problems and individual solutions.

However, the following may be said with impunity: The application of electricity to mining is becoming of such importance and magnitude that it behooves electrical men in the mining field to make a careful study of their conditions. They should record whatever information is obtainable in such a manner that when necessity arises the figures so compiled readily can be used in not only estimating new work but in showing up the proportionate cost per ton of the operation and maintenance of different pieces of electrical equipment.

As an example of what may be done, let us consider the matter of feeders for haulage purposes inside the mine. In installing new equipment to electrify a haulage road, most engineers, I believe, will figure the requirements from a purely engineering standpoint or by good use of their memory install equipment similar to some other installation assumed to be giving satisfactory service. The difficulty with this is that due to uncertain conditions, pure engineering is not always applicable nor is a good memory always sufficient. Feeders may be installed that are too large, thereby increasing the initial cost; or they may be too small, increasing the copper loss. Also, the generating equipment may be of such capacity that for the diversity factor obtained more money is expended for such machinery than is really necessary.

Following along this line of thought I have in mind an installation of this kind that is worth while con-

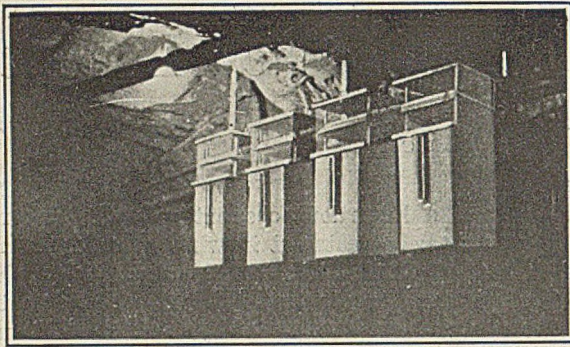


Feeder and Trolley Layout of a Mine Having a Large Connected Load Shows How Distribution and Load Factors Make Possible the Use of Smaller Feeders

Rarely, if ever, do all the motors in a mine draw full load current from the generators at the same time. This especially

is true when large numbers of locomotives are used. Peak loads sometimes come on the lines in relays which indicate the move-

ment of large trains of cars periodically started and transported to the mine opening or shaft.



Automatic Circuit Breakers Function in the Most Advantageous Locations

No one thing has contributed more to the efficient and successful operation of mine feeder and trolley systems than automatically controlled circuit breakers. Their use has, in most instances, increased the load factor of circuits and machines, thus enabling each piece of apparatus to work full time and cut costs.

sidering. At one of our mines two motor-generator sets, each of 200 kw. capacity and 275 volts are installed. From the substation the feeder drops down a 400-ft. borehole within 20 ft. of the building. From the foot of the borehole the cable continues for a distance of 3,670 ft. along the main gangway. For a distance of 2,510 ft. from the foot of the borehole this feeder is a 1,250,000 circ.mil rubber-covered wire. For 1,310 ft. it is 1,000,000 circ.mil rubber-covered wire and for 840 ft. it is a 500,000 circ.mil cable. Taps are made into the trolley at various points along this feeder and at other places branch feeders run off to

hoists and pumps. The accompanying drawing shows diagrammatically the layout of the feeder system at this colliery. The diagram by no means attempts to show the relation of roads or gangways or the location of equipment but is purely a schematic arrangement.

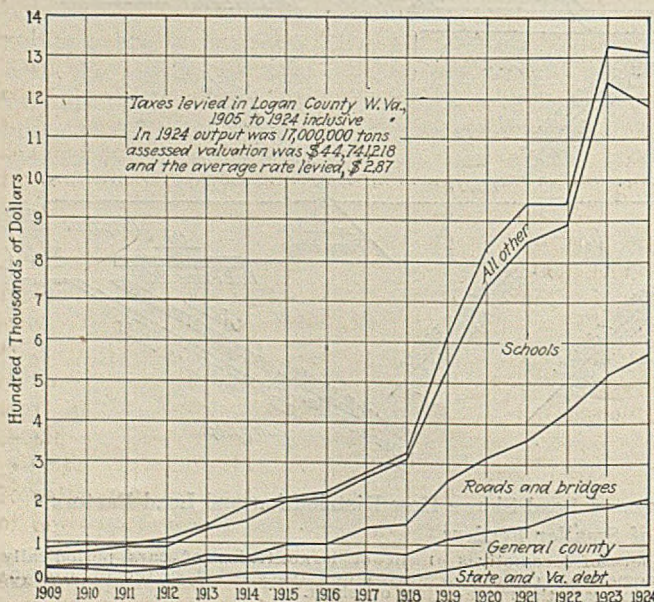
From the diagram it can be seen that there is a 662-hp. connected load consisting of locomotives and 187 hp. of hoist loads. A few pumps also are shown but adding a number of small dip pumps the total connected horsepower for pumps is 222. There is also one air compressor of 40 hp. capacity. This makes a total connected horsepower load of 1,111 or a possible full load current of about 3,500 amp. The main circuit breaker in the substation is set at 1,900 amp. and each machine breaker is set at 1,000 amp. The normal load on the station is 1,500 amp. One can see the diversity factor is fairly high. Again, observation has proven that the cables installed here are satisfactory from several viewpoints. One is that the voltage is good throughout the mine. Another is that the temperature of the cables does not rise appreciably except at times of peak loads. Even then it is barely noticeable by touching them with the hand.

It seems to me that if every operation were laid out in this manner and suitable data collected, we would soon have reliable information compiled from which good estimates could be made for new or additional applications. It is merely the purpose of these remarks to point out what can be done along such lines and show how practical operating results must be considered when using engineering theory.

Taxes in Logan County, W. Va., Are Sore Problem to Coal Men

Speaking on taxation at a recent luncheon of the Huntington chapter of the American Association of Engineers, A. J. King, president of the Aracoma Coal Co. and associated companies, made public some figures which typify the burden of taxation on coal mines. He said one operation, opened in 1911, and which declared the first dividend in 1913, has paid in dividends up to 1924, \$310,000. In this same period there has been paid to the government \$359,000, and it is now asking for \$24,000 more. By way of comment Mr. King said this operation is considered a good one.

Another mine, opened in 1917, has paid the stockholders \$120,000 in dividends and the government \$123,000 in taxes. From this mine the government is asking for \$24,000 more. A third mine, opened in 1914, has paid the stockholders \$5,000 and the government approximately \$43,000. The accompanying chart shows the proportional division of coal taxes for all Logan County, W. Va.



Ash Binds Coke and Modifies Byproducts

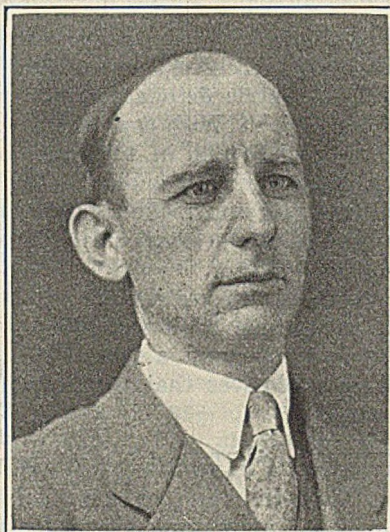
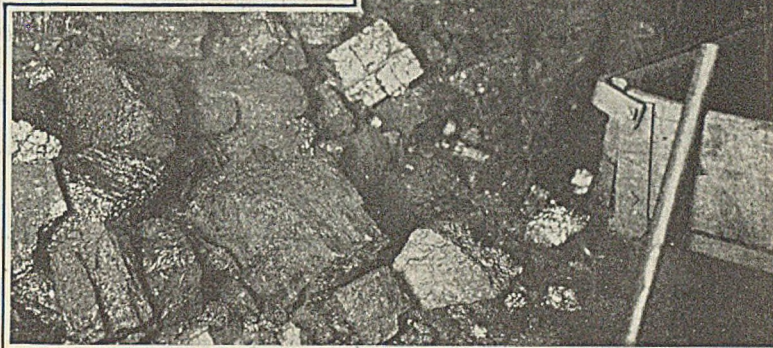
Coal that is too clean is of a friable character, and possibly the coke also that is made from a clean coal is likely to lack structure. Certain it is that some of our strong cokes are relatively high in ash, and it may be surmised that the ashy constituents have part in the creation of that crushing strength. Cobb and Marson have found that oxide of iron added to coal before coking gives coke that is smaller in bulk, more compact in structure, more finely porous and more resistant to crushing than that obtained from pure coal. This fact they enunciated at the meeting of the Institution of Gas Engineers in Great Britain. Caustic alkali, on the other hand, destroyed the coking properties, though sodium carbonate gave a compact, finely porous coke particularly resistant to crushing. The authors declared that the volatile matter left in the coke prepared at 500 deg. C. was considerably greater in a coke made up with oxide of iron than with pure coal. Dr. Lessing did not believe the quantity of gas that distillation of a coal would afford was affected by the percentage of ash, but the quantity of tar produced from the coal was influenced markedly, also the yield of byproducts, the kind of coke and the thermal value of the liquid products.

Company Educates Its Men To Cut and Shoot Better

New River Co. Gets More Lump,
Makes Mines Safer and Miners
Prouder of Their Workmanship
As Result of Better Methods

By C. P. Anderson

Chief Inspector, New River Co.,
Macdonald, W. Va.



C. P. Anderson

THE shooting and cutting of coal necessarily varies so widely in different seams and under different conditions that no set of rules can be laid down for all companies. However there are methods of encouraging proper shooting that can be applied anywhere. The experience of the New River Co. in conducting a campaign among its men for better shooting to get more lump coal may be helpful

to others. We not only raised our proportion of coarse sizes and increased our factor of safety but, best of all, we succeeded in making our men proud of their work as miners.

Several years ago we decided that we must have a bigger percentage of lump. We called on powder companies to furnish us with demonstrators. Also we used one of our foremen who had been connected with a powder company as salesman and demonstrator before coming with us. We made him explosives engineer. The first thing we did was to go over the fifteen mines, analyzing conditions of each separately, trying out different kinds of powder, and seeing how each would work under various conditions. We also tried out our machines to see how to cut to best advantage. We then laid down a set of rules which were put on a blue print with drawings showing how places should be cut and how holes should be placed.

After deciding what to do, we realized that the idea must be sold to our officials. So, after staying at a mine all day, we had meetings of the mine officials at

night explaining to them the necessity of obtaining lump. We discussed all the mistakes we had found in the practice at this particular mine. We furnished each of the officials with a blue print. These loyal men went out with the determination to improve the quality of the coal from their mines.

The next thing was to sell the idea to the machine men, miners and all other employees. In addition to showing them in the mine what to do, we called meetings of the employees and explained the necessity of more lump, going into the details of our rules and asking the men to state their views. At these meetings we picked up quite a lot of information and absolutely sold the idea to the employees.

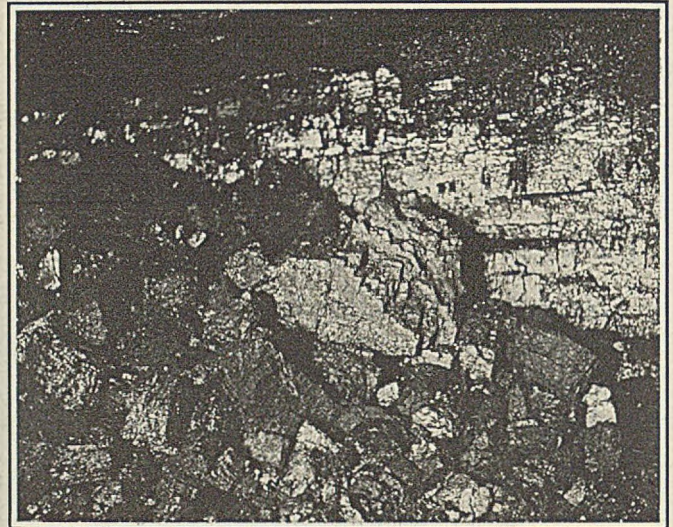
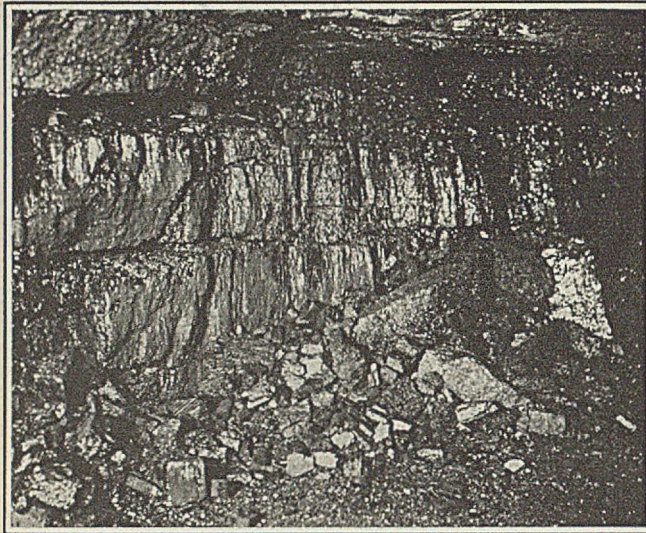
Some of the bad practices we had found were: Machine men cutting off the bottom and gripping ribs; miners shooting with no system, using an over supply of powder and not cleaning bug dust from under cuts; improper tamping, and disregard of safety rules.

INSTRUCTING THE MACHINE MAN

The first man to deal with was the machine man. The struggle was to get him to keep his machine on the bottom and cut straight ribs. (Practically all of our machines are shortwalls.) The great objection to the machines gripping is that the miner has a tendency to point his shot holes correspondingly and such holes require more explosives. This shatters the coal. It is surprising to know how many excuses machine men can find for not cutting straight ribs; but after all straight cutting requires only a little more work and possibly the setting of extra jacks.

The next man we had to look to was the miner. Under our plan his first work is to clean the bug dust under the cut. For this, we make him use a long-handled shovel. After this dust is cleaned out it is loaded. He then places his holes. In wide work he drills a hole at an angle to both rib and top and 12 in. from the back of the cut. When the hole is ready, he places his shot. As he uses permissible explosives and electric detonators, the detonator is placed in the center of the charge and the full charge of powder is moved to the back of the hole.

Dummies are filled with clay. The first two are



Here Are Some of the Results of the New River Co.'s Campaign for Better Mining

On the left is a coal face that has just been "busted" with a breaker shot. In all narrow work one of the rib shots, drilled in straight and 12 in. from the rib, must be fired as a breaker shot. In this illustration is shown the coal after this shot has been fired. On the right is the same coal face after the coal has been pulled down following the rib shot.

pushed in easily and the next are tamped firmly to the mouth. This is done in order to get as much air spacing as possible. After this shot has been fired, the miner must load all coal out, then clean dust or coal from under the ribs and shoot one shot at a time. All rib holes must be drilled straight, 12 in. from the rib and 9 in. from the back of the cut. In narrow work, one rib shot is used as a "breaker."

In starting on this work we used 1½x8 in. powder and bore holes 1½ in. in diameter. In order to get more air space we increased the size of the auger bit to 2 in. Later, we cut down the size of the cartridge to 1½x8 in. After we had used this for a while we decided that miners were using more powder than was necessary. We then cut the size of the cartridge down to 1x8 in. This is the size we are now using. By standardizing on 2-in. bore holes and 1-in. powder we have reduced the amount of explosives and increased the amount of air space.

It is often said that miners will always put too many sticks in a hole. We are convinced that even if they use more explosive than is called for under the rules, it will increase the air space and give us lump coal just the same. By doing this we are able to control the air spacing by having the blacksmith control the size of the auger bit and by furnishing miners powder cartridges of the size we want them to use.

The next question is how to keep check on whether our rules are being carried out. We have daily reports showing the percentage of coal we are getting and at the end of each month we take the actual weight of railroad cars and figure monthly percentages. The officials of each mine are held responsible for the showing their mine makes. Our explosives engineer makes trips to the various mines, seeing that rules are complied with and he makes a written report on each mine. It is well to mention here that we have had reports from different mines where there were *no violations* of our rules. In addition to making his report, he talks to all the miners and officials, showing them what should be done and trying to keep everybody interested in the quality of our coal.

Some of our mines are non-gaseous, but we do all shooting with electric detonators and make miners use

cables 100 ft. long. There are two reasons for using electric detonators. Safety is increased and we believe that because of the cost of electric detonators, miners will make each shot do its full job. With caps and fuse, we found miners were inclined to put in a number of pop shots which resulted in a very poor quality of coal. We furnish clay for all tamping and make miners use wooden boxes for carrying detonators and fiber canisters for powder.

The results we have obtained are gratifying. Today we are getting a good percentage of lump. Also we have a well-trained force of men and a record of so few accidents in handling explosives that we feel our efforts have not been in vain.

MUST OVERCOME SKEPTICISM

Starting a program of this kind is like introducing anything else that is new. Miners are skeptical and must be shown that it means money to them to get a better product which results in better running time, and they must be shown that old methods must be done away with and up-to-date methods used. The thing that makes me feel best about our program is this: When I take anyone to the mines to show them our coal, all of our miners try to show how much pains they take to prepare their coal. They are getting proud of their work.

The trouble with most operators is that when times are good they forget this phase of the business, but when times are hard, they worry their men. Lump cannot be obtained this way. The need must be kept before the miners day after day and year after year, in good times as well as in bad. And above all, company officials must stand squarely behind the men charged with the duty of running this day-in-and-day-out program, just as they have done in our company.

Creosote May Make Mine Cars Last Longer

Finding that the wood in mine cars is affected by dry rot when the cars are left idle, the Hillman Coal & Coke Co. is treating such wood with a preservative fluid of the creosote type with the hope of effecting a considerable saving.

Miners Smash Anthracite Negotiations

By Sydney A. Hale

Special Contributor, *Coal Age*
New York City

Atlantic City, N. J., Aug. 4—The anthracite wage conference broke up today. Adjournment sine die was taken because the operators declined to reconstruct their sub-scale committee to suit the wishes of the miners. President John L. Lewis last Friday in a letter to S. D. Warriner, chairman of the Anthracite Operators' Conference, demanded that Mr. Warriner and S. J. Richards, veterans of former years of negotiations, assume seats on the sub-scale committee on the ground that the existing committee was made up of "supernumeraries" who had power to agree to reductions in wages but nothing else. Mr. Warriner on Monday insisted the operators' representatives were clothed with full power and declined to meet Mr. Lewis' demand.

In a long statement Lewis asserted the operators wanted to reduce wages in order to increase profits and accused them of blocking every constructive suggestion to cut the cost of coal to the consumer. He said the operators' refusal to join the miners in asking the Interstate Commerce Commission to start another freight rate investigation bolstered up the charge. He attacked the operators for not submitting statements of administrative expenses when the miners demanded them. He renewed his charge that the operators will profit largely by a strike in spite of their claims that prices will not be increased at mines and said the public is already paying through the nose in higher prices since Aug. 1.

Lewis said the miners object to arbitration because "we have had previous experience with arbitration with operators. The anthracite mine workers have lost \$60,000,000 a year in wages over a period of two years to acquire the knowledge they now have concerning the anthracite operators' well known policy of keeping close to the arbitrators."

After Mr. Lewis had finished his letter which closed with the declaration that the miners "are of the judgment that it is utterly futile to continue further these scale negotiations" the operators present retired for a private conference.

When they returned to the committee room they asked Mr. Lewis this question: "Are we to understand from your letter that in view of our opposition to an increase in wages and the check-off you refuse to continue negotiations?" The miners finally admitted that that was their position.

The operators then asked whether in view of that answer the miners were willing to submit the matters in dispute to arbitration. In reply the miners referred them to Mr. Lewis' letter. The adjournment of the joint subcommittee sine die followed on motion of the miners.

The next step is a matter of speculation. Washington or Harrisburg may seek to bring the joint committee together again. Although no statement of any kind has been made by the operators it is known that any proposal to have Governor Pinchot again intervene as he did in 1923 would meet with their violent opposition.

The July 28 session opened with an attack upon the advertising campaign inaugurated by the operators to tell the public that a suspension Sept. 1 was indefensible

because the producers were ready to arbitrate if direct negotiations failed. The miners seemed to assume that the "gigantic sums" so expended ought to be applied to wage increases. Operators declared the advertising costs would represent less than 10c. a year on the pay envelope of each worker in the mines. They said the expenses would not be a tax upon production cost but upon profits and represented far less than the loss due to a single day's suspension.

The miners wanted to know all the items entering into the cost of production and what these items meant in percentages and in actual dollars and cents. The operators' statement that the miners' demands, if granted, would increase the price of domestic coal at the mines \$2 per ton did not set well with the union members of the committee, although the figure was not directly challenged.

After further inclusive discussion on arbitration and the restriction of output, the subcommittee began a consideration of demand No. 3, which was not laid aside until Thursday. This demand in part reads as follows:

We demand uniformity and equalization of all day rates and that the consideration rate of each colliery shall be equivalent to the average daily earnings of contract miners under normal conditions and that for deadwork performed by the contract miner he shall be paid this consideration rate; and that skilled mechanics, such as carpenters, blacksmiths, etc., shall be paid the recognized standard rates existing in the region; and that engineers and pumpmen who do repair work on their engines and pumps shall be paid the recognized mechanics' rates for this repair work; that first-class hoisting engineers shall be paid a more substantial rate of wages in keeping with the responsibilities and nature of the work; and that all daymen shall be paid time and one-half for overtime and double time for Sundays and holidays.

Although the question of uniformity has been before the operators and the miners for several years, no definite action has ever been taken. The old rates upon which the 1903 award was based were the fruits of independent, individual bargaining between employer and employee. Each succeeding adjustment has added flat or percentage increases to those rates. As a result of this crystallization, twenty-three collieries in the Lehigh district, for example, pay thirty-seven different hourly rates ranging from 58.7 to 75c. per hour to carpenters; twenty-four collieries pay twenty-one rates ranging from 57.7 to 75.6c. per hour to trackmen.

In their demand for equalization and uniformity the miners have lifted the so-called skilled workmen in crafts not peculiar to coal mining out of the general group of day workers and insist that these special classes receive the same hourly rates as are paid to craftsmen in the same line in outside industries in the region. Taking carpenters as typical of these special groups, the miners assert that the carpenter in the building trades earns as much in 200 days as the mine carpenter does in 300 days.

The operators answer that the mine carpenter enjoys continuous employment; the outside carpenter, intermittent work. They cite the fact that in the fall and the winter these outside carpenters receiving an hourly rate approximately 50 per cent higher in the building trades apply for work at the mines despite the disparity in hourly rates. The miners take issue on the claim of intermittency, contending that the outside carpenter enjoys practically full-time employment.

In explaining their position with respect to equalized rates for day labor peculiar to the coal industry spokesmen for the miners say they are limiting their demand to uniformity in rates for the same class of labor in the same colliery. In other words, at this stage they are not attacking, for example, the fact that sixty-five collieries in the Northern district have fifty-two different rates for jig runners or that twenty-seven mines in the Southern district have thirty rates for stablemen and eighteen operations in the Middle field show sixteen different rates for tracklayers. What they are attacking is the existence of two or more rates for ostensibly the same class of labor in the same colliery. That these variations, where they may exist, represent relative skill is a possibility not considered.

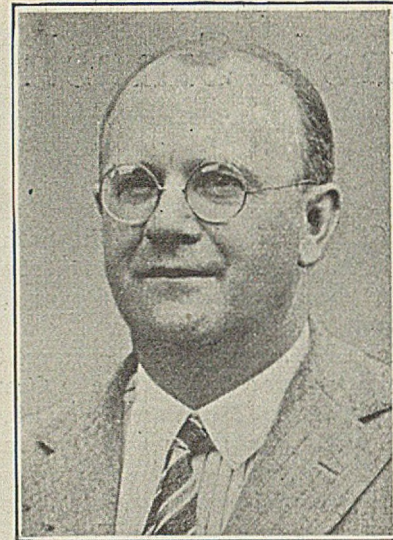
The miners' idea of the solution of the situation is to raise all the rates for the same class of labor to the highest rate paid for that work by the individual operation involved. Each separate colliery, as distinguished from each separate operating company, is the unit upon which they propose to work.

Consideration of this demand is complicated at the outset by a dispute as to the responsibility for the failure to bring this question to a head before this time. The demand itself is not new. In 1920 the miners asked that "a uniform wage scale be established so that the various occupations of like character at the several collieries shall command the same wage."

The Anthracite Coal Commission directed that the Board of Conciliation make a study of the situation and report to the joint conference not later than March 31, 1922, when the contract based on the Commission award expired. This study has never been made because all the rate sheets of the individual collieries have not been filed with the Board. The miners allege that the operators are to blame for this. The operators heatedly retort that the refusal of certain local unions to join with them in certifying rate sheets made filing impossible. This, in turn, spokesmen for the union deny, and add that they are weary of the interminable delay and will demand that the equalization be written into the new agreement and not, as in the past, be left as a subject for future study and report.

The section of demand No. 3 covering payment for deadwork performed by contract miners and extra pay for overtime and Sundays and holidays renew demands rejected in previous negotiations. The principle that "rates paid for an employee's principal occupation should obtain when, for any reason, he is occupied temporarily in another kind of employment" was held to be unsound by the Anthracite Coal Commission in 1920. The award that year dismissed the miners' arguments with the declaration that "no adequate reason has been presented why the rate prevailing for any type of work should not govern in the case of all persons engaged in that work."

A similar fate overtook the demand for punitive overtime. The Commission held that there are certain necessary services in connection with the operation of the anthracite industry which could not be covered by the basic eight-hour day and that this fact had been recognized in the agreements entered into whereby employees who work a longer day are paid the usual rates for overtime. The rejection of this demand at that time provoked a bitter protest from Commissioner Ferry, the Mine Workers' representative, who maintained that it was only the inadequacy of the regular



J. B. Warriner

Member of the Operators' Subcommittee in Anthracite Wage Conference.

rates which made men willing to work longer hours. The 12-hour day, criticized by the 1920 Commission and condemned by the U. S. Coal Commission in 1923, has since been abolished. Only a very small percentage of the total employees came under its provisions.

The demand for double time on Sundays and holidays was rejected in 1920 on the same general line of reasoning—the necessity of continuous operation. For over 20 years, however, provision has been made for the relief of workers in seven-day occupations and that arrangement was taken into consideration by the 1920 Commission.

The miners also brought up that part of their demand No. 3 which calls for the establishment of a five-day week. This demand is a heritage of the nationalization movement which threatened to engulf the United Mine Workers' organization during the brief régime of Frank J. Hayes. A five-day, 30-hour week was one of the demands made in 1920, but it was quietly dropped before the miners' case was presented before the Anthracite Coal Commission.

Union spokesmen at Atlantic City asserted the five-day week would lessen the strain on the workers and reduce accidents. At the same time they disclaim any intention of opposing overtime hours at punitive rates "in emergencies." The operators, of course, object to an agreement that would prevent steady production, except at a premium, during periods of brisk demand. In view of the readiness with which conservative leaders of the union have shelved demands of this type in the past, it is not reasonable to anticipate any last-ditch fight by them for this particular section of their program.

On Thursday the subcommittee, temporarily at least, began and concluded its deliberations on demand No. 4 and started to canvass the situation on demand No. 5. Demand No. 4 asks, first, the substitution of the per ton for the per car basis of payment; second, the fixing by mine committees and colliery officials of the permissible percentage of refuse per car, and, third, the abolition of "the present unreasonable penalties and dockages."

At the present time, between twenty and twenty-five collieries out of the 300 operations in the region pay

upon a tonnage basis. The payment in these cases is upon the so-called miner's ton, which ranges from 3,100 to 3,900 lb. The miners assert that this ton was established in the days before there was a market for the small sizes and that, therefore, it covered not only the refuse but the unmerchantable small coal which went to the culm banks. Now, they argue, the juniors from pea down are sold by the operators and it is only fair that the workers be compensated. Based upon this theory, they feel that their demand that the miner receive the same pay for 2,240 lb. as he now gets for the miner's ton is quite reasonable.

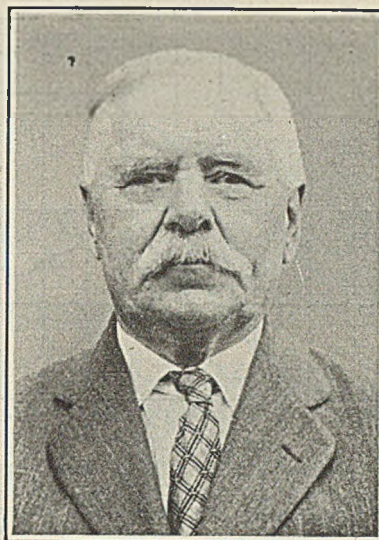
The operators, however, contradict this version of the origin of the miner's ton. When those bases were being established, they say, the underground worker raked the coal he had brought down with a rake with tines placed 2 in. apart. Coal passing between the tines was not loaded. The payment made, therefore, was for the large coal; the fines went to the gob piles. Any fines going to culm banks were the product of degradation in the breakers. In other words, the system of operation and payment was suggestive of the old lump-coal basis formerly prevailing in the bituminous fields.

Now the miner or his laborer loads all the coal brought down and is paid for it, so that the operators consider the miners' explanation at variance with the facts and their argument without merit. To grant the same rate for loading a gross ton as is now paid for loading a miner's ton, plus the 10 per cent increase asked for contract workers, would mean increasing the labor cost in cars at the face 54 per cent where the miner's ton is 3,136 lb. and still more where that ton is greater.

This demand has been pressed in one form or another since 1902 and has never been granted either by the operators or by government commissions. To the man in the street a ton different from the familiar gross and net tons of his experience is hard to understand. It seems an arbitrary basis to adopt—and it is an arbitrary basis. But, as the Roosevelt Anthracite Strike Commission pointed out, the adoption of any unit of measuring compensation, whether it be a ton, a car or a yard, is necessarily arbitrary. It is a natural assumption, however, that when rates were first fixed upon the basis of a miner's ton, they were fixed at a higher point in dollars and cents than would have been the case had the basis then adopted to measure compensation been a gross ton.

In the arguments in support of their position the miners also brought in the question of topping. They contended that much of the 6-in. square topping which the operators demand is lost during the course of underground haulage. The statement was made by one of the district presidents that the equivalent of between 300 and 900 cars were so lost every half-month in some collieries and that company loaders later went through and loaded such coal found in the haulageways. It was claimed that if payment was upon a weight instead of a car basis, topping would not be demanded. The only exception that the miners would make to the demand for the extension of the tonnage system of payment was in the case of work in steep pitching veins, where, it was conceded, the yardage basis was the only satisfactory method.

The operators did not deny directly that the tonnage reloaded from haulageways might run as large as charged by the miners. Their answer was that much of this loss could be avoided if the miners would load



Thomas Thomas

Member of the Operators' Subcommittee in Wage Negotiations at Atlantic City.

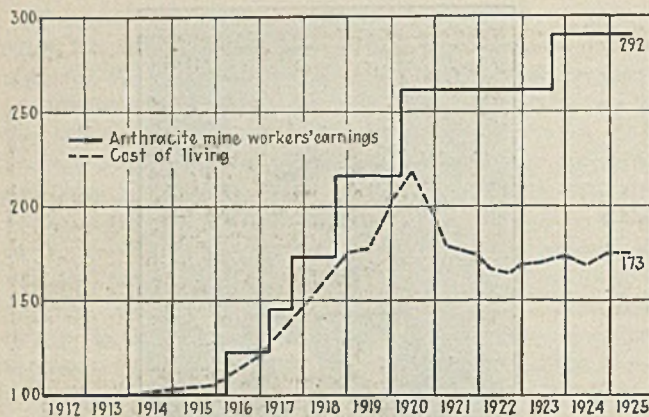
and top their cars properly and pointed to the fact that in collieries where payment was on the ton basis cars were topped much more heavily and in such a manner that there was little or no spillage. In cases where the loss is due to the wreck of a trip or to a single car jumping the track, the miner, they said, does not suffer because he is given credit for a full load on such cars by the check weighmen. Instead of regarding the coal reloaded by company men in the roadways as so much "velvet," the cost, plus the price already paid to the contract miner, often exceeds the value of the coal.

The operators also took sharp issue with the demand of the miners for the abolition of existing systems of penalties and dockage and the institution of agreed permissible maxima of refuse at each colliery. The miners alleged that, under the present system, they are the victims of arbitrary dockage and penalties. The operators answered that ample protection against injustice is afforded the workers through the mine grievance committees and the Board of Conciliation. The producers construe the agreement with the men to call for the loading of clean coal. At the same time they recognize that some seams run higher in impurities than others and say they take this into account in deciding what constitutes "clean" coal. But to fix permissible maxima of refuse would, in their opinion, simply invite the loading of dirty coal.

Demand No. 5 calls for:

.....payment for all sheet iron, props, timber, forepoling, extra and abnormal shoveling where such is not now paid for; and that the same full rates shall be paid for skipping as for splitting pillars, both advancing and retreating; advanced openings driven for development purposes shall be paid for on the proper basis covering such work; that in thin veins, where the pitch is not sufficient to carry the coal on the bottom, the distance of the working places shall not exceed 150 ft.

The first clause quoted is practically a repetition of a demand denied by the 1920 Commission. The basis for this demand is found in the fact that in some cases compensation for setting up props, etc., is included in the car or yardage rate and in others these items are paid for separately. The wording of the demand suggests that this extra labor is not always paid for, but that such is the case the employers specifically deny. As they understand the miners' position, the workers would not be satisfied with splitting up the car or yardage rates which cover these extra demands into separate items, but are seeking to have extra compensation added on to such car or yardage rates.



Do Anthracite Miners Need More Pay?

This chart traces the steady rise of wages and the variations of the cost of living, taking 1912 as a base. Miners' representatives have persistently held that a wage reduction would lower the standard of living.

In other words, every one of these so-called minor demands of technical character would, if granted, add to the cost of production. It is estimated that the "minor" demands so far considered would add \$1 per ton to the cost of coal.

Conclusion of the consideration of demand No. 5 and a discussion of demand No. 6 absorbed the time of the subcommittee on Friday. The debates centered around free jack hammers and air, free electric lamps and batteries for shot-firing and the establishment of uniform minimum rates of 20c. per inch for refuse in all kinds of mining up to 10 ft. wide, and 30c. per inch for blasting top and bottom rock. A demand for a minimum of 17c. per inch on refuse was denied by the Anthracite Coal Commission in 1920 and that body also refused to entertain the plea that the operators should supply free tools to company men.

The spokesmen for the miners claimed that present rates for refuse range from 11c. up and that blasting rates range from 12 to 30c. They attacked the absence of a fixed minimum as unfair to the men and argued for the abolition of the allowance system. To grant these demands, declared Major Inglis, "would add, at a conservative estimate, \$30,000,000 a year to production costs, this sum to be distributed among about one-third of our employees, or about \$650 a year apiece. This would be added to present rates which already fully compensate these workers."

In discussing the demand for jack hammers, the miners asserted that these machines were coming into more general use and enabled the companies to work places that could not be worked successfully under old methods of mining. The initial cost of the jack hammer was placed at \$200 and the upkeep at approximately \$10 per month. The cost of the compressed air to operate the machines was estimated at 5 per cent of the gross earnings of the miners using the hammers. The employers answered that less than 5 per cent of their workers used the jack hammers and that the adjustment of wage rates took into account the long established practice under which the miners supplied his own tools. Electric shot-firing in certain places, they pointed out, had been required by law as a safety measure and they could not be held responsible for the cost.

The first rumblings of the storm which threatened to

break up the negotiations came on Friday with a brief statement from President Lewis of the United Mine Workers, who had returned to Atlantic City the previous night after having absented himself from all meetings of the subcommittee except the first one held July 10. Mr. Lewis signaled his return with the announcement that "it is regrettable that no progress of any character has been made by the conference. The operators occupy their time with denying everything and yielding nothing. They continue to mouth their ancient phrases about wage reductions and arbitration."

"When the miners' representatives come into conference with demands that would add about \$100,000,000 a year to the cost of production, while every competitive and economic condition demands a decrease in cost," retorted Major Inglis for the operators, "it naturally requires some time to bring the discussion within the realms of reason. Any delay that has taken place is solely due to the deliberation with which the miners' representatives presented their case in the earlier sessions and the irrelevant matters introduced by them. The delay is certainly not due to us since the miners, as plaintiffs in the case, have had the floor since negotiations began.

"As to the substance of Mr. Lewis' statement, he apparently thinks that the only way of arriving at a settlement is to concede demands, however unreasonable they may be. As to the tone of his statement, it may be considered as part of a plan to aggravate, rather than harmonize, the situation."

Mr. Lewis' next move was to write a letter to S. D. Warriner demanding that Mr. Warriner and W. J. Richards sit in with members of the subcommittee on Aug. 4. The letter took up the strain that the miners' camp has been singing for a month—that the committee of operators at Atlantic City were "second string" men without power to act. Mr. Lewis wrote that if Messrs. Warriner and Richards indorsed the position of the subcommittee "it would the more quickly enable the Mine Workers' representatives to effectuate a discontinuance of the farce."

On Monday of this week Mr. Warriner, as chairman of the Anthracite Operators' Conference wrote Mr. Lewis refusing to change the personnel of the operators' committee at Atlantic City. He said that the present personnel is clothed with full power and is in no way delaying possible progress toward a peaceful settlement. The members are of the same status in the industry as Mr. Warriner and Mr. Richards were when they began their long terms as negotiators of contracts years ago.

Mr. Warriner refuted Lewis' claim that operators are trying to bring about a strike. He called Lewis' attention to the operators' proposal at the beginning of negotiations, July 9, that both sides agree there shall be no stoppage of production Sept. 1. Mr. Warriner renewed the operators' proposal that disputed points be referred to an arbitration board of "impartial persons."

He warned President Lewis that he is taking upon himself a "grave responsibility" if he insists upon breaking up the conference simply because Warriner and Richards do not join the sub-committee. The operators are not trying to dictate the personnel of the miners' committee, said Mr. Warriner, and they see no reason why the miners should dictate the operators' committee.



News Of the Industry

British Coal Strike Staved Off by Government Plan to Aid Operators Nine Months; Union Feels Victorious

The British coal miners' threatened strike, together with a proposed sympathetic general strike which might have paralyzed the nation, has been postponed and possibly prevented. The government averted the crisis at the last minute by agreeing on July 31 to guarantee financial assistance to the mine owners for nine months. In return for this the operators withdrew their wage-cutting notices from the pit-heads and union labor sent up a great shout of victory. The notices were to have been effective Aug. 1. A government commission is to be appointed at once to conduct a two-weeks investigation of the whole situation. There is a feeling of confidence in England that this commission will arrange an agreement between miners and operators to provide for a winter's work at present wages under the government subvention. Thus the black cloud over England appears to have been lifted.

The course of Prime Minister Baldwin in offering to subsidize the mine owners in order that British mines might operate and British coal might meet foreign competition is criticized bitterly in some quarters. Mr. Baldwin is said to have surrendered to the bludgeoning of union labor directed by bolshevist minds. It is pointed out, however, that the approximate £10,000,000 which the subvention may cost before next May 1 will be far less than the probable cost of doles to workless men who would be thrown out of jobs by the threatened strikes and that any course of the government that keeps the mines working would be less expensive than the industrial collapse which appeared imminent.

Under the last-minute plan, whenever wages to miners, calculated in accordance with the recognized division between wages and profits, would be lower than the present minimum scale, the deficiency is to be made up to the mine owners from the government exchequer. The exact cost of this deficiency, of course, is not calculable now, but the estimate of £10,000,000 is generally accepted. This, naturally, comes out of the pockets of the country's taxpayers. Newspapers are commenting on the effect that will be created if other struggling industries also demand government aid—from the taxpayer—as well.

The House of Commons on July 31 passed the unemployment bill which

amends the doles act originally passed under the administration of the MacDonald labor government. The amendment safeguards the doles fund in an effort to reduce the amount paid to the unworthy. The labor party strongly opposed the amendment, saying 70,000 men entitled to doles would be deprived of that aid now. The government expects to save £400,000 a year. A large share of the funds that have been paid out in doles has been going to jobless coal miners.

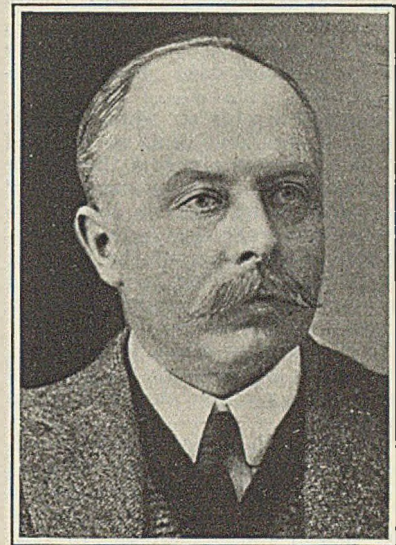
Coal Board to Compose Ruhr Coal Troubles

A commission will be created to pass on the difficulties between operators and the employees in the Ruhr coal field and a conference of the mine owners and miners will be summoned this week to determine measures for mitigating unemployment distress. This was decided after a long conference at the Ministry of Labor, July 28, between the representatives of the German Government and the spokesmen for the coal miners. The official communiqué failed to mention whether the miners can be persuaded to work an extra half hour daily, one of the most important points at issue.

From an authoritative quarter it is learned that the Reichsbank has offered to advance credits aggregating 15,000,000 marks a month to the head of the coal industry, though the mine owners ask 500,000,000 marks as the absolute minimum required to keep the industry afloat. Their normal monthly turnover, they point out, is 120,000,444 marks, of which nowadays they are not realizing more than about 60 per cent.

Coal and coke stocks in the Ruhr have accumulated to the unprecedented figure of about 9,000,000 metric tons. With coal selling at an average of about 15 marks a ton the value of stocks on hand is approximately 135,000,000 marks. These stocks the operators want the government to take over. Chancellor Luther, however, considers that they have painted the situation too darkly. He is understood to regard 200,000,000 marks as sufficient to tide over the present crisis.

As regards unemployment, it is stated that while only about 40,000 miners are out of work now, the numbers are bound to increase within three



© Keystone View Co.

Wm. Clive Bridgeman

First Lord of the Admiralty, who was named to act as mediator in the deadlock of British coal operators and miners that threatened to result in a strike before Premier Baldwin stepped in and saved the situation by extending to the operators a government subsidy for nine months.

months to 100,000, which means 500,000 persons dependent on charity for existence.

E. S. McCullough Tries to Form Pittsburgh Union

In its effort to get the miners of western Pennsylvania to organize a district independent union, the Pittsburgh Chamber of Commerce has employed E. S. McCullough as the "industrial aide" of the chamber's Citizens' Committee. McCullough, who spent most of his life in the service of the United Mine Workers, is 55 years old and for 40 years was either a miner or a labor official. In 1897 he was president of Sub-District 2 of the United Mine Workers in Ohio. Since then he has been president of the Michigan district and was international vice-president in 1909. He led the Meyersdale strike which ran from 1903 to 1905, and directed the 1910 strike in Nova Scotia.

He has established headquarters in Pittsburgh and is trying to line up the jobless miners of that territory to form a union which will make an agreement with the operators in order that the mines may operate. Only by this means can prosperity be returned to western Pennsylvania, in the opinion of the Chamber of Commerce.

Hammond Counsels Against Interference in Coal

By Paul Wooton

Washington Correspondent of *Coal Age*

"Since settlements reached by political pressure rarely possess elements of permanency and frequently are not economically sound, it is very much better to have these differences settled within the industry."

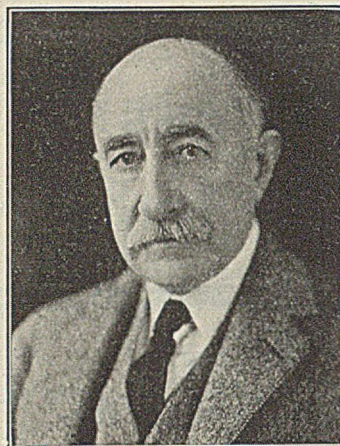
"The talk of a coal shortage bears the brand of manufactured stuff. There is a great deal of coal in storage. Even in New England little inconvenience would be experienced before mid-winter."

"I cannot conceive on what grounds a bituminous walkout could be justified since the union has signed a three-year agreement at the war-time wage scale."

These are quotations from John Hays Hammond, the renowned mining engineer who was chairman of the Harding Coal Commission. They are embodied in an interview with this correspondent, who was sent for the purpose by *Coal Age* to Gloucester, Mass., where Mr. Hammond has his summer home. This interview was given to the daily press at the time.

Mr. Hammond revealed that President Coolidge's position probably is "that it would be premature to assume that this dispute is not going to be settled within the industry." In that connection Mr. Hammond counseled: "The public should grant with patience every opportunity to the parties at interest to settle the controversy themselves." He also calls attention to the fact that "the attitude of the public influences profoundly such negotiations as those now in progress and it largely controls the state of the coal market. If the people become panic-stricken and bid up the price of coal they simply play into the hands of that small and selfish element that desires a strike."

"A suspension of anthracite produc-



John Hays Hammond

Mining engineer who formerly served as chairman of the Harding Coal Commission believes operators' and miners' differences should be settled within the industry.

tion would have to last many weeks before it would be felt seriously," said Mr. Hammond. "The strike of 1922 lasted five months, and even then the supply was 60 per cent of normal. Even in New England little inconvenience would be experienced before midwinter."

"All elements leading up to the suspension in 1923 were analyzed carefully by the Fact-Finding Coal Commission which was sitting at that time. As a member of the commission I have first-hand knowledge of what transpired during that comparable period. We discussed the various phases of the matter at great length, both with the operators and the leaders of the mine workers. The issues between the two parties were the same then as now. After careful and extended study the commission made its recommendations to President Coolidge as to how the controversy should be dealt with. Those recommendations apply equally well to the present situation, and the President is thoroughly familiar with them."

Hard-Coal Operators Advise On Combustion Problems

In addition to two traveling exhibits the purpose of which is to show consumers how to use all sizes of anthracite in the most economical way, the anthracite coal operators have inaugurated an engineering advisory corps known as Anthracite Coal Service. This corps is made up of combustion engineers whose experience and advice have been placed at the service of large purchasers of fuel for heat and power. Some of the problems they have already solved are the proper fuel for new buildings, better ways of using all sizes of anthracite in a dozen different industries and improved methods of stoking in several hundred different heat and power plants.

These combustion engineers are stationed in the following cities: New York (122 Greenwich St.); Philadelphia (Atlantic Building, 260 S. Broad St.); Boston (Chamber of Commerce Building); Washington (1415 I St. N. W.); Providence (Caesar Misch Building); Albany (250 Arkay Building) and Syracuse (208 Gridley Building). Their service is free to all who care to avail themselves of it.

James J. Storrow, of Boston, Mass., who was Federal Fuel Administrator for the New England States during the World War, was unanimously elected president of the Boy Scouts of America at the fifteenth annual meeting of the national council, held in New York recently. Mr. Storrow pledged his personal credit during the war, when immediate action was necessary to relieve the acute coal shortage in New England, and subsequently shipped and distributed at his personal risk more than a million tons of coal, a gross business exceeding \$10,000,000. He is a member of the banking firm of Lee, Higginson & Co., chairman of the board of the Nash Motors Co. and director in many corporations.

Byproduct Coke Output Off 9.6 per Cent in 1924

The quantity of coke produced at byproduct ovens in 1924, according to the Geological Survey, was 33,983,568 net tons, a decrease of 9.6 per cent as compared with the output of the preceding year. In addition to the large coke there were produced 2,950,810 tons of breeze. The quantity of coal charged into the ovens was 49,061,339 tons. The average yield per ton of coal charged was therefore 69.3 per cent of merchantable coke and 6 per cent of breeze.

AVERAGE YIELD OF COKE AND BYPRODUCTS PER NET TON OF COAL CHARGED IN BYPRODUCT OVENS IN THE UNITED STATES, 1915 AND 1924

Product	1915	1924
Coke, pounds.....	1,440	1,386
Tar, gallons.....	7.1	8.6
Ammonium sulphate (or equivalent) pounds.....	20.1	22.2
Light oil, gallons.....	1.5	2.9
Gas:		
Total, M cu.ft.....	11.0	11.0
Surplus sold or used, M cu.ft.....	4.3	6.1
Burned in coking process, M cu.ft.....	6.3	4.7
Wasted, M cu.ft.....	4	12

(a) Average for plants now recovering light oil.

Three-fourths of the total, or 24,524,000 tons, was used by the producer in affiliated blast furnaces or other operations. The sales amounted to 9,848,834 tons. Of the furnace coke sold, the greater part went to affiliated corporations. There were, however, merchant sales amounting to 1,591,000 tons. Sales of foundry coke were reported to be 1,554,000 tons, valued, at \$13,425,000; and sales of

domestic coke, 2,813,000 tons, valued \$20,063,000. For industrial and other uses than foundry, furnace, or domestic fuel the sales reported were 1,556,000 tons, with a value of \$11,855,000. These figures are subject to slight revision on receipt of further information by the Survey.

Coking operations in 1924 show increased yields in tar, light oil and ammonia.

BYPRODUCT COKE PRODUCED AND USED BY THE PRODUCER IN THE UNITED STATES IN 1924

State	Produced		Used by Producer in Blast Furnaces, etc.	
	Net Tons	Value	Net Tons	Value
Alabama.....	4,386,372	\$16,563,223	3,888,760	\$14,137,294
Colorado.....	523,405	(a)	505,846	(a)
Illinois.....	2,355,474	20,187,519	1,327,820	10,799,086
Indiana.....	4,272,435	30,394,497	3,831,406	26,878,239
Maryland.....	810,118	(a)	693,588	(a)
Massachusetts.....	397,640	(a)	5,446	(a)
Michigan.....	1,770,547	11,914,028	535,296	3,817,866
Minnesota.....	514,764	4,903,891	199,253	1,695,269
New Jersey.....	869,120	(a)	51,850	(a)
New York.....	1,600,669	11,108,944	556,283	3,888,027
Ohio.....	5,723,074	31,008,209	4,538,383	24,724,264
Pennsylvania.....	8,426,155	34,674,512	7,145,581	28,046,102
Tennessee.....	75,720	376,328	.....	.....
Utah.....	97,350	(a)	93,704	(a)
Washington.....	39,903	283,710	34,815	243,705
West Virginia.....	998,914	4,402,186	590,428	2,607,708
Kentucky, Missouri, Rhode Island and Wisconsin.....	1,121,908	9,387,943	25,474	205,634
Undistributed.....	.....	20,485,019	.....	8,795,193
Total	33,983,568	\$195,690,009	24,523,933	\$125,838,387

(a) Included under "Undistributed."

Tear Gas Used in West Virginia Labor Struggle; Panhandle Quiet

That tear gas discharged from a "billy charge" by mine guards employed by the Jamison Coal & Coke Co., near Farmington, Marion County, in the northern West Virginia strike zone, was alleged last week by officials of the United Mine Workers in telegrams to Secretary of Labor James J. Davis at Washington, D. C., and to Governor Howard M. Gore at Charleston. As a result more excitement prevailed than at any time since April 1, when non-union coal miners were called on strike.

Although the alleged offense occurred on the picket line at mine No. 9 early Monday morning, July 27, the information concerning the incident did not develop until later in the week. In the telegram to Secretary Davis the union miners alleged that 35 people were gassed and that one woman, Mrs. July Srinto, an occupant of the union barracks, was seriously affected. In the telegram to Governor Gore, the miners pointed out that both the state police and sheriff's deputies were absent for a period of time.

W. Clarke Dobbie, general superintendent of the Jamison company in West Virginia, made a complete denial of the story Monday, July 27, but when the guards returned that night he learned that the "billy charge" was accidentally put off, and says that the guards got the full force of the gas. The story told by the guards is that a clip on the mace was accidentally snapped while one of them was riding in an automobile from the picket line back to the mine. The guards deemed the matter too trivial to report.

Fairmont newspapers assert that the mine guards' account of the incident was not in line with the facts, and that a number of pickets were actually gassed by the mine guards. This view is held by deputy sheriffs and state police, who made an investigation.

Hard Coal Miners Praise Bittner

A story published in newspapers to the effect that the hard-coal miners had deserted the bituminous union coal miners in northern West Virginia, and that they had condemned Van A. Bittner, the union leader in the Fairmont field, was denied in a telegram received in Fairmont July 28. The telegram, which bore the names of the anthracite policy committee, Philip Murray, international vice-president; Thomas Kennedy, international secretary and treasurer; Christ J. Golden, president of District No. 9; Rinaldo Cappelini, president of District No. 1, and Andrew Matty, president of District No. 7, said the policy committee had the utmost confidence in the ability, integrity and honesty of the leader, Van A. Bittner. "After congratulating the northern West Virginia miners for the 'wonderful fight' they are making, the telegram closed by pointing out that 'with both the anthracite and bituminous coal fields fighting together we are bound to win.'"

Twelve union pickets arrested at the New England mine of the Consolida-

tion Coal Co. recently, were heard by a Fairmont justice of the peace July 28 and bound over under \$400 bail to await the action of the grand jury.

Workmen were engaged in cleaning up Mine No. 1 of the Cleveland & Morgantown Coal Co. in Scotts Run last week and, according to officials, the plant will resume operation on a union basis in about a week. In a statement issued by James McCleary, international representative, during the later part of last week it was predicted that three or four additional mines in Scotts Run would be reopened on a union basis.

Union Output Is Low

Non-union coal mines in northern West Virginia produced 5,824 cars of coal in the first four days of last week, according to figures by the operators. The union tonnage was placed at 864 cars.

Van A. Bittner, chief international representative in northern West Virginia, returned to Fairmont early this week, after having been in Philadelphia and Atlantic City, where he conferred with International President John L. Lewis in reference to the strike situation in northern West Virginia. Mr. Bittner has been absent for several weeks and a rumor was current that he would not return.

Everything continues quiet in the panhandle district and there are apparently no new developments.

How to Design and Specify Heating Systems Told

A brochure of twenty pages, just published, and entitled "Architecture and Anthracite," contains many illustrations and much valuable information as to the designing and specifying of heating installations that are satisfactory artistically and sound economically. It is published by the Anthracite Coal Service, 260 South Broad St., Philadelphia, Pa.

The chimney, one of the most important features of a home and its heating equipment, is one theme of this publication. The booklet gives valuable data including a table for figuring the size and height of chimneys for various installations, as prepared by the American Society of Heating and Ventilating Engineers. It also compares the "effective area" of each rectangular flue with its actual area.

With illustrations showing well-proportioned chimneys as well as "horrible examples," Albert Kelsey has prepared an article on the chimney as an "object of interest and beauty."

Diagrams of the standard sizes of flue linings also are shown to enable architects and engineers to specify the correct size and allow for the exact dimensions. A specification for chimneys is added such as will enable designers to insure a chimney soundly built and in accordance with the ordinance of the National Board of Fire Underwriters and the proposed code of

Enterprise Coal Co. Sold For \$1,250,000

The Enterprise Coal Co., at Shamokin, with headquarters in Scranton, Pa., was reported sold Aug. 3 for \$1,250,000 to a group of Scranton and Wilkes-Barre coal operators headed by R. H. Buchanan, general manager of the South Penn Collieries Co. The sale includes the Enterprise mine and breaker and a long lease on 700 acres of coal land owned by the Philadelphia & Reading Coal & Iron Co.

There is said to be 14,000,000 tons of recoverable coal in the tract. The colliery is now being operated at capacity, which is 300,000 tons a year. The plant is electrically equipped throughout. The Enterprise company was the property of the late W. L. Connell, but since his death its operation has been conducted by the Connell estate. James S. McAnulty, president of the Scranton Life Insurance Co., has been president and treasurer of the Enterprise company and W. L. Connell, Jr., has been secretary.

The new owners of the Enterprise mine have been organized under the name of the Northumberland Mining Co. R. H. Buchanan is president of the new company; Bruce Payne, of Wilkes-Barre, is treasurer; Grant Bell, vice-president; H. R. Van Deusen, secretary; M. J. Martin, Scranton attorney, is a member of the board of directors. The office of the company will be maintained in Scranton.

the American Society of Heating and Ventilating Engineers.

Other features which should be given full consideration in designing, specifying and constructing are covered in the booklet by D. Knickerbacker Boyd, who discusses many of them in an article entitled "Designing and Planning for Home Heating Economies." Mr. Boyd calls attention to the responsibility of architects, and such builders as construct and sell dwellings without architects, for specifying and seeing that six things are provided for the home owner, namely:

- (1) Adequate size and height of flues for all heating and cooking apparatus.
- (2) Proper location and construction of all chimneys.
- (3) Correct specifying and installing of heating and cooking apparatus to utilize small as well as large sizes of coal.
- (4) Economic location and sound construction of coal bins.
- (5) Providing convenient facilities for the removal of ashes.
- (6) Making walls, roofs and openings tight.

In an article, "Small Size Anthracite Fuel and Equipment for Its Economical Utilization," C. A. Connell outlines possibilities of making great savings in fuel bills by the use of approved apparatus and methods for burning buckwheat coal.

American Foreign Traders Convene at Seattle

Statistics, said James A. Farrell, president of the U. S. Steel Corporation, at the Twelfth National Foreign Trade Council meeting at Seattle, Wash., June 24-26, illustrates the immensity of foreign trade, the value of which in the aggregate in 1924 was sufficient to build a Panama Canal every fifteen days. The trend of such business is favorable in diversity as well as in value. Our productive capacity is so great that overseas trade is the logical outcome; but competition must be faced abroad, and to meet this successfully necessitates the fullest utilization of mechanical devices and the highest degree of economy in distribution.

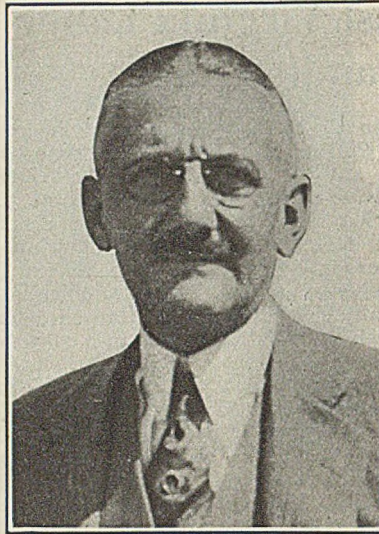
In the absence of Dr. H. Parker Willis, professor of banking at Columbia University, his paper on "Foreign Loans and Foreign Trade" was read by the secretary, O. K. Davis. After quoting statistics to indicate the immensity of loans made by the United States to foreign countries in recent years, Dr. Willis mentioned that the problem of the banker was to determine the credit rating of those who wanted to buy goods with the money sought, and the good faith of those who wanted funds. Bankers, however, should realize that the surplus at their command represents a surplus of goods, and that they have a national duty toward trade and commerce.

Bank practice in regard to foreign loans has been considered in many quarters as very much of a mystery, but when viewed as a fundamental problem in the aggregate the matter is a simple one. If a banker is approached for a loan at home, he first inquires as to what use it is to be put. He needs good security, but he also wants to see that the transaction will mean increased business to him and to his community. It is not enough for him to know that the agreed interest will be paid at the agreed time.

The same considerations should apply to foreign loans, but it is significant that one school of bankers believes that it is none of their business as to how the money is to be spent, although it is obvious that the adoption of a similar policy would be disastrous in community banking practice. This same school of bankers asserts that results will be satisfactory "in the long run," but Dr. Willis pointed out that we don't live "in the long run." Immediate business is the chief concern.

The United States has the chief reservoir of available capital in the world, which, however, is not sufficient for all demands that may be made upon it. The lending of money solely for the purpose of bringing profit to the banker is economically unsound, for it may be used to finance or subsidize an enterprise launched in direct competition with United States products.

"Shippers' Problems in Foreign-Trade Transactions" was the subject of an exhaustive analysis of the technique of the subject by F. G. T. Lucas, of Vancouver, B. C. A letter of credit must be lived up to, it was maintained, and a uniform method of framing the document was desirable. This had been



© Keystone View Co.

F. W. Wilshire

Vice-president of the Consolidation Coal Co., who sailed from New York last week on a trip abroad on business and pleasure. He was accompanied by his wife and son.

achieved in what was known as the American Standard Letter of Credit. With the bill of lading, however, variations in form occurred from day to day, the result being, as the speaker humorously remarked, that the carrier might be excused for almost any happening except the conversion of the goods to his own use. The document had become cumbersome and complicated, and legislation had been necessary in some countries to correct the inequities resulting.

The "Benefit of Insurance Clause" has led to many lawsuits. A real attempt to remedy this state of affairs was made in the introduction of what is known as the "Hague Rules Bill of Lading," which is now adopted as law in Great Britain. In this, many objections in the ordinary bill of lading have been removed, including the "Benefit of Insurance Clause." The right to deviate from the original course has been confined to reasonable limitations, and the minimum of responsibility on the part of the carrier has been defined. It makes the bill of lading a negotiable document and simplifies foreign trade.

Among the speakers were Gerard Swope, Howard T. Lewis, F. J. Koster, J. S. Martin, J. Butler Wright, D. E. Delgado, A. P. Dye, H. M. Robinson, E. P. Thomas, Tso Tsok-Kai, N. Eckstein, Dr. T. H. Boggs, H. Blackwood, Rear Admiral L. C. Palmer, C. W. Cook and Rev. E. A. Walsh.

New York Anthracite Prices for August, 1925

(Per Gross Ton f.o.b. Mines)

	Broken	Egg	Stove	Chest-nut	Pea
Lehigh & Wilkes-Barre Coal Co.	\$8.20	\$8.65	\$9.15	\$8.65	\$5.00
Lehigh Valley Coal Sales Co.	8.25	8.70	9.15	8.90	5.00
Lehigh Coal & Navigation Co.	8.90	8.90	9.30	8.85	5.50
D.L. & W. Coal Co.	8.25	8.65	9.15	8.65	5.25
Hudson Coal Co.	8.80	8.70	9.15	8.65	5.40
Phila. & Reading Coal & Iron Co.	8.90	8.85	9.25	8.85	5.50
M. A. Hanna Co.	8.80	8.90	9.40	8.90	5.55
Steam sizes: Buckwheat No. 1, \$2.50; rice, \$2; barley, \$1.30; birdseye, \$1.60.					

Industrial Advertisers Name Convention Chairmen

Appointment of chairmen for important committees featured progress made in the last week in the development of plans for the convention of the National Industrial Advertisers Association to be held at the Chalfonte Hotel, Atlantic City, N. J., Oct. 19, 20 and 21. One new appointment was that of J. N. McDonald, of the Anaconda Copper Mining Co., New York, incoming president of the Technical Publicity Association, to be chairman of the On-To-Atlantic City Committee.

Other chairmen named are: D. J. Benoiel, of the International Chemical Co., Philadelphia, to head the Exhibit Committee; Hoyt Catlin, of the Bryant Electric Co., Bridgeport, to head the Entertainment Committee, and H. J. Downes, of the American Locomotive Co., New York, to head the Transportation Committee.

Organization of the General Committee has been completed. W. A. Wolff of the Western Electric Co., New York, is chairman. The other members are: J. L. Ashcroft, Ludlow-Saylor Wire Co., St. Louis; Joseph C. Bowman, Cleveland; Ezra Clark, Clark Tractor Co., Buchanan, Mich.; O. C. Dahlman, Koehring Co., Milwaukee; W. S. Hays, National Slate Assn., Philadelphia; Mr. McDonald and A. M. Staehle, Westinghouse Electric & Manufacturing Co., East Pittsburgh.

Railroad Fuel Cost Drops

The cost of coal used by class 1 railroads in locomotives in transportation service during May took a sharp drop, according to a tabulation prepared by the Bureau of Coal Economics of the National Coal Association, from figures reported by the roads to the Interstate Commerce Commission. The average cost of such coal, which represents the invoice price paid at the mine plus any freight charges incurred, was \$2.73 per net ton for the United States as a whole. For the Eastern district it was \$2.79; for the Southern district \$2.22, and for the Western district \$3.04. These averages indicate a decrease in cost per ton from the previous month of 6c. in the Eastern district, 9c. in the Southern district, 5c. in the Western district and 6c. for the entire United States.

Compared with May a year ago, when locomotive fuel costs were already at a low level, the reduction in the cost of locomotive coal to the railroads is even more striking. The averages for May of this year are 35c. per ton less for the Eastern district, 47c. less for the Southern district, 21c. less for the Western district and 34c. less for the whole United States.

The Washington Coal & Coke Co., of Star Junction, Pa., is erecting a tippel equipped with shaker screens, loading booms and miscellaneous equipment. The capacity of the tippel is 600 tons an hour. It is reported that this is one of the largest plants in that coal field.

**World's Hoisting Record
Is Now 10,024 Tons**

And now the much-shattered world's coal-hoisting record has been completely demolished. New Orient mine of the Chicago, Wilmington & Franklin Coal Co. was reported to have hoisted 10,024 tons of coal during an 8-hr. shift on July 30, far exceeding its achievement of 8,687 tons on July 10. The previous record for a single day's hoist was 8,664 tons from the Valier mine of the Burlington railroad at Valier, Ill. Before that the record had been juggled back and forth between Orient No. 1 and Zeigler No. 1, both in Franklin County (Illinois) region of hopper mines. The New Orient mine, built to be the world's greatest producer, which now leaps so far to the front, is expected some day to hoist at least 12,000 tons a day.

**\$2,500,000 Bond Issue by
Alabama Operation**

The Southeastern Fuel Co., with headquarters at Birmingham, Ala., the entire capital stock of which is owned by the Southeastern Power & Light Co., has sold Harris, Forbes & Co., New York, \$2,500,000 first (closed) mortgage 6 per cent sinking fund gold bonds. It is announced by A. B. Aldridge, president of the Southeastern Fuel Co., that this issue is to reimburse the power company for advances made to the fuel company and to provide funds for extensive developments and improvements now under way.

The holdings of the Southeastern Fuel Co. comprise about 12,000 acres of valuable coal lands in the Warrior Field, in Walker County, Alabama, adjacent to the Gorgas steam plant of the Alabama Power Co. The latter company has entered into a 21-year contract to purchase sufficient coal and at such prices as will provide each year ample funds to pay the operating expenses of the fuel company, including interest and minimum sinking fund payments on these bonds, such fund to be provided by a levy of 10c. per ton on production up to 400,000 tons per annum and 15c. per ton on amounts in excess of this output. The present output of the four drifts now in operation is stated to be about 650,000 tons, which it is expected to be increased later to 1,000,000 tons when coal is produced from four additional drifts which are now being opened.

Archbald Breaker Burned

The Whip-o-Will breaker of the Archbald Coal Co., Archbald, Pa., about eight miles north of Scranton, was destroyed by fire July 29. The breaker had been idle for some time, but the mine was operating and the coal was shipped to another breaker for transportation. Several hundred mine workers underground escaped without injury. The damage was approximately \$100,000.

**Heavier Coal Output at
Russian Mines Hampered
By Scarcity of Markets**

Like the rest of Europe, Russia faces a serious coal crisis. Output in 1924 was much higher than in 1923, and the possibility of a further rapid increase exists, but just now the home market will not absorb even the present output. As a result of the collapse in grain exports, due to bad crops, the Soviet Government can maintain its foreign trade balance only by finding substitute exports.

Owing to the high transport charges Russian coal was not exported even before the war, when the European market was more favorable, and native coal could not compete with British in the industrial district of Petrograd. Russian oil can compete, however, and there is a practically unlimited demand. The official *Ekonomitsheskaya Zhizn* therefore propounds a plan for consuming coal instead of oil where possible at home, and for correspondingly increasing the export of oil. Of the total fuel consumption before the war, 47 per cent was coal, 37 per cent wood, 13 per cent oil, and 3 per cent peat. As the wood supply, except in the North, is failing, a largely increased coal consumption, says *Ekonomitsheskaya Zhizn*, is practicable, especially on the railroads, but the change involves heavy capital expenditure.

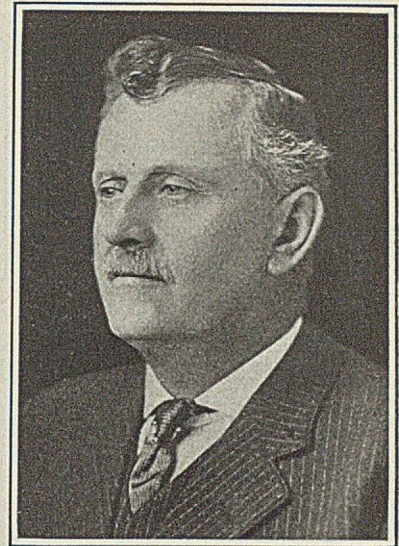
The output of coal in the coal year 1924 was 865,000,000 poods (1 pood equals 36.07 lb.) as against 270,000,000 in 1920, and 1,544,000,000 in 1913. The official program for the new coal year (Oct. 1924 to Sept. 1925) is 887,500,000 poods. Estimated output of the chief State Trusts, as compared with the preceding year is (in millions of poods):

	1925	1924
Great Donetz Trust.....	554	530½
Little Donetz Trust.....	40	42
Southern Steel Trust.....	118	89
Chemical Coal Trust.....	25½	27½
Moscow District Mines.....	39	40
Kuznetsk Trust.....	49	50
Black Earth Trust.....	42	39

The actual production in the three months October to December, 1924, was 200,500,000 poods; January, 1925, 74,200,000 poods; February, 80,400,000 poods; March, 83,900,000 poods; in all 439,000,000 poods, which for the six months is almost exactly half the year's production estimated in the program.

Financially the condition of the coal trusts continues unsatisfactory, although operation is increasing in efficiency. All the trusts have heavy bank debts and at the beginning of this year the chief Donetz Trust (Donugol) owed its employees 7,500,000 rubles for arrears in wages. A project was submitted to the Moscow Council of National Economy for dissolution of this trust, and its reorganization in the form of a number of minor concerns.

The number of miners employed in most of the trust mines is decreasing. Per capita output, however, has increased 37 per cent since October, 1923. As wages in the same time have increased only 25 per cent, more economical operation ought to be assured, but the trusts are crushed by bureaucratic and overhead expenditure, and with few exceptions only those small and remote mining concerns which are almost free



E. R. Pettebone Dies

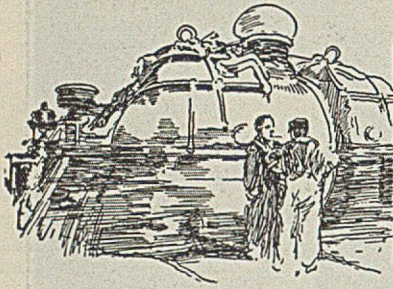
Mr. Pettebone, who was chief engineer of the Hudson Coal Co., died at his home at Kingston, Pa., July 27, aged 61. Death was due to a heart attack. Associated with the anthracite industry for thirty-six years, Mr. Pettebone was recognized as a leading authority on mining in the country. He was very well known in Scranton and had been connected with the Hudson Coal Co. since 1897. Previous to that he was with the Lehigh & Wilkes-Barre Coal Co. for nine years.

from Communist control show profits.

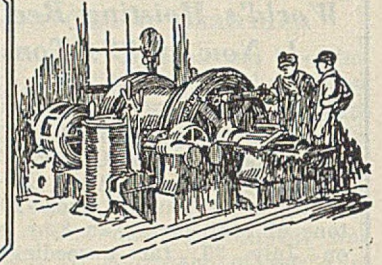
Market conditions have radically changed during the last four or five years. Whereas in the first years of the Soviet régime production was kept down primarily by general disorganization and unwillingness to work, to-day production could easily be increased if only markets could be found. The weakness of the home market is due to the stagnation of industry, especially the iron trade. For domestic heating wood has always been most used, and wood and oil also played important rôles as railroad fuel.

The geographical distribution of coal largely determined the distribution of industries. The South, where the Donetz basin contains sixty billion tons of coal underground, the Moscow district with twelve billion tons, and the Urals with 700,000,000 tons became industrial centers. As in Germany, and for the same reason, the heavy iron and steel industry developed most near the national frontiers. Since the war the Moscow coal district has developed relatively at the cost of the much more important Donetz basin. This is due to various causes, such as the civil war which kept South Russia in disorder, the breakdown of the railways, which made it difficult to transport Donetz coal, and the concentration of armament production around Moscow during and after the Great War.

Even the Ural coal industry has suffered less than the Donetz, and the Ural iron and steel industry has correspondingly maintained itself better than the much greater South Russian industry. In 1913 the iron and steel industry consumed 520,000,000 poods of coal, or about one-third of the whole national output. The revival of the steel industry therefore is the condition precedent to a return of coal production to anything like pre-war level.



Practical Pointers For Electrical And Mechanical Men



Mending Jig Employed in Splicing Broken Steel Tape

Although the steel tape is probably the most accurate and convenient measuring device in common use it possesses the disadvantage that it breaks easily. Only a slight pull on a kink in such a tape is sufficient to snap it, thus ruining its usefulness until it can be repaired. So common is the breakage of steel tapes that special means for mending them are regularly sold by several well-known dealers in surveyors' instruments.

Tape splices may be made either in the field or in the office, but for certain obvious reasons the office is to be preferred. A convenient jig for repairing broken steel tapes has been devised by the engineering corps of the Sunlight Coal Co., of Boonville, Ind. As may be seen from the accompanying illustrations this device is extremely simple and is intended for use in conjunction with Eureka splice sleeves or similar means of repair.

PROCEDURE IS SIMPLE

Splices of this kind consist of a thin steel sleeve which has low-temperature solder and the necessary flux on its inner surface. In repair-

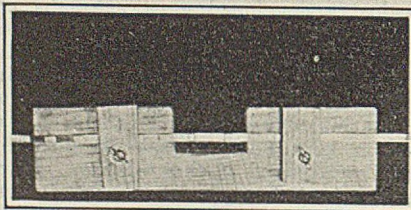


Fig. 1—Ready to Make Splice

The broken ends of the tape have been polished, butted together within the splicing sleeve, the two ends aligned and the clamps tightened ready for applying heat to the splice.

ing a tape by this means the broken ends are first polished with a bit of sandpaper or emery cloth, after which they are butted together within the sleeve, to the outside of which heat is applied. Two matches

of the ordinary "parlor" variety, as a rule, will furnish enough heat to make a splice.

It is difficult, however, to hold a broken tape in the hands with sufficient steadiness to get the two parts in exact alignment when the job is completed, and sighting along the tape will usually reveal a more or

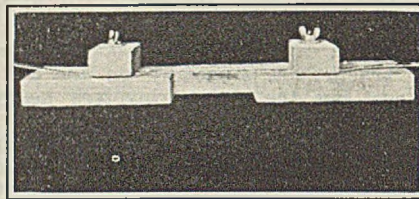


Fig. 2—The Splice Completed

This shows the splice as it cools. It only takes a few minutes to mend a tape and the great advantage of the jig lies in the fact that it holds the two pieces of the tape rigid assuring a "straight" splice.

less pronounced change of direction at the splice. The jig obviates this difficulty.

As may be seen, it consists of a board with a rectangular notch cut in one side and two clamps to hold the tape firmly in position. A line drawn across the two ends of the board serves as a means for bringing the two pieces of the tape into exact alignment.

REPAIR IS QUICKLY MADE

In use the ends of the tape are polished and then butted together within the splicing sleeve. The clamps on the jig are then loosened, the tape slipped into place, the two pieces brought into exact alignment by making the corresponding edge of both pieces coincide with the mark on the jig, after which the clamps are screwed down tight. This holds the splice rigid and in correct position within the notch. The heat from two matches is then applied to the sleeve, after which it is allowed to cool and the tape is again ready for service.

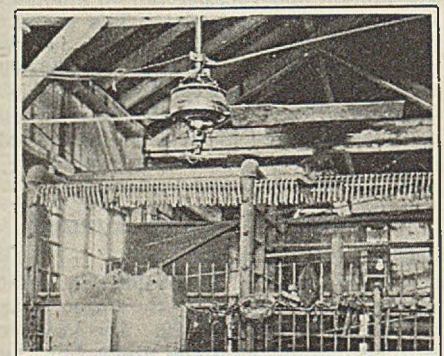
Blacksmiths Install Ceiling Fan

Keeping even reasonably cool in a blacksmith shop on a hot day sometimes is a problem of no mean proportions. Not only is excessive heat in such a place uncomfortable but, because of this fact, it interferes with the quantity and quality of each workman's output. Any reasonable means that may be adopted, therefore, to alleviate the blacksmith's discomfort is advantageous to all concerned.

In the vicinity of Wilkes-Barre, Pa., somebody threw away an old ceiling fan of the kind and type often used in restaurants, laundries and similar places. The original owner doubtless believed that it had served its term of usefulness, was broken, worn out and useless. One of the blacksmiths employed by the Kingston Coal Co. espied the remains of this old motor on the dump and promptly acquired it.

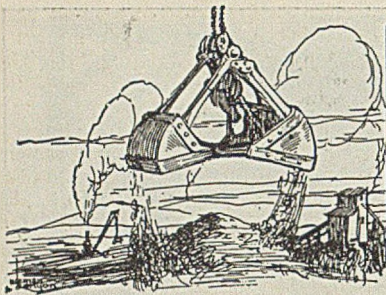
Carrying it to the shop he and his fellow workers, including one that was somewhat of an electrician, overhauled and repaired it until it would once more operate properly. They then mounted it from the roof of the shop, braced it and bolted a suitable strip of wood or paddle to each of its arms.

The accompanying illustration shows the result of their labors.

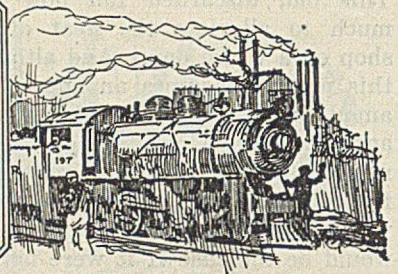


Ready for Business

This fan was stopped just long enough to be photographed. It was salvaged, repaired, mounted, wired and is now used by the blacksmiths themselves. It now does much to relieve the heat of the shop.



Production And the Market



Improvement in Soft-Coal Market More Marked; Anthracite Trade Extremely Active

The improving tendency in the bituminous coal trade is becoming more marked, and the volume of inquiry would indicate that the betterment will continue. While output is increasing with the demand the augmentation in tonnage has not been sufficient to outpace the expansion in business, consequently prices show a steady growth in firmness.

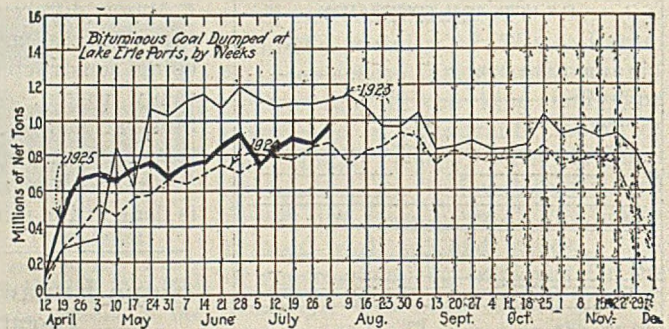
Illinois and Indiana domestic coals were more active in the Midwestern market last week than at any time in months—in anticipation of a 25c. advance in price. Many of the mines were able to clear their tracks for the first time since last winter. Steam coals are erratic, however. Kentucky continues to enjoy a heavy movement to the lakes and industrial and utility demand is keeping screenings moving at very good prices for mid-summer. Prepared coal also is moving better. Output is increasing in eastern Kentucky and western Kentucky also is doing better. Although demand at the head of the lakes is not up to the mark the trade is more hopeful by reason of a growing volume of inquiry. Business is practically unchanged in Utah, Colorado, Kansas and the Southwest except for some activity in preparation for an upturn.

Domestic inquiry and demand at Cincinnati have picked up to such a degree as to stiffen prices and iron out most of the spreads, the improvement extending right down the line to slack. Southern and eastern Ohio are doing little more than mark time, partly stunned by the Interstate Commerce Commission's refusal to alter rates to the lakes. Sluggishness continues to prevail in the Pittsburgh market. The New England and New York markets are gaining steadily in firmness, but at Philadelphia demand is only fair. Baltimore and Birmingham are barely holding their own.

The hard-coal market continues to speed up, the companies having orders booked to take care of most of

their August output. Demand for all sizes has increased, enabling the mines to work full time and bring output close to normal. Stove and egg are a little tighter, but chestnut, pea and the steam sizes also have braced to some extent. Independent prices are gaining in strength and the companies added 10c. to 15c. to the price of domestic sizes on Aug. 1.

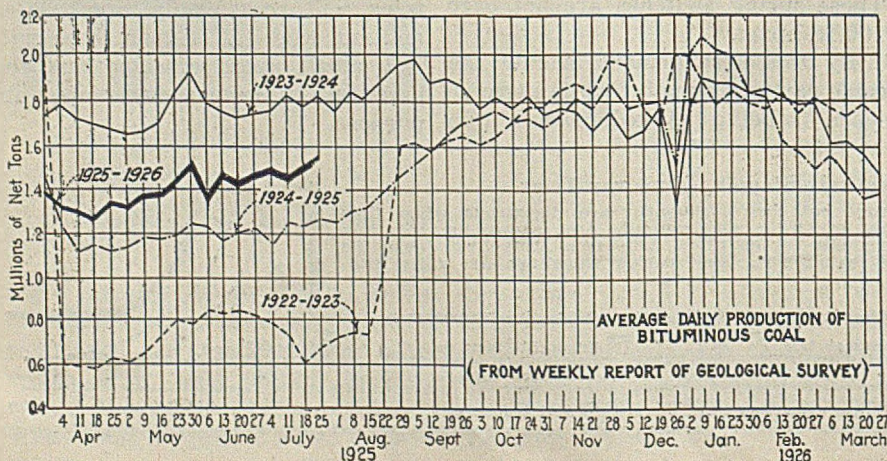
Production of bituminous coal in the week ended July 25 is estimated by the Geological Survey at 9,255,000 net tons, compared with 8,966,000 tons in the pre-



vious week, as shown by revised figures. Anthracite output in the week ended July 25 totaled 2,049,000 net tons, compared with 1,985,000 tons in the preceding week.

Coal Age Index of spot prices of bituminous coal advanced three points during the past week, standing on Aug. 3 at 163, the corresponding price being \$1.97.

Dumpings at Lake Erie ports during the week ended Aug. 2, according to the Ore & Coal Exchange, were: Cargo, 942,678 net tons; steamship fuel, 45,318 tons—a total of 987,996 net tons, compared with 845,706 tons in the previous week. Hampton Roads dumpings in the week ended July 30 totaled 445,793 net tons, compared with 408,064 tons in the preceding week.



Estimates of Production

	(Net Tons)	
BITUMINOUS		
	1924	1925
July 11	7,742,000	8,639,000
July 18 (a)	7,644,000	8,966,000
July 25 (b)	7,785,000	9,255,000
Daily average	1,298,000	1,542,000
Cal. yr. to date	258,856,000	265,991,000
Daily ab. to date	1,488,000	1,527,000
ANTHRACITE		
July 11	1,871,000	1,854,000
July 18	1,840,000	1,985,000
July 25	1,837,000	2,049,000
Cal. yr. to date	(c) 51,989,000	51,837,000
COKE		
July 18 (a)	103,000	127,000
July 25 (b)	99,000	125,000
Cal. yr. to date	(c) 6,406,000	5,731,000

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

Midwest Market Unusually Active

The Midwest market on Illinois and Indiana domestic coals was much more active last week than it has been in months. This was principally because the operators gave notice that effective Aug. 1 prices would advance 25c. a ton to \$3 on the coarser prepared sizes. So many orders came in during the last week in July that a great many of the mines cleared their tracks—something they have not been able to do since last winter. Retailers were particularly active in this buying wave, as strike talk apparently has had its effect on the public, who are now actually showing some interest in coal.

The market in steam coals continues to be fairly erratic. The operators who are obtaining the best prices are the ones who pursue the policy of staying out of the market and letting customers come to them for prices. These operators are not offering their coal indiscriminately, nor are any of them shipping coal on consignment.

Industries in the Chicago district have not as yet started to buy, but it is anticipated that they will be in the market strong within the next three or four weeks, and when they do come in, sharp advances can be expected.

Smokeless operators are out with early August quotations, none of them having set prices for the entire month. All of the companies selling first-class smokeless coal are

holding it at a consistent price of \$3.25 for lump and egg. Splint coal shows a little strength, as the average price for 6-in. is around \$2.50; 3-in. block around \$2.25. The spread on good eastern Kentucky block is \$2.45@ \$2.75; Kentucky egg, \$2@ \$2.50.

There is greater activity in the movement of domestic sizes in Franklin County and Saline County, but Williamson County is coming along slowly. Some of the older mines are beginning to open up and those that are working are getting better time. Nut coal, however, is heavy and domestic shipments are pretty well scattered in all directions except South. Steam seems to be equal to the demand and at some plants a little crushing is still going on. Railroad tonnage with the shaft mines is fairly good and the strip mines report good railroad tonnage and fairly good steam and some increase in domestic. The strip mines are getting almost full working time. Shaft mines are working two to three days a week as a rule.

In the Duquoin field conditions are a little slow, with poor working time and no movement of coal. The few mines that are working are getting two and three days a week. In the Mt. Olive field conditions still continue bad. There is a slight increase in domestic but not enough to become a factor. Mines are still crushing mine-run for screening contracts. Railroad tonnage is light. In the Standard field there has been some improvement in work-

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

Low-Volatile, Eastern	Market Quoted	August 4, 1924				Midwest	Market Quoted	August 3, 1925†			
		1924	1925	1925	1925†			1924	1925	1925	1925†
Smokeless lump.....	Columbus....	\$3.60	\$2.85	\$2.85	\$2.75@ \$3.00	Franklin, Ill. lump.....	Chicago.....	\$2.85	\$2.60	\$2.60	\$2.75@ \$3.00
Smokeless mine run.....	Columbus....	2.10	1.85	1.85	1.75@ 2.00	Franklin, Ill. mine run....	Chicago.....	2.35	2.35	2.35	2.25@ 2.50
Smokeless screenings.....	Columbus....	1.20	1.35	1.35	1.25@ 1.50	Franklin, Ill. screenings....	Chicago.....	1.70	2.00	2.00	1.75@ 2.25
Smokeless lump.....	Chicago.....	3.85	3.10	3.10	3.25	Central Ill. lump.....	Chicago.....	2.50	2.35	2.35	2.50@ 2.75
Smokeless mine run.....	Chicago.....	1.85	1.90	2.00	1.90@ 2.10	Central Ill. mine run.....	Chicago.....	2.10	2.10	2.10	2.00@ 2.25
Smokeless lump.....	Cincinnati..	3.75	2.90	2.85	3.00	Central Ill. screenings....	Chicago.....	1.60	1.70	1.70	1.50@ 1.90
Smokeless mine run.....	Cincinnati..	1.85	2.00	2.00	2.00	Ind. 4th Vein lump.....	Chicago.....	2.60	2.60	2.60	2.75@ 3.00
Smokeless screenings.....	Cincinnati..	1.30	1.20	1.30	1.30@ 1.35	Ind. 4th Vein mine run....	Chicago.....	2.35	2.35	2.35	2.25@ 2.50
*Smokeless mine run.....	Boston.....	4.30	4.30	4.35	4.35@ 4.50	Ind. 4th Vein screenings....	Chicago.....	1.70	1.80	1.80	1.65@ 2.00
Clearfield mine run.....	Boston.....	1.90	1.75	1.80	1.65@ 1.90	Ind. 5th Vein lump.....	Chicago.....	2.35	2.25	2.25	2.25@ 2.50
Cambria mine run.....	Boston.....	2.30	1.95	1.95	1.80@ 2.10	Ind. 5th Vein mine run....	Chicago.....	2.10	1.95	1.95	1.85@ 2.10
Somerset mine run.....	Boston.....	2.05	1.85	1.85	1.75@ 2.00	Ind. 5th Vein screenings..	Chicago.....	1.55	1.50	1.50	1.40@ 1.60
Pool 1 (Navy Standard)..	New York....	2.70	2.55	2.55	2.35@ 2.75	Mt. Olive lump.....	St. Louis....	2.85	2.50	2.50	2.50
Pool 1 (Navy Standard)..	Philadelphia..	2.80	2.60	2.60	2.45@ 2.75	Mt. Olive mine run.....	St. Louis....	2.50	2.25	2.25	2.25
Pool 1 (Navy Standard)..	Baltimore....	.....	1.85	1.85	1.80@ 1.95	Mt. Olive screenings....	St. Louis....	2.00	1.75	1.75	1.75
Pool 9 (Super. Low Vol.)..	New York....	2.05	1.95	1.95	1.80@ 2.10	Standard lump.....	St. Louis....	2.15	2.25	2.25	2.25
Pool 9 (Super. Low Vol.)..	Philadelphia..	2.15	2.00	2.00	1.85@ 2.20	Standard mine run.....	St. Louis....	1.80	1.80	1.80	1.75@ 1.90
Pool 9 (Super. Low Vol.)..	Baltimore....	1.95	1.75	1.75	1.65@ 1.85	Standard screenings....	St. Louis....	1.20	1.30	1.30	1.25
Pool 10 (H.Gr. Low Vol.)..	New York....	1.80	1.80	1.80	1.65@ 1.90	West Ky. block.....	Louisville..	2.10	1.55	1.65	1.75@ 1.85
Pool 10 (H.Gr. Low Vol.)..	Philadelphia..	1.75	1.70	1.70	1.60@ 1.85	West Ky. mine run.....	Louisville..	1.55	1.15	1.15	1.10@ 1.25
Pool 10 (H.Gr. Low Vol.)..	Baltimore....	1.70	1.60	1.60	1.55@ 1.65	West Ky. screenings....	Louisville..	1.15	.85	.85	.85@ .95
Pool 11 (Low Vol.).....	New York....	1.50	1.55	1.55	1.50@ 1.75	West Ky. block.....	Chicago.....	2.05	1.90	1.90	1.60@ 2.25
Pool 11 (Low Vol.).....	Philadelphia..	1.45	1.55	1.55	1.50@ 1.60	West Ky. mine run.....	Chicago.....	1.60	1.35	1.35	1.15@ 1.60
Pool 11 (Low Vol.).....	Baltimore....	1.55	1.40	1.40	1.35@ 1.45						

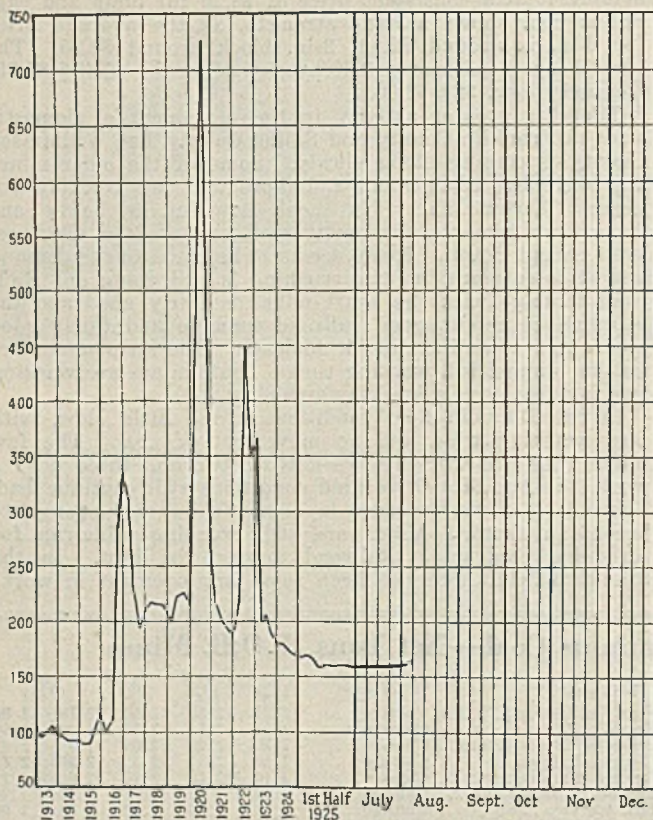
High-Volatile, Eastern					South and Southwest						
	Market Quoted	1924	1925	1925		Market Quoted	1924	1925	1925		
Pool 54-64 (Gas and St.)..	New York....	1.50	1.50	1.50	1.50@ 1.75	Big Seam lump.....	Birmingham..	3.40	2.00	2.00	1.75@ 2.25
Pool 54-64 (Gas and St.)..	Philadelphia..	1.50	1.50	1.50	1.45@ 1.60	Big Seam mine run.....	Birmingham..	1.75	1.75	1.75	1.50@ 2.00
Pool 54-64 (Gas and St.)..	Baltimore....	1.45	1.35	1.35	1.30@ 1.45	Big Seam (washed)....	Birmingham..	2.00	1.85	1.85	1.75@ 2.60
Pittsburgh sc'd gas.....	Pittsburgh..	2.40	2.40	2.40	2.30@ 2.50	S. E. Ky. block.....	Chicago.....	2.10	2.55	2.55	2.40@ 2.75
Pittsburgh gas mine run..	Pittsburgh..	2.10	2.15	2.15	2.10@ 2.25	S. E. Ky. mine run.....	Chicago.....	1.50	1.70	1.70	1.60@ 1.85
Pittsburgh mine run (St.)..	Pittsburgh..	1.85	1.95	1.95	1.90@ 2.00	S. E. Ky. block.....	Louisville..	2.10	2.25	2.25	2.00@ 2.50
Pittsburgh slack (Gas)...	Pittsburgh..	1.30	1.50	1.50	1.40@ 1.60	S. E. Ky. mine run.....	Louisville..	1.55	1.55	1.55	1.35@ 1.75
Kanawha lump.....	Columbus....	2.10	1.85	2.00	1.90@ 2.15	S. E. Ky. screenings....	Louisville..	.95	1.10	1.10	1.00@ 1.25
Kanawha mine run.....	Columbus....	1.45	1.40	1.40	1.35@ 1.50	S. E. Ky. block.....	Cincinnati..	2.35	2.25	2.35	2.25@ 2.50
Kanawha screenings.....	Columbus....	1.05	1.15	1.15	1.10@ 1.25	S. E. Ky. mine run.....	Cincinnati..	1.45	1.40	1.45	1.25@ 1.65
W. Va. lump.....	Cincinnati..	2.25	2.25	2.25	2.25@ 2.50	S. E. Ky. screenings....	Cincinnati..	.90	1.10	1.15	1.10@ 1.30
W. Va. gas mine run.....	Cincinnati..	1.35	1.45	1.40	1.35@ 1.60	Kansas lump.....	Kansas City..	4.50	4.00	4.00	4.25
W. Va. steam mine run....	Cincinnati..	1.35	1.30	1.30	1.25@ 1.40	Kansas mine run.....	Kansas City..	3.50	3.00	3.00	3.00@ 3.25
W. Va. screenings.....	Cincinnati..	.90	1.10	1.15	1.10@ 1.25	Kansas screenings....	Kansas City..	2.50	2.50	2.50	2.50
Hooking lump.....	Columbus....	2.45	2.15	2.15	2.00@ 2.30						
Hooking mine run.....	Columbus....	1.55	1.50	1.55	1.45@ 1.70						
Hooking screenings.....	Columbus....	1.05	1.30	1.35	1.25@ 1.45						
Pitts. No. 8 lump.....	Cleveland....	2.40	2.20	2.25	1.90@ 2.60						
Pitts. No. 8 mine run....	Cleveland....	1.85	1.85	1.90	1.85@ 1.95						
Pitts. No. 8 screenings....	Cleveland....	1.10	1.50	1.40	1.40@ 1.50						

* Gross tons, f.o.b. vessel, Hampton Roads.
 † Advances over previous week shown in heavy type; declines in italics.
 ‡ The term block is used instead of lump in order to conform to local practice, but the same coal is being quoted as heretofore.

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

	Market Quoted	Freight Rates	August 4, 1924		July 27, 1925		August 3, 1925†	
			Independent	Company	Independent	Company	Independent	Company
Broken.....	New York....	\$2.34		\$8.00@ \$9.00		\$8.15@ \$8.80		\$8.20@ \$8.90
Broken.....	Philadelphia..	2.39		8.90@ 9.05		8.70		8.80@ 8.95
Egg.....	New York....	2.34	\$8.40@ \$6.65	8.65@ 9.05	\$8.75@ \$9.10	8.55@ 8.80	\$9.25@ \$9.50	8.65@ 8.90
Egg.....	Philadelphia..	2.39	9.00@ 9.70	9.00@ 9.05	8.80@ 9.40	8.60@ 8.80	8.80@ 9.40	8.70@ 8.95
Egg.....	Chicago.....	5.06	8.10@ 8.26	8.02@ 8.12	7.86@ 8.60	7.54@ 8.28	7.86@ 8.60	7.54@ 8.28
Stove.....	New York....	2.34	9.00@ 9.25	8.65@ 9.30	9.25@ 9.75	9.05@ 9.30	9.75@ 10.00	9.15@ 9.40
Stove.....	Philadelphia..	2.39	9.35@ 10.00	9.05@ 9.10	9.40@ 9.75	9.05@ 9.20	9.40@ 9.75	9.15@ 9.30
Stove.....	Chicago.....	5.06	8.40@ 8.60	8.30@ 8.45	8.22@ 8.70	8.32@ 8.80	8.22@ 8.70	8.32@ 8.80
Chestnut.....	New York....	2.34	8.30@ 8.55	8.65@ 9.05	8.75@ 9.10	8.55@ 8.80	9.25@ 9.50	8.65@ 8.90
Chestnut.....	Philadelphia..	2.39	8.85@ 9.80	9.00@ 9.05	8.80@ 9.65	8.70@ 8.80	8.80@ 9.65	8.80@ 8.90
Chestnut.....	Chicago.....	5.06	8.20@ 8.32	8.24@ 8.38	8.24@ 8.45	7.79@ 8.10	8.24@ 8.45	7.79@ 8.10
Pea.....	New York....	2.22	4.25@ 5.25	5.50@ 6.00	5.25@ 5.50	5.00@ 5.80	5.25@ 5.75	5.00@ 5.55
Pea.....	Philadelphia..	2.14	5.75@ 6.25	5.75@ 6.00	5.50@ 5.75	5.00@ 5.40	5.00@ 5.75	5.00@ 5.50
Pea.....	Chicago.....	4.79	5.15@ 5.60	5.36@ 5.91	4.91@ 5.36	4.91@ 5.36	4.91@ 5.36	4.91@ 5.36
Buckwheat No. 1.....	New York....	2.22	1.75@ 2.50	3.00@ 3.15	2.00@ 2.50	2.50	2.25@ 2.50	2.50
Buckwheat No. 1.....	Philadelphia..	2.14	2.50@ 3.00	3.00	2.15@ 2.75	2.50	2.15@ 2.75	2.50
Rice.....	New York....	2.22	1.50@ 2.00	2.00@ 2.25	1.90@ 2.00	2.00	2.00@ 2.25	2.00
Rice.....	Philadelphia..	2.14	2.00@ 2.25	2.25	1.85@ 2.00	2.00	1.85@ 2.00	2.00
Barley.....	New York....	2.22	1.15@ 1.50	1.50	1.35@ 1.60	1.50@ 1.60	1.50@ 1.75	1.50@ 1.60
Barley.....	Philadelphia..	2.14	1.50	1.50	1.40@ 1.50	1.50	1.40@ 1.50	1.50
Birdseye.....	New York....	2.22	1.50	1.60	1.40@ 1.60	1.60	1.40@ 1.60	1.60

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



Coal Age Index of spot prices of Bituminous Coal F.O.B. Mines

Index	1925			1925
	Aug. 3	July 27	July 20	Aug. 4
Weighted average price	\$1.97	\$1.94	\$1.93	\$1.98

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 be 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.

ing time and demand, but there is an overproduction that is selling below cost and nearly all mines have "no bills" and the buyer fixes his own price. Steam market in the Standard field is weakening and the general situation is bad, with no hope of any immediate relief. Railroad tonnage is fairly good, everything considered, and the mines are working from one to three days a week, this being the exception. Prices are unchanged.

At St. Louis there has been a little spurt in domestic deliveries of high-grade coal. This has just started and may assume a reasonably good movement soon. Anthracite, smokeless and coke are slow and the cheaper coals, while active for winter storage in tenements and schools, apparently are not in favor in a general way with the domestic user. Wagonload steam is quiet and carload is not equal to the supply. From now on there will be a tendency to find the steam market weakening. Country domestic is picking up a little on good and medium coals, but country steam is slow.

General Conditions Better in Kentucky

Now that Kentucky's lake business has been made safer by the Interstate Commerce Commission decision that rates from the various competing fields will continue unchanged, there is an air of confidence in the fields, although many wise operators never seriously thought that there was much prospect of any upset in the order of things.

Lake movement continues quite heavy, while industrial and utility demand is keeping screenings well cleaned up at the best midsummer prices in some years. Movement of prepared coal is gradually increasing as retailers are stocking and domestic buyers placing winter orders. Eastern Kentucky mines are gradually increasing production, some mines which had been idle for months now running steadily.

Eastern Kentucky as a whole is fairly well fixed, with screenings rarely reported at under a minimum of \$1 and

a lot of coal moving at \$2 to \$2.25, the top price on special coals ranging from \$2.50 upward.

There also has been an improvement in western Kentucky, where some houses are putting out August quotations at \$1.85 for best block, lump and egg. Block is now quoted on a spot basis at \$1.75@1.85; lump and egg, \$1.50@1.75, covering a range in sizes; nut, \$1.45@1.60, also covering a number of sizes; and mine-run, \$1.10@1.25. Screenings are 85c.@95c. A number of mines are on much better running time and one mine recently broke its previous hoisting record. Strip mines also are producing well.

Indications are for steady increase in production, with prices rising slowly as demand gets into full movement.

Northwest Trade Below Par but Hopeful

While demand for coal in Duluth remains below par, improvement in inquiry is noted by dock operators. The trade therefore is more hopeful. Retailers at Duluth, Superior and in other towns in Minnesota and North Dakota have been prodding large consumers to order anthracite supplies for the winter, and with fair success, but the rank and file of anthracite consumers are holding off, regardless of strike talk. Pocahontas and other bituminous substitutes seem destined to make further inroads into the anthracite trade.

The dock companies are deriving some satisfaction from a better demand lately from industrial quarters. Demand from iron mining companies on the Minnesota ranges remains lifeless as a result of operations being curtailed apart from at the mines of the Oliver Iron Mining Co. Some of the independents, however, are understood to be preparing to start up again this fall.

Receipts of coal by lake fell off during the last week, the aggregate being thirty-seven cargoes, including two of anthracite, as compared with forty-eight cargoes, including nine of anthracite, during the preceding week.

Prices are unchanged for bituminous coals, but an advance of 10c. per ton became effective on anthracite on Aug. 1, quotations being as follows: Egg, \$13.10; stove, \$13.20; nut, \$13.35; pea, \$10.10 and buckwheat, \$6.50.

Dock managers in Milwaukee report a better demand for coal, which now is moving out in an encouraging way, though there has been an advance in price at the mines for some grades of bituminous coal—as much as 25c. a ton. On Aug. 1 retailers made the usual advance of 10c. a ton in the prices of the various sizes of anthracite. This will make the price of egg \$16.20; stove, \$16.70, and nut, \$16.55, with 75c. added if the coal is carried from truck to bin. Coal is coming up the lakes quite freely; receipts for the season up to July 30 aggregate 1,599,298 tons, against 1,350,246 tons to the same date in 1924.

Southwest Prepares for More Business

With little change in market conditions in the Southwest, the price of Kansas lump was advanced 25c. to \$4.25 on Aug. 1, and there is general activity over the state in preparation for fall business. Oklahoma production is more or less limited by union opposition to the 1917 scale, under which all coal is being produced there. Mass meetings are frequent, with national guardsmen present to prevent disorder. In Arkansas in recent weeks several mines have reopened under the lower scale, but so far production under the 1924 scale is limited. Operators bound by it say they do not know when they will be able to open.

There have been no new developments of note in the Colorado market, the volume of demand and prices being practically unchanged during the last week.

The coal market in Utah continues draggy, but prices remain as firm as ever. Mines are working about two or two and a half days a week. Winter storage orders are still coming in slowly, the winter storage idea during summer apparently having been abandoned by most people.

All Grades Stiffen at Cincinnati

While there has been a definite upturn in prices on the Cincinnati market it only to a measure reflects the strength shown during the past week, for in gaining momentum the spreads and other little evasions in prices had to be first wiped away. Domestic inquiry and orders are the most important new turn to affairs. Retailers and country dealers who had been lagging for some time show a disposition to buy, but instead of their orders being seized with avidity there were instances where they were told that they would have to wait their turn. Even more surprising

was the fact that \$2 coal had disappeared overnight, as it were, and the asked price was \$2.25@ \$2.50 with Elkhorns, Yellow Jackets, Millers Creek and the like up to \$2.75 and even higher.

Slack, too, under Eastern buying for tidewater also has perked up with \$1.10 as a positive low and some purchases running as high as \$1.25. The consequence of this was that the residue from byproduct coals and others used for specific purposes went sailing up to \$1.35. Lake buyers are beginning to scent the change in the trend of events and with their entry into the market for 2-in. sizings egg and nut are stiffer in price though the quotations of \$1.65@ \$1.85 fail to show this.

In smokeless business has been a little slower in showing the turn so far as the inland is concerned, but again the seaboard came to the rescue and advanced the price on screenings, some sales having been made around \$1.35 with the \$1.25 price practically wiped out. On lump and egg the price has tightened down to \$3, which can be looked upon as a 25c. advance for it has been hard to determine, for the past month or six weeks, just where the egg left off and the lump commenced. Mine-run is strong.

Retail business is still lagging so far as the city is concerned. The public, once more bitten last year so far as price was concerned, refuses to take the anthracite and foreign troubles seriously and shows no haste in getting coal into the cellars. Pocahontas lump was advanced to \$8 as of Aug. 1 and mine-run to \$6@ \$6.25; bituminous lump to \$6@ \$6.25 and slack to \$4.50.

River business again had to depend upon a wave from the upper regions, the water from the heavy rains having run out of the stream. Thirty thousand tons was brought in on the morning of July 30.

With the strike question both in the anthracite field and in Great Britain still unsettled, coal men in Columbus and various Ohio fields are playing a waiting game. There is still a slightly better demand for domestic sizes, attributable both to the labor situation and the lateness of the summer stocking season, but the tonnage moving is not up to normal for this time of the year, as many householders are still holding back.

Ohio coals both from the Hocking Valley proper and the Pomeroy field are moving in slightly larger quantities, although production has not increased materially. Retail prices are steady at the levels which have maintained for several weeks. Smokeless is selling around \$8 to \$8.50 and splints about \$1 less.

Steam business is irregular, as there is no general movement to stock. Reserves are about normal as a rule, although some reports show very low stocks in the hands of some of the larger consumers. With only a small amount of distress coal available buyers are placing small orders with operators in preference to entering into contracts. Inquiries for contract prices are more numerous, however.

Aside from the fluctuation in the supply and price of slack and nut and slack, there is little if any change in the eastern Ohio market. During the past week screenings have been scarcer, due to the comparatively small quantity of lump being produced, with the result that spot prices have stiffened 5c. per ton.

The general industrial situation shows no improvement, and coal consumers have not yet actually commenced laying by much fuel.

In the retail trade accumulation has already begun, but the major commitments are for smokeless domestic from West Virginia. The mines prices on these coals as quoted in Cleveland have been advanced 25c. per ton within the past week with the demand stronger.

Production in the eastern Ohio No. 8 field in the week

ended July 25 was 236,000 tons, or about 33.7 per cent of potential capacity. This is 21,000 tons over the preceding week but 41,000 tons under the corresponding week last year.

Demand Lags at Pittsburgh

In the Pittsburgh district proper there is no plainly discernible increase in demand for coal, but in adjacent non-union regions a little better call seems to be in evidence, and some operators have hope that they will soon be able to obtain better prices. This is the experience of some Connellsville operators who are selling coal for gas purposes, the coal not being equal to regular Youghiogheny gas coal but an acceptable substitute, at a price, with some consumers. The Group 1 mines of the Bessemer district (north of Butler), producing steam and domestic coal, have had a slightly better demand in the past few weeks, and claim to be operating at close to 75 per cent.

A small union mine in the southwestern part of the Pittsburgh district has just closed, being unable or unwilling longer to stand the loss of operating at the union scale and meeting the market.

The coal situation at Buffalo turns now on the possibility of a strike. Not much dependence is placed on the threatened interference of the government. The local natural gas company has brought a storm of objection down upon it by asking an advance of 15c. per thousand feet for gas furnished the city. Practically every concern, from the City Council down to individual consumers, is up in arms against the move. It is in the air that the cost of fuel must come down. The bituminous trade is quite as dull as ever. Nobody finds the demand any better and some shippers are not finding their trade as good as it was. Slack is scarce and it may be that sizes will stiffen before long also, but so far a few cents advance on Youghiogheny gas slack is about all the change in sight.

With the prospects of a coal strike in the near future, Toronto householders are keeping retail dealers busy filling orders. The rush has lasted for several weeks now and shows no signs of slackening. Supplies are still coming in, and with the exception of stove coal there is no scarcity. Dealers are hoping that the strike may be averted before any real scarcity makes itself felt. Prices are unchanged.

New England Situation Steadier

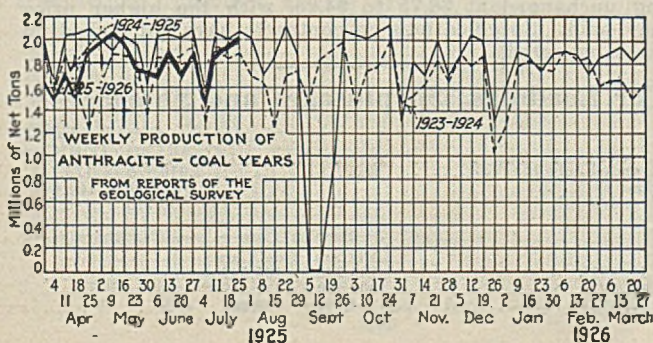
In New England the improved situation reported a week ago has been reasonably well maintained. The increase in demand, if any, is very slight, but prices are on a firm basis once more and there are few indications of shading in order to move coal. The British labor difficulty was a talking point for a fortnight, but there were no signs of comprehensive buying from foreign quarters. Production in the smokeless fields is under better control, accumulations at the piers are much less than during May and June, and it is clear that requirements and the volume of coal are being co-ordinated in much better fashion than has been customary hitherto this season. Factors who were assuming coal would be waiting for their ships as matter of course now find it necessary to arrange for cargoes weeks in advance, and obviously this is a much more wholesome state of trade.

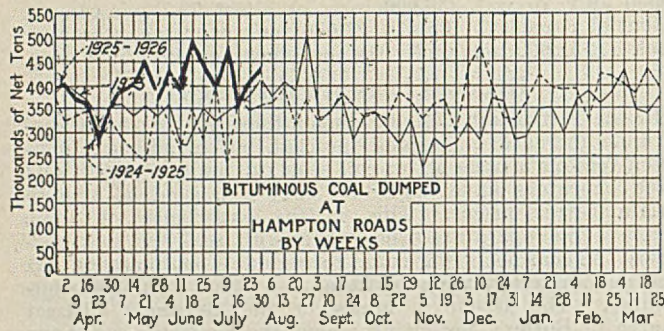
While good grades are still to be had at \$4.35 per gross ton f.o.b. vessel at Norfolk and Newport News, the actual range of the market on Navy standard Pocahontas and New River is \$4.35@ \$4.50, with occasional sales of small lots on a slightly higher basis. Somewhat firmer marine rates on steamers have encouraged rehandlers at this end to raise their asking figures to \$5.75 on cars Boston, but business is still being taken for August and September delivery at \$5.50@ \$5.60. The Boston retail market also is much improved, dealers having pegged their price at \$7.50 per net ton delivered, although the cream of the tonnage was placed earlier at around \$6.

On Pennsylvania coal there is no change. The high cost of mining keeps prices still far above what the market will absorb in any volume, and there is not yet any opening all-rail in competition with Pocahontas and New River.

Demand Growing at New York

An increased amount of bituminous coal is being called for steadily by New York buyers, and there is every prospect of the improvement continuing through August. Over and beyond this seasonal tendency to expand, the work of corralling orders will be facilitated in the next few weeks by the danger of trouble in the anthracite fields. Prices have not risen except in spots, and until there is a broad





advance, embracing all grades of coal, the bituminous trade as a whole will not be on a profitable basis.

The volume of inquiries now coming in shows that consumers of soft coal are no longer indifferent. Some are holding back but every week sees a certain amount of business closed that had been hanging fire, and taking it all around the local wholesale trade is in a more hopeful mood than for some time past.

At Philadelphia there is only an ordinary demand for soft coal, with all producers in readiness to take advantage of any quickened call. The better movement among the medium users of coal to put stocks in storage continues and inquiries are increasing, although there is still a tendency to shop around to get the lowest figures.

The railroads are holding off, though some tonnage has been placed lately in high-volatile coals where the price was favorable to the buyer. With the possibility of an anthracite strike producers are not so anxious to close railroad trade at the prices now offered, and as the roads have big stocks there is indifference on both sides.

The outlook industrially is favorable for good fall business and this fact is giving much encouragement to local selling houses.

The tide trade remains quiet, although hopes are strong that the increased call for fuel evident at some of the Southern ports may reach here soon. Bunkering goes on at the ordinary rate in evidence for the past year, and prices are unchanged.

One result of the settlement of the threatened British coal strike probably will be that the export and bunker trade at Baltimore will progress along more normal lines than would have been the case had the English coal supplying group been forced to come into the market for German or American coals. Coal men are confident that there is enough hard coal in reserve to take care of a considerable period if there be a strike, and that the effect on soft coal will be only a moderately increased demand for certain domestic steam sizes that will in no way greatly accelerate soft-coal buying. Meanwhile sales competition is keen and prices remain about the same as they have been for some weeks past.

Birmingham Expects Improvement

At Birmingham the market for domestic fuel continues very sluggish, with scarcely any spot demand and a very limited and slow movement against contracts. Coal men expect an improvement in conditions with the beginning of August, contracts calling for the delivery of a much larger tonnage than specified for July and preceding months. Householders so far have evinced little interest in stocking winter fuel and consequently dealers, having fair stocks, are in no mood to further augment them until they have booked a fair amount of retail orders. Mines have managed to move their domestic output so far by unusual effort. Prices on all high grades of coal have been maintained and the usual increase became effective Aug. 1 except on Big Seam and similar grades. August prices on Cahaba lump are \$4.05@ \$4.80; Black Creek, \$4.30; Corona, \$3.35; Carbon Hill, \$3.10; Montevallo, \$4.55@ \$5.30; Big Seam, \$1.75@ \$2.25.

Steam coal buying is about normal for this season and spot business is sufficient to keep the mines going with their contract obligations in hand. There is little or no surplus coal and quotations are stable on the schedules which have been supported by the market for the last two months or more. General industrial consumption through contract agreements is large, utilities, railroads and coke-making requiring a heavy tonnage. The bunker trade is reported as very quiet at present.

Hard Coal Trade More Active

At New York the anthracite market shows considerable activity. The companies already have orders booked to care for the bulk of their August tonnage, these having been accepted subject to prices prevailing at date of shipment. In the rising market the policy of the independents is to sell from week to week only, or even from day to day, in order to get the full benefit of advancing prices.

Retailers are buying heavily to meet current demand and to build up stocks. Dealers report they have all the business they can handle. Some are working the strike scare for all it is worth, while others are putting the soft pedal on it lest they play into the hands of oil-burner salesmen.

The Philadelphia trade from all angles is fairly satisfactory. Demand for all sizes has strengthened much during the past seven days, the mines are making full time and production is close to normal.

Local retail demand is only ordinary, but some of the independents, mostly those who sell their coal through commission houses, have added considerably to their prices.

Stove has tightened up considerably and is not coming in freely, but there is no shortage. Much the same thing is true of egg, and while nut is still easy to get, there are signs that it too is in better demand. Pea has improved, but there is still a plentiful supply all around. Steam sizes have braced and company producers are coming close to moving every ton to market.

Retail prices of hard coal, except buckwheat, moved up 25c. per ton in Baltimore Aug. 1. During July, for which period there was a wholesale advance, the retail trade absorbed the increase and continued to sell to the general public at the same rates as quoted in June.

The Buffalo anthracite trade is still getting the benefit of the possible strike and retailers generally report good business. The prospect is that the beginning of September will see quite as much coal in cellars as in former seasons.

Some independents are getting higher prices, but it is hardly possible to sell that coal here.

There is a decided shortage of anthracite in this territory. The city retailers are able to get what they need and the rail line movement is pretty good, but there is next to no surplus for shipping by lake. Only four or five cargoes are now loaded into lake vessels in a week.

Coke sells moderately. There is every prospect of a much-increased demand for it when cold weather sets in, and the handlers of it will be many.

Lake shipments for the week were 37,800 tons, of which 13,300 tons cleared for Fort William, 9,500 tons for Duluth, 7,000 tons for Ashland, 6,000 tons for Milwaukee and 1,500 tons for the Sault.

Connellsville Coke Market Unchanged

There was no change in the Connellsville coke market last week either in prices or volume of demand, though some operators have hope of obtaining extra business in coke as an anthracite substitute.

Demand for spot furnace coke is confined almost wholly to small lots for non-metallurgical consumers. The price holds at \$2.90, to which it had advanced a week ago. There is no demand for spot coke from furnaces and no inquiry as to contracts. Furnaces using purchased coke are neither blowing in nor blowing out.

A non-ferrous metal interest which has been buying coke, not strictly standard furnace coke, in odd lots lately has put out an inquiry for a regular supply for a month or to the end of the year, as a feeler, presumably prompted by thought of the possibility of coke advancing on account of anthracite conditions.

Foundry coke for spot shipment remains dull, prices being unchanged at \$3.75 to \$4.25, with the higher price rarely paid. Specifications on contracts have not picked up as was expected.

Car Loadings, Surpluses and Shortages

Week ended	Cars Loaded	
	All Cars	Coal Cars
July 18, 1925	1,010,970	170,742
Previous week	982,809	160,444
July 19, 1924	930,713	146,703

Date	Surplus Cars		Car Shortage
	All Cars	Coal Cars	
July 22, 1925	296,743	101,542	
July 14, 1925	309,560	111,449	
July 22, 1924	344,892	158,606	

Foreign Market And Export News

British Coal Market More Active; Output Slightly Higher

With the possibility of a stoppage in the Welsh coal trade at the end of the month there has been increasing activity in the shipment of coal and also in inland deliveries. Supplies of coal are not now available to any great extent. Foreign depot owners and other consumers, including South American, Egyptian and Irish railways, which have large contracts for Welsh coal, have taken steps to increase deliveries as far as possible. With the heavier shipments and reduced supplies offered colliery owners are holding out for better prices for any coal they have for disposal.

At Newcastle-on-Tyne the week opened with all classes showing a firm tone and sellers were fairly successful in getting the higher quotations. Inquiry is from all directions but chiefly from the Mediterranean and coaling stations.

Production by British coal mines in the week ended July 18, a cable to *Coal Age* states, totaled 4,890,000 tons, compared with 4,820,000 tons in the preceding week.

French Industrial Grades Dull; House Coals More Active

The calm of the French coal market has not been lifted to any extent; in fact the movement of industrial grades is quite bad, though household fuels are somewhat more active.

The proposed reduction of railway freight tariffs so as to allow easier clearances from the French mines to the western region of the country has been rejected owing to the uncompromising attitude of the State Railways.

The French market has been expecting a strike at the British collieries and a number of importers have balked at accepting orders, not knowing if they would be able to execute them. This has given an impetus to sized dry descriptions and to French, Belgian and Dutch anthracite grades. German free coals have been arriving in small quantities.

The tax on production and imports of fuels, substituted for the tax on transactions, provides a rate of 1.70

per cent of the price on sales of coals and lignite and of 1.80 per cent on coke.

Hampton Roads Coal Market Unsettled but Firm

Possibility of a hard-coal strike and its probable effects, unsettled the Hampton Roads market last week, cut down the supply of spot coal and increased the number of inquiries. The market was strengthened somewhat, but the trade was in a state of decided uncertainty as to how to move.

Shipments to Canada and to Europe appeared to be holding their own, but the business was mostly on long-time contracts. Very few shippers were willing to sell coal far ahead, and while they were not inclined to quote prices too low they still were skeptical of big advances.

Belgian Coal Trade Worse

The situation in the Belgian coal market is getting worse week by week, industrial grades having taken a disastrous turn due to the strike of metallurgists and structural workers in the Charleroi Basin. Business is particularly bad also in the Borinage, where shutdowns of pits are more numerous. Stocks total around 2,400,000 tons.

Producers are well booked for sized products, particularly for sized dry grades, and refuse deliveries to outside markets. Sized anthracite products are quoted on the rise for movement inland.

U. S. Fuel Exports in June

	1924	1925
Anthracite.....	346,349	313,535
Bituminous.....	1,426,979	1,435,973
Exported to:		
France.....	65,615	40,599
Italy.....	71,843	77,058
Other Europe.....	3,943	1,147
Canada.....	1,096,854	1,038,464
Panama.....	19,312	48,466
Mexico.....	9,610	8,077
Br. West Indies.....	9,938	19,528
Cuba.....	27,356	45,371
Other West Indies.....	22,167	16,177
Argentina.....	5,059	1,200
Brazil.....	66,078	100,401
Chile.....	11,229	.....
Egypt.....	.....	11,646
French Africa.....	.....	7,250
Other countries.....	17,976	20,589
Coke.....	48,238	50,484

U. S. Fuel Imports in June

	1924	1925
Anthracite.....	4,490	25
Bituminous coal, shale and lignite.....	16,087	576
Bituminous coal and slack.....	15,113	32,809
Imported from:		
United Kingdom.....	.....	450
Canada.....	15,113	32,913
Japan.....	9,500	.....
Australia.....	6,587	.....
Other countries.....	.....	22
Coke.....	2,771	8,802

Export Clearances, Week Ended Aug. 1, 1925

FROM HAMPTON ROADS		Tons
For Canada:		
Ital. Str. Color, for Montreal.....		6,363
Br. Str. Rose Castle, for Quebec.....		10,605
Br. Str. Dagbild, for Quebec.....		11,426
Br. Str. Kamouraska, for Quebec.....		7,110
Br. Str. Penolvor, for Three Rivers.....		5,454
For Canal Zone:		
Amer. Str. Achilles, for Cristobal.....		12,068
For Nova Scotia:		
Amer. Str. Suffolk, for Halifax.....		7,548
For Italy:		
Ital. Str. Valprato, for Genoa.....		7,073
Jap. Str. Kofuku Maru, for Genoa.....		8,060
For Jamaica:		
Br. Str. Macabi, for Kingston.....		3,000
For French West Indies:		
Br. Str. Dunstaffrage, for Fort de France... ..		6,995
For Newfoundland:		
Br. Str. Cranley, for Botwoodville.....		6,017
For France:		
French Str. P. L. M. 14, for Rouen.....		5,606

FROM PHILADELPHIA		Tons
For Cuba:		
Br. Str. Onega, for Havana.....	
Nor. Str. Sagaland, for Havana.....	
For New Brunswick:		
Am. Schr. Purnell T. White, for St. John.....	
For Brazil:		
Jap. Str. Denmark Maru, for Rio Janeiro.....	

FROM BALTIMORE		Tons
For Canada:		
Nor. Str. Urter, for Port Alfred....		2,097
For Gibraltar:		
Ital. Str. Aster.....		8,923

Hampton Roads Pier Situation

	July 23	July 30
N. & W. Piers, Lamberts Pt.:		
Cars on hand.....	1,731	1,613
Tons on hand.....	110,850	100,449
Tons dumped for week.....	103,714	158,651
Tonnage waiting.....	20,000	6,000
Virginian Piers, Sewalls Pt.:		
Cars on hand.....	866	859
Tons on hand.....	60,800	64,150
Tons dumped for week.....	90,205	78,400
Tonnage waiting.....	1,679	7,395
C. & O. Piers, Newport News:		
Cars on hand.....	2,690	2,789
Tons on hand.....	126,720	137,485
Tons dumped for week.....	170,424	160,979
Tonnage waiting.....	4,620	19,745

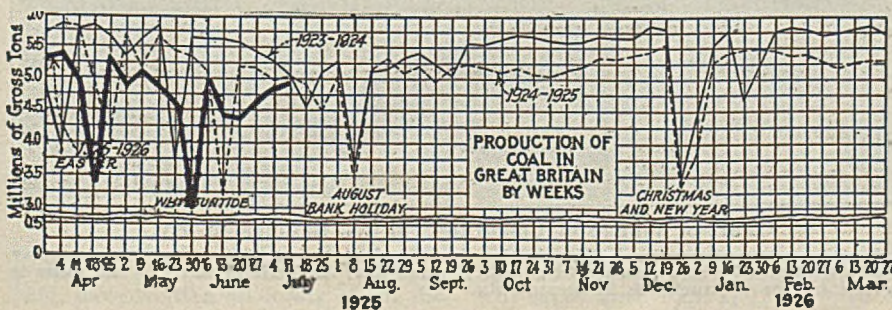
Pier and Bunker Prices, Gross Tons

	PIERS	
	July 25	Aug. 1†
Pool 1, New York....	\$5.30@5.60	\$5.26@5.60
Pool 9, New York....	4.75@5.00	4.75@5.00
Pool 10, New York....	4.50@4.60	4.50@4.65
Pool 11, New York....	4.25@4.50	4.25@4.50
Pool 9, Philadelphia..	4.65@4.90	4.65@4.90
Pool 10, Philadelphia..	4.35@4.55	4.35@4.55
Pool 11, Philadelphia..	4.25@4.30	4.25@4.30
Pool 1, Hamp. Roads.	4.25	4.30
Pool 2, Hamp. Roads.	4.10	4.20
Pools 5-6-7, Hamp. Rds.	4.00	4.10
	BUNKERS	
Pool 1, New York....	\$5.55@5.85	\$5.56@5.65
Pool 9, New York....	5.00@5.25	4.80@5.00
Pool 10, New York....	4.75@4.85	4.50@4.65
Pool 11, New York....	4.50@4.75	4.25@4.50
Pool 9, Philadelphia..	4.80@5.05	4.80@5.05
Pool 10, Philadelphia..	4.60@4.80	4.60@4.80
Pool 11, Philadelphia..	4.45@4.65	4.45@4.65
Pool 1, Hamp. Roads.	4.35	4.40
Pool 2, Hamp. Roads.	4.20	4.25
Pools 5-6-7, Hamp. Rds.	4.10	4.15

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

Quotations by Cable to Coal Age		
Cardiff:	July 25	Aug. 1†
Admiralty, large.....	26s.6d.	30s.
Steam smalls.....	26s.6d.@27s.6d.	17s.6d.
Newcastle:		
Best steams.....	22s.6d.	18s.
Best gas.....	25s.	16s.
Best bunkers.....	25s.	18s.6d.

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





News Items From Field and Trade

ALABAMA

Frank G. Long has been appointed superintendent at the Flat Creek Mines of the Alabama By-Product Corporation, succeeding J. D. Hollis, resigned.

The Alabama Mining Institute, J. J. Holmes Safety Association and local U. S. Bureau of Mines will sponsor the regular first-aid and field day meet, the date for which has been tentatively set for Oct. 6 at Birmingham.

A. W. Hudgens has been appointed manager of sales for the Alabama Fuel & Iron Co., one of the largest commercial coal producers in the Birmingham district, and will maintain his offices with the company in the Brown-Marx Building, Birmingham. Mr. Hudgens has been acting as executive official for the Galloway Coal Co. in charge of its Alabama operations for several years.

It is reported that the Cordova Brick Co. will develop a mine on its properties west of Cordova, where the company owns a large tract of land containing fine coal and fireclay deposits. The company will build a number of houses for employees, it is stated.

ARKANSAS

Approximately 95 tons daily was loaded on the Midland Valley R.R. at the No. 2 mine of the Greenwood Coal Co., Greenwood, last week, following the opening of the mine under 1917 wage scale, according to reports. Fifty men are at work at the mine. The mine is one of the largest in the state.

The coal mine in the Shiloh community near Dardanelle is operating on full time and producing a large tonnage of coal.

Governor Terral has announced the appointment of Claude Speegle, of Hartford, to be state mine inspector to succeed Jesse Redyard, whose term expired. Mr. Speegle was appointed for two years. The state mine inspector's office is maintained at Fort Smith.

Members of the miners' union at Russellville have been raising funds with which to defray the expense of returning to their homes 53 penniless miners who came from Bristol, Tenn. The Tennessee workers were brought in, it was reported, to enter the employment of the Bernice Anthracite Coal Mining Co., with the assurance that a shortage of labor had necessitated the employment of non-union miners. Though no demonstration was made by the union men, the Tennessee miners decided to discuss means of getting back to Bristol after they were taken to the

Bernice mines by an armed guard. The Bernice mine officials declared an open-shop policy several months ago.

ILLINOIS

J. W. Fairbairn, Galesburgh, has found coal at a depth of 107 ft. on his farm five miles east of that city. Though geologists had given an unfavorable report, he persisted in his belief that he was on coal land. The vein is said to be nearly 5 ft. thick and of good quality. The Galesburgh Mining Co. will begin production Sept. 1.

Three mines, all of good size, reopened during the last week in July in the southern and south central district. The No. 15 mine of the O'Gara Coal Co. at Carrier Mills, resumed as did the No. 2 mine of the Saline County Coal Corporation at Ledford. Mine No. 12 at Witt, of the Indiana-Illinois Coal Corporation, also resumed operations after several months' idleness.

The Chicago, Burlington & Quincy R.R. announces the promotion of general agent C. J. Nelson, with headquarters in Herrin, to the position of general agent of the coal department with headquarters in Chicago. Mr. Nelson will assume his new duties at once and will be succeeded by A. F. Vogel, of Herrin.

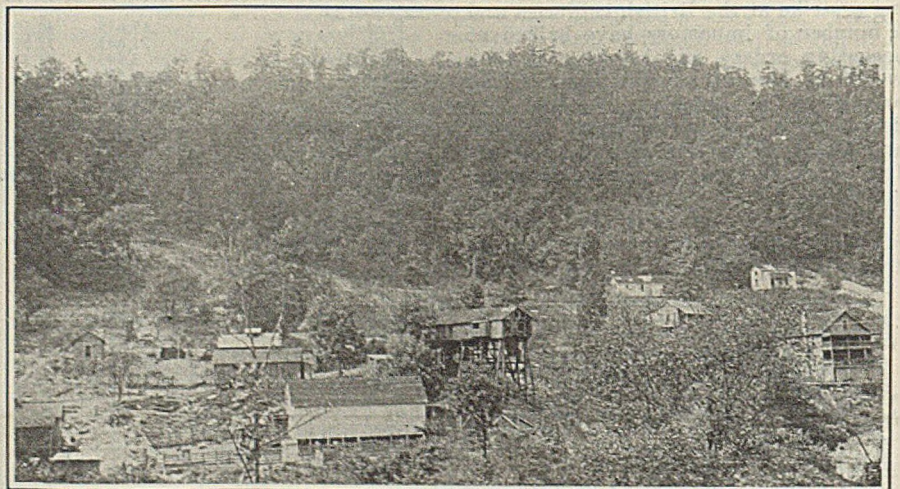
The will of J. K. Dering, coal-mine owner and operator, which disposes of a \$2,000,000 estate, leaves one-third to the widow, one sixth to a brother, Charles L. Dering; \$200,000 to employees, one-tenth to charity, and the remainder to his son, Jackson K. Der-

ing, Jr., when he attains the age of 30 years. Under the \$200,000 provision for employees Joseph Roynon and James B. Pauley, were given \$20,000 each and Duncan B. Bedill received \$10,000. The will further provided that each employee in the Chicago office and in the personal service of Mr. Dering for ten years or more should receive \$5,000; each employee for five years or more \$2,500; each mine superintendent employed five years or longer, \$2,500; each mine employee paid on a monthly basis and employed five years or more \$1,000.

Wasson Mine No. 1, Herrin, which had been closed down for six weeks or more, resumed work July 16.

After a recent shutdown for repairs, the big No. 10 mine of the Indiana & Illinois Coal Corporation, at Nokomis, resumed operations July 23. Over 800 men who had been idle on account of the shutdown are back at work. Officials of the company expect that the shaft will work several days each week until cold weather, when full-time operations are looked for. The big shaft has a daily hoisting record of over 600 tons, and when operating at full capacity furnishes employment for 1,200 miners.

The Nason Coal Co. has been awarded the contract to supply the State of Illinois with coal for the following state institutions: Southern Illinois penitentiary, 9,000 tons; Menard State Hospital, 900 tons; State School at Geneva, 2,500 tons. The contract aggregates \$50,000.



Part of Village of Comargo Coal Co., LaColeman, Ky.

In the center of the illustration is the tippie and receiving station for the cableway which conveys the coal across Big South Fork of the Cumberland River. The mine is served by the Kentucky & Tennessee Ry.

INDIANA

The Walters and Mattinly coal property, near Boonville, was sold to Fred J. Stock, Boonville, at a receiver's sale July 22.

The third shift of men employed at the Pike County Collieries Co., near Oakland City, has been temporarily laid off. The No. 1 and No. 2 shifts are working steadily and the No. 3 shift is expected to be put back to work soon.

The Cypress Creek Coal Co.'s property, four miles west of Boonville, was placed on the market July 25. The entire stock of the company, consisting of 2,000 shares, par value \$50, was offered to the highest bidder. The Cypress Creek Mine, known as the "John Bull Mine," has for a number of years been one of the best producers in the Boonville district and is said to be one of the finest equipped mines in southern Indiana. It has a daily output of 1,200 tons.

KANSAS

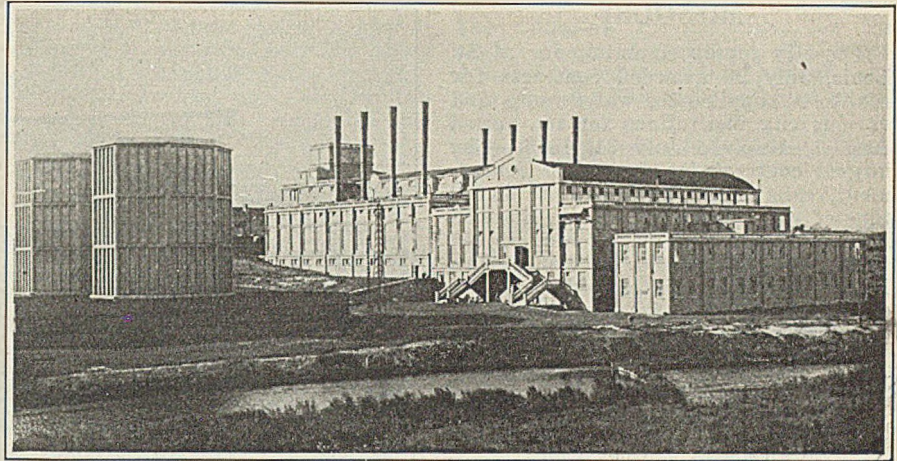
Mine No. 17 of the Jackson-Walker Coal & Mining Co., near Frontenac, was reopened with sixty men July 28 by Sam Thornburg and James Murphy, who are operating it under lease. The mine was closed several weeks ago to permit the installation of electrical equipment and a new shaker screen.

Officials of District 14, United Mine Workers, announced July 28, as the result of a series of conferences with operators of mines in the district which have not been working under contract with the union, that these operators had agreed to sign contracts and encourage the organization of workmen in their mines: The Jenkins Coal Co., the Big Five Coal Co., the Holt Coal Co. and the Overjohns Coal Co., operating Mayer No. 11. Men at the Jenkins shovel have been out of the union three years, while the Perfecto mine has been non-union two years.

Upon the agreement of the operators to withdraw the demand that all miners employed by them buy stock in the company, the strike called six weeks before at the Patton Coal & Mining Co.'s No. 5 mine was terminated July 15. The Patton company recently announced its intention to open Hamilton No. 7 under lease under a similar agreement, an announcement which likewise drew fire from union officials.

The Teerleen Coal Co., composed of L. G. Norris, Ed Brennan and W. E. Kelly, will start shovel operations on a 40-acre tract they own south of Mulberry, late in August. The bed they will work is from 34 to 36 in. thick with an 18 to 20 ft. overburden. Brennan and Kelly formerly were with the Republic Coal Co., at Minden, while Norris operates the Norris electro-shovel mine east of Croweburg. The mine is on the Kansas City Southern R.R.

Officials of District 14, United Mine Workers, aroused by alleged efforts of operators in the Henryetta (Okla.) field (District 21), to recruit miners from union ranks in Oistrict 14 to work under the 1917 scale in the Oklahoma field, have written all locals of the dis-



Central Station of the Coal Mining Co. of Liévin, France

The generators develop 30,000 kw. The cooling towers on the left and the chimney stacks in the shape of inverted cones will occasion notice.

trict urging them to combat the offers of the Oklahomans.

The Frisco R.R. has closed contracts with Kansas operators for approximately 500,000 tons of coal for the year ending March 31, 1926. While the quantity is the same as purchased from Kansas last year the greater part of it will come from strip mines under the new contract, instead of from the deep mines, as under the old contract. "Strip coal has been in use the last month and is proving a success," C. E. Bissell, fuel agent for the Frisco in the Kansas field, stated. The companies with whom the new contracts were signed during the week ended July 25 are the Central Coal & Coke Co., Crowe Coal Co., Clemens Coal Co. and Hamilton Coal Co.

George Burla and Ralph Walker suffered burns from gas while resinking an old shaft for the Magnolia Coal Co. near Mineral on July 24 and died some hours later. The lower vein of coal was worked out ten years ago and the 150-ft. shaft filled with cinders. The shaft was being reopened to the 40-ft. level to work the top vein. Sulphureted hydrogen from the old workings made its way through the cinder filling and ignited when one of the workmen struck a match to light his pipe.

The Pittsburg Midway Coal Co. has paid more than \$75,000 in the last few weeks to land owners between Coffeyville and Angola and Valeda for coal rights, the payments being made as fast as the titles to the properties are approved. Options were taken some time ago.

KENTUCKY

The Tennessee Jellico Coal Co., Louisville, has recently filed amended articles limiting its liability to \$1,000,000.

The Kentucky Court of Appeals has cleared Sheriff Tolbert Holliday, of Perry County, of charges of misconduct in office and has replaced him in good standing. Governor Fields had under the ouster law held him guilty and ordered him out of office. Holliday will serve until Jan. 1, 1926, when his

term expires. He had been charged with neglect of office, accepting pay from coal companies for giving them protection, and numerous other things, many of which it was alleged, were merely trumped up charges in an effort of a lawless element to get rid of the sheriff.

The Downard Mining Coal Co., which purchased a Harlan County mine a few months ago, has changed its name to the Downard Mining & Sales Co., of which J. Paul Downard is the active head. Elmore Manning, one of the original officers of the concern, sold his interest some time ago, and is now manager at Louisville for the Southern Coal Co., of Memphis.

The mines of the Eden Coal Co., near Blackey, in Letcher County, which had been down for some time, have resumed operations on a full-time basis, and with a prospect of fairly steady operation. A. S. Petrey, of Hazard, is head of the company.

The steamer Julius Fleischman, of the Hatfield-Reliance Coal Co., interests, came in from the West Virginia fields a few days ago, leaving eight barges of coal at Louisville, three to go down river.

C. D. Major, of the Byrne & Speed Coal Co., Beaver Dam Coal Co., North Jellico Coal Co. and allied Speed-Sackett coal interests of Louisville, recently won a handsome golf trophy at the Audubon Country Club.

Abner Lunsford, head of the Henry Ford coal interests stated in Cincinnati last week that the big Banner Fork mines at Kentenia, in the Hazard field, were down and would not be working for a week or ten days on account of a break in the shaft.

Denver B. Cornett, eastern Kentucky mine operator, of Harlan, is one of five men whose names have been given to Governor Fields, from which one name will be selected for appointment as member of the State Board of Election Commissioners. The names were selected by the Republican state central committee.

MISSOURI

The city supply commissioner of St. Louis, July 29 awarded contracts for coal to be supplied the water works and various city institutions for the period Aug. 1, 1925, to July 31, 1926. The largest contract for the water department, calls for a minimum of 60,000 tons of water screenings f.o.b. Bissell's Point Pumping Station. It went to the Crerar-Clinch Coal Co. at \$2.63. The Berry Bergs Coal Co. contracts to deliver 20,000 tons of screenings to the city sanitarium pumping station for \$2.69 per ton and for 7,500 tons of mine-run at \$3.05.

Three men lost their lives on July 21 as the result of black damp in a coal mine seven miles southeast of Unionville. They are Alzono Minear, Pearl Minear and Ted Baugher. The mine was not being worked. Baugher had gone down the shaft 22 ft. to bring out some tools when the damp struck. The two others went to his rescue and also were overcome.

OHIO

Miners in the pits of the Pittsburgh Coal Co. at Pomeroy were paid \$23,118.67 in their last pay for two weeks' work, officials of the company announced at Pittsburgh Thursday. The payroll of the Stalter-Esses Co. is understood to have amounted to about \$8,000, making a total mine payroll at Pomeroy of more than \$31,000. The pay of the Pittsburgh Coal Co. represents a substantial increase since it began operating three mines there. There are now 379 miners working for the company in that field.

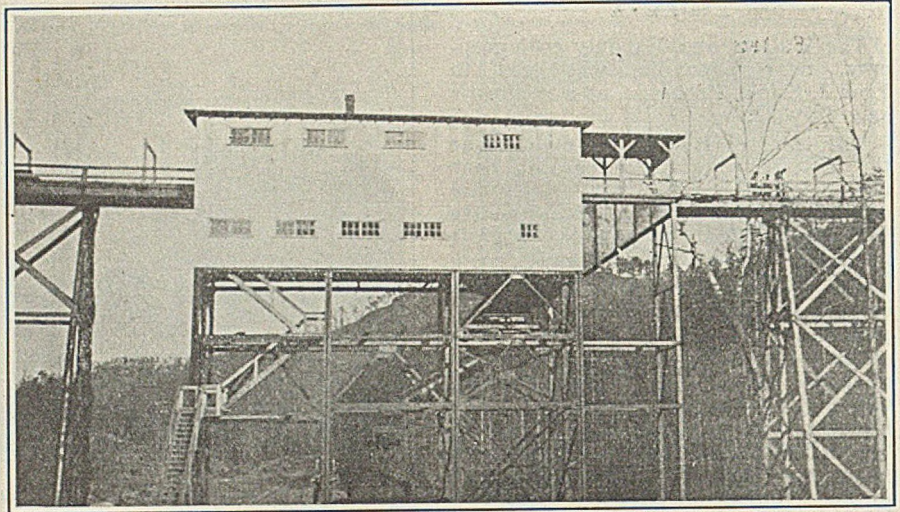
C. J. Albasin, commissioner of the Pittsburgh Vein Operators' Association in the southern Ohio field, reports that only 40 mines are working in that district. Production totals will be much below those of previous years, he says. The same situation exists in the Wheeling district.

On what probably will be the last artificial wave used for wafting heavy shipping down the Ohio River until the completion of the lock and dam system that will assure a 9-ft. stage, more than 30,000 tons of coal arrived at Cincinnati July 30. The coal was consigned from the Kanawha River and Huntington, West Virginia, to the Island Creek, Campbell Creek, Philadelphia & Cleveland and Hatfield-Reliance coal companies.

The Lake Erie Fuel Corp., of Buffalo, has opened a branch office in Cleveland in charge of George C. Schwehr, who is president of the Cleveland Wholesale Coal Association, but was formerly a Buffalo coal man.

OKLAHOMA

The union coal miners made their most pretentious demonstration July 26 against operators who refuse to pay the 1924 wage scale. Speeches were made by national and district union officials. Several hundred cars carrying miners paraded at Okmulgee, the county seat, and in Henryetta the streets were filled with cars throughout the day. The union miners had challenged the oper-



Where Drop-Bottom Cars Are Discharged Automatically

Steel tippie of Stearns Co-Operative Coal Co., a subsidiary of the Stearns Coal & Lumber Co., at Co-Operative, Ky. A light and airy structure. In the dumping of drop-bottom cars a minimum of shock is sustained by the tippie.

ators to debate the coal situation at a meeting July 26. Sunday morning the Henryetta District Coal Operators' Association published a statement declining to accept, saying that their mines were operating on the 1917 scale and that the local miners could go to work at it if they so desired and if they did not other miners would be brought in from the outside. Col. E. Head, 180th Infantry, Oklahoma National Guard, commanding the troops at Henryetta, refused to answer when asked if he had called for additional troops, but more soldiers were noted during the meeting July 26.

Five mines in the Henryetta field which are being operated under open-shop rules produced 7,900 tons of coal in the week ended July 18, according to J. O. Johnson, assistant commissioner of the Southwestern Interstate Coal Operators Association. Six mines were running open shop last week. A tonnage of 1,600 is the weekly output of five other mines, four of which are run co-operatively and the fifth under contract, Johnson said. Picketing of the mines has been peaceful and for the most part has been carried on by women and children, who hold meetings outside the mines, sing songs, offer prayers and endeavor to persuade non-union miners to join the union ranks, it is said.

PENNSYLVANIA

The union mines of the Pittsburgh district are now operating at 8.3 per cent of capacity, according to the reports to the Pittsburgh Coal Producers' Association for the week ended July 25. With a weekly capacity of 629,880 tons the 14 working mines out of 80 produced during that week 52,204 tons. The operations compare with 7.7 per cent in the previous week, but with 28 per cent last year at this time.

Approximately 4,500 acres of coal land in the Snow Shoe region near Bellefonte, with six miles of railroad, half a dozen houses, two steam shovels and all modern equipment for stripping operations, will be sold at receivers'

sale on Aug. 27 by R. P. McClellan, A. R. McNitt and T. B. Bridgson, receivers for the Blanchard-Moshannon Coal Co. Stripping operations were begun by the company two years ago under the presidency of William G. Blanchard, of Pittsburgh.

The Jefferson-Indiana Coal Co., which is operating several of the mines of the Rochester & Pittsburgh Coal & Iron Co., produced 8,800 tons of coal one day last week, thus breaking the record at one or two of the mines. Work is on a reduced-wage scale. There is no disturbance.

Governor Pinchot has reappointed S. J. Phillips, of Scranton, as an anthracite mine inspector.

The Indian Creek drainage case is expected to be finally disposed of on Aug. 10, when a hearing will be held at Uniontown before Judge Van Sweringen. At this hearing a plan will be submitted whereby the coal companies of the Indian Creek Valley may construct a drainage tunnel for sufficient distance to avoid pollution of the stream from which two public service companies draw their water supplies. Both parties to the long-fought dispute are ready to agree to a settlement this way, if possible, it is understood, and the coal companies joined in the petition to the court for the hearing date. The case attracted wide attention for a long period due to the vigorous complaint of the Pennsylvania R.R.

UTAH

J. R. Flemming has been awarded the lease of 1,800 acres of coking coal land in the Sunnyside district of Emery County. The conditions are that the government receive a royalty of 12½c. per ton. The sum of \$75,000 must be expended in developing the property within three years and a minimum annual production of 50,000 tons beginning in the fourth year is required.

VIRGINIA

The Clinchfield Coal Corp. reports net earnings of \$2,000,853 for the first half of 1925, against \$2,170,921 in the

same period in 1924. After all deductions the company reported a net income of \$241,615, against \$336,474 last year. After preferred dividends and sinking-fund requirements the company reported a surplus of \$177,323 for the half year, against \$274,557 last year.

The Big Sandy & Cumberland R.R., a narrow-gage subsidiary line of the Norfolk & Western Ry., running from Devon, W. Va., to Grundy, Va., 33 miles, has applied to the Interstate Commerce Commission for authority to build an extension of 14 miles near Hurley, in Buchanan County, Virginia, along Home Creek and the Lester Fork of Knox Creek. This is to shorten the line and reduce grades. It also will connect two lines. The route is in a coal and timber region.

WEST VIRGINIA

Coal operators in northern West Virginia are expected to receive telegrams this week to report to New York City for final conference on the much-discussed \$100,000,000 merger. There are twenty companies involved and it is reported that this is a showdown on the proposition.

The Brady-Warner Coal Co. resumed operations on July 23 at the Abrams Creek mines at Oakmont on the Elk Garden branch of the Western Maryland, with about 45 men reporting for work the first day; but it is stated by E. Richard Brydon, who is in charge of the mine that when it is in full operation the mine will use about 100 men and will be able to produce from 500 to 600 tons. The Abrams Creek mines have been idle since January 1. A large amount of money has been expended by the company in modernizing the mines.

The Consolidation Coal Co. has ordered a steel headframe for its new plant, No. 261, at Juno, McDowell County. The company has been developing this mine for several years, and at present is producing a large tonnage.

The Bethlehem Mines Corporation is planning the installation of a water system at Barrackville. The water will be filtered for use by the miners of the village and for use in boilers at the mine.

In an address before the Lions Club of Morgantown, R. M. Lambie, chief of the West Virginia Department of Mines declared that wherever rock dusting has been employed and explosions have occurred the destruction of life and property has been reduced to a minimum—in fact, according to Mr. Lambie, the velocity of the explosion has spent itself within a short distance when it struck the section of the mine where pulverized limestone had been used. The chief of the West Virginia Department of Mines declares that \$6,000 a year will adequately dust any mine in West Virginia. He believes this to be "a sum infinitely small in comparison to the added protection it gives lives and property."

T. C. Songer, of Ashland, Ky., general chairman of the Brotherhood of Locomotive Engineers for the Chesapeake & Ohio Ry., was elected chair-

man of the board of directors of the Coal River Collieries Co. at a special meeting at Huntington, July 21. G. C. Hoffman, of Cleveland, assistant treasurer of the company, was elected to the directorate to fill the vacancy caused by the recent death of Warren S. Stone. The latter was chairman of the board.

The following companies have filed certificates of dissolution with the Secretary of State: The Harry B. Coal & Coke Co., Dixie Mining Co., Big Four Coal Co., Car-Diff Smokeless Coal Co., Beall Knob Coal Co., Marshall Fuel Corporation, Twin States Fuel Co., Junior Coal Co., Robinson Run Fuel Co., Begley Coal Co., W. H. Green Coal Co., Piney Creek Coal Co., Masontown Coal Co., Spring Mountain Mining Co., Troll Coal Co., Steamwell Coal Co. and Penn Marva Coal Co. Certificates of withdrawal have been filed by the Fort Dearborn Coal Co. and the Low Moor Iron Co., of Virginia.

CANADA

Premier E. N. Rhodes of Nova Scotia and the members of the new government were in conference at Halifax on July 27 in connection with the Cape Breton coal strike. No announcement was given out as to the result of their deliberations. The conferences between the government, the representatives of the British Empire Steel Corporation and the District Board of the U. M. W. were to be resumed on the 30th. Further acts of vandalism have occurred in the strike area including incendiary fires at Glace Bay and Reserve, the looting of John R. Blue's store at New Aberdeen, and minor depredations. A warrant has been issued for the arrest of Joseph MacLeod, British Empire Steel Corporation policeman, on a charge of murder for the shooting of William Davis, in the New Waterford riot of June 11.

The Rosedale Mine, at Drumheller, Alta., resumed work July 25 with the men working under a United Mine Workers charter. There were twenty-five miners at work there, according to mine officials. District President Sherman, of the U. M. A., went to Rosedale on June 24 under police protection, and says he had a very encouraging meeting there, all present voting for a return to the United Mine Workers fold and accepting their agreement with the operators.

The British Columbia Court of Appeal is soon to decide upon the constitutionality of the tax on fuel oil imposed by the Provincial Legislature ostensibly for revenue purposes but actually with a view to protecting the coal-mining industry of Vancouver Island in particular and the province in general. Many consumers have refused to pay the tax. When the tax was imposed the Canadian National Rys., the Canadian Pacific Railway Co., the Union Steamship Co. of British Columbia and the Powell River Co., all large consumers of fuel oil, appealed to the Governor-General-in-Council against the tax, contending that the tax was indirect and could be levied only by the federal government and was within only the federal jurisdiction because it

really was a custom or excise duty. The Canadian Privy Council, on the advice of the Department of Justice, declined to rule on this protest, and recommended that it be referred to the courts.

Traffic

Rehearing Begun on Illinois Intrastate Rates

Assistant Commissioner George W. Pillow, of Marion, Ill., representing the Illinois Commerce Commission, sitting in the East St. Louis (Ill.) City Court July 28 and 29, took testimony in the remanded fight of southern Illinois coal mines operating in what is known as the "Inner Group" to force a reduction in the present intrastate freight rate of 91c. per ton.

The Illinois Supreme Court recently overruled the St. Clair County Circuit Court, which had sustained the Illinois Commerce Commission in reducing the rates to 70c. a ton and remanded the case for further hearing.

The complainants allege that the present rate is excessive. The Alton & Southern R.R. was the technical defendant in the case heard by Pillow, but all other lines serving the Inner Group mines will be affected.

The East Side Manufacturers Association and the Illinois Coal Traffic Bureau have joined the fight for lower freight rates on coal and their cases will be heard by Pillow.

Hearing on Ohio Coke Rates

The Coal, Coke and Iron Ore Committee, Central Freight Association Territory, announces that a hearing will be given in Room 606, Chamber of Commerce Building, Pittsburgh, Pa., Thursday, Aug. 13, 1925, at 10 a.m., daylight saving time, on the following proposed change in the rate on coke, coke breeze, coke dust and coke screenings (the direct products of coal), carloads, from South Lorain, Ohio, to Cleveland, Ohio: Rate to be made \$1.26 per net ton to bring it into proper relation with rates via other routes and with rates from other districts.

Henry Pfening, Jr., superintendent of the Southeast Coal Co. and the Business Men's Club at Whitesburg, Ky., have filed petition with the Louisville & Nashville R.R. asking lower general commodity freight rates between Ravenna, Ky., and McRoberts, on the Eastern Kentucky division, holding that rates for years have been unduly high and out of line. The various towns affected, as well as Hazard, Ky., have joined in the protest.

Traffic Manager A. R. Yarborough of the Kanawha Operators Association has passed on to members of his association advices from F. M. Whittaker, vice-president in charge of traffic of the Chesapeake & Ohio Ry., that mine cards will be marked with a clause, where desired, to the effect that coal shall not be delivered until payment is made of freight and all other lawful charges.

Recent Patents

Mining Machine; 1,536,131. Thomas E. Pray, Chicago, Ill., assignor to Goodman Manufacturing Co., Chicago, Ill. May 5, 1925. Filed Aug. 4, 1921; serial No. 489,793.

Concentrator and Flotation Separator; 1,536,236. William R. Morris, Boise, Idaho, assignor to Mineral Development Co., Boise, Idaho. May 5, 1925. Filed Feb. 23, 1922; serial No. 538,723.

Mining Machine; 1,536,327. Frank Cartledge, Cincinnati, Ohio, assignor to Sullivan Machinery Co., Chicago, Ill., May 5, 1925. Original application filed June 12, 1915; serial No. 487,724. Divided and this application filed June 25, 1924; serial No. 722,373.

Skip-Hoist and Tram-Car Operating Means; 1,536,432. Wm. E. Hale, Fort Washington, Pa., assignor to R. H. Beaumont Co., Philadelphia, Pa. May 5, 1925. Filed March 4, 1924; serial No. 696,778.

Draft Device for Mining Machines; 1,536,795. Charles E. Davis, Chicago, Ill., assignor to Goodman Mfg. Co., Chicago, Ill. May 5, 1925. Filed May 6, 1920; serial No. 379,237.

Safety Fuse; 1,537,296. A. F. Gearhart, MacDunn, W. Va. May 12, 1925. Filed May 5, 1922; serial No. 558,816.

Coal Separator; 1,537,947. E. P. Humphrey, Upper Lehigh, Pa. May 19, 1925. Filed Feb. 26, 1924; serial No. 695,240.

Trade Literature

Ash and Soot Disposal at the Milwaukee Sewerage Plant. Conveyors Corporation of America, Chicago, Ill. Pp. 16; 8½ x 10½ in.; illustrated.

Wauagh Turbo Stoper, Model 39. The Denver Rock Drill Mfg. Co., Denver, Colo. Bulletin No. 100A. Pp. 11; 6 x 9 in.; illustrated. Describes design and construction.

General Electric Co., Schenectady, N. Y., has issued a 120-page book, No. 87000-E, covering the installation, operation and maintenance of **Switchboards.** The book measures 8 x 10½ in. and is well illustrated with photographs, diagrams, tables, formulas, etc.

Ace Steam Trap. W. B. Connor, Inc., New York City, N. Y. Catalog A. Pp. 10; 6 x 9 in.; illustrated. Describes in detail design, construction and operation.

The Osgood Co., Marion, Ohio, recently issued Bulletin 256, a four-page folder illustrating and describing its **2-Yd. Power Shovel** and its combinations.

Link-Belt Co., Chicago, Ill., recently issued an 8-page booklet describing and illustrating the operation and use of the **Gondola Car Dumper.**

Vulcan Iron Works, Wilkes-Barre, Pa., builders of locomotives, have just issued an 8 page bulletin, No. 102, featuring 16- and 20-ton gear-driven gasoline locomotives. Complete specifications and general description of these two sizes is included as well as hauling-capacity charts. Some interesting photographs also are shown.

Publications Received

Tests of a Large Boiler Fired with Powdered Coal at the Lakeside Station, Milwaukee, by Henry Kreisinger, John Blizard, C. E. Augustine and B. J. Cross. Bureau of Mines, Department of the Interior, Washington, D. C. Bulletin 237. Pp. 77; 6x9 in.; illustrated.

Preliminary Report on Coal Stripping Possibilities in Illinois, by Harold E. Culver. Prepared under a co-operative agreement between the Illinois State Geological Survey Division, the Engineering Station of the University of Illinois and the U. S. Bureau of Mines. Bulletin 28. Pp. 61, 6x9 in.; illustrated.

South America's Trade, with Particular Reference to the Share of the United States in Export and Import Trade of the Ten Republics. Foreign Commerce Department, Chamber of Commerce of the United States, Washington, D. C. Pp. 30; 6x9 in.; tables. Contains tables showing the chief commodities bought and sold by the United States and South America, the best customers and chief suppliers. Individual tables are given showing United States trade with each republic. The figures used in general are for 1923.

Chemistry of Engineering Materials, by Robert B. Leighton. McGraw-Hill Book Co., Inc., New York City. Second edition. Price, \$4. Pp. 538; 5½x8 in.; illustrated. Chapters dealing with fuels, iron and steel corrosion, non-ferrous metals and non-ferrous alloys have been almost entirely rewritten and new material added.

Market Analysis — Its Principles and Methods, by Percival White. McGraw-Hill Book Co., Inc., New York City. Second edition. Price, \$4. Pp. 438; 5½x8 in.; illustrated. A thorough revision of this pioneer book on market analysis, presenting new chapters on organizations for market research, agency market research, industrial and community surveys and newspaper surveys.

Association Activities

At the annual meeting of the **Operators of the Williamson Field,** held during the third week of July, Thomas J. Devenny was elected president; W. B. Cummins as vice-president, George Bausewine as secretary, and W. L. Leckle as treasurer. Addresses were delivered by W. J. Jenks and G. W. Harman, vice-president of the Norfolk & Western Ry.; D. E. Spangler, general superintendent of transportation of the N. & W.; H. C. Weller, general superintendent of the N. & W.; E. S. Moore, superintendent of transportation; O. W. Cox, general coal freight agent of the N. & W.; W. O. Franklin, superintendent of the Pocahontas Division; D. F. Peters, superintendent of the Sciota Division; John Stuart, chairman of the Car Allotment Commission; Norwood Davis, car distributor of the Norfolk & Western at Williamson; W. E. Keepler, secretary of the Pocahontas Operators Association; C. C. Morfit, secretary of the Tug River Operators Association; George Dungleon, in charge of the N. & W. mines, and Thomas Harmon, prominent Pikesville (Ky.) attorney. The meeting was arranged by George Bausewine, secretary of the Williamson Operators Association.

Industrial Notes

The T. H. Edelblute Co., manufacturers of retailers and track braces, recently built a new and enlarged factory at Reynoldsville, Pa., which will be managed by N. G. Edelblute. The general sales office will be continued in the Wabash Building, Pittsburgh, Pa.

The Strom Ball Bearing Mfg. Co., Chicago, has appointed Frank R. Schubert as general manager. John Dlesk succeeds Mr. Schubert as works manager, and Lorenz Peterson continues as assistant works manager in charge of production.

New Companies

The Eynon Coal Co., Pomeroy, Ohio, has been chartered with a capital of \$250,000 to mine and sell coal. Henry D. Emrys, David and Daniel Eynon, Jr., and Charles Brown are the incorporators.

Papers have been filed with the Secretary of State of Ohio, chartering the **Castner Coal Co.,** with a capital of \$10,000. The new concern which will be located at 113 N. 6th St., Steubenville, will mine and deal in coal. Incorporators are: Vincent A. Morelli, William V. Morelli, David H. Thomas, Lula H. Morelli and Max Turendish.

The Industrial Lignite Co. was incorporated in Greenville, Texas, early in July, with a capital stock of \$21,000, by J. D. Middleton, G. M. Hodges and others.

Articles of incorporation of the **Spokane Carbon Coal Co.** were filed at the county auditor's office at Spokane, Wash., recently. Capital stock is \$450,000. The incorporators are O. C. Moore, W. D. Codefroy and William Watson.

The Riceville Coal Co., Riceville, Ky., capital \$25,000, has been chartered by Frank Morgan, T. L. Cowen and Elmer E. George.

The Carter Coal Co., Madisonville, Ky., has been incorporated with a capital of \$30,000, by Jewell Avis, Colman L. Jones and Sherman P. Boner.

The Blount and Meredith Coal Co., Cambridge, Ohio, has been chartered with an authorized capital of \$10,000 to operate coal mines and deal in coal. T. A. Blount, W. T. Meredith, William J. Griffith, A. A. Vance and Dwight McVicker are the incorporators.

A Dominion charter has been granted to **Saunders-West Collieries, Ltd.,** at Calgary, Alta. The company has capital stock of \$150,000 and the incorporators are: Alexander Hannah, O. H. Might, E. J. Chambers, H. G. Nolan and L. R. Souter, all of Calgary.

The Connery Coal & Investment Co., 332 South Michigan Avenue, Chicago, has been incorporated for the ownership and development of coal mines and properties. The incorporators are Arthur R. Hall, Samuel M. Rinaker and M. F. Gallagher.

Obituary

Seth M. Thompson, age 59, died at the Norwood Hospital, Birmingham, Ala., July 26 as a result of injuries alleged to have been sustained from a fall of rock in the mines of the Helena-Straven Coal Co., near Helena, Shelby County, Ala., where he was employed as a foreman. Mr. Thompson was an associate inspector in the State mining department for nine years, having left the service of the state May 1 last. He was widely known in mining circles where his death will cause much regret. He is survived by his widow and several children.

Edward H. Bair, 65 years old, of Greensburg, Pa., well known in the business life of that district died in his home there July 28. Mr. Bair founded several power companies and organized the Clare Coke Co. and the Commonwealth Coal Co. He leaves a wife and five children.

Julius Judson Higgins, 76, formerly a well known coal operator in Indiana fields died July 25 while riding alone in his automobile in the downtown section of Clinton, Ind. After he was stricken, his car crashed into a truck and stopped. Mr. Higgins was born near Dayton and settled in Clinton 40 years ago. He is survived by two sons and one daughter. He was active in politics, having been state Senator. Funeral services were held in Clinton July 27 and the body was taken to Dayton, Ohio, for burial July 28.

Duncan McKay, one of the pioneer coal operators of the Henryetta (Okla.) district, died recently at his home in that city after a short illness. Mr. McKay was a native of Aberdeen, Scotland, and came to Henryetta in 1906, engaging in the coal industry as a producer.

Coming Meetings

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

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

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

New York State Coal Merchants' Association. Annual convention, Sept. 10-12, at Richfield Springs, N. Y. Executive Secretary, G. W. F. Woodside, Arkay Bldg., Albany, N. Y.

Association of Iron and Steel Electrical Engineers. Annual meeting at Philadelphia, Pa., Sept. 14-19. Secretary, John F. Kelly, Empire Bldg., Pittsburgh, Pa.

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

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

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

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

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.