

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, NOVEMBER 26, 1925

Number 22

Again Mr. Lewis Speaks

THE PRESIDENT of the United Mine Workers in a letter to Mr. Coolidge once more makes threats of a general strike that will involve not only the operators who have seen fit to make private arrangements with their men outside of the Jacksonville agreement but those also, who, operating a long way from the non-union field, have been able, with great difficulty it is true, to pay the union scale.

There are moralists who deplore the situation in the former union fields which signed the Jacksonville agreement and have started their mines with such of their men as are willing to recognize the necessity for a lower wage, but what can these say of Mr. Lewis, who, getting from Illinois, Indiana and Ohio all that the Jacksonville agreement calls for, proposes to call a strike to bring out the men in those states where every detail of the Jacksonville agreement has been complied with, those states, indeed, whose pressure caused the agreement to be made.

No one has criticised Mr. Lewis for trying to call a strike in the Fairmont field. No one could criticize him for calling one anywhere where the break with the union has occurred. But the men in those regions realize that they are getting the only wage economically possible under present conditions and are likely to turn a deaf ear to Mr. Lewis.

A few weeks of high production and higher prices, resulting from the anticipation of a strike may raise prices and give rise to the idea that the old wage rate can be paid, but the moment the assurance is attained that the coal bin will be kept full the old economic situation will reassert itself and the intervening territory between the non-union area of West Virginia and Kentucky and the coal fields of Illinois and Indiana will be back where it was before, and if meantime wages have been raised, the men in that territory will be deprived of work. Let us hope the men will sense this fact and meet it by resisting any attempt of Mr. Lewis to make them take part in a strike that is not to their interest.

Unionism by Decree

LICENSING IS THE MOST effective form of unionism. It always creates a close corporation, one kept intact by legislative decree. Examine the facts of any licensed body whether of steam engineers, doctors, plumbers or steam fitters, and you will find a union, which may be acknowledged or merely existent without acknowledgment.

In the Pennsylvania anthracite region and in Illinois the miners have their union activities supplemented by the law that licenses them. If that law in Pennsylvania were removed there might be some hope of reopening the anthracite mines. There would, at least, be no legal obstacle such as now exists. The miners

will not work nor will they let others work. They may be willing to accept other men's jobs at a lower rate than that at which they will work at their own, but they are able to prevent other men from taking their jobs. Their would-be successors would profit by the exchange, but the law forbids. A license is unionism enforced by legislative decree.

What Can Coolidge Do?

THE MAN ON THE STREET and the press are patient, but every now and again the cry is heard "Why can't Coolidge do something?" Those who raise it haven't thought out what the President could do. Their minds are by no means clear on the subject, but they believe that a big strike that inconveniences the people can be settled in some way.

When Pinchot brought the previous strike to a termination he burned his fingers badly. He got the operators to make a concession which they had to hand on to the public. After all, if the strike was to be settled, that was about the only way to end it. The mine workers were insistent on getting something, and no appeals to reason or public convenience or patriotism could sway them.

But this time the operators are clear they can hand nothing on to the public, and if wages go up the mines must close. The public is looking to other fuels. So this time the operators are adamant and not to be swayed. They can't be scared, for nothing looks quite so terrifying as a wage increase.

Even Senator Borah's prospective plans for legislative regulation cannot be worse for the industry than to pay a wage that puts the cost of coal above what the public will pay for it. When a man faces a firing squad all the guns are equally menacing, and he is not afraid of any one of them. He bids fair to die any way.

But Coolidge is "doing something." He is being far more active than any of those who reproach him. He is making headway, and they are delaying progress. Those who buy soft coal and coke at his recommendation—especially, alas, those who introduce oil—are helping to effect a settlement. Those who hearten the mine workers with their outcries are the very persons who delay the settlement for which everyone is anxious. When the miners see they cannot stampede the public or the administration but that both are ready to fight it out if it lasts all summer, then there will be a settlement and not before.

The public and the administration were immensely impressed and shocked by what Great Britain did when it ended a strike by the offer of a subsidy. Instinctly everybody said: "Is that where we are tending? Can the unions force us to pay them subsidies? Do they venture to strike against us and hold us up for tribute?" In Great Britain the subsidies aid British mines to compete with foreign mines, but here a subsidy would help anthracite to compete with soft coal, coke, oil and

gas. Just conceive of a subsidy to help one industry to hold back the progress of another!

Yet that seems to be the only thing the President and Congress can do unless we are ready to see the fight through. If it is not fought to a standstill now, it must be later. The union is committed to continued steps forward and no backward step. The only way to halt such progress, attained at public expense, is to firmly resolve that this time the matter shall be settled once for all by a finish fight.

What can Coolidge do? Nothing. What should he do? Nothing. The less he does in this matter to bring it to a settlement the sooner it will be settled. "They also serve who only stand and wait."

The Appalachian Washboard

THE EASTERN Mountain States are corrugated like a washboard, and the mining communities that lie in the bottom of any one corrugation are pretty well segregated from those in every other. Here and there the corrugations are defective. Some river has broken through and made communication from one valley to another possible. But on the whole, connection has been difficult, the more so before the automobile and well-paved roads assisted communication.

Each valley is a good location for a live mining institute and should have one. But institutes are apt to have inbred notions unless there is a little travel. So when meetings are being held in other fields the denizens of the washboard territory should send one or more of their number to represent them and bring back word across the mountains of just what transpired and what was learned about the conditions in neighboring fields.

The valleys of West Virginia in earlier years were inhabited by people to whom the citizens of the nearest county were as unfamiliar as the people of England and Germany. These people had accordingly an extremely narrowed vision. The railroads changed matters a little but directed travel even more markedly to accord with drainage. Now with the construction of roads over the hills, travel is being made possible in all directions, but still it tends to follow the old roads and communities. To overcome all along the Appalachians, in Pennsylvania and West Virginia, the narrowing influences of the environing hills some effort should be made to forge the bonds between institutes and have delegates interchange visits at meetings.

Light and Safety

SAYS BENJAMIN FRANKLIN, basing his statement perhaps on an old English story: "A little neglect may breed mischief: for want of a nail the shoe was lost, for want of a shoe the horse was lost, for want of a horse the rider was lost, for want of a rider the battle was lost, for want of the battle the kingdom was lost, and all for want of a horseshoe nail."

We may be sure that no one ever made just that diagnosis of the kingdom's misfortunes, and there were, of course, other reasons to which it could rightly be ascribed. That's the rub. We can usually find five or six reasons for any event and sometimes more, and if one of the causes had been absent all the others would have been insufficient to cause the accident. It is so with bad light or bad sight. Accidents are never ascribed to those causes, but it is certain that they are

almost as important as carelessness in the causation of injuries.

If in every case of an accident the question were asked "Was bad light a contributing cause?" the answer would often have to be that it was. It is a question that should be asked. R. E. Simpson, an insurance safety man, has been asking it, and as a result of his inquiry he lists 18 per cent of the accidents as due to defective light or 108,000 serious accidents yearly. Commenting on this, one safety man said 50 per cent would not be an exorbitant figure for a case under his observation, and he was not a mining man, but was engaged in an industry where darkness need not be so important a factor as it will ever be in mining.

In many underground accidents imperfect light and vision have a part. To see a danger is to avoid it, and how many hazards there are that become manifest only when the light is strong enough to reveal them. Our mines need more light, and they will receive it.

Our Domestic Coal Problem

WE MAY BE ABLE some day to find equipment that will make it possible for the average domestic consumer to burn fine high-volatile coal, that cakes, clinkers and smokes, and do it with efficiency and satisfaction but of reaching that ultimate goal we all have some doubts.

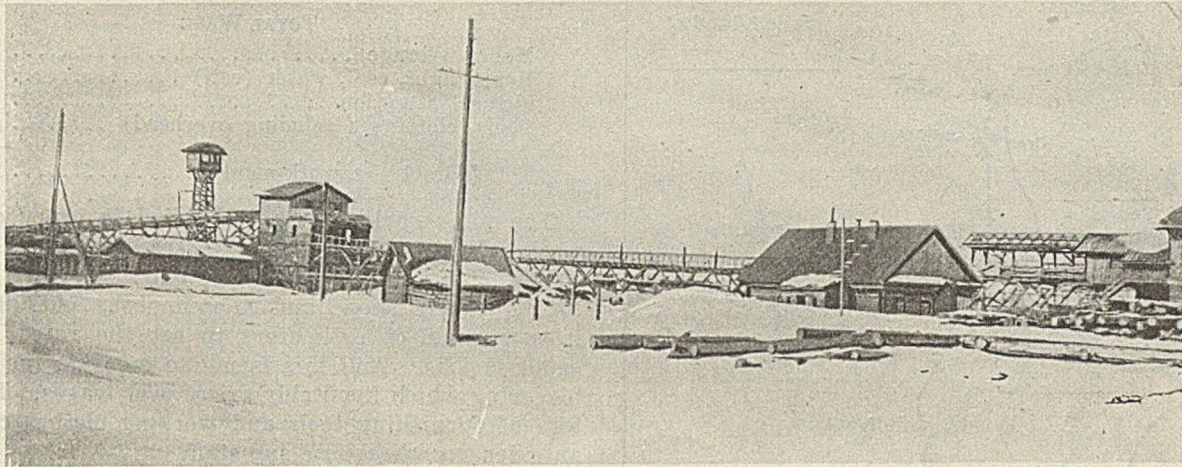
Perhaps, it would be better to contemplate the possibility of a central heating plant where a large furnace would supply some forty or fifty houses and would do it with powdered coal or with slack on stoker grates. The growth of the speculative builder, who thinks not in houses but in villages and communities, makes it possible that some day we may see the center, the chateau so to speak, in the village a central heating station and the houses of the citizens grouped about as little chatelets under the shadow of the seignior. The power house being the largest building with an ornamental chimney could be made the outstanding feature of the community. In Canada central heating plants are quite common. They may be found also in nearly all large cities.

It would be possible to deliver coal to such a plant at minimum cost and to remove ashes from it more easily by far than from the cellars of the citizens. The coal would be properly and completely burned, yet without fuel of the finest size would be used.

The houses would need no cellars unless that was desired for the storing of trunks, for laundries or for the keeping of vegetables. Here would be a considerable saving that would go far toward paying for the laying of piping and the building of the central heating station.

The saving in the cost of attendance on the furnace would be, of course, considerable. To the coal man, however, the feature that would commend itself would be the demand thus created for run of mine or slack coal.

Further development might make the central heating plant furnish not alone steam for the radiators and hot water but also cold air and ice-cold water. Such a plant might be run co-operatively, every household having a share in the central plant and a voice in its management. It could be separately incorporated and its shares distributed among the purchasers of dwellings or it could be held by them inalienably as running with the fee.



Putting Efficiency Into Siberian Coal Mining Is Hard Job, American Engineer Finds

First Efforts in Kuznets Basin Raise Daily Output per Man from One-Tenth of a Ton to More than One Ton and Give Encouragement for Russia's Future

By Alfred Pearson, Jr.

Consulting Engineer, Toledo, Ohio

PUTTING SIBERIAN coal mines on a basis of efficiency is a task the like of which no engineer faces in America. Yet it is not impossible. This conclusion is based upon an experience of two years in charge of the northern group of mines in the Kuznets Basin of Siberia. Antiquated equipment, a peculiar mining system, a working force made sluggish by Russian psychology and the natural handicaps which Siberia lays upon industry were not enough to prevent a new management from increasing the daily output per man in the Kuznets mines from one-tenth of a ton to more than one ton, and other improvements augur well for the future of the industry.

The Kuznets coal basin lies south of the city of Tompsk, Siberia. It is wedge shaped, about 80 miles wide, 250 miles long and adjoins the Telbas ore field which is supposed to be the most important iron deposit in Siberia.

While Telbas is destined to be the biggest coal customer of the Kuznets field, sales in the past have been made principally to the Trans-Siberian R.R. for steam coal, to the Ural metal plants for byproduct, gas and steam coals and to a small local domestic and miscellaneous industrial market.

Before the war an important part of the Kuznets output was shipped via the Ob River and its branches, not only to the Ural steel plants, but to the several important cities on the banks of the Tom and Irtysh

The headpiece shows the No. 8 mine at Kemerovo with the tipple and fire observation tower in the picture. The dilapidated condition in which Mr. Pearson found the property is plainly evident. A great deal of timber is used in these mines but the growth native to the country is poor for the purpose.

This is the first of two articles by Mr. Pearson on Siberian coal mining and his experience with it. The second, treating of mining methods mainly, will appear in a forthcoming issue.

and to the port at the mouth of the Ob which is open to ocean traffic four months of the year. This provided a valuable route for coke shipments as coke is seriously degraded by long distance rail transport.

This field has been commercially worked for about 25 yr. Prior to the revolution it had in operation a dozen mines and numerous prospect holes had been driven. Since, due to the shrinkage of the market, work has been concentrated on four mines.

KUZNETS COAL WILL DOMINATE

This coal field is so situated, that, as European Russia develops, it will be able to ship its products in competition with the Donetz Basin, the only coal field in European Russia of importance. The "Don" is already extensively worked out, its coals lie under much more difficult mining conditions than the Kuznets coals, and besides it is several times smaller than the Kuznets deposit. So the Kuznets field will some time dominate the Russian coal market. Even today, if the railroads could handle the coal at reasonable rates, certain Kuznets coals could compete with the best Welsh coal at the Baltic ports.

Russian labor is composed of both whites and Mongolians, the latter mostly Tartar. It must be understood that they all are only a generation removed from slavery, that they have been kept by the former government in absolute ignorance and illiteracy, and that the standard of life is about the same as that of the Southern "hill-billy" of the last generation.

This condition is aggravated by the fact that 90 per cent of the population lives at that standard and except in the larger cities the remaining 10 per cent, although living more pretentiously, actually attains only slightly

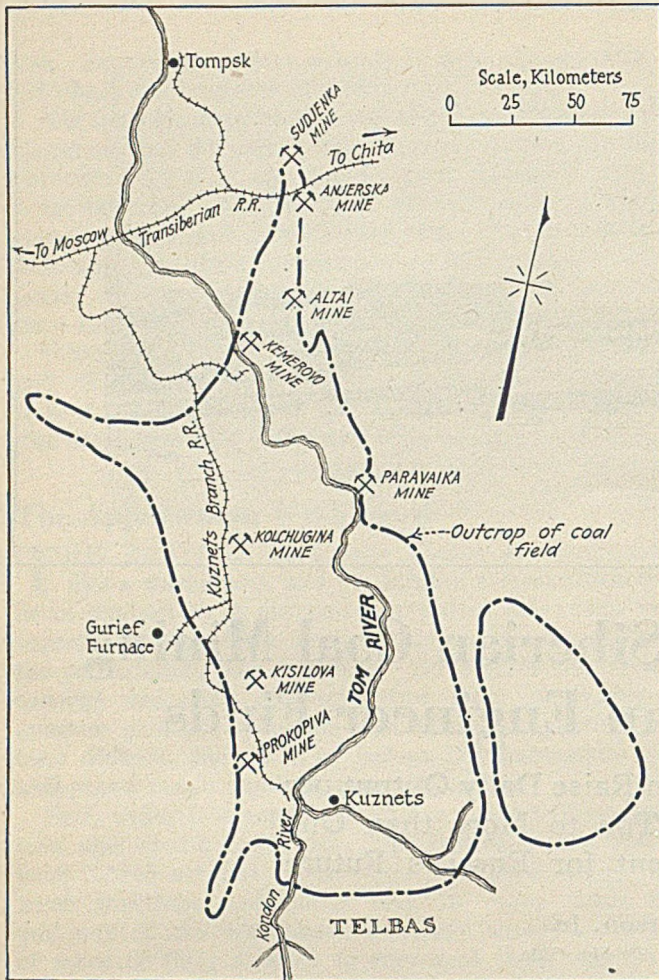


Fig. 1—Kuznets Coal Field Map

This shows the proximity of the coal region to the city of Tompsk on the one hand and the great Telbas iron mining field on the other. However, the Russian steel industry needs bolstering to make it a strong coal consumer.

greater comfort, hence these workers cannot possibly visualize any better standard of life than their present one. The worker, consequently, cannot be aroused to earn more, because he can see no use for more than he has.

To combat this indifference of the worker, the wage scales have been consistently set on a piece-work basis, so low as to force the men to put in a full day for a bare existence. It is said that before the war the foremen also used the lash to drive the men. The natural reaction of the worker now is to still further limit his production.

The labor union is a branch of the government. In theory the plants work open-shop, as membership in the union is not compulsory. In practice, however, it is so much to the interest of the men to belong, that well over 90 per cent are members.

Owing to the psychology of the men and the paternalistic industrial customs, the wage system is highly involved, contributing materially to industrial inefficiency, partly through increased overhead and partly because of the reaction of the operating officials who see only the money wage—really a small part of the labor cost.

I will illustrate the wage system, using a face miner as an example. I am obliged to use figures from memory, those marked "est." are items for which only estimates were ever available. The variables are the cash wages and the hospital charge which was a per-

centage of the payroll; in this case I use a figure which is extremely high for the country as a whole.

TOTAL WAGE	
Money average	\$23
House light, coal, water (est.)	8
Medical attention	4
Tools, clothing (including overhead)	5
Total for 120-hr. work month.....	\$40

The piece-work system is applied to every class of work. This requires not only extra accounting and the consequent extra time keepers, but also, when applied to the repair shops and miscellaneous outside activities, a staff of estimators to set the rates for the smallest jobs. And this is not to mention the endless bickering which inevitably arises over wages. The custom of furnishing tools and working clothes calls for an extensive warehouse and staff.

One would imagine such a system would provide exhaustive and accurate cost figures; but the reverse is the case as the so-called Italian system of bookkeeping is employed. It deals with the person rather than the task and results in a mass of figures almost worthless for operating purposes although likely to be entirely satisfactory to the accountant.

REORGANIZATION FOLLOWED DEPRESSION

In 1922 the coal mines of Russia were in an advanced stage of disintegration, with the entire country howling for coal. After this period the mines were organized into competitive groups. Experts were employed, back wages paid off and large subsidies granted for improvements. The result was that coal mining attained about the most satisfactory status of any Russian industry. The mines are now producing about one-half the pre-war output at a price that is cheap compared to that of other commodities. Due to the weakness of the railroads—which are only 20 per cent efficient—as well as to the weakness of industry in general, it has been impossible for the mines to dispose of their product. Until recently the mines worked on reduced schedules, with mountains of mined coal cluttering up the landscape. Financial support was withdrawn and improvement work stopped.

Russia's domestic market is dominated by wood. This condition will begin to change as soon as the market becomes strong enough to permit full operation of the mines, which, because of reduced overhead, will lower the cost of coal to a point where the burning of wood will no longer be advantageous.

It is understood that the government is about to apply to the steel industry the same methods of resuscitation applied to the coal mines. This should in turn affect the mines favorably.

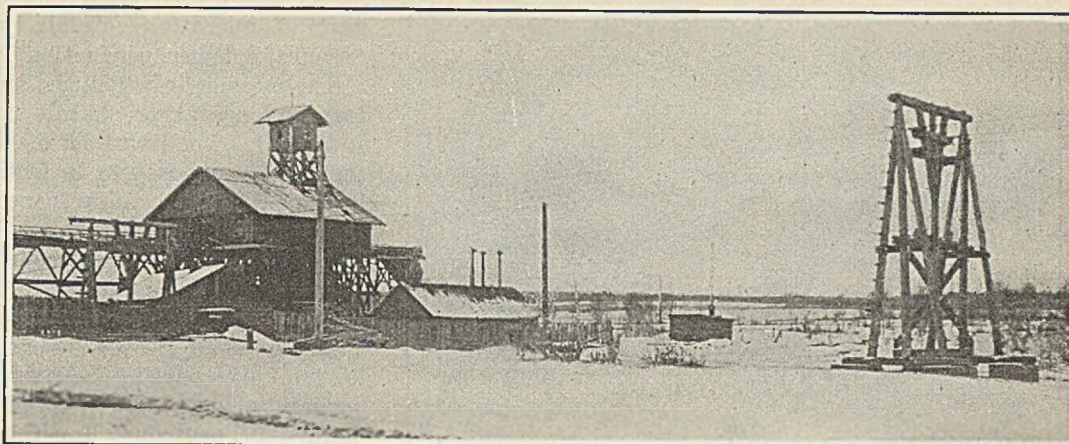
The equipment of the coal mines is so shaky and the plants themselves are so nearly obsolete that they cannot continue long and will be utterly unable to compete with modern mines whenever (which must be soon) new mines begin to enter the fields.

EQUIPMENT COSTS ARE HIGH

The design of a modern mine in Siberia is a difficult problem. It cannot always be shown clearly that the substitution of machinery for men will result in a reduction of costs. The mines are so far removed from manufacturing centers that the cost of delivery of materials is extremely high. Furthermore great foresight is required to maintain a supply at mines because

Frozen In

This illustration shows a typical coal property of the Kuznets Basin. It is the tibble, head-frame and bucket-way of the South Mine at Kemerovo where Mr. Pearson made his headquarters. The wide range of temperatures in this territory makes ventilation a serious problem. This however, is not the only handicap laid upon coal mining by Siberia.



it is necessary to look ahead years instead of months as there is so much uncertainty about deliveries. This results in excessive warehouse stocks and oversize repair shops.

One must not expect the application of modern methods to show the results they achieve in other lands. Not only is Siberian labor hard to train, but to gear up coal mining to operate at modern speed will require practically an industrial revolution over the whole country and embracing all industries. Trying to travel at American speed in Siberia is like trying to hurry when you are in the middle of a chain gang.

REASONS FOR LOW OUTPUT

The northern group of mines in Kuznets Basin was in typical Russian condition when I assumed charge of the group. The output per man was at its lowest ebb—one-tenth ton per man shift. This was due to several causes. All the workable mines were operating, although any one of them could have produced all the output. This provided an overhead personnel nearly as numerous as the active workers. A serious shortage of equipment did not permit the men working to produce anything like their potential capacity. The morale of men in the technical staffs was "shot." These men were underpaid, poorly accommodated, discouraged by the past, and apprehensive of the future.

The morale of the workers was even worse. Their conception of the results to be expected from the revolution was a total suspension of discipline and the gaining of a livelihood by half the customary labor. In addition, wages were several months in arrears. This encouraged nobody to work.

The plant layout did not commend itself to the eyes of a man accustomed to modern methods and the machinery was little better than junk.

SYSTEM NOT AT FAULT

Such a low productivity combined with a strange mining system, very naturally was at first blamed on the system. Later, when some cost accounting made possible a comparison of results, it was discovered that the system was at least as good as any other, the difficulties being in the execution of details.

At the end of two years of the new management the net result was twice as much coal from two openings at one plant as the entire group of mines had been giving at the beginning. This was accomplished at about one-half the cost per ton, and with a man shift output of more than one ton. Concentration of work, prompt payment of wages, reduction of staff and

improved accounting all played their parts in the net result.

In the mine work proper three changes were the most revolutionary, one was a reduction of the working face, which, by reducing the number of men being paid from one check, actually doubled the output per man by cutting out the suspicion on the part of each man that the other fellow was loafing at his expense. This was an innovation which received the hearty support of the Russian engineers. They had spent their lives trying to break up the "artel" system, a typical Russian institution in which a large group of men contract a job together. It had been long known that the men did not work well under this plan and were almost impossible to discipline. To produce the change it was necessary to double the narrow work, in itself not good mining practice, but on trial it actually reduced the cost of coal.

BIG IMPROVEMENTS IN HAULAGE

Another change was the substitution of 1½-ton for the old ½-ton wagons. This resulted in a big saving in transport costs but necessitated a revolution in trackage. The Russian engineers had been fully aware of the advantage of bigger transport units but lacked the nerve to make the change. They feared discredit because the new system is so far reaching, involving better road beds, heavier rail, and broader gages. Broadening the gage conflicts with shaft layouts. Ordinarily a modern transport system will be possible only in new mines especially laid out for the purpose.

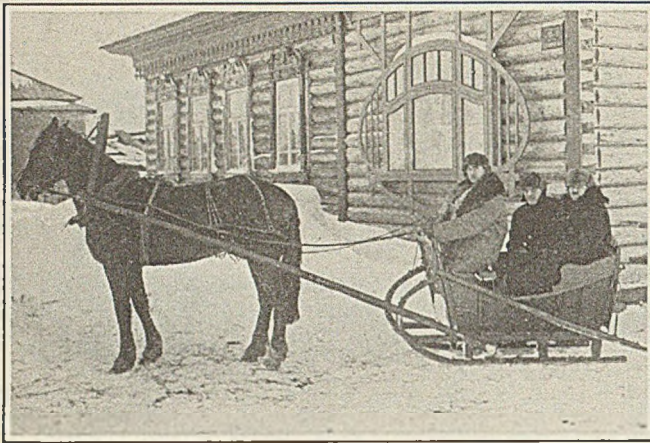
In this case it was possible to lengthen the cars without changing the gage of 22 in. This was not wholly satisfactory but proved better than the old system. The entries had been laid throughout with double tracks of 12-lb. steel. It was necessary to lay heavier rail, but as a double track system was not needed, a single track proved an actual economy.

CHANGE TIME OF SHIFTS

The third change involved the hours of operation. The mines had been working 24 hr. a day. Underground men had worked four 6-hr. shifts; outside men three 8-hr. shifts.

When the change was made, at first the policy was to get out the coal regardless of cost or efficiency. By concentrating all handling of materials and other non-productive work in one shift quite an improvement was made.

Later a slackening in demand made it possible to cut off one mining shift, by allowing a 2-hr. interval



Sixty Below but What of It?

Here we have a couple of engineers setting out on an inspection trip in a typical horse-drawn Siberian sleigh. Temperature ranges are wide in this coal mining field but all you have to do is get used to it—and bundle up in furs.

between shifts. This eliminated some delays that had been suffered while waiting for powder smoke to clear. Also some surface friction was removed because surface and underground workers reported at different hours. Unfortunately for the purpose of measuring the relative advantages of the old and the new systems it was necessary to cut off another shift immediately as the output was not reduced sufficiently. However, there had been shown a big gain in output per man.

Soon after, a fire in part of the mine forced a return to the three shifts; and when it was possible to resume the experiment several other minor improvements so befogged the results that comparison is impossible. One of these improvements was the substitution of electric cap lamps for oil hand safety lamps. To this change the mine foreman attributed a gain of 20 per cent in efficiency.

SAFETY PROBLEMS IN MANY HANDS

"Safety First," is no by-word in Russian mine practice. The mine law, casually read, is apparently similar to the best of our American laws, but it reflects the Oriental idea of personal retaliation, and is inflexibly drawn. This results in a loss in initiative on the

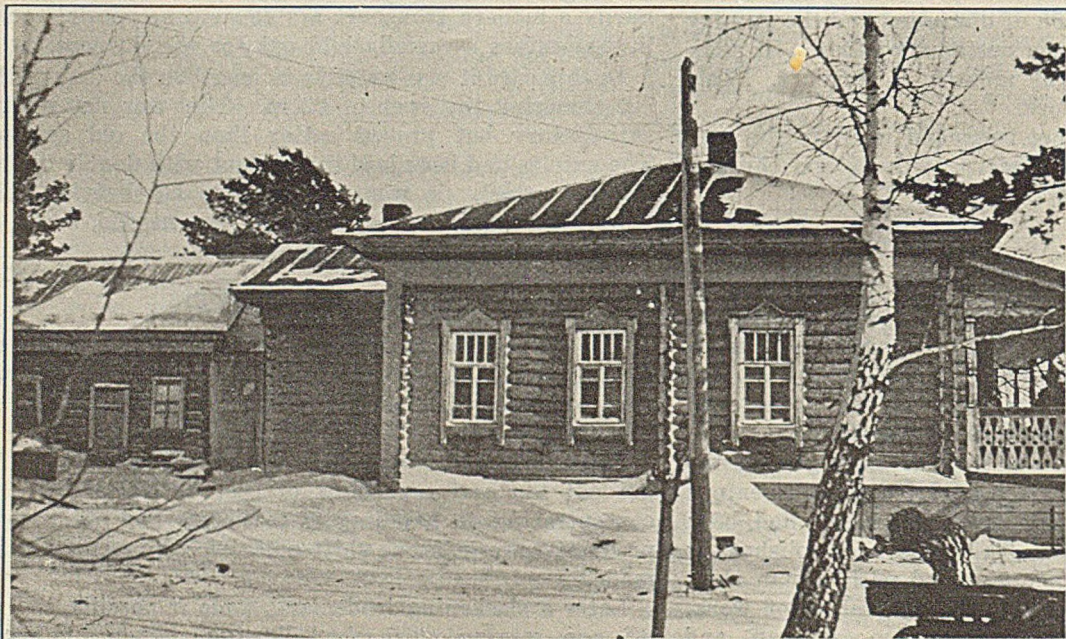
part of operating officials, which in turn, tends to encourage lower production per man.

The manner in which the law is written offers inspectors and operating officials no opportunity to exercise judgment. Enforcement of the rigid specifications of the law is supposed to be in their hands but it actually is not. The state mine inspector, being a mining man presumably will favor his professional brother the operating official; so a local labor inspector also goes over the ground. In addition, the miners' union maintains an expert who covers the same ground and, as the superintendent of the rescue station has little to do, he, too, takes part in the discussions. After one becomes acquainted with these worthies, of course the proper method of procedure for the mine management is to stir up a fight among them and plead inability to choose the best advice.

VOLUNTEER RESCUE SQUAD

A fully equipped mine rescue station is maintained by the government at each gaseous mine—which, in Russia, means nearly all mines. It is manned by a superintendent, a trainer and three attendants on duty turn about, during the 24 hr. of the day. The crew is made up of volunteers from the miners.

It has been said that our American method of choosing petty mine officials is too informal. In Russia it is too formal. Only men who have been through a regular course of instruction can hold places of responsibility in the mines. Assistant mine foremen take one course, known as a "desetniks" course. Mine foremen are required to take another. These men are known as "mine techniks." So far as I could learn it took these men as long to finish their course of instruction as it did an engineer to take his degree, yet the more responsible positions were not open to the foremen. Construction work and surveying are done by men specially trained in those branches. I was at a loss to discover the real difference between a "technik" and an engineer. One observes that the effect of having each job performed only by men who have gone through a certain course, is to make the work seem poured through a mould. It is to be hoped we never will become so formal in this country.



Siberian Cold Stays Out

This typical Siberian house in a coal mining town is built 20 x 50 ft. on the ground and is supposed to house four families. But when housing was short in the village, seven families occupied it. Mine officials are allowed one room and a kitchen each for their families. The house is tightly constructed of logs in the Russian manner to resist the cold winds. Most of the heating is done in fireplaces.

New Conveyors Speed Room-and-Pillar Mining

Self-Contained 12-Ft. Belt Units for Service in Tandem at the Face Discharge into a Sectional Scraper Trough Extended to Any Length Delivering to Cars on the Entry

By Alphonse F. Brosky

Assistant Editor, *Coal Age*,
Pittsburgh, Pa.

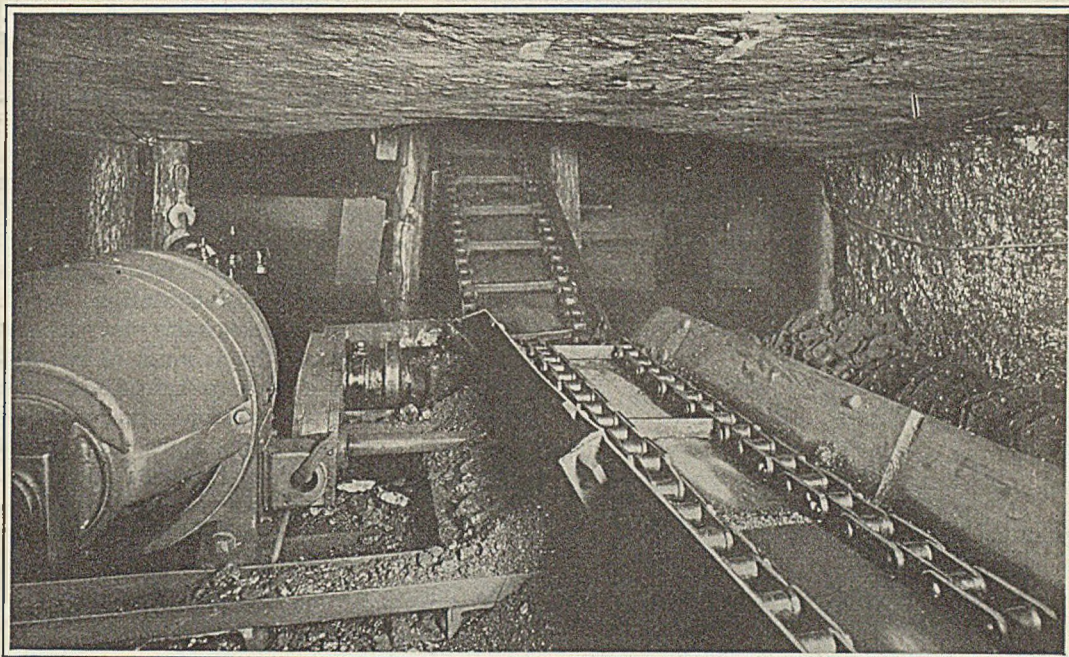
SWIFT TRANSPORTATION of coal away from the working face is essential to concentrated room-and-pillar mining. In thin coal each fall must be rushed out of the way with especial dispatch. Realizing this and convinced that conveyors have the greatest possibilities for speeding coal from face to cars on nearby entries, Richard A. Suppes, general superintendent of the Knickerbocker Mines at Johnstown, Pa., has designed and put into his own service two new types of conveyors. One is a 12-ft. belt unit for use along the face and the other is a sectional flight con-

veyor about 3 in. deep, on the floor of which travels the loaded strand of the conveyor belt. Secured to each side of the trough is a rubber flap the edge of which extends over the loaded strand of the belt. This keeps slack from overflowing the belt and crowding under it. The return strand of the belt travels over round rods extending laterally between the channels. Spillage of coal during the shoveling operation is prevented by a demountable extension plate which fits over one trough flare of the conveyor.

The drive pulley and the tail pulley are made light-

Loading-Boom In Service

In order to avoid crowding and consequent spillage of coal at the junction where the main conveyor discharges onto the loading boom, two features of design are provided. First, the loading-boom chain is wider than that of the main conveyor; second, the speed of the boom is 20 ft. faster per minute than that of the conveyor.



veyor which can be extended to any length to deliver coal to cars.

The two conveyors are intended primarily to operate together as one system in the mining of coal from rooms, pillars and entries. In this arrangement the coal is loaded into one or more of the lateral belt units discharging into the main conveyor unit which delivers to cars. The main conveyor unit, with a few slight modifications, is also applicable to face conveying in longwall layouts.

The lateral conveyor, of the belt type, is portable but is not sectional in the sense that its length can be changed by adding or taking away duplicate units. Each one is a self-contained, motor-driven conveyor. The requirements of any room, pillar or entry face can be met by arranging two or more such units in tandem.

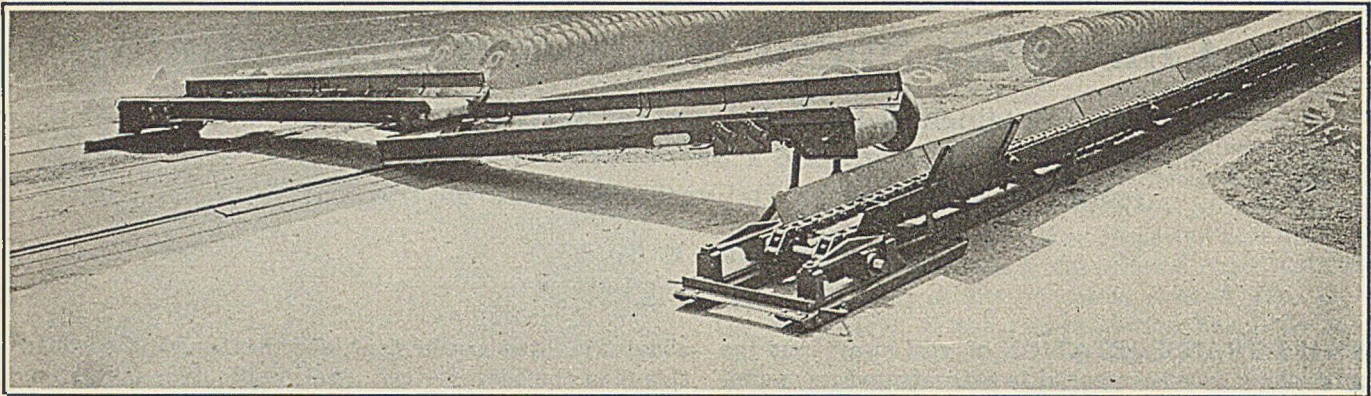
Each of the 12-ft. self-contained lateral conveyor units is provided with a 16-in. composition belt. A plate of steel is bolted to two 3-in. channels forming the main frame of the conveyor. Flared sides of steel rest on beveled wooden stringers and both are bolted to the main frame. Thus is formed a stationary trough,

weight by squirrel-cage construction. Circular disks mounted on the pulley shaft are joined by steel staves which are welded to the disks. The drive pulley is double-conical, tapering slightly from both ends to the center line.

A $\frac{3}{4}$ -hp. reversible motor, through sprockets and a chain, drives this conveyor at a speed of 131 ft. per minute. The discharge end of the conveyor is elevated over the main conveyor by an adjustable 4-legged, telescopic pipe support. A take-up on the tail end of the conveyor provides an adjustment to take care of belt stretch. The overall height of the conveyor, at the discharge end, is 27 in.; the maximum shoveling height is about 16 in. and the minimum 8½ in. One unit complete with the drive weighs 570 lb.

The main conveyor is of the scraper type, portable and sectional. In it are a tail section, as many intermediate sections as are required for a given length and a head or drive section, with which is incorporated a loading boom—all propelled by one motor.

The tail section is constructed exactly like the intermediate sections except for the addition of a take-up



This Photograph Shows One Side of an Arrangement of Face Conveyors

These short, lateral belt-conveyors which discharge into the main conveyor either singly or in tandem are self-contained. One 10-hp. motor drives as much as 250 ft. of the main conveyor and a loading boom also.

and a tail sprocket. The tail section is mounted on a pair of channel-iron sled runners to facilitate the insertion or removal of intermediate sections. It is provided with a demountable extension plate which prevents spillage of coal at the point where the lateral conveyor discharges into the main conveyor. The weight of this section, without chain, is 363 lb.

Each intermediate section is 6 ft. long and 13 in. high. The main frame of each section is a pan of $\frac{1}{2}$ -in. steel plate which is troughed with flared sides. This trough is 20 in. wide at the top, $5\frac{1}{2}$ in. deep and 13 in. wide at the bottom. In this trough travels a double drag chain. Flights on 24-in. centers are welded directly to the links of the chain. Sections of chain are fastened together by cotter pins.

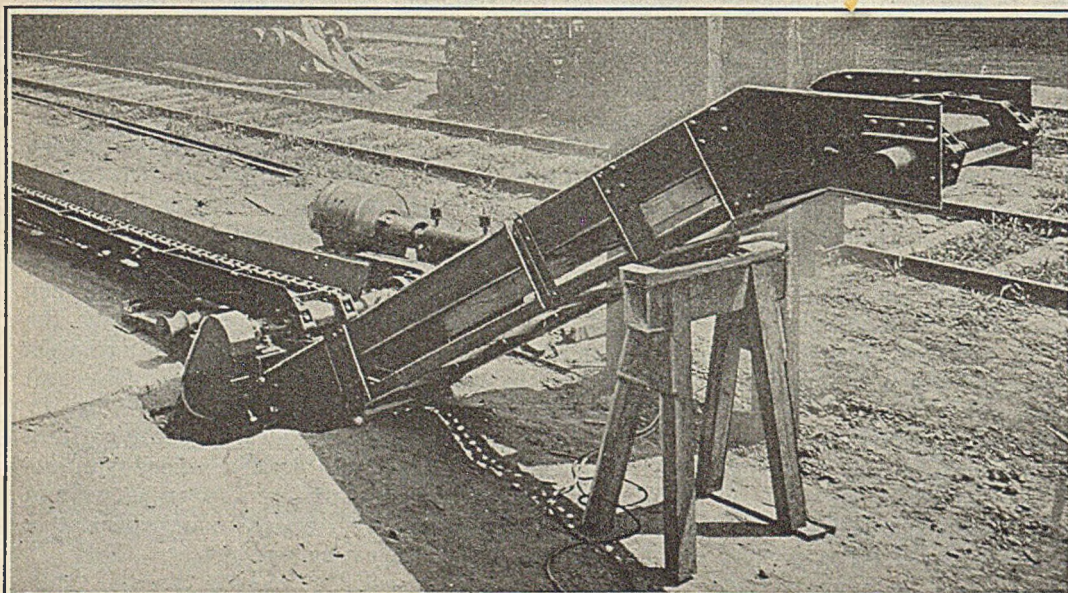
On the longitudinal center of each trough and riveted to each flare are two strap steel legs which support the trough. These legs are tied together at the bottom by a $\frac{3}{8}$ -in. removable round rod. Within the two legs—one at each end of the rod—are two rollers which act as idlers for and serve to support the return strand of the chain. Above the rollers, the inside surface of the legs is rounded, allowing the chain to rub these legs without fouling.

The ends of the flared sides of the conveyor trough are bent to 90-deg. flanges. Two slots are cut in the flanges on one end of a trough, into which fit two U-bolts on the flanges of the mating end of an adjoin-

ing trough. A soft-iron wedge inserted in the U-bolts key together two trough sections. The bottom of each trough at both ends is bent under in a half-oval, to provide a rounded joint no matter what the vertical inclination may be between any two adjoining sections. The joint flanges spring enough to allow the conveyor to conform to the profile of the mine floor.

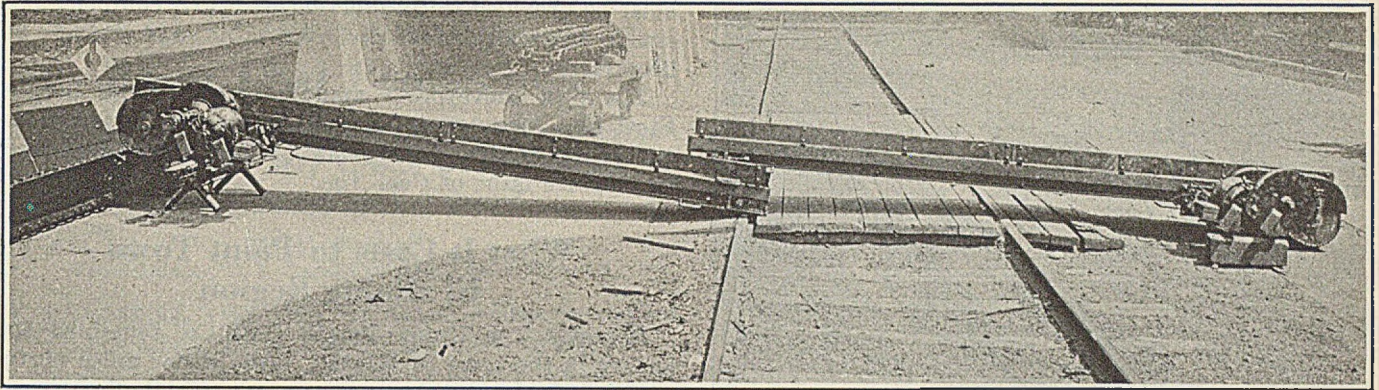
In moving intermediate conveyor sections the trough and chain are handled separately. A trough weighs 80 lb. and a 12-ft. length of chain weighs 196 lb. To shorten the conveyor by 6 ft. the intermediate segment adjoining the tail section is removed. First the take-up is loosened and the intermediate trough section is disconnected from that adjoining it by the removal of the retaining wedge keys. Next, the lateral rod through the legs of that section—which supports the return strand of the chain—is withdrawn, causing the latter to rest on the ground. Then a 12-ft. length of chain is removed from within the trough; the trough is lifted out of the conveyor line; the tail section is shifted forward and joined to the nearest intermediate section; the open ends of the chain are joined, and finally the chain is tightened by means of the take-up. Intermediate sections are added in the same general manner. Either operation can be performed by three men in about 3 minutes.

The head section terminates in a heavy sprocket shaft which, through a worm type speed-reducer from a



A Side View of Loading Boom

The main conveyor is driven by a 10-hp. motor through a worm-type speed reducer to a sprocket shaft on the head section. A chain from the main sprocket shaft drives the loading boom.



The Other Side of a Pair of Face Conveyors in Tandem

Each self-contained, lateral conveyor is driven by a 3-hp. motor and weighs 570 lb. complete. A demountable extension plate is added to one flare of the conveyor trough to prevent spillage of coal over the side of the conveyor during the shoveling operation.

10-hp., reversible motor, drives the main-conveyor chain at a speed of 118 ft. per minute. A flexible coupling is inserted between the motor and the speed-reducer. The sprocket shaft is equipped with a safety coupling, held by four heavy nails which are sheared by an overload or a disarrangement in the equipment, preventing damage to the drive.

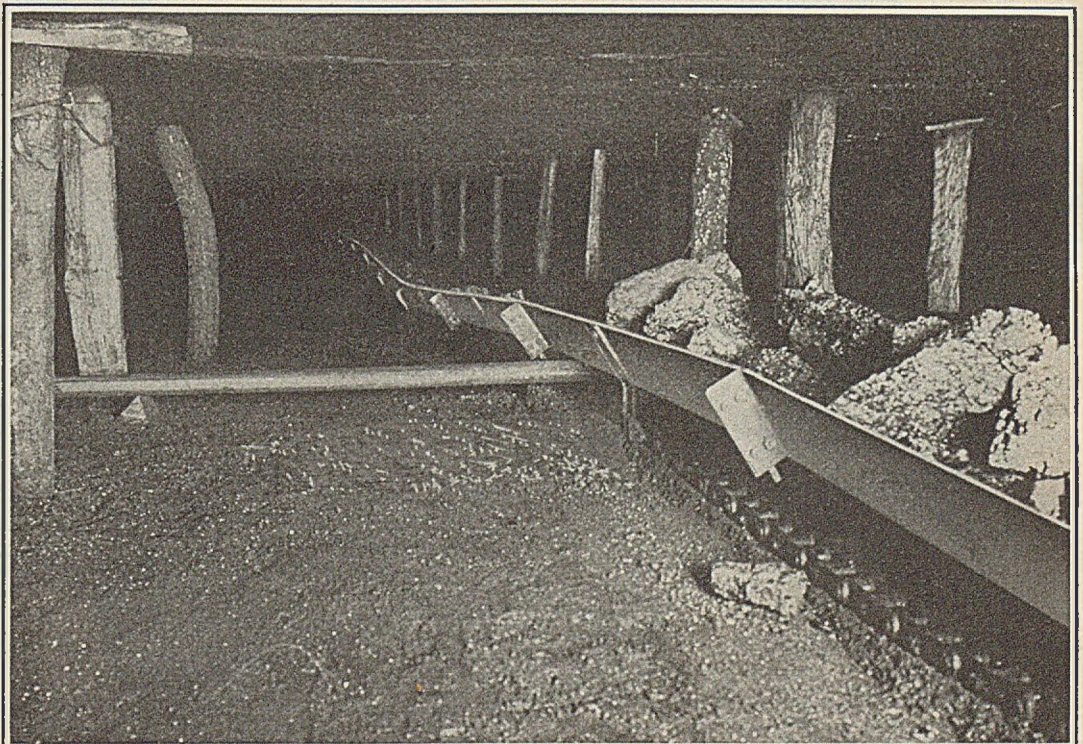
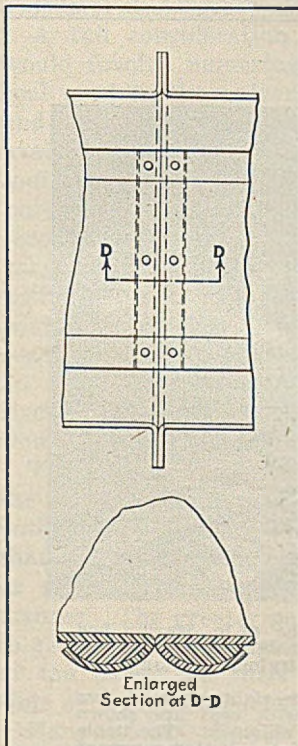
On the sprocket shaft also is a clutch which, when engaged, stops the conveyor and drives a capstan located on one side of the conveyor. With the capstan and a rope, sections of conveyor can be hurriedly dragged to safety in case of an impending fall at the face. The weight of the head section, without chain, is 512 lb. and the weight of the drive unit is 975 lb.

The 10-hp. motor, in addition to propelling as much as 250 ft. of main conveyor, drives also the loading boom into which the main conveyor discharges. This is accomplished through the medium of a chain from the sprocket shaft of the main conveyor to a similar shaft on the boom at a speed of 138 ft. per minute.

This speed is made 20 ft. per minute faster than that of the main conveyor, to avoid crowding of coal at the junction point.

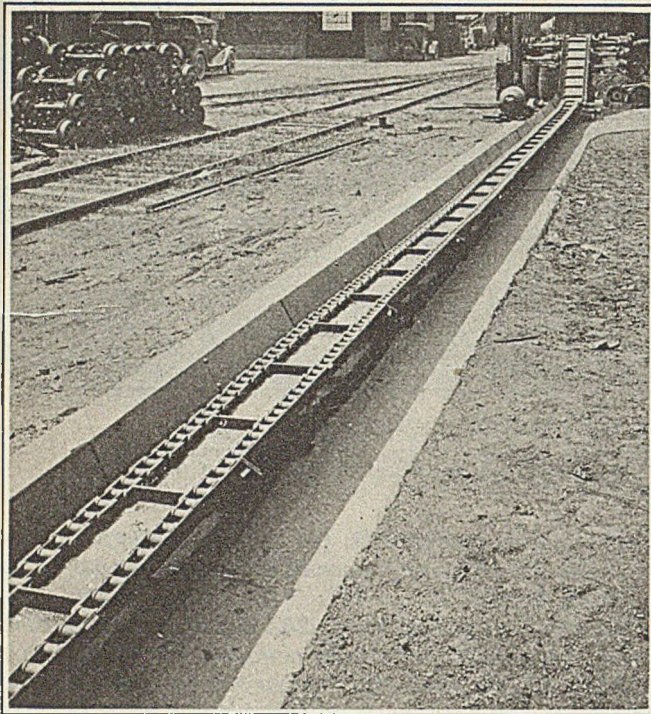
The loaded strand of a 20-in. scraper type roller chain, with flights on 16-in. centers, runs on the floor of a box trough, while the return strand runs on angles which are made a part of the frame. The boom is provided with a take-up which is located on the tail end. The loading boom is 9 ft. long, from sprocket center to sprocket center, and can be set at any angle up to 32 deg. depending on the height of the mine car to be loaded. At its maximum angular elevation the underside clearance is 3 ft., 9 in. as measured from the mine floor (not from the rail), and the maximum height is about 4 ft., 9 in. Bottom clay or top rock, of course, can be removed to provide any desired clearance above and below the boom. The loading boom, complete with chain, weighs 885 lb.

None of the chain requires lubrication. All other bearings are lubricated by a high-pressure feed system.



Main Conveyor Conforms to Any Bottom Because It Is Jointed

In the flanges, by which the trough sections are joined in the manner shown by the drawing is a certain amount of "spring" which allows the vertical line of the conveyor to fit the profile of the mine floor. The clean and fresh appearance of this place indicates speedy recovery. "In and out again in a jiffy" is the motto of the men who operate this mine.



Trough and Chain of Main Conveyor

The upper strand of the chain travels in the flared trough and the lower strand idles over rollers on rods which are inserted through the supporting legs. Flights on 2-ft. centers are welded to the links of the chain, which is of the drag type.

The main conveyor is reversible to facilitate the transportation of supplies and equipment to the face, and is controlled either from the loading-boom end or the face end, in the latter case through a no-voltage release.

Twelve hours are required by five men to disassemble the equipment, in a worked-out place, move it to a new place and reassemble it. This equipment can be applied to a 30-in. coal seam. It is suggested that a 5-hp.

hoist be provided in conjunction with this equipment to enable one man to load and spot mine cars in trips of 25 cars.

The new conveyor is manufactured by the Lorain Steel Co., Johnstown, Pa. Its application to low-seam coal in two central Pennsylvania mines will be described in a future issue of *Coal Age*.

What It Costs to Paint Town In Mining Region

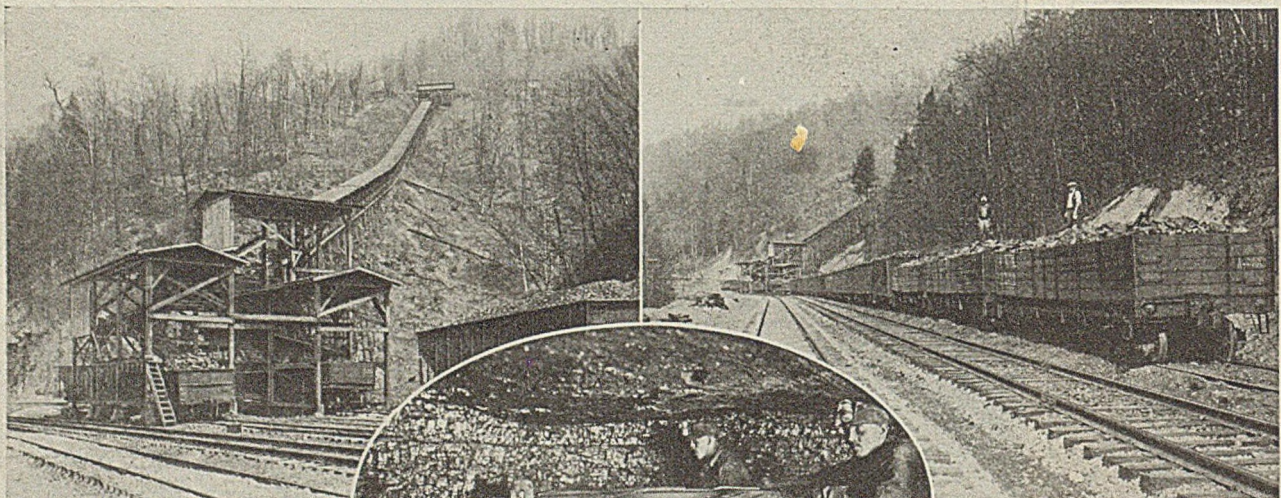
Recently The Union Pacific Coal Co. repainted its houses in the town of Winton, Wyo., a few miles north of Rock Springs, using a spray gun for that purpose. The costs were as in the accompanying table:

Costs of Repainting 75 Houses

Cost of material	\$2,058.54
132 gal. gasoline	\$36.72
3 qt. oil	3.90
22 lb. paint coloring	27.25
641 gal. paint	1,867.13
5½ gal. dryer	12.45
63 gal. linseed oil	90.09
10 paint brushes	13.25
4 ft. screen	0.56
Cost of labor for gun	555.90
Cost of trimming	392.86
Total cost	\$3,007.30
Cost per 100 sq.ft. for material	1.60
Cost per 100 sq.ft. for labor on gun	0.43
Cost per 100 sq.ft. for all labor	0.74
Cost per 100 sq.ft. for labor and material	2.335
Number of feet of surface painted	128,797
Number of houses painted, 75	
Number of roofs painted, 65	

The painting of the shingle roofs, using a bright green, gave the village, which is in the arid region, a cheerful appearance. Long Beach, a high-class residential town on the shores of Long Island, for many years prided itself on every house having a yellow roof, and around the towns of The Union Pacific Coal Co. many roofs have been given a coat of this pleasing color—a suggestion that others might imitate with advantage.

A Mining Operation in the 44-In. Harlan Bed at Balkan, Ky.



The illustration above, at the left, shows the tippie at the Whipple mine of the Virginia Harlan Coal Corporation, Balkan, Ky. The covered incline houses a rope-and-button conveyor.

The underground picture shows a low-vein mining machine cutting

in the 44-in. Harlan bed which is being mined by the Virginia Harlan company. At the right, railroad cars loaded with coal are shown ready for shipment. The tippie and part of the button-conveyor line can be seen in the background.

Use of Pulverized Fuel May Boost Coal Production

Tests Prove That Low-Grade Coal Burns with Good Efficiency and May Create Better Market For Cheap-Mined Product

By P. Nicholls

Fuel Engineer, U. S. Bureau of Mines, Pittsburgh, Pa.

HOW WILL THE USE OF COAL in the pulverized form affect the coal producing industry?

Perusal of some of the literature on the use of powdered fuel might create the impression that the most important effect of its adoption so far as the coal industry is concerned will be a decrease in the demand for fuel, occasioned by or resulting from the greater efficiency attained in the production of heat from it. A study of economic laws, however, will relieve all anxiety on this score, since the cheaper production of any finished article invariably increases the demand for it and, consequently, for its raw constituent materials.

Utilization of coal in the powdered form will doubtless react upon the coal industry in the three following ways: (1) A demand will be created for, and it will become possible to sell, low-grade fuels that previously have gone to waste because of their fineness or their high percentage of ash. Thus, anthracite and bituminous fines and high-ash slack will find a market. (2) A demand for lignites and brown coals—some of which have been difficult or even impossible to burn by other methods—will be created. (3) Where coal is to be mined for use in the pulverized form exclusively, it may be possible to cheapen mining costs by employing mechanical methods of the "hogging" type, removing coal uncleaned from the mine. If a consumer bought the entire output of a mine worked on this basis both consumer and operator might benefit.

A full consideration of the first effect suggested would involve numerical tabulation of the amount of coal used in the pulverized form at the present time and the quantities of fine and low-grade fuels now available at the mines. A rough estimate of the first, indicates that from 15,000,000 to 18,000,000 tons of pulverized coal is now being used annually. The second is too complicated to cover in detail and will vary from mine to mine, from bed to bed, and also with the preparation employed and the demand in any particular district. A fuel which at one time may be considered as a waste product, at another may possess an appreciable value. Any classification or quantitative estimate of the amount of such fuels available would, therefore, be difficult to make.

That low-grade fuels may be efficiently burned in the powdered state has been repeatedly demonstrated both in this country and abroad. The records show that coals containing as much as 40 per cent of ash, or even more, have been successfully burned in this manner. The greater part of such data, however, refer to short periods of time and do not prove that the use of the particular fuels tested would have been possible or truly economical for continuous operation.

Many plants, however, have reported continuous operation, on such fuels, the following being a few examples: The Susquehanna Collieries Co., at Lykens,

Pa., is using No. 2 Lykens anthracite containing 12 per cent of ash. It reports an efficiency, including superheater, of 80.7 per cent.

The Cahokia power station at East St. Louis, Ill., adopted pulverized coal in order to be able to burn low-grade fuel. It reports using an Illinois coal containing 12 per cent of moisture, dried to 5 per cent, and 16 per cent ash (18 per cent of which is iron), and having a fusing point of 2,000 deg. F., obtaining from 80 to 84 per cent efficiency without economizers.

The Philadelphia Rapid Transit Co., at its Mt. Vernon station, has burned anthracite waste containing 18½ per cent of ash obtaining an efficiency of 62 per cent.

From France come reports of burning low-grade fuels continuously at several plants: At Montceau-les-Mines a coal containing 27 to 28 per cent ash, having a fusing point of 2,120 to 2,220 deg. F. has been burned with efficiencies of 75 per cent or more. At Etablissements Delaunay-Belleville a mixture of coals running up to 42 per cent ash has been burned successfully. At a certain metallurgical plant, anthracite containing 35 per cent ash has been burned with an efficiency of 74 per cent.

In this country some mines are consuming the low-grade fuels they produce to generate the power necessary for their own operation. An excellent example of this kind is furnished by the United States Coal & Coke Co., of Gary, W. Va., which utilizes its bone coal containing approximately 23 per cent of ash.

EFFICIENT COMBUSTION PROVEN

A large number of short-time tests might be cited showing that even poorer coals have been burned successfully. It may be considered as proved, therefore, that combustion of low-grade fuel in the pulverized state has been, and can be accomplished with good efficiency.

Efficiency of combustion, however, is not the sole factor to be considered, and time alone will demonstrate whether the overall economy secured will be such as to permit of a large demand being created for low-grade fuels. Even if equal efficiencies were attained, a number of factors increase the operating costs with low-grade pulverized fuels. Among these should be mentioned the freight and handling charges on the ash and moisture content, the extra power required for grinding, the heavier wear on all machinery, the expense of removing and disposing of large amounts of ash, and the more rapid destruction of the refractories. Furthermore, although good efficiencies can be attained from low-grade fuels, the maximum capacities of the boilers are lower than with the better grades, and the possibility of trouble or stoppage will always be greater.

In time, numerical values may be assigned to these various items, so that it will become possible to estimate the relative economic value of available coals.

It might be suggested that if the coal industry is desirous of obtaining an outlet for its low-grade fuels, it must do its share toward determining the treatment to which these materials must be subjected at the mine, in order to afford greatest economic results.

Unquestionably the employment of powdered lignite and brown coal has opened a way to overcome some of the difficulties involved in their utilization. It has improved the outlook for these fuels although reports indicate that much of the work so far done is in the

form of tests and trials. A few of the results reported are as follows: At the plant of the Colorado Fuel & Iron Co., at Pueblo, Puritan lignite was powdered in an Erie City pulverizer and burned in a Seymour type of furnace affording 76 to 77 per cent efficiency.

Trials conducted at the St. Paul Light & Gas Co.'s Island station, on Texas lignite, containing 30 per cent moisture and 20 per cent ash on a dry basis, afforded continuously 154 per cent of boiler rating with 78 per cent efficiency without serious operating difficulties. A rating of 260 per cent gave 76 per cent efficiency, but excessive slag made it necessary to shut down after a four-hour run. In spite of this, however, the tests were considered sufficiently conclusive to warrant placing orders for 10,000 hp. of powdered lignite boilers for a plant at Trinidad, Texas.

Many other tests have been conducted upon this fuel, both in this country and in Canada. In Australia, also, brown coal has been tried. All of these have demonstrated that grades of these fuels that have given considerable trouble, or have been impossible to burn continuously by other means can be used when pulverized.

It would appear that the claim that the utilization of fuel in the pulverized state will ultimately be of direct benefit to the coal industry is justified. It may also be alleged that the utilization of powdered fuel has been of direct benefit through the incentive it has created for large-scale experimentation and the pace it has set for other methods. As to how far improvement in these other methods has been due to the competition of pulverized fuel and how far to their own natural growth, no one can determine definitely.

Dinosaurs Leave Footprints In Utah Coal Mines

A PREHISTORIC animal that paleozoologists have termed the "terrible lizard" or "dinosaur" roamed over the peat bogs of Utah in the Cretaceous period, and he left behind him footprints that Utah coal operators still display with pride. They—the prints, not the operators—are of various sizes, some measuring 30x31 in. The one shown in Fig. 1 is from the mine of the Utah Fuel Co. and is 24 in. wide from one extreme to the other.

The lizard walked along on his hind legs and must have been a most terrible creature, but as its actual identification is difficult, we can only surmise how tall it might have been. To W. D. Matthews, of the American Museum of Natural History, it appears to be a deinodont or big-toothed dinosaur of which group the tyrannosaurus, is possibly the most bulky member. That flesh-eating lizard attained a length of 47 ft., and the animal, counterweighted by its huge tail, stood in a posture a little more erect than that of a dog begging. Thus standing he was from 18 to 20 ft. high.

Apparently the monsters tracked along in the mud above the peat bog, and their feet made a depression in the vegetable mass which remained after the feet were withdrawn, but the mud that was pushed into the peat by the foot ultimately formed a cast of sandstone which was later filled with a shaly material. E. T. Ralph, writing to A. C. Watts, of the Utah Fuel Co., says "this impression had the appearance of being in

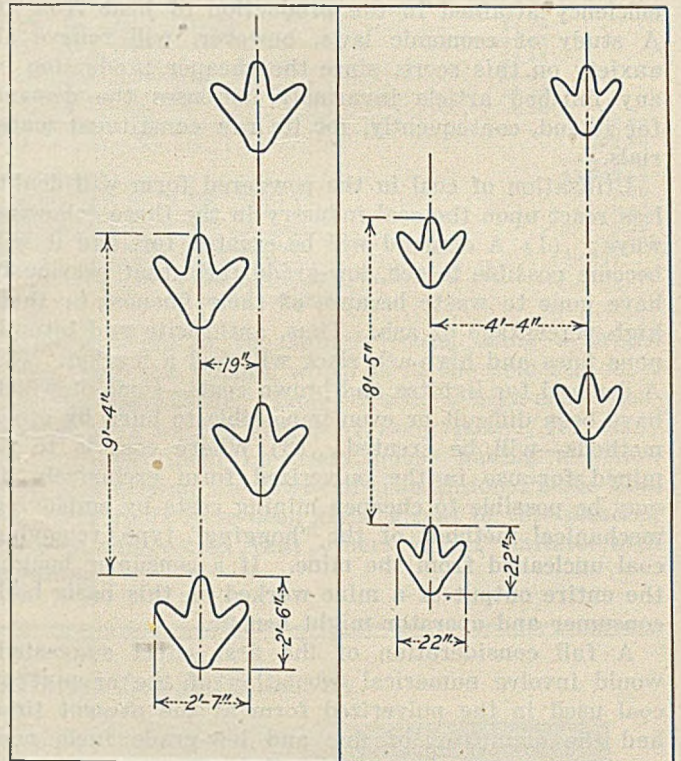


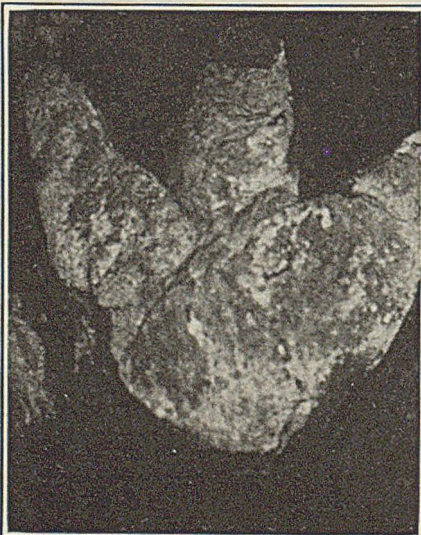
Fig. 2—Dinosaur Tracks at Castlegate and Ballard

The smaller measurements are of footprints in the old longwall workings just southeast of Castlegate No. 1 mine opening and the larger show the dimensions of the prints in the old Ballard mine of the American Fuel Co. Note the variation in "wheel gage" so to speak between the larger and smaller animal—19 in. in one case and 4 ft. 4 in. in the other. The Ballard tracks are taken from notes of William Peterson and the other tracks from those of A. C. Watts, chief engineer, Utah Fuel Co.

FIG. 1

Dinosaur Footprint in Mine Roof

In place of ferns, the mines in Utah frequently have markings indicating the passage of a big lizard over the surface of the peat bog. The coal is surmounted by shale but when the footprints were made the capping must have been of fine sand slime, for that is the material of which the exterior of the footprint is made. The interior of the print is of shale.



the solid sandstone, but upon cutting around one of these footprints we found that the sandstone in the print is only about 2 in. thick and is overlaid with several inches of black shale between the exposed footprint and the solid sandstone."

In the Rolapp mine just north of Castlegate, Utah, footprints are found all along an entry, showing that the tyrannosaurus, or whatever he was, walked in that direction. The outlines have been delineated in crayon and thus is recorded in ancient stone and modern fireboss' chalk the journey which a lizard took perhaps millions of years before the appearance of man. It is said that in many cases the evidence is that there were in those days saurian paths like the cow paths of today; only occasionally did one of these big lizards wander away from the well beaten tribal pathway to make a new roadway of his own over the surface of the plain.

Improved Ventilation and Safety Practices Pay

By A. W. Dickinson

General Superintendent, Union Pacific Coal Co.,
Rock Springs, Wyo.

WITH MINES OPERATING in territory where the coal beds carry a considerable quantity of methane, and with experience in the past which has confirmed the serious nature of the gas and coal dust hazards, The Union Pacific Coal Co. has exercised care in the conduct of mine ventilation for many years. In recent years, added impetus has been given to the handling of the ventilation problem by President Eugene McAuliffe. This attitude has brought about marked changes in the positions taken by all of the staff toward the coursing and conduct of the ventilating current. The feeling at present is, that "good enough" will not do.

Supplementing the work of the safety engineer, the station of ventilation engineer was created in the spring of 1924. The ventilation engineer chosen was a man of engineering training and long experience in the southern Wyoming field, through which he had been in close contact with the underground coal mine conditions of this region. His duties as assigned consist of: (1) Constant inspection of the ventilating systems of all the mines. (2) Study and control of any agency which may result in the ignition of gas and dust. (3) Study and control of fire areas in mine workings.

For the past year a quarterly inspection has been made at each mine by a committee consisting of: 1. A member of the United Mine Workers, chosen and paid by the local union; 2. A member of the United Mine Workers, chosen and paid by the mine superintendent; 3. The safety engineer of The Union Pacific Coal Co. or his representative.

MINERS APPROVE PROGRAM

These quarterly inspections have brought out some points which were constructive and in which remedies have been applied. They also have the value of creating a feeling among the men employed in the mines, that they have a direct interest in the promotion of the safety program, and there is no question but that this manner of inspection has resulted in benefit to the properties. It is clearly indicated that the majority of the men approve of the program. There have been several cases in the past three months where wrong-doers have been reported and punished through the agency of their fellow workmen.

One means taken to promote the safe conduct of the ventilation and all other underground practices, is the employment of one man in each mine known as a safety patrolman. This man reports to the foreman of the mine, and it is his duty to patrol all working faces on working days, seeing to it that men do not work under dangerous conditions, that loose top and loose face coal is properly cared for, that clearances are observed and that the general safety standards prepared by the engineer of standards for the company, together with the safety rules, are carried out. On idle days, the safety patrolman covers the air courses and works on the placement of sprinkling devices, shale dust and the shale dust barriers.

At each of the Union Pacific Coal Co.'s seventeen

mines, a recording vacuum gage is placed in the return at the ventilating fan. The charts on these gages are changed every morning before the day shift enters the mine, the mine foreman assuring himself of the constant operation of the fan subsequent to quitting time on the previous night. At mines generating methane, daily readings are made of the air volume on each split and weekly reports on air volume and water gage are furnished from each mine.

For the past nine months, all of the seventeen mines have been on closed lights. Shale dusting is being thoroughly carried out in all of the mines, a central plant for the fine grinding having been erected at Rock Springs. Room faces, roadways, empty and loaded cars are wet down. The program also calls for water on the cutter bars of all mining machines.

MORE LUMP WITH LESS POWDER

Permissible powder and electric detonating caps are in use to the exclusion of any other form of explosive. In connection with the use of electric caps, it has been demonstrated that the first delay caps, when used in the firing of a round, result in a saving in powder and an increase in the production of lump coal. Cushioned shooting is also encouraged, and an explosive engineer is employed to follow up the shooting practice, with the purpose of keeping the percentage of lump at a maximum.

Close attention is paid to the construction of overcasts, the ventilation engineer watching the manner of construction and the area allowed. Stoppings are made of concrete; also of double rock wall with dirt pack in the center. In room crosscuts low priced jute brattice is used to stop outside crosscuts and carry air to the actual working face.

In the plastering of stoppings necessary to carry a maximum per cent of air to the working face, a new mixture has been developed since the use of shale dust became general in the mines. Stopping plaster now consists of a mixture of three units of sand, three units of shale dust and $\frac{1}{2}$ unit of portland cement. This mixture does not crack and is considered by everyone to be a real discovery.

AIR SHAFT PRACTICE

The rule or standard required by the ventilating engineer, is that 75 per cent of the volume of air read at the intake of an entry be conducted through the face crosscut. This requires the very best of stopping practice using projected cement. The new standard in air shaft practice provides that shafts be of circular cross-section, 12 ft. in diameter in the clear. It will be found that it is much easier and less costly to maintain such a shaft.

The improved ventilation and safety practices of the Union Pacific Coal Company have paid and paid generously, not only from the humanitarian standpoint but also in cold, hard dollars and cents. The carrying on of the work has bred a very agreeable relation in the entire body of employees to the great encouragement of everyone concerned.



Lewis Finally Makes Direct Appeal To President, Asking Intervention; Adviser Says Coolidge Will Decline

President Lewis of the United Mine Workers made his definite appeal for government intervention in the soft-coal situation and repeated his more or less veiled threat of a general strike in a letter Nov. 22 to President Coolidge. The letter renewed the miners' contention that the Pittsburgh Coal Co., the Consolidation Coal Co., the Bethlehem Mines Corp. and "coal interests of the Buffalo, Rochester & Pittsburgh R.R." have been violating the Jacksonville agreement and invited the government, as a party that encouraged the making of that agreement, to take a hand toward enforcing it. An authority close to the President at Washington said the President's attitude no doubt will continue to be that there is no law under which the government can proceed against the operators.

Thomas F. Brennan, president of the Buffalo, Rochester & Pittsburgh R.R., denied that his company is interested in any mining companies along its route and therefore is not directly or indirectly interested in the Lewis controversy over violation of the Jacksonville agreement.

Spokesmen for the Anthracite Operators' Conference said the new outburst of Lewis with his old declarations only confirm their contention that Lewis, in bringing about the existing anthracite strike, was trying to use it as a means of getting the government to cure the miners' soft-coal troubles.

In Chicago Stuyvesant Peabody, president of the Peabody Coal Co., said that if Lewis calls a strike affecting the whole Central Competitive Field, in which a good many operators have been living up to the Jacksonville agreement in spite of competitive conditions, he will be doing to them the very thing which he complains certain operators are doing to the union.

The Lewis letter follows:

In February, 1924, the operators and miners of the Central Competitive bituminous coal fields consummated a wage agreement designed to expire by limitation on March 31, 1927. With this instrument as a base supplemental agreements of similar nature were executed between operators and miners in contiguous and outlying coal districts. The accomplishment met with general public approval, as the agreement gave promise of security and advantage to the public with respect to the factors of continuous supply and price. Agencies of the federal government co-operated in making possible the agreement, the Departments of Justice, Commerce and Labor participating.

The twelfth annual report of the Secre-

tary of Commerce for the fiscal year ended June 30, 1924, at pages 13 and 14, states as follows:

"Through co-operation by the department with the unionized operators and with the leaders of the United Mine Workers a long-term agreement has been entered upon which insures industrial peace in the industry. * * * The industry is now on the road to stabilization. * * * No better example of co-operation to secure the elimination of national waste can be presented. The past year, as compared to the year 1920, shows a saving to the consumer of about \$1,000,000,000, which must be reflected in decreasing costs of production in every avenue of industry and commerce."

Without question, the foregoing declaration of accomplishment by the federal government in the public interest was heartily approved by every thoughtful citizen.

Notwithstanding the acknowledged virtue of the before-mentioned contract, I am compelled to authoritatively advise you that substantial coal-producing interests, signatories to the arrangement, have violated and repudiated their written word of honor and in so doing have impaired the integrity of the wage structure throughout the entire bituminous industry. Among the coal companies thus trampling upon and dishonoring their wage agreements with the mine workers are four of the largest coal-producing groups in the nation, viz.: the Pittsburgh Coal Co., the Consolidation Coal Co., the Bethlehem Mines Corporation and the coal interests of the Buffalo, Rochester & Pittsburgh R.R., their several operations being located in northern West Virginia, Ohio and the central and western Pennsylvania coal fields.

To attain their unmoral objective these companies, and certain others of lesser consequence, have utilized coercive and oppressive methods. Their actions have been destructive of all confidence between employer and employee and constitute an unwarranted, indefensible blow at the universally recognized principle of collective bargaining. The savage and dishonest acts of the before-mentioned group has added to the burden of those honest coal operators who desire in every particular to operate in accordance with their wage agreements. The most full information as affecting the representations which I make is available in the departments of Commerce and Labor.

The federal government upon occasion, and from time to time, has intervened in the coal industry. Not alone the operators but the miners have felt the weight of its influence and regulated their policies accordingly. In all respect, the mine workers now inquire whether the federal government desires to intervene to maintain the morality and integrity of the existing agreement in the bituminous coal industry.

If it should occur that the federal government is disposed not to intervene for the protection of a meritorious wage agreement, might the mine workers believe that their own efforts in that direction may be considered as justified?

The Great Northern Ry. will extend its oil-burning system eastward from Wolf Point, Mont., to Williston, N. D., which gives oil burners for 1,200 miles from Williston to Seattle. That is about two-thirds of the main line of the road which uses oil instead of coal.

Massachusetts Utility Gets Winding Gulf Mines In \$10,000,000 Deal

The Massachusetts Gas Companies, through their subsidiary, the New England Fuel & Transportation Co., have purchased the E. E. White Coal Co.'s properties at Glen White, W. Va., and the P. M. Snyder properties at Mount Hope, W. Va., as well as the distributing firm of Castner, Curran & Bullitt, which has been agent for the White and Snyder companies. The transaction is said to involve about \$10,000,000. The New England companies will take over the three acquired companies about Jan. 1. Negotiations for their purchase have been under way a few months.

The E. E. White Coal Co. operates mines at Glen White and Stotesbury, producing about 1,000,000 tons annually. The mines of this company are two of the largest in the Winding Gulf district and are extremely well equipped.

The P. M. Snyder group of mines include the East Gulf Coal Co., Pemberton Fuel Co., Princewick Coal Co., Longbranch Coal Co., and the Glenco Coal Co. These companies have an aggregate annual output of about 800,000 tons.

Castner, Curran & Bullitt, Inc., which in the beginning of the Pocahontas field sold all of the tonnage produced by the Pocahontas operators, owns extensive docks in New England and a fleet of coal-carrying vessels, which also will be acquired by the new interests.

It is the plan of the new interests to conduct all of the companies purchased under their present names, retaining the corporate identity of each, until a new company can be organized and financed to take over the old corporations.

These interests have an option on another big coal producer in the Winding Gulf field and it is understood that they will entertain propositions from other operators with a view to acquiring additional property in the Beckley seam section of the Winding Gulf district.

E. E. White, head of the coal companies which bear his name, and Lemuel Burrows, head of the firm of Castner, Curran & Bullitt, will retire from active life in the coal business. P. M. Snyder, head of the other companies which are selling out, will go with the new concern as general manager of operations. Otherwise, the personnel of these various organizations will remain the same for the present.

Hard-Coal Operators Prepared for Finish Fight in War Against Future Strikes; Scout Lewis' Suggestion

The operators more firmly resolved than ever that the anthracite industry must be freed from the menace of recurring strikes; the union officials seeking to win public sympathy while threatening the consumer with a general strike to cut off his supply of bituminous coal—this is the anthracite strike situation as the shutdown in the hard-coal region enters its fourth month.

Despite rumors of growing restiveness in the field, the international leaders of the United Mine Workers still cling to the position taken when John L. Lewis walked out of the conference room at Atlantic City last August and brought the wage negotiations to an abrupt end. The operators, then standing upon the proposition that they could consent to no change in wages which would increase the production cost of coal, now emphasize their counter-demand that the next contract between employers and employees shall contain arbitration provisions that will make future tie-ups impossible.

The latest restatements of the positions of the two sides may be attributed to the action of the operators in again resorting to advertising to make their position plain to the public. Copy placing responsibility for the suspension on the miners appeared early last week in the metropolitan press. A statement from President Lewis of the union, denying that responsibility and declaring that the union had been and was now willing to negotiate in a "give-and-take" spirit followed. To this the Anthracite Operators' Conference, which met at the Railroad Club in this city on Nov. 19, declined to make any formal reply.

Cites Former Statements

Members of the conference, however, called attention to former statements of the operators' position made by S. D. Warriner at the opening of the wage negotiations last July and at Philadelphia on Oct. 26. In the latter statement Mr. Warriner declared that the operators were prepared to make a finish fight this year to reduce the labor cost per ton in the belief that the public had rebelled against existing prices and to exact a pledge against future strikes.

The conference, it was reported, also scouted the suggestion of Mr. Lewis for a long-term agreement at a fixed wage basis, insisting upon an arbitration clause. As a further clue to their position, a spokesman for the operators asserted that "the strike must go some time longer before a state of mind is reached from which any settlement can come."

Barring government intervention, the opinion is privately expressed that this "state of mind" can not be reached before 1926. Whether government intervention will come is, of course, the big question mark in the present situation.

The administration at Washington has consistently held to a policy of non-interference, but there are a number of members of Congress who openly disapprove of that policy. The latest recruits to the ranks of dissenters are Senator Borah, who is reported to be gathering information in a private investigation of his own, and Representative Treadway, of Massachusetts, who has attacked the anthracite industry a number of times.

Pressure also is coming from various private and semi-public bodies. At a meeting in New York last Thursday, the National Council of Traveling Salesmen's Association adopted resolutions calling for an early settlement of the strike and named a special committee to work toward that end. On the other hand, the Washington (D. C.) Chamber of Commerce two days earlier passed a resolution heartily approving "the attitude of President Coolidge in respect to non-intervention by the federal government in the present industrial dispute in the anthracite fields to the end that the differences may be settled within the industry and thus give promise of remaining settled."

In the hard-coal field itself the anthracite operators' negotiating committee is looked to for the next move in the controversy. The New York *Times'* report of what transpired at the New York meeting of the operators last week was given wide publication in the region and a confirmation or denial of the details is expected.

In the meantime the news columns of the region papers are occupied with accounts of the latest move of the Scranton Chamber of Commerce in summoning three representatives of every chamber of commerce in the hard-coal belt to a conference Nov. 24 on the strike in Scranton.

The call for the meeting carried the signatures of Colonel L. A. Watres, president of the Scranton Chamber of Commerce; Eugene Giering, president of the Wilkes-Barre organization, and W. M. Dyatt, president of the Hazleton civic body.

Mines Seek Financial Help

The District 1 headquarters of the United Mine Workers in Scranton is reported to be receiving many appeals for financial assistance from members of the union in various sections of the field. This is also true of the other districts, Nos. 7 and 9. It is understood that the matter will be taken up with international union officials this week and that a plan of distributing strike benefits will be laid out.

Nothing further is reported from Harrisburg on strike mediation moves by Governor Pinchot. It is understood that the Governor is awaiting the outcome of the latest developments in the situation. The Rev. J. J. Curran, of Wilkes-Barre, also is silent on the aim of his future plans as a mediator.

More Injunctions Granted In Oklahoma

Temporary injunctions against general picketing by union miners of district 21 and other methods of interference employed by them against open-shop operations were granted to three large coal companies of Oklahoma in federal court at Muskogee early last week, it has been reported. Federal Judge R. L. Williams granted the injunctions.

Officers of district No. 21 of the United Mine Workers and "all other persons affiliated, confederating and arraigning" with them are restrained by the injunctions from "in any manner interfering with, obstructing or stopping the business of the plaintiff companies; from combining and conspiring together to destroy or injure any of said properties, and from inducing, compelling or persuading by means of threats, violence, fraud or deception miners now working in the plaintiffs' mines." A new clause, however, is inserted in the injunction by which the plaintiff companies are restrained from interfering in any way with picketing by three women and one man allowed to go near each mine.

The restraining orders concern actions of the union miners in connection with open-shop mining operations of the Coal Creek Coal Co., of Henryetta; the Wise-Buchanan company, of Kansas City, and the Missouri-Kansas-Texas Ry.'s mine near Coalgate.

Adopt Plan to End Shortage Of Cars on L. & N.

Agents of the Louisville & Nashville R.R. and the Traffic Committee of the Hazard Coal Operators' Association have worked out a system by which a greater flow of empty cars will be received at the mines in southeastern Kentucky and relieve the shortage which has existed for the last month. Mines that require cars will specify the number needed, how many will be used exclusively on the L. & N. Lines and how many will be used on the connecting lines. In event that cars are loaded at the mines for other than those connecting lines for which they were sought an explanation will have to be made.

The Hazard operators said they would rather be assured of six days' work a week and an even flow of tonnage than to have higher prices with three or four days' work a week.

When the shortage from the non-union fields first became apparent the Chesapeake & Ohio Ry. leased from railways in the anthracite fields more than one thousand cars to take care of the extra demand. The Louisville & Nashville, however, made the plea that the C. & O. could afford to do this because of its being interwoven with the Van Sweringen system, which would permit cars to stay on the rails of that road. The L. & N., however, pointed out that when its cars reached the Ohio River these were given over to other lines, which, having no interest at stake, cared not when such empties would be returned.

Scott Turner Sworn In; Lyon and White Become Assistant Directors Dec. 1

Scott Turner, the recently appointed director of the Bureau of Mines, made a flying trip to Washington from Toronto last week to take the oath of office. He was sworn in Nov. 16. He will not take over the duties of the office, however, until Jan. 1. Mr. Turner accepted the position on the understanding that he would be allowed time to conclude private work in which he is engaged.

During his brief stay in Washington Mr. Turner declined to comment on any phases of the bureau's work or on its reorganization. This latter matter, he said, is being looked after by a highly competent committee representative of the industry. He expressed the opinion that the mining industry is particularly fortunate in having Secretary Hoover's help in the effort to solve some of its problems.

Effective Dec. 1 the work of the Bureau of Mines will be divided into two major branches, each to be presided over by an assistant director. One will be known as the technologic branch, with Dr. Dorsey A. Lyon as assistant director in charge. The other will be known as the economics branch, with C. P. White, the assistant director, in charge.

Under the technologic branch will be grouped the following divisions: Mining experiment station, safety service, miners' health and sanitation, mechanical engineering, metallurgy and mineral technology, petroleum engineering, explosives engineering and mining research. The Mine Safety Board and the experimental mine are grouped in this branch.

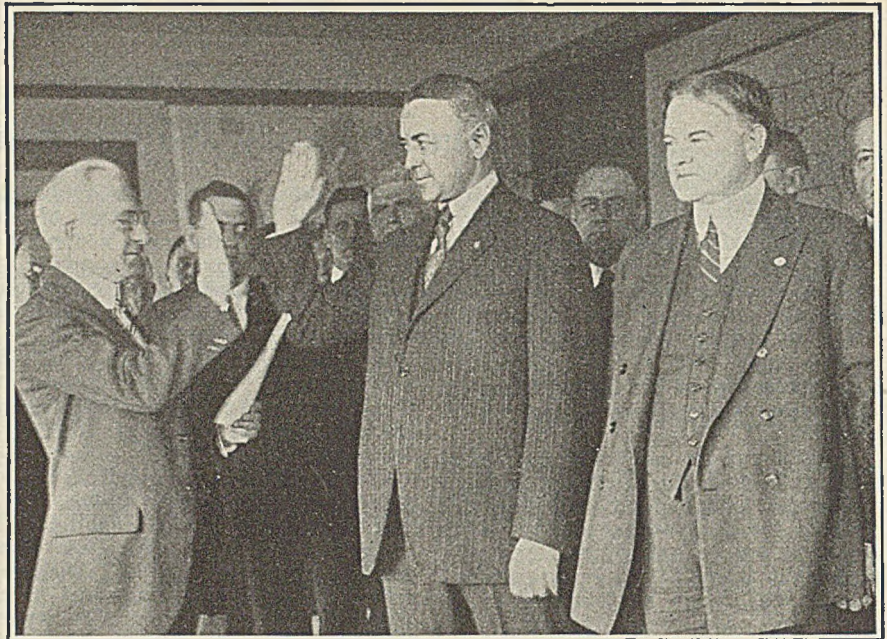
The economic branch is new and will deal with the statistical, industrial and commercial phases of coal, metals, other minerals and helium. The branch is subdivided into divisions as follows: Coal, petroleum, helium production, minerals and metals, and statistics. The Government Fuel Yard will be administered by the coal division. The minerals and metals division is divided into sections as follows: Iron ores, copper, lead and zinc, precious and rare metals; clays and other ceramic material, non-metallics.

Transfers Commodity Division

Mr. White, the new assistant director, has been the chief of the commodity division in the Bureau of Foreign and Domestic Commerce devoted to coal. The work of this division has been transferred to the Bureau of Mines and its work will continue under the immediate direction of Mr. White.

Some thought has been given to a plan of retaining in the Bureau of Foreign and Domestic Commerce those activities pertaining to foreign trade of its Coal and Minerals divisions which now are to go to the Bureau of Mines. It now has been decided, however, that even that part of the work can be handled best by the division itself.

It is recognized that the bureau must be prepared to handle additional coal



New Director of Bureau of Mines Inducted Into Office

Scott Turner, of Lansing, Mich., being sworn in as Director of the Bureau of Mines. Mr. Turner was appointed by Secretary Hoover to succeed H. Foster Bain, who recently resigned. E. W. Libbey (on the left), chief clerk of the department, is administering the oath. Secretary Hoover is standing on the right and C. P. White, Chief of the Coal Division, is looking over his shoulder.

statistics. The hope is that a plan can be worked out whereby the figures can be submitted on a voluntary basis, or it may be that Congress will require the submission of basic statistics.

One of the important questions which will be discussed by the advisory

committee at its next meeting, probably during the first week of December, will be the matter of safety work. This is one of the fundamental activities of the Bureau of Mines and some changes probably will be made to give added emphasis to its importance.

Indorse Coal Sales Reports

Statistical programs for reporting coal sales and shipments were discussed at a get-together dinner of the members of the Huntington Coal Exchange and guests from Williamson and Charleston, held Oct. 23 at the Prichard Hotel, Huntington, W. Va. The delegation from Williamson explained the past sales report of the Bureau of Statistics of the Williamson Operators' Association.

In this system, which was first put into effect May 30, 1925 each reporting company mails to the chief statistician of the association a carbon copy of the acknowledgement of each order. At the end of the week the bureau sends out a report of all sales, showing amount, price and general destination. There is nothing in the report to indicate the identity of the shipper. At the start, only ten companies reported to the bureau, but at present twenty-three companies, representing 64 per cent of the tonnage of the Williamson field, are participating.

The scheme used by the Williamson operators is almost identical with that of the Hardwood Manufacturers' Association, which was adjudged by the U. S. Supreme Court as being in conformity with the Sherman anti-trust law. The National Coal Association has put its stamp of approval on the Williamson report and advocates that each local association adopt a similar plan.

At the Huntington meeting Geo. Bauswine, Jr., secretary of the Williamson Operators' Association, and Wm. N.

Cummins, chairman of the statistical committee and manager of the Red Jacket Consolidated Coal Co., explained the details of the plan. Further enthusiastic comments were made by T. H. Huddy, manager Bailey Fuel Co.; Thos. DeVenney, manager, Portsmouth By-Products Coal Co., president of the Williamson association, and Geo. Patterson, manager, Sycamore Coal Co.

F. W. Schoew, president of the Huntington Coal Exchange, stated that most of the members of that body are submitting a weekly report of past sales, but that these reports are submitted in card form without mention of the consignee, instead of by carbon copy of acknowledgements of orders.

L. B. Ramsey, of the Logan Fuel Co. and president of the Charleston Coal Exchange, indicated his full belief in the benefits of a report such as published by the Williamson association and expressed the opinion that the Charleston exchange probably will adopt the same plan.

Belgian coal output in September was 1,914,280 tons, as against 1,844,860 tons in August, 1,945,732 tons monthly average in 1924 and 1,903,460 tons monthly average in 1913; Coke output, 303,280 tons in September, compared with 308,970 tons in August, 346,650 tons monthly average in 1924 and 293,580 tons monthly average in 1913; Patent Fuels; 206,610 tons in September, as again 200,330 tons in August, 167,693 tons monthly average in 1924 and 217,220 tons monthly average in 1913.

Anthracite Strike Must Be Settled on Basis Insuring Unbroken Supply Is Sentiment in National Capital

By Paul Wooton
Washington Correspondent of *Coal Age*

Observers in Washington are convinced that in the public's resort to the use of anthracite substitutes the country is experiencing the most extraordinary economic development since the buyers' strike of 1921. The movement has spread from New England throughout the whole anthracite-consuming territory. Its ominous possibilities to the industry are thought to be responsible for the signs of weakening which are coming from the camp of the United Mine Workers. Apparently the users of anthracite have come to the conclusion that they must get along this winter without that fuel if they do not want this trouble to recur every two years. The attitude of consumers is in decided contrast to that on previous occasions when the public expended its energy in yelling to the federal government for help.

Despite the fact that the swing to substitutes is assuming the proportions of a boycott there is strong conviction that the anthracite operators should refuse to open their mines until the United Mine Workers agree to some plan that will insure the public a continuous supply of the product. They are in a better position than they ever will be again, it is believed, to insist on the creation of some machinery that will guarantee continuity of supply. They will have strong public support in such a stand, with the chances all favoring ultimate success if they are willing to fight out the issue at this time.

The country gradually is learning that this principle of continuous production is of greater importance than are the more talked-of issues. The new determination of the people to get along and allow the parties to the strike to fight it out, rather than force a political settlement which would mean a truce only, is illustrated in Washington. The leading newspaper is carrying as a daily feature detailed instructions as to the burning of substitutes. It is co-operating with the retail coal dealers in the establishment of numerous demonstration stations throughout the city. Builders are allowing the use of new houses for fuel-burning demonstrations. Thousands of persons are being taught how to fire with bituminous coal.

It is evident that the people are willing to put up with smoke, dirt and inconvenience to be free from the uncertainties that come from frequent interruption of production. This uncertainty has more weight than has price. Washingtonians have paid whatever has been asked for anthracite with little grumbling. They are embracing substitutes because there is less danger of stoppage. They have the impression that both operators and men are guilty of incompetence in the conduct of their affairs when they allow such a situation

to occur, but they are not much interested in trying to understand the cause of the dispute or in establishing who is to blame. Their temper is such that if they are kept from discarding anthracite permanently there will have to be some assurance that production will be interrupted less frequently.

It is believed that this feeling is so strong throughout the anthracite-using territory that consumers will not be satisfied with any settlement that does not provide guarantees against stoppage. Seven years of railroad operation without interruption of transportation has given the public confidence in the machinery which was set up to insure continuous service. There are those who think similar results could be obtained in the coal industry were ninety days' notice required of any desire to amend the wage agreement, were the contract to provide that production continue during negotiations and were provision made for arbitration if negotiations fail.

From the opening of the present controversy the anthracite operators have announced their willingness to arbitrate all of the questions under dispute. But the public's attitude makes it clear that arbitration is the big issue in this strike. What heretofore has been simply a statement of attitude on the part of the operators now well may be put forward as one of their demands, some representatives of the public think.

Nova Scotia Wages Too Low, Says Barrett

Silby Barrett, former provisional president of District No. 26, United Mine Workers, appearing as the principal witness on behalf of the miners at Sydney, C. B., at the Nov. 17 session of the Royal Commission investigating the Nova Scotia coal industry, stated that unrest among the miners was due to the low wages paid, more especially to the datal men. He said \$3.35 was too low a rate for common underground labor, if a man hoped to maintain himself and family, and also too low in relation to the wages paid other workers. He believed contract men would be content to have datal men alone get the increase if they were satisfied the industry could not pay more. They would not stand for reduction in their own wages, even though datal men got increases, because even the contract men were not paid enough to live on. On the whole, he believed the contract men would agree to an adjustment.

Mr. Barrett testified that there was unfair distribution of work to some of the British Empire Steel Co.'s collieries, and said the company should distribute its orders over the whole field in order that all mines should share in the work.

Complete Plans for Boston Coal Service Bureau

Preliminary organization plans for the establishment of New England coal service bureaus to teach householders how to burn New River and Pocahontas coals have been completed. The Smokeless Coal Operators' Association of West Virginia has opened its first service bureau office in the Chamber of Commerce Building in Boston. D. B. Goode has been made executive secretary and Henry C. Eaton chief combustion engineer. Mr. Eaton is engaging a staff of demonstrators which will be enlarged as occasion requires.

The association, says R. H. Gross, chairman of the executive committee in charge of this feature of the work, is planning to open stations in Worcester, Springfield, Hartford, New Haven and Providence "in order to more effectively and promptly demonstrate to the householder of New England the value of Pocahontas and New River coals." The campaign launched was approved by the association at a meeting held at Boston on Nov. 6.

California Dealers Enjoined Against Unfair Methods

The Federal Trade Commission has issued a cease and desist order directed to the California Retail Fuel Dealers' Association, of Oakland, Calif., and others, in which the respondents are required to discontinue certain business practices found by the Commission to be unfair methods of competition. The Commission found that the respondents combined among themselves and co-operated together and with others to prevent certain co-operative associations from obtaining adequate or sufficient supplies of coal for their business from producers in Utah, Wyoming and elsewhere.

Penn State Loses Engineering Extension Director

Prof. N. C. Miller has resigned as head of the Pennsylvania State College engineering extension department to become director of extension at Rutgers University, New Brunswick, N. J.

While at Penn State Mr. Miller organized extension night schools in Wilkes-Barre, Scranton and Pittsburgh, where most of the courses are devoted to subjects pertaining to engineering work in the coal mines.

Professor Miller also developed a home study plan combining correspondence instruction with local supervision of students. This immensely increased the popularity and general usefulness of the elementary subjects already offered by the department to mining men. The later addition of college-grade subjects still further broadened the range of educational activities in this direction.

Open-Shop Operations Spread in Union Hotbed Of Upper West Virginia

Another hotbed of the United Mine Workers in Northern West Virginia was invaded Nov. 17, when mines Nos. 88, 89 and 90 of the Consolidation Coal Co., at Wyatt, Harrison County, resumed operation. A force of men was put to work cleaning up the three mines, which dump coal over the same tippie. For years Wyatt has been one of the principal strongholds of the United Mine Workers.

Officials of the Consolidation Coal Co. reported last week that satisfactory progress was being made in the operation of mine No. 63, at Monongah, and O'Donnell mine, No. 57, in Fairmont, the only mine that the company has on the Monongahela Ry.

A new scare was thrown into the operators of northern West Virginia, when producers in the Logan and Kanawha fields tapped by the Chesapeake & Ohio Ry. began incursions into the trade territory of northern West Virginia. The C. & O. operators ask the Interstate Commerce Commission for an all-rail rate over the C. & O. via Charleston, Rencenverte and Durbin and thence over the Western Maryland by way of Elkins and Cumberland. Another tariff asked is to Charleston on the C. & O. and thence over the B. & O. by way of Gassaway. Buckhannon and Grafton and thence over the Allegheny Mountains east of Grafton to points in the East and New England.

If the rate is granted, which probably would carry a differential of \$1.10 over the Fairmont rate, it will open up to the C. & O. operators the industrial sections and centers of population tapped by the Philadelphia & Reading through the Shippensburg and Rutherford (Pa.) gateways, and permit coal to move to Hershey, Lebanon, Harrisburg, Lancaster, Reading, Allentown and other cities in northern and northeastern Pennsylvania. Retail coal yards along the Western Maryland have asked for smokeless coal and if this rate is granted it will open up the markets of Hagerstown, Md.; Chambersburg, Gettysburg, York, Pa.; Baltimore and other commercial and industrial sections to the C. & O. operators.

Labor Shortage in Strike Zone

In a statement issued recently, Bittner said that for the first time since the strike started, April 1, there was a labor shortage in the northern West Virginia fields. "Many men who have been working in the non-union mines of northern West Virginia," said he, "are now leaving and going to other fields, principally the Connellsville coke region."

In the first three days of last week 5,002 cars of coal were produced at non-union mines compared to 5,325 cars in the corresponding period of the previous week. The drop in open-shop tonnage is believed to be due to the recent heavy pay day. Union mines in the first half of last week produced 883 cars, compared to 781 cars in the first three days of the previous week.

1,000 More Frick Ovens In; Labor Trouble Appears

Labor troubles at the mines of the Hillman Coal & Coke Co. and the W. J. Rainey Co. in the Connellsville (Pa.) field had the effect of curtailing shipments last week, although not to any great extent, it is asserted. It is known, however, that one or two consumers of coke had to buy current supplies in the open market because of the interrupted flow. The H. C. Frick Coke Co. started 1,000 additional ovens in the Connellsville field during the week and it is feared that this interest will draw so much of the available man power in the coke field that the independents might be forced to take cognizance of the men's demand that they pay the Frick wage scale, which is \$7.50, compared to their \$5.

The exact number of men that are out on spasmodic strikes in the coke field is unknown, but estimates place the number from 500 to 1,500.

Louis Fodor, of Logan, entered a plea of guilty of using the mails to defraud in the federal court at Elkins, Nov. 18, and was sentenced to serve four months in jail in Ohio County. He had been in jail in Fairmont for some time. Fodor, it was alleged, received \$500 from the New England Fuel & Transportation Co., which operates mines at Grant Town and Everettsville, for the purpose of furnishing miners, which the company claims he failed to do, or to return the cash.

Hearings Are Postponed

Hearings of conspiracy charges against Ettore Del Guzzo and James Feeley, international representatives of the United Mine Workers, and six union miners were postponed until the next session of the Taylor County Criminal Court in April, according to information received from Grafton Nov. 20. The bail was reduced from \$3,000 to \$1,000. The state asked for the continuance.

The United Mine Workers announced Nov. 20 that they are now engaged in erecting barracks at Ida May, Carolina, Baxter, Watson, Gaston, Montana, Hutchinson and the West Fairmont Shaft, places where plants of the Consolidation Coal Co. are located.

Van A. Bittner, chief international representative of the union in northern West Virginia, on Nov. 20 sent the following telegram to James J. Davis, Secretary of Labor:

"The Consolidation Coal Co., which abrogated its wage agreement with the United Mine Workers, is evicting hundreds of miners and their families who have been locked out since April 1. This should demonstrate to the American government that the flimsy excuses made by Clarence W. Watson, president of the Consolidation Coal Co., that the company was enforcing the 1917 wage scale by an agreement with the miners are not founded upon truth and are without foundation in fact."

Many Oppose Further Northeast Rate Cuts; I. C. C. May Decide Soon

Opposition to an extension of the Interstate Commerce Commission's order establishing lower through-rail rates on soft coal from West Virginia fields to New England and adjacent states was voiced before Commissioner Campbell, in Washington, Nov. 19 and 20, at the concluding sessions of hearings on this subject, which were begun in New York City. A rather early decision is expected from the Commission and it would not be surprising to see the order extended, to some extent, perhaps as a temporary measure. The smokeless field of West Virginia already has lower rates on lump and egg to the Northeast. An extension was urged to include mine-run and to open up routes from other fields as well.

The opposition was expressed by the carriers, led by the Baltimore & Ohio and the Pennsylvania railroads, by representatives of the bituminous operators of the Pittsburgh, central Pennsylvania and Somerset fields, and by Attorney General Woodruff and Chairman Ainey, of the Public Service Commission, officially representing the State of Pennsylvania.

The main point of opposition was that there is no necessity for an extension of the order, as there is ample soft coal in Pennsylvania to fill the requirements of New England and sister states at a lower freight rate. To transport coal from the Southern fields across the Pennsylvania fields would be a waste of car capacity and other transportation facilities, it was argued. There are 741 idle soft-coal mines on the lines of the Pennsylvania R.R., the spokesman for that carrier testified, of which more than half are in the low-volatile field of Pennsylvania. The same spokesman said there are 1,200 cars of coke at Perth Amboy awaiting consignment for lack of demand.

In the final hours of the hearing spokesmen for the carriers, while not relenting in opposition to any extension of the order, asked that if an extension be declared, it be made temporary, with a definite date of expiration without prejudice to future proceedings toward a permanent order.

Gets Five West Virginia Mines

Basil H. Lucas, of Shinnston, W. Va., representing Eastern capitalists known as the Acme Coal Co., has taken over the mining interests of J. Edgar Long, of Clarksburg, W. Va., according to reports. These include the Burke mine of the J. E. Long Coal Co., Kester mine of the Long Fuel Co., South mine of the Interstate Fuel Co., Nancy mine of the Castle Fall Coal Co. and Rex mine of the Hamilton Industrial Corporation. Newspaper reports indicate that Mr. Long was East recently working out details. It is reported that he will continue his connection with the J. E. Long Coal Co., a wholesale firm, with M. C. Raikes in charge. It is reported that he will devote more time to the interests of the Union Explosives Co., of which he is president and treasurer.

President Coolidge Warns Against Extravagance and Inefficiency of Government Activity in Business

National and world service opportunities open to American business were eloquently discussed by President Calvin Coolidge in an address to the Chamber of Commerce of the State of New York at the Waldorf-Astoria Hotel, New York City, Nov. 19. Something far above "a sordid desire for gain" was the foundation of true business, the President told his audience. How business may best measure up to its opportunities and how the national government can co-operate in advancing those aims were themes which were emphasized again and again during the course of the speaker's remarks.

A better understanding of the problems of government by business and of business by government is much to be desired, said the President. Even more important, however, is "the largest possible independence between government and business. Each ought to be sovereign in its own sphere. When government enters the field of business with its great resources, it has a tendency to extravagance and inefficiency, but, having the power to crush all competitors, likewise closes the door of opportunity and results in monopoly." Business attempting to run government leads to the setting up of special privileges.

"It is always a problem in a republic," continued the speaker, "to maintain on the one side that efficiency which comes only from trained and skillful management without running into fossilization and autocracy, and to maintain on the other hand that equality of opportunity which is the result of political and economic liberty without running into dissolution and anarchy." The economic and social status of the citizens of the United States shows that this country is advancing along the right road in its efforts to maintain this balance and to preserve both economic and political freedom.

Defines "True Business"

"True business represents the mutual organized effort in society to minister to the economic requirements of civilization. It is an effort by which men provide for the material needs of each other. While it is not an end in itself, it is the important means for the attainment of a supreme end. It rests squarely on the law of service. It has for its main reliance truth and faith and justice. In its larger sense it is one of the greatest contributing forces to the moral and spiritual advancement of the race."

Because business plays such a big rôle, the promotion of its success has been a constant aim of the federal government. The effort has been to reduce interference to the minimum. Except for safety, health and taxation, the law has entered little into the work of production. Legislation has been more exacting in the field of distribution because "the whole policy of the govern-

ment in its system of opposition to monopoly and its public regulation of transportation and trade has been animated by a desire to have business remain business.

"It is my belief that the whole material development of our country has been enormously stimulated by reason of the general insistence upon the part of the public authorities that economic effort ought not to partake of privilege and that business should be unhampered and free. This could never have been done under a system of freight-rate discriminations or monopolistic trade associations. These might have enriched a few for a limited period, but they never would have enriched the country, while on the firmer foundation of justice we have achieved even more ample individual fortunes and a perfectly unprecedented era of general prosperity."

The more favorable public attitude toward large production units leaves the government free to advance from the problems of reform and repression to those of economy and construction. Through the Department of Commerce great strides have been made in the elimination of waste. The government has aided in the post-war regeneration by a program of economy in its own operations. "By an enormous reduction in taxation, it has released great amounts of capital for use in productive effort." As a result of this devotion to efficiency and economy, wages have been advancing and the commodity index declining.

Not a Selfish Prosperity

American prosperity, maintained the President, has not been a selfish prosperity. Out of surplus savings the United States has advanced vast sums for Old World, South America and Far East refinancing. Such loans, "if rightly directed, ought to be of benefit to both lender and borrower. If used to establish industry and support commerce abroad, through adding to the wealth and productive capacity of these countries, they create their own security and increase consuming power to the probable advantage of our trade. But when used in ways that are not productive, like the maintenance of great military establishments or to meet municipal expenditures which either should be eliminated by government economy or supplied by taxation, they do not appear to serve a useful purpose and ought to be discouraged."

The efforts and accomplishments of the United States to assist in European rehabilitation, "whether they be appreciated at home or received with gratitude abroad, which have been brought about by the business interests of our country, constitute an enormous world service. Others have made plans and adopted agreements for future action which hold a rank of great importance. But when we come to the consideration of what has been done, when we turn

New York Central Orders 3,000 Gondolas

Orders for 4,500 freight cars to cost approximately \$9,000,000 have been placed by the New York Central Railroad, one of the largest equipment orders placed this year. The Pullman Company will supply 1,000 gondolas of this order, the General American Car Co. 1,000, the Standard Tank Car Co. 500 and an additional 500 has been ordered from the Illinois Car & Manufacturing Co. An order for 1,500 55-ton new steel box cars has been placed with the American Car & Foundry Co.

aside from what has been promised to examine what has been performed, no positive and constructive accomplishment of the past five years compares with the support which America has contributed to the financial stability of the world. It clearly marks a new epoch."

Seek Institute's Suffrages

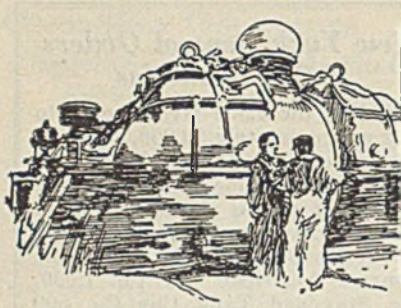
On the official ballot of the Coal Mining Institute of America for the election of Dec. 7 appear the names of W. C. Hood, assistant general superintendent of mines, H. C. Frick Coke Co., Uniontown, Pa., and R. Dawson Hall, engineering editor, *Coal Age*, for president, only one of whom may be elected.

Vice-presidential candidates are: Thomas G. Fear, general manager, Inland Collieries Co., Indianaola, Pa.; A. C. Fieldner, superintendent, Pittsburgh Station, U. S. Bureau of Mines, Pittsburgh, Pa.; J. J. Rutledge, state mining engineer, Baltimore, Md.; A. C. Callen, professor in charge of the mining department University of Illinois, Urbana, Ill.; Frank R. Lyon, operating vice-president, Consolidation Coal Co., Fairmont, W. Va., and N. D. Levin, engineer, mining department, Jeffrey Manufacturing Co., Columbus, Ohio, only three of whom can be elected.

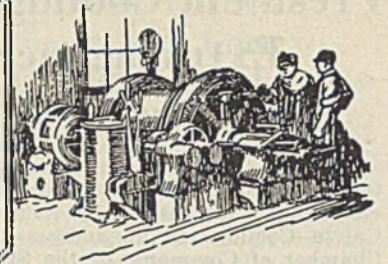
For secretary-treasurer H. D. Mason, Jr., mining engineer, Ebensburg, Pa., and J. J. Maloney, salesman, Goodman Manufacturing Co., Pittsburgh, Pa., are nominated. Twenty names are submitted for managing directors, only ten of whom can be elected. Other names for any or all these offices can be added to the ballot if the voter so wishes.

C. & O. to Lease 6,000 Cars

Anthracite strike conditions making available an additional supply of empty cars, the Chesapeake & Ohio Ry. will in the near future, it is reported, obtain at least 6,000 idle cars under lease in order to forestall any car shortage. The road, it is stated, has already made application for these cars and it is believed that the order will be approved within a few days. There has been no serious complaint as to the way mines are being served along the Chesapeake & Ohio although certain type of equipment has run short at week-end periods.



Practical Pointers For Electrical And Mechanical Men



Changing Location of Arrester Remedies Trouble Caused by Storms

At the Nuttallburg (W. Va.) mine of the Fordson Coal Co. nearly every severe electrical storm caused trouble with the 2,300-volt synchronous motor of the automatic underground substation. This substation is fed by a 1,000-ft., three-conductor, lead-and-armored cable which is carried down through an airway slope. A two-mile pole line extending along the top of the mountain from the head of the slope to the power company's substation is located where it is much exposed to lightning.

Originally the arresters were located on the pole where the armored cable terminates. The choke coils can be seen in Fig. 1. The ground lead of the arrester was connected to the armor of the cable and to a ground wire extending about 150 ft., along the surface, to a connection in moist earth.

ARRESTERS MOVED AWAY

This did not afford the proper protection, so an attempt was made to remedy the situation. The ground

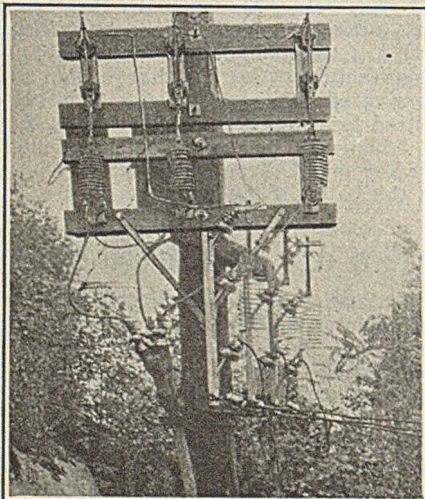


Fig. 1—Arresters Were Ineffective Here
The 2,300-volt armored cable which enters a slope at this point feeds an automatic substation inside the mine. Almost every severe electrical storm caused trouble in the substation.

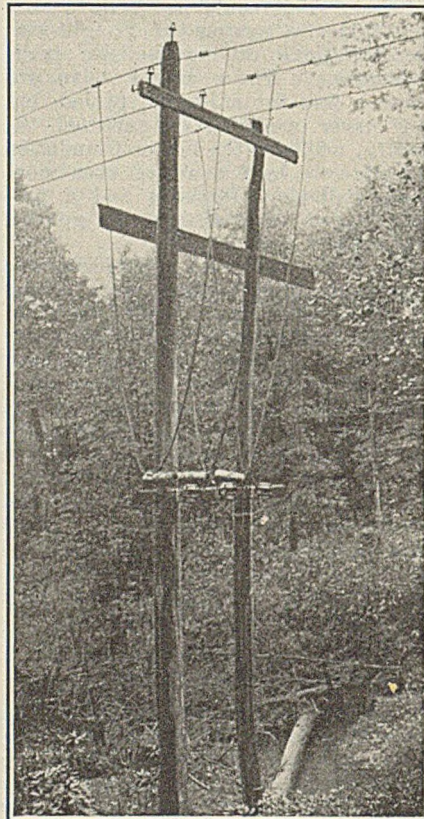


Fig. 2—Good Grounds Prevent Troubles

This place is about half a mile from the slope. The line wires loop down to the arresters which are not over 13 ft. from a ground connection made in the stream of water.

connection was cut loose from the armor and the arresters moved to a point about half a mile from the slope where they were installed on a pole which stands beside a small stream of water. The new location is shown in Fig. 2. Instead of a wire leading down from each line to each respective arrester, strain insulators are used in the line and a loop brought down the pole. The arresters are connected to the bottom of the loops.

Since the location of the arresters was changed many severe electrical storms have visited the locality but have had no apparent effect on the substation equipment.

Machine Relieves Lathes of Armature Banding

Wherever armatures are rewound in the mine shop they must be banded before the repair job is complete. As a rule such work is done in an engine lathe, this machine being operated in a reverse direction with the back gears thrown in. Banding is thus a process that requires some care and considerable time. If done in an engine lathe it keeps this machine from performing other and possibly equally essential work.

At one of the mines of the Old Ben Coal Corporation down in southern Illinois a special banding machine has been built that completely relieves the shop lathes from this kind of work. This machine is constructed along the general lines of a lathe and operates in a similar manner. The bed is built up of structural shapes and plates, as is also the tail stock. The headstock consists of a worm or spiral reduction gear from an old mining machine. To this gear a small motor is attached. The main shaft on this reduction gear has been provided with a slotted face plate and the end turned to a point or center.

CARRIAGE NOT NECESSARY

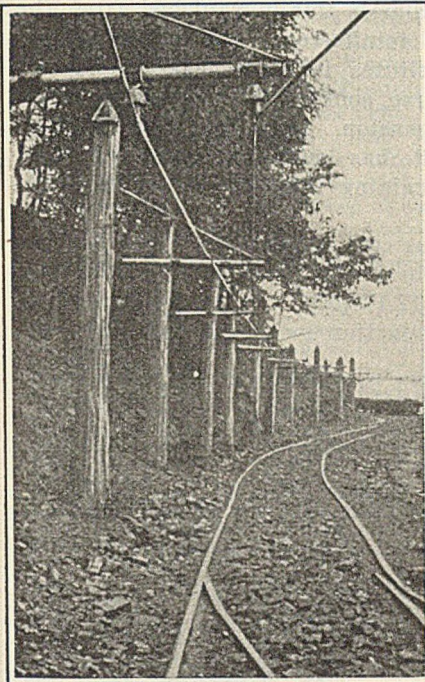
A long threaded shaft extends through the tail stock, its forward end being threaded through a block or nut and its rear end sliding through a similar but unthreaded block provided with a set screw to hold it rigidly in any desired position. The banding wire is held on a spool attached to the wall some distance in rear of the bander. The wire is, of course, passed through a suitable tension. No carriage is required on this machine and motion is transmitted from the face plate to the armature shaft in the usual manner, that is, by means of a single bent or crooked-tail dog.

This bander was comparatively inexpensive to build and performs the work it was designed to accomplish as accurately as could a far costlier

lathe. Best of all it relieves the other machines in the shop where it is installed from the time-consuming job of banding armatures, allowing them to proceed with the work of metal cutting for which they are primarily intended.

Two-Wire Circuits Require Fewer Frogs

An unusual practice but one which has several advantages is that of eliminating trolley frogs and instead using two trolley wires. This prac-



No Trolley Frog Needed

From this point to the tippie a feeder would be required if there were but one trolley. The two wires are connected at frequent intervals so that one acts as a feeder to the other.

tice is followed at the Balkan mine of the Southern Mining Co., at Balkan, Bell County, Ky.

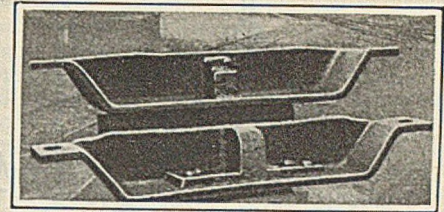
Where two tracks converge at a point from which a conductor of greater carrying capacity than No. 0000 is advisable, two trolley wires are continued a few inches apart. Tie connections are made at frequent intervals. The hanging of the extra trolley wire differs little in cost from the hanging of a feeder on the same supports as the trolley.

Eliminating the trolley frog cuts out delays caused when the pole comes off and also eliminates delays caused by poles being broken when catching in the frog. Torn down trolley wires are also not so frequent. Other advantages of the double-trolley construction are, greater safety to the motormen, and the elimination of the expense of frog renewals.

Suspension Lugs Are Made Strong as the Bar

While the armature of a spur-gear locomotive is exerting a torque in one direction the field is exerting a torque in the other. The field frame or motor box is kept from rotating by a suspension bar which also supports the weight of one side of the motor. The frequent and sudden starting and stopping of the locomotive imposes severe strains on this bar.

The accompanying illustration shows how, at the mines of a big West Virginia coal mining company the strength of the suspension-bar lugs of the locomotives, has been increased. The upper bar in the illustration is equipped with a type of lug formerly used. It consists of a small block of steel fastened to the bar by two $\frac{3}{8}$ -in. rivets and also electrically welded around the edges.



Lugs of the Old and New Types

The old type lug shown in the upper part of the illustration was the weak spot in these suspension bars. Two angles placed back to back, with a filler between, and attached with rivets and arc welding describes the improved type.

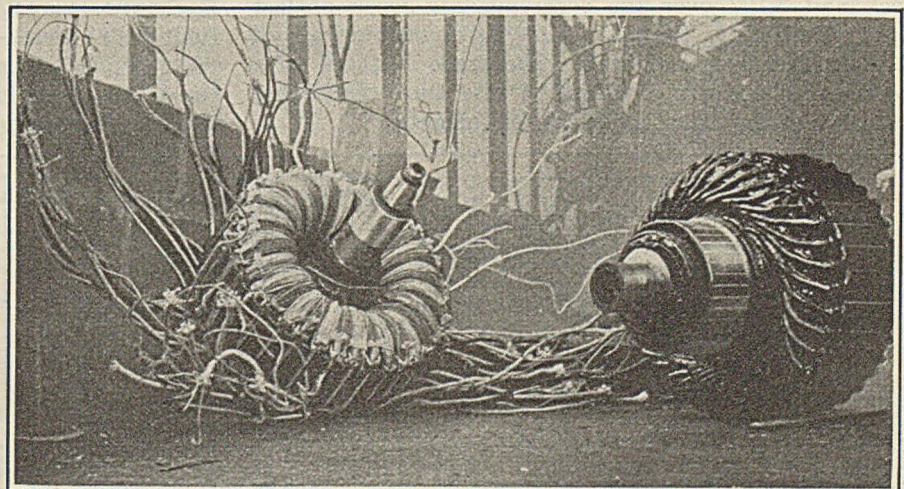
The lower bar has on it a new type lug. This is formed by two short pieces of 4x6x $\frac{3}{4}$ -in. angle iron pieces placed back to back, with a $\frac{1}{2}$ -in. welded filler between. On each side there are three $\frac{5}{8}$ -in. rivets, and the whole lug is arc welded around the edges. This lug apparently will stand as much strain as the rest of the bar. A weak detail of construction is thus effectively eliminated.

Use of Colors Simplifies Armature Winding

Cable-reel armatures of the gathering locomotives used by the Island Creek Coal Co. are of the ring-wound type. The work of rewinding these armatures in the company's shop was looked upon as a tedious job, and one in which mistakes were easy to make. The use of colored wire, however, has been found to reduce the chances of error. On a popular type 500-volt armature pictured here there are eighty turns per slot. It is not practical to put on all of these turns at one winding because the space is limited, and if attempted a smooth job cannot be obtained. Consequently, the coils are wound upon

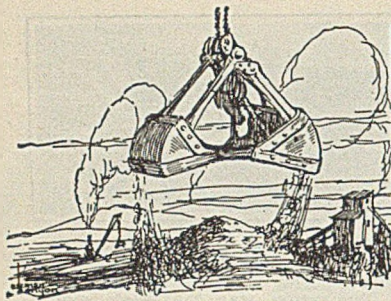
the laminations, six turns at a time, that is, all coils which go through one section of the spider are each given six turns. This procedure is repeated until the section is complete.

The large number of coil ends involved makes the work tedious and it is difficult to find the right coil end each time. The work has lately been simplified by the use of magnet wire with two different colors. When an armature is rewound the colors are alternated in the various slots. Before the two colors were adopted errors, whenever made, were due to interchanging the ends of adjacent coils. The use of different colored wires eliminates this chance and saves much time in winding.

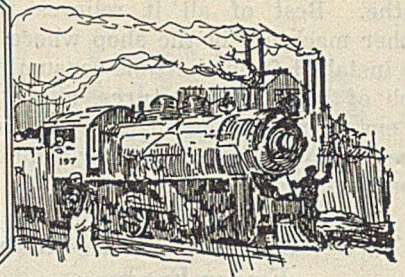


Cable-Reel Armature Wound with Wires Having Two Different Colors Makes Work Easier

To do a smooth job in the limited space for the winding, the coils must be put on a few turns at a time. It was a tedious and difficult job to select the proper coil ends to complete the winding before the scheme of using two colors was put into use.



Production And the Market



Coal Market Develops Halting Tendency Due to Rumors and Mild Weather

A reactionary tendency has appeared in the coal market during the last week, due in large measure to uncertainty brought about by rumors that the anthracite strike is nearing an end. A definite basis for such a belief is rather hard to find in view of the fact that predictions that the suspension will drag until well toward spring are not lacking. Retail dealers and domestic consumers are showing a hesitant attitude, however, compared with the activity of a few weeks ago. The tapering off is still most marked in screened and sized coals, whereas mine-run continues to move quite freely and prices retain considerable firmness. The steam trade is fairly stable, industrials taking full quotas in most instances on contracts, but showing no disposition to increase orders.

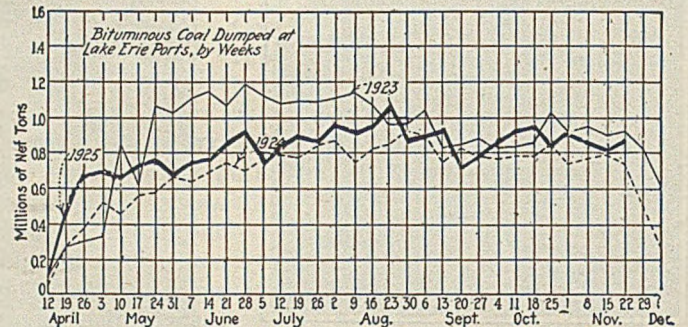
West Virginia smokeless is in less demand in Midwestern markets, dealers in many instances having switched to less costly West Virginia splint and Kentucky grades. Eastern demand for smokeless is still strong, however, though the Pittsburgh district notes a further decline in business from that quarter. Movement from central Pennsylvania is in good volume, but prices on prepared sizes have sagged a little.

Mild weather has been an additional handicap in Midwest producing fields. Franklin County (Ill.) producers have advanced prices 25c. on all sizes, but new business has been scarce and "no bills" are plentiful. The Indiana market is extremely quiet.

Coal traffic through the Cincinnati gateway registered a sharp upturn last week, when 14,437 cars went through, an increase of 1,426 cars over the preceding week and 3,192 over the corresponding week of last year. Headed for the lakes were 2,414 cars, a gain of 311 over the previous week. The trade is faced with the usual disturbing problem at this time concerning the effect of the cessation of lake shipments.

As anthracite has almost totally vanished from the wholesale market and retail stocks are fast diminishing the use of substitutes is likely soon to become general, unless, of course, something should come of the efforts to end the suspension. Coke still seems to have preference, though it has suffered from the mild weather and the restraining influence of strike-settlement rumors.

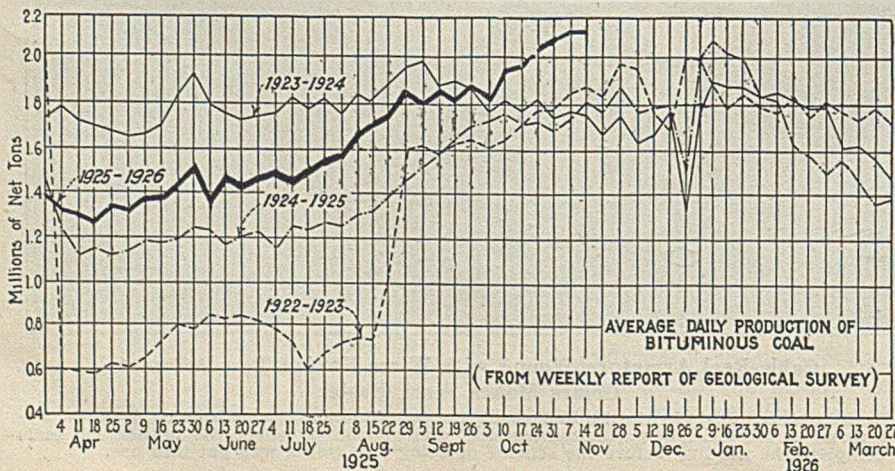
Output of bituminous coal in the week ended Nov. 14 is estimated by the Bureau of Mines at 12,167,000 net tons, compared with 12,171,000 tons in the preceding week. Anthracite production in the week ended Nov.



14 totaled 32,000 net tons, an increase of 4,000 tons over the previous week.

Coal Age Index of spot prices of bituminous coal on Nov. 23 stood at 192, the corresponding price being \$2.32, compared with 190 and \$2.30 on Nov. 16.

Dumpings of coal at Lake Erie ports during the week ended Nov. 22, according to the Ore & Coal Exchange, were: Cargo, 822,130 net tons; steamship fuel, 40,684 tons—a total of 862,814 net tons, compared with 803,796 tons in the preceding week. Hampton Roads dumpings in the week ended Nov. 19 totaled 332,720 net tons, against 402,152 tons in the previous week.



Estimates of Production (Net Tons)		
BITUMINOUS		
	1924	1925
Oct. 31 (a)	10,405,000	12,485,000
Nov. 7 (a)	9,695,000	12,171,000
Nov. 14 (b)	10,466,000	12,167,000
Daily average	1,869,000	2,135,000
Cal. yr. to date..... (c)	412,355,000	443,716,000
Daily av. to date.....	1,538,000	1,650,000
ANTHRACITE		
Oct. 31	1,444,000	18,000
Nov. 7	1,592,000	28,000
Nov. 14	1,674,000	32,000
Cal yr. to date..... (c)	78,920,000	61,801,000
COKE		
Nov. 7	140,000	292,000
Nov. 14	150,000	295,000
Cal. yr. to date..... (c)	8,372,000	8,781,000

(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 Has General Let-Up

In the past week there was a general let-up in the Midwest coal-producing fields. While it was good news that the Franklin County operators had advanced prices 25c. on all grades and sizes, orders have been so scarce that it is doubtful whether southern Illinois operators will benefit. Quite a number of these producers, whenever they have a chance to get an order, are willing to sell at the old prices. Plenty of orders are still booked for 6-in. lump, but there is little demand for egg, and No. 1 Franklin County nut, unless the operator has contracts to take care of this size, is a drug on the market.

The Indiana market is very quiet. Two weeks ago not a car of 6-in. lump was to be had. Fourth and Sixth Vein Indiana coals, which are important in the domestic trade, are again offered freely without any increase in price. There is no demand whatsoever for Fifth Vein coal and operators are cutting each others' prices in an effort to move a few cars of lump coal to take care of the screenings contracts they may have. Western Kentucky coal is again a day to day proposition, all orders having been cleaned up, and prices are not quite as firm. We understand there is considerable consignment coal around again and the operators are willing to take almost any price offered.

While prices on eastern Kentucky and West Virginia stuff are firm, the coal's are offered at such low prices by jobbers

who have the coal bought and have it in transit that the consumers, of course, will take any good coal that is offered cheap. Car supply has improved slightly and old orders are being cleaned up, but very few new ones are coming in. The general outlook is not very promising, and it would not be surprising if prices were cut in an effort to move coal.

It seems as if buyers have gone on a strike. Pocahontas lump has been sold recently at \$5 direct to dealers, although as a rule the quotations to wholesalers are \$5@5.25. Dealers in many instances have turned to cheaper high-grade West Virginia splint or western Kentucky coal instead of Pocahontas, because the public was unwilling to pay the prices recently prevailing.

The weather has been seasonable in southern Illinois but there was no unusual demand last week in the Williamson-Franklin County field except for lump, and that was on old orders. New orders are not coming in. Egg is beginning to slow up and nut and screenings have been heavy right along. The advance on lump has not taken very well with the country trade and the talked-of increase on egg and nut is not stimulating business as it was hoped it would. The shaft mines are still getting four and five days a week but they all have "no bills" every day and some mines are unable to work occasionally on that account. Railroad tonnage is fairly good. The strip mines are getting good time in and railroad tonnage is good and they are making prices to meet competition from west Kentucky.

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

Low-Volatile, Eastern	Market Quoted	Nov. 24	Nov. 9	Nov. 16	Nov. 23	Midwest	Market Quoted	Nov. 24	Nov. 9	Nov. 16	Nov. 23
		1924	1925	1925	1925†			1924	1925	1925	1925†
Smokeless lump.....	Columbus....	\$4.25	\$5.25	\$6.25	\$5.00@5.50	Franklin, Ill. lump.....	Chicago.....	\$3.35	\$3.25	\$3.50	\$3.75
Smokeless mine run.....	Columbus....	2.00	2.35	3.10	3.00@3.25	Franklin, Ill. mine run....	Chicago.....	2.35	2.35	2.35	2.50@2.75
Smokeless screenings.....	Columbus....	1.25	2.05	2.60	2.50@2.75	Franklin, Ill. screenings....	Chicago.....	1.45	1.60	1.60	1.75@2.00
Smokeless lump.....	Chicago.....	3.85	6.25	5.75	5.00@6.25	Central, Ill. lump.....	Chicago.....	2.85	2.85	3.00	3.00
Smokeless mine run.....	Chicago.....	1.85	2.50	2.50	2.25@2.75	Central, Ill. mine run....	Chicago.....	2.20	2.20	2.20	2.15@2.25
Smokeless lump.....	Cincinnati..	4.00	5.50	5.50	5.00@5.50	Central, Ill. screenings....	Chicago.....	1.30	1.55	1.40	1.35@1.50
Smokeless mine run.....	Cincinnati..	1.85	2.55	2.50	2.25@2.50	Ind. 4th Vein lump.....	Chicago.....	3.10	3.10	3.10	3.00@3.25
Smokeless screenings.....	Cincinnati..	.95	2.00	2.00	1.75@2.00	Ind. 4th Vein mine run....	Chicago.....	2.35	2.35	2.35	2.25@2.50
*Smokeless mine run.....	Boston.....	4.25	4.95	5.00	5.25@5.50	Ind. 4th Vein screenings..	Chicago.....	1.55	1.80	1.80	1.75@1.90
Clearfield mine run.....	Boston.....	1.95	2.10	2.05	1.90@2.40	Ind. 5th Vein lump.....	Chicago.....	2.75	2.35	2.35	2.25@2.50
Cambria mine run.....	Boston.....	2.30	2.40	2.35	2.10@2.60	Ind. 5th Vein mine run....	Chicago.....	2.10	1.95	1.95	1.85@2.10
Somerset mine run.....	Boston.....	2.05	2.20	2.20	2.00@2.50	Ind. 5th Vein screenings..	Chicago.....	1.20	1.40	1.40	1.35@1.50
Pool 1 (Navy Standard)..	New York...	2.80	2.85	2.85	2.75@3.00	Mt. Olive lump.....	St. Louis....	3.00	2.85	2.85	2.75@3.00
Pool 1 (Navy Standard)..	Philadelphia.	2.70	2.95	2.95	2.80@3.10	Mt. Olive mine run.....	St. Louis....	2.35	2.00	2.00	2.00
Pool 1 (Navy Standard)..	Baltimore...	2.30	2.15	2.15	2.20@2.25	Mt. Olive screenings....	St. Louis....	1.10	1.75	1.75	1.75
Pool 9 (Super. Low Vol.)..	New York...	2.10	2.25	2.30	2.15@2.50	Standard lump.....	St. Louis....	2.75	2.25	2.40	2.35@2.50
Pool 9 (Super. Low Vol.)..	Philadelphia.	2.15	2.30	2.30	2.20@2.45	Standard mine run.....	St. Louis....	1.95	1.80	1.80	1.75@1.90
Pool 9 (Super. Low Vol.)..	Baltimore...	1.70	1.95	1.95	2.00@2.05	Standard screenings....	St. Louis....	.65	1.15	.85	.75@1.00
Pool 10 (H.Gr. Low Vol.)..	New York...	1.85	2.00	2.00	1.85@2.20	West Ky. block.....	Louisville..	3.00	2.10	2.10	2.00@2.25
Pool 10 (H.Gr. Low Vol.)..	Philadelphia.	1.75	2.05	2.05	2.00@2.15	West Ky. mine run.....	Louisville..	1.60	1.35	1.35	1.25@1.50
Pool 10 (H.Gr. Low Vol.)..	Baltimore...	1.55	1.80	1.80	1.90@1.95	West Ky. screenings....	Louisville..	.90	.80	.80	.65@1.00
Pool 11 (Low Vol.).....	New York...	1.60	1.65	1.70	1.65@1.75	West Ky. block.....	Chicago.....	2.75	2.35	2.35	2.25@2.50
Pool 11 (Low Vol.).....	Philadelphia.	1.45	1.90	1.90	1.85@2.00	West Ky. mine run.....	Chicago.....	1.55	1.25	1.25	1.15@1.35
Pool 11 (Low Vol.).....	Baltimore...	1.45	1.55	1.55	1.60@1.70						

High-Volatile, Eastern	Market Quoted	Nov. 24, 1924				Nov. 16, 1925				Nov. 23, 1925†			
		Independent	Company	Independent	Company	Independent	Company	Independent	Company				
Pool 54-64 (Gas and St.)..	New York...	1.50	1.55	1.55	1.50@1.65	Big Seam lump.....	Birmingham.	3.10	2.25	2.25	2.25	2.25@2.50	
Pool 54-64 (Gas and St.)..	Philadelphia.	1.50	1.60	1.60	1.55@1.70	Big Seam mine run.....	Birmingham..	1.70	1.75	1.75	1.65	1.75@2.00	
Pool 54-64 (Gas and St.)..	Baltimore...	1.45	1.55	1.55	1.65@1.70	Big Seam (washed).....	Birmingham..	1.85	1.85	1.85	2.00@2.25		
Pittsburgh ac'd gas.....	Pittsburgh...	2.40	2.85	2.85	2.75@3.00	S. E. Ky. block.....	Chicago.....	2.75	3.35	3.75	3.50@4.00		
Pittsburgh gas mine run..	Pittsburgh...	2.10	2.35	2.35	2.25@2.50	S. E. Ky. mine run.....	Chicago.....	1.60	1.95	2.15	2.00@2.35		
Pittsburgh mine run (St.)	Pittsburgh...	1.85	2.20	2.15	2.10@2.25	S. E. Ky. block.....	Louisville..	3.00	3.50	3.60	3.25@4.00		
Pittsburgh slack (Gas)...	Pittsburgh...	1.15	1.30	1.45	1.40@1.50	S. E. Ky. mine run.....	Louisville..	1.60	1.60	1.60	1.50@1.75		
Kanawha lump.....	Columbus....	2.55	2.60	3.10	2.75@3.50	S. E. Ky. screenings....	Louisville..	.90	1.35	1.35	1.25@1.50		
Kanawha mine run.....	Columbus....	1.55	1.70	1.70	1.55@1.85	S. E. Ky. block.....	Cincinnati..	2.75	3.35	3.75	3.25@3.60		
Kanawha screenings....	Columbus....	.90	1.20	1.20	1.15@1.25	S. E. Ky. mine run.....	Cincinnati..	1.45	1.75	1.60	1.40@1.75		
W. Va. lump.....	Cincinnati..	2.55	3.25	3.50	3.00@3.50	S. E. Ky. screenings....	Cincinnati..	.95	1.35	1.25	1.15@1.40		
W. Va. gas mine run.....	Cincinnati..	1.40	1.80	1.65	1.50@1.75	Kansas lump.....	Kansas City..	5.00	5.00	5.00	5.00		
W. Va. steam mine run....	Cincinnati..	1.40	1.60	1.55	1.40@1.60	Kansas mine run.....	Kansas City..	3.35	3.25	3.10	3.25		
W. Va. screenings.....	Cincinnati..	1.00	1.35	1.35	1.15@1.25	Kansas screenings....	Kansas City..	2.30	2.30	2.30	2.25@2.35		
Hooking lump.....	Columbus....	2.55	2.75	3.10	3.00@3.25								
Hooking mine run.....	Columbus....	1.60	1.65	1.65	1.50@1.85								
Hooking screenings....	Columbus....	.80	1.20	1.25	1.20@1.30								
Pitts. No. 8 lump.....	Cleveland...	2.30	2.55	2.55	2.10@3.00								
Pitts. No. 8 mine run....	Cleveland...	1.85	1.90	1.95	1.90@2.00								
Pitts. No. 8 screenings..	Cleveland...	1.20	1.40	1.40	1.50@1.60								

South and Southwest

Market Quoted	Nov. 24	Nov. 9	Nov. 16	Nov. 23	
Big Seam lump.....	Birmingham.	3.10	2.25	2.25	2.25@2.50
Big Seam mine run.....	Birmingham..	1.70	1.75	1.75	1.65@1.75
Big Seam (washed).....	Birmingham..	1.85	1.85	1.85	2.00@2.25
S. E. Ky. block.....	Chicago.....	2.75	3.35	3.75	3.50@4.00
S. E. Ky. mine run.....	Chicago.....	1.60	1.95	2.15	2.00@2.35
S. E. Ky. block.....	Louisville..	3.00	3.50	3.60	3.25@4.00
S. E. Ky. mine run.....	Louisville..	1.60	1.60	1.60	1.50@1.75
S. E. Ky. screenings....	Louisville..	.90	1.35	1.35	1.25@1.50
S. E. Ky. block.....	Cincinnati..	2.75	3.35	3.75	3.25@3.60
S. E. Ky. mine run.....	Cincinnati..	1.45	1.75	1.60	1.40@1.75
S. E. Ky. screenings....	Cincinnati..	.95	1.35	1.25	1.15@1.40
Kansas lump.....	Kansas City..	5.00	5.00	5.00	5.00
Kansas mine run.....	Kansas City..	3.35	3.25	3.10	3.25
Kansas screenings....	Kansas City..	2.30	2.30	2.30	2.25@2.35

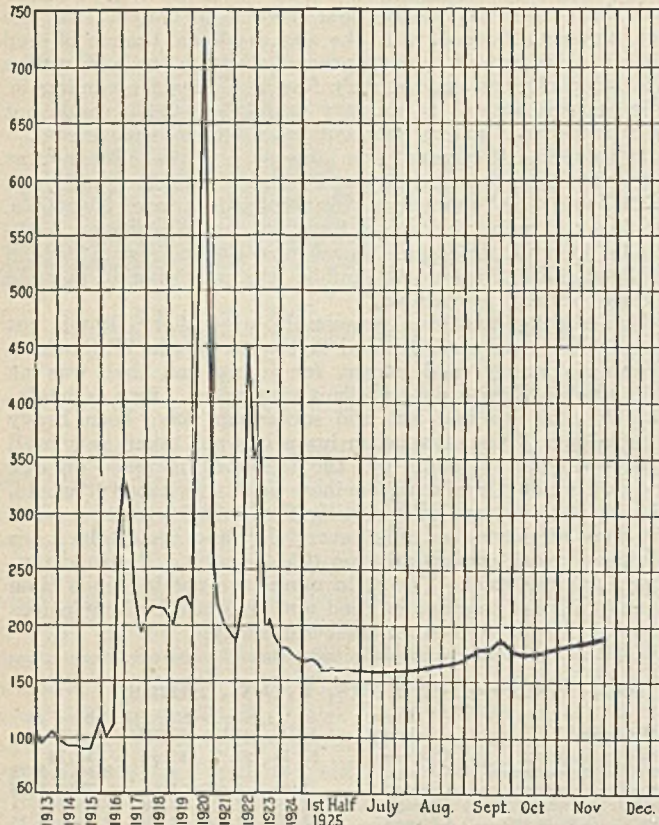
* Gross tons, f.o.b. vessel, Hampton Roads.

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

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

Market Quoted	Freight Rates	Nov. 24, 1924		Nov. 16, 1925		Nov. 23, 1925†	
		Independent	Company	Independent	Company	Independent	Company
Broken.....	New York.....	\$2.34		\$8.20@9.25		\$8.20@8.95	
Broken.....	Philadelphia..	2.39		9.15			
Egg.....	New York.....	2.34	\$8.75@9.00	8.75@9.25		8.65@8.90	8.65@8.90
Egg.....	Philadelphia..	2.39	9.45@9.75	8.80@9.25			
Egg.....	Chicago*.....	5.06	8.17@8.25	8.14@8.20	\$9.50@0.00	8.03@8.25	\$9.50@10.00
Stove.....	New York.....	2.34	10.00@10.50	8.75@9.50		9.15@9.40	9.15@9.40
Stove.....	Philadelphia..	2.39	10.10@10.75	9.15@9.50			
Stove.....	Chicago*.....	5.06	8.63@8.75	8.50@8.64	10.00@11.00	8.48@8.80	10.00@11.00
Chestnut.....	New York.....	2.34	9.75@10.50	8.75@9.25		8.65@8.95	8.65@8.95
Chestnut.....	Philadelphia..	2.39	9.85@10.50	9.15@9.25			
Chestnut.....	Chicago*.....	5.06	8.26@8.40	8.44@8.60	10.00@11.00	8.50@8.75	10.00@11.00
Pea.....	New York.....	2.22	5.00@5.50	5.50@6.00		5.00@6.25	5.00@6.25
Pea.....	Philadelphia..	2.14	5.75@6.00	6.00			
Pea.....	Chicago*.....	4.79	5.13@5.45	5.36@6.20	5.50@6.00	5.50@6.00	5.50@6.00
Buckwheat No. 1.....	New York.....	2.22	2.00@2.50	3.00@3.15		2.50@2.75	2.50@2.75
Buckwheat No. 1.....	Philadelphia..	2.14	2.50@3.00	3.00		2.50@3.00	2.50@3.00
Rice.....	New York.....	2.22	1.75@2.15	2.00@2.25		2.25	2.25
Rice.....	Philadelphia..	2.14	2.00@2.25	2.25			
Barley.....	New York.....	2.22	1.25@1.50	1.50		2.25	2.25
Barley.....	Philadelphia..	2.14	1.50	1.50			
Birdseye.....	New York.....	2.22	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

	1925		1924	
	Nov. 23	Nov. 16	Nov. 9	Nov. 24
Index	192	190	185	170
Weighted average price..	\$2.32	\$2.30	\$2.24	\$2.06

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

In the Duquoin field conditions are similar to those in the Carterville district except in the matter of price. There has been a slowing up in the tonnage moving from this field, however. The Mt. Olive field continues to show activity. This coal is coming into its own because it is a middle grade coal. In the Standard field conditions are bad. Screenings are down, with no chance of them coming up, and there are "no bills" of all sizes at most mines every night and prices bring barely the cost of production. Working time ranges from three to five days a week. Railroad tonnage is reported good. Prices are unchanged.

Domestic trade in St. Louis is fairly active for middle grade and some of the Standard low grade is now beginning to move. High grade Illinois is fair, coke is good, but smokeless and anthracite are slow. Country domestic has slumped off except for cheaper coals and these are moving slowly. Local wagonload steam is good. Carload is fairly good, everything considered, and country steam is unusually quiet. Some coal, both steam and domestic, is moving through to the Omaha market and Kansas City is fairly active. An increasing tonnage is beginning to move northwest to the Minnesota and the Chicago market. No change in prices.

Kentucky Movement Broadens

It is reported that movement of coal from eastern Kentucky to the lakes has started to slow down, and that stop orders have been placed on unshipped portions of some of the orders. If coal now at the lower end of the lakes is cleared before bad weather stops traffic, the shippers will be lucky. Cessation of lake shipping should release a lot of cars, prevent cars from being held under load so long and materially improve conditions for shippers who haven't been fortunate enough to handle lake business, but it will mean stronger competition for other business.

Domestic coal has been moving quite well to the North, with some movement toward Atlanta, and fair steam business in all sections, including Southeastern textile districts, which are busier than for some time past. Southern movement has been picking up and there has been better waterway shipping as a result of good boating stages. Some Kanawha River coal from West Virginia came into the Louisville market last week, and some shipments have been made from western Kentucky to points on the Mississippi from Memphis southward.

Prices are generally fairly firm all along the line, no changes being reported over the week, except that little eastern Kentucky block coal is moving at over \$3.75 a ton, more going at \$3.50. Some off-grade stuff can be had at \$3.25 and a few specialty coals are moving at \$4 or probably a trifle higher. Talk of \$4.50 coal, however, is foolish, in view of the grade of coal to be had at \$3.50@3.75. The eastern Kentucky market is graduated down from \$3.25 as the low on block, by 25c. stages to \$1.25@1.50 for screenings, mine-run being \$1.50@1.75; nut, \$2.50@2.75; egg, \$2.75@3, and lump, \$3@3.25. Western Kentucky pea and slack is 65c.@85c.; nut and slack, 85c.@1; mine-run, \$1.25@1.50; nut, \$1.35@1.50; egg and lump, \$1.75@2, and 6-in. block, \$2@2.25.

Continued mild weather is holding back retail demand; the retailers have fair supplies in yards and are waiting for a slump before placing additional business in Louisville.

Car supply continues troublesome, there being plenty of cars apparently, but much congestion at terminals, slow movement and poor distribution.

Northwest Trade Strong

While lacking the rush during the cold weather of a couple of weeks ago, the Duluth-Superior coal trade is strong, more orders for forward shipment being on hand than in some time. Industrial operations are increasing and business from the Minnesota iron ranges is expanding.

Bituminous coal is still moving this way from the East in larger volume than shipments, so that supplies on the docks are gaining moderately. Stocks of soft coal on commercial docks at Duluth and Superior are placed at around 5,650,000 tons, of which 2,000,000 tons is estimated to belong to the railroads. Twenty-eight cargoes, including one of anthracite screenings, were unloaded at the docks last week and fifteen were en route.

Operators are now limiting anthracite shipments as far as possible to regular customers. Pocahontas and other smokeless coals are being booked in heavy volume by former anthracite consumers, who appear to be satisfied in making the switch. No changes are reported in anthracite quotations on this market and the market in all lines of bituminous except Pocahontas and Kentucky coals is exactly where it stood several months ago.

Pocahontas has been moving up this way more freely and all the docks are now well supplied. Quotations are moderately easier as a result, prepared sizes now running at \$8.50@9; mine-run at \$5.25@5.50 and screenings at \$4.25. Domestic coke is firm at \$8.50 and briquets are \$9. Makers of these substitutes are booking good orders.

Except for industrial demand, which is quite steady, the fuel market in Milwaukee fluctuates with the temperature. Consumers are doing the best they can in the absence of anthracite, and are buying with reluctance and in accordance with weather conditions. Coke and the better grades of bituminous coal are firm at higher prices than usual.

Southwest Trade Softens

In the last week a slight softening in the Southwestern coal market has been apparent, but operators still report two weeks' accumulation of orders for Kansas lump. Deliveries of Kansas nut are a week slow, the demand for Kansas screenings and mine run being about equal to the supply. There is no surplus of screenings, but there is a more noticeable inclination to shade the prevailing quotation of \$2.35 a ton to \$2.25 on large contracts.

The coal business in Utah is showing more strength, due to a cold snap, but operators and dealers say it is not what it ought to be yet. The state has too many mines in operation to make business entirely satisfactory except during below-zero weather, which does not visit this region very often. The consumer is not storing coal this winter yet, feeling that there will be plenty of fuel when he needs it. Leading industries such as the metal mines and smelters,

transportation, sugar manufacturing and a few others are taking a normal amount of coal, if not a little more. Coal for heating purposes is moving rather well too. Operators report all sizes moving, with the larger sizes the most active. The labor situation is good and prices are as steady as ever.

In Colorado there seems to be no letting up to the increase in demand for domestic coal. Orders are coming from all sections and prices compare with those of the war period. Labor is improving daily and there are no transportation difficulties.

Movement Heavy Through Cincinnati Gateway

At Cincinnati the closing of lake navigation, chiefly in connection with the car shortage on the Louisville & Nashville Ry., was the chief topic of interest last week. Though the American Railway Association promised 100 per cent car supply, the mines worked only four days. The report of car movement shows that 14,437 loads of coal passed through the gateway, an increase of 1,426 cars over last week, and 3,192 over same week last year. Included in the movement were 2,414 cars en route to the lakes for transshipment via boats. This is an increase of 311 cars compared to last week.

Prices on high volatile remain practically stationary, with the exception of the specialized coals from Elkhorn and Big Sandy as well as those from the Jellico district, which in some cases reached the high point of \$4.50 for block. Egg stiffened a trifle and the better grades sold at \$2.75@\$3 under heavier buying orders from the North, with Canada as the ultimate destination. After a little spurt mine-run has settled back to the old figures of the past several weeks. Screenings and slack are weaker, due to the fact that the lakes, big takers of this, are about through with the late rush. About \$1.20 was the week's average figure.

In the smokeless market there has been a crumbling of the high market to the west. The top now is about \$5.50 for best Pocahontas lump. New River stuff is selling around \$5@\$5.25. Mine-run is 25c. off from last week's quotations and shows signs of drooping, while slack, without active byproduct bidding, has slipped 25c. on the range.

Retail business here is much in the same position as for the past two weeks, with no change in quotations. River business holds up well with good shipments going south as far as Louisville.

Softness is developing in some lines of the domestic coal trade in Columbus, due largely to warm weather. Smokeless suffered a decline of about \$1 a ton during the week, most customers preferring splints and Kentucky block at much lower prices. Pocahontas has been offered at \$5.50 on the local market with few takers, but for other grades of smokeless prices continue rather firm. Retail prices are generally maintained at recent levels.

Buying of steam sizes is spotty and there is no sustained buying to give strength to the market. Large users are pretty well supplied with reserves and consequently are buying current needs only. Quite a few smaller steam users are content to buy on the open market and are thus not entering into contracts. There is little distress coal on the local market, as shipping on consignment is not practiced to any extent.

The only significant change in the eastern Ohio market during the week has been the decided stiffening in the spot price on slack and nut-and-slack of about 15c. per ton in the open market, slack being quoted at \$1.50@\$1.55 and nut and

slack at \$1.55@\$1.60. The shutting off of lump production for lake shipment has caused a shortage of auxiliary fuel. Railroads continue to take 100 per cent on contracts and additional coal as well, but the rank and file of industry is buying mostly for immediate requirements. The domestic market is dull and retail yards are pretty well stocked. Pocahontas lump is quoted here, f.o.b. mines, \$4.75@\$5.50, a drop of 50 to 75c. per ton as compared with a week ago.

Local Demand Stronger at Pittsburgh

In the Pittsburgh market Eastern demand has had only a slight further decrease, while demand from the regular territory has increased a trifle. Railroad demand runs steady and industrial demand has increased somewhat. Demand for domestic coal has increased somewhat. Eastern demand is spotty, running chiefly to egg, for which there also is demand from the North, including Buffalo territory. Prices are very irregular, as sellers get what they can, and must sell. The average is perhaps about \$3, but sales last week were at much below and at much above that figure. Otherwise prices are fairly steady and unchanged from a week ago.

Coal loadings in central Pennsylvania are now averaging 3,300 cars a day. Prices on prepared sizes have fallen a little. Operators are inclined to place the blame on retailers in the East who fail to stock up, in the hope that the anthracite strike will end soon. Lump is quoted at \$3.75@\$4; egg, \$4@\$4.25; nut, \$3.75@\$4. Mine-run prices are as follows: Pools 11 and 18, \$1.60@\$1.80; pool 10, \$2@\$2.10; pool 9, \$2.25@\$2.40; pool 71, \$2.40@\$2.50; pool 1, \$2.65@\$2.80. Slack is quoted at \$1.50.

The bituminous coal trade at Buffalo has sagged off. Local members of the trade who are in the house-fuel industry are trying to make up the loss by selling bituminous lump for \$4 or so, mine price, but as a rule the producers want about all there is in it. Bituminous prices are rather weak at \$1.60@\$1.75 for Fairmont lump, \$1.40@\$1.50 for mine-run and \$1.25@\$1.40 for slack; \$2.25@\$2.50 for Youghiogheny gas lump, \$2@\$2.25 for Pittsburgh and No. 8 steam lump, \$1.30@\$1.60 for slack; \$1.75@\$2 for Allegheny Valley mine-run.

New England Absorbing Output Better

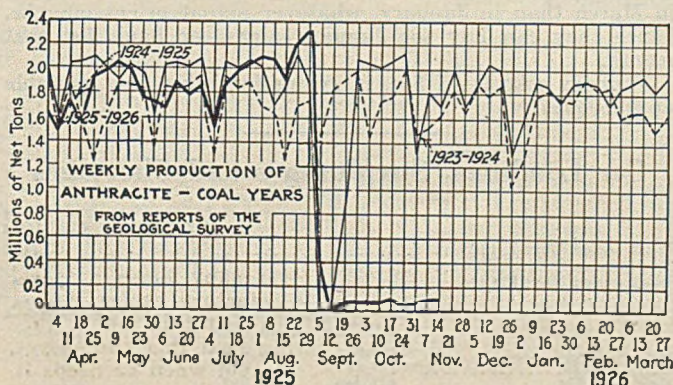
In New England there has been a marked lift in prices of steam coal during the past week. While inquiry has improved only very slightly it is clear that accumulations at the shipping piers are less and that current output is being absorbed in better volume than has been the case heretofore this season. At tidewater there is demand for only occasional cargoes, but on the line and especially in the West the steadiness is impressive. Coastwise movement is only average, and, as usual, the great bulk of the tonnage is being applied either on contract or is shipped to rehandling factors who are closely allied with operating interests.

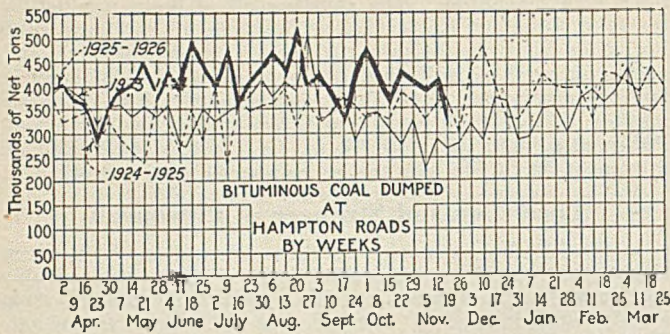
At Hampton Roads apparently there is more than the usual range of price, the actual level depending upon the individual situation of the shipper. We have heard No. 1 Navy standard Pocahontas quoted at \$5.25, while certain of the New River agencies are asserting that for the present their figure is firm at \$5.50, in each case per gross ton f.o.b. vessel. Actual sales are reported at as high as \$5.40, but at these prices the volume changing hands is as yet relatively small.

For delivery inland from Boston and Providence \$6.50 per gross ton on cars seems to be the ruling quotation. Stocks are seasonable in every direction, and no merchandiser of smokeless coals is without adequate reserves.

The Pennsylvania coals via the all-rail route are practically unchanged. Screened lump and egg are being urged on retail dealers, but the tonnage actually absorbed is not large. Prices on prepared have eased off to \$5.25@\$5.50 in most cases where the grade is good low volatile, and even the Pocahontas and New River shippers have about made up their minds the New England market will hardly stand much in excess of that, with the higher through tariff that applies from N. & W. and C. & O. points. The latter roads are not finding this territory at all easy to manage as to the return of empty cars.

Coastwise freights have firmed recently in response to the demand for transportation for general merchandise to Florida points. This will be an interesting development to watch.





Mine-Run Moves Easily at New York

Mine-run grades of bituminous coal continue to move easily in the New York market. Industrial consumers are taking full requirements but are not increasing orders. Demand for screened soft coals is good, but not up to expectations. A factor in the situation is the frequent peace rumors emanating from the hard-coal fields and other sections. These invariably are followed by cancellations of orders.

Screened high-volatile coals are quoted at \$2.75@\$3.25, with quotations for screened low-volatile ranging over the wide range of \$4.50@\$7. Mine-run quotations continue on the basis of the past several weeks, with practically no change.

At Philadelphia the stoppage of buying in the domestic trade has been felt in the spot market, particularly by concerns handling prepared sizes. In mine-run the effect on prices has been slight, although a decided weakness is evident. While low-volatile producers have felt the decline in buying, the hardest hit are those producing high volatiles. Some sizes which sold at \$5 a month ago are easily obtainable now at \$3 and under. General business conditions, however, are better, most agree, than at the same time last year.

At Baltimore ordinary trading is somewhat firmer and prices a little stronger, while there has been a distinct drop in the price of prepared sizes as a result of failure to maintain a rush demand for quick delivery of these fuels. Excellent prepared coals are offering to the trade at \$5@\$5.50 per net ton f.o.b. mine compared with \$7 two weeks ago. Mine-run coals of better grade, though not in heavy call, are being influenced by a firmer market, and prices are probably 10c. or so stronger than a week ago. Coke has fallen off sharply, grades that were held around \$11 two weeks ago now offering around \$7. Two coal loadings were reported from the Custom House on foreign account during the past week.

Buying Active at Birmingham

Coal buying has been active of late at Birmingham and all mines are pretty well booked up for some weeks. Indications point to a strong and steady market for some time to come for all grades of steam coal and mines are operating full time with a heavy movement. Industrial requirements continue heavy and railroads are using the maximum tonnage on contracts and in some cases more. The movement of bunker coal is much heavier than normal. Many of the high-grade producers of domestic coal are sold up for weeks ahead, although practically all tonnage moving is on spot business booked.

Quotations have stiffened some on steam and domestic grades, Big Seam mine-run being quoted \$1.75@\$3; washed, \$2@\$2.25; lump, \$2.25@\$2.50; Carbon Hill mine-run, \$2; washed, \$2@\$2.25; lump, \$3.25@\$3.50; Cahaba, \$2.25@\$2.50; washed, \$2.25@\$2.75; lump, \$4.25@\$5; Black Creek mine-run, \$2.25@\$2.50; washed, \$2.50@\$3; lump, \$4.50@\$5; Corona mine-run, \$2.50; washed, \$2.75; lump, \$4; Pratt mine-run, \$2.50; Montevallo-Straven lump, \$5@\$5.50; Montevallo seam, \$5.75 per ton mine.

A large tonnage of coke is being sold for consumption at Northern and Eastern points, with a strong, steady market in local territory. Quotations on foundry sizes are \$5.50@\$6.50 ovens. Gas coke at \$5@\$5.50 per ton is enjoying an active market.

Operations have suffered some delays on account of car shortage with indications of a more acute situation soon. Operations, especially those in outlying districts, complain of labor shortage also.

Hard-Coal Substitutes Soon in General Use

Stocks of anthracite in the yards of retail dealers in and around New York City are steadily diminishing and the time is drawing near where the use of substitutes will become general, except in the case of consumers who put in their winter fuel before Aug. 31.

The local harbor contains some boats of independent pea and buckwheat coals, but the movement is not rapid because of the quotations asked. Some retailers are advertising a mixture of soft coal and buckwheat. Some of the larger companies are filling orders and contracts for buckwheat, but are not accepting new orders.

Coke seems to have the inside track in the New York market so far as house owners are concerned and demand has been heavy. The market, however, responds quickly to weather conditions and demand fluctuates accordingly. Quotations for Connellsville run-of-oven coke range \$6@\$7, with foundry coke quoted \$7.50@\$8. German byproduct coke, some cargoes of which have reached this harbor, is quoted around \$12 gross ton, alongside.

Mild weather at Philadelphia has almost checked the sale of substitute fuels. Few dealers have any hard coal to offer. The dealers' only hope is for a stray car of pea or buckwheat and one is almost as welcome as the other. The storage yards of the companies are almost cleaned up, although there were a few fortunate dealers recently who had the luck to get a car of nut coal. Coke, which ten days ago was selling at \$11 and \$12 at the ovens, is now obtainable at a reduction of \$3.

Baltimore hard-coal dealers are devoting their attention to selling prepared sizes of bituminous, but this is confined to demands from consumers who failed to lay in any anthracite stocks. Dealers here did not enter into competitive buying with those cities which bought up the greater part of the reserve stocks of anthracite at the mines after the strike started.

At Buffalo the supply of small anthracite sizes is giving out, so the soft-coal trade will soon be the whole thing, it seems. Coke of good quality can be had, though some of it is not up to the average appearance. It will no doubt burn, though. The only prospect of relief in this direction is that the production of coke is increasing fast and as soon as high-priced sellers get caught up with their orders they probably will find prices so reduced that they will have to come down too.

Connellsville Coke Market Sags Further

The Connellsville coke market has declined further. Eastern demand has continued light. As recent selling was only for prompt shipment, every day has brought additional occasion for producers to sell, and this by itself weakens the market. Realizing the situation, some operators began more than a week ago to restrict production, not by putting out ovens but by lengthening the coking time.

The market is now quoted in the trade at \$5@\$5.50 for regular run-of-oven blast-furnace coke, but offerings at \$5 go the round; to such an extent that there is little justification for quoting a market range above that figure. Some offerings to blast furnaces have not been taken up, though it seems quite possible that if coke continues weak furnaces will buy some spot or prompt lots for reserves. As their contracts are chiefly at around \$3 they receive no more on contract than is absolutely essential.

Blast furnaces are not disposed to negotiate for first-quarter coke. They assume that coke will be much cheaper in March than in January, whatever actual prices may be, hence they can buy for January alone, or bank for that month.

Foundry coke is off 50c. in sympathy, being now quotable at \$6.50@\$7.

Car Loadings, Surplusages and Shortages

Week ended	Cars Loaded		Car Shortage
	All Cars	Coal Cars	
Nov. 7, 1925	1,063,332	189,212
Previous week	1,091,273	194,255
Nov. 8, 1924	995,279	172,764

Date	Surplus Cars		Car Shortage
	All Cars	Coal Cars	
Nov. 7, 1925	103,969	37,726
Oct. 31, 1925	111,619	42,949
Nov. 18, 1924	116,448	60,097

Foreign Market And Export News

British Coal Market Develops Stiffer Tone Due to American Demand

The outstanding feature of the Welsh steam coal trade of late has been the substantial development of American demand. The Americans required anthracite, but the Welsh anthracite collieries were overbooked already and were unable to accept further business. Dry steam coals are an excellent substitute for anthracite and purchases are on a considerable scale, steamers having been chartered representing shipments in the course of the next ten days of at least 50,000 tons from Cardiff. This business has had a stiffening effect on the market for dry steams, but other trade has been quiet.

Apart from drys, prices show further relaxation for all classes of large, especially Monmouthshires. Small coals are somewhat steadier. It is hoped that weather conditions will soon

permit of the regular arrival of steamers and enable arrears of shipments to be overtaken, so that the coal trade as a whole can settle down on a steadier basis. Outlook for Welsh steam coals is more favorable.

The collieries in Durham and Northumberland are heavily booked for a few weeks ahead, some to the end of the year. Therefore, work is proceeding steadily at the pits and docks. Inquiry too is promising. Cargoes continue to be bought for shipment to America, Mediterranean business is on a larger scale and so are shipments to the coaling stations. Prices are firmly held and slightly higher for all November shipments. All classes of coke are in good demand and poor supply, with little available to sell for November delivery. Gas coke is firm and higher. Contract business at the moment is quiet.

Production by British coal mines during the week ended Nov. 7, according to a special cable to *Coal Age*, totaled 4,790,000 gross tons, compared with 4,835,000 tons in the previous week.

French Industrial Coal Trade In Fair Position

The French coal market is in a fairly good position, especially in the matter of national products, as industry has improved and is demanding more, and foreign coals can easily be displaced by those of France because of the depreciation of the franc. An instance is seen in the case of Swansea anthracite, import quality, first choice, which recently was priced at the prohibitive figure of 410 fr. at Rouen.

Although consumption of domestic coals has been light lately because of the mild weather, dealers are still restocking sized products. French nuts in all categories are still scarce, deliveries from the mines being dilatory. In the Parisian area retail prices were not changed Nov. 1, except for an increase of 15 fr. per ton on anthracite nuts from South Wales to 520@535 fr., and 10 fr. on cobbles, at 480@500 fr.

Complaints about the tardy arrival of empty wagons at the mines have almost disappeared and freight is unchanged.

Receipts of indemnity fuels from the Ruhr during the first twenty-four days of October included 330,500 tons of

coal, 185,200 tons of coke and 23,900 tons of lignite briquets. On reparation coals, the prices of anthracitic sized, dry and semi-bituminous for domestic uses on Nov. 1 were advanced 10 fr. and those of lignite briquets 5 fr. per ton.

During October the O.R.C.A. received from the Ruhr 227,450 tons of coke and in the first three days of November it received 11,646 tons.

Tendency to Drag Hits Trade At Hampton Roads

The coal business at Hampton Roads began to drag somewhat last week, with the market holding its own fairly well though demand scarcely normal. Inquiries for foreign business were dropping off and bunker trade was only fair.

Domestic trade occupied chief attention in the business, with soft coal retailing at \$13 a ton, and anthracite very scarce at \$16.50 and in some cases more. Coastwise business was fair, but all-rail rates through to New York and New England were still having a tendency to weaken the demand for coastwise shipments. The tone of the market was not strong.

Belgium Faces Foreign Menace

The Belgian industrial coal situation is still extremely strained; in the Borinage district the effects of the low rate of French exchange are beginning to be evident and British competition does not slacken. New concessions are noted on the prices of bituminous coals and coking smalls.

In domestic coals the tendency remains firm and certain sellers are slightly inflating prices. Some dealers seem to wish to force their French clients to pay in Belgian francs, which the latter absolutely refuse to do.

Export Clearances, Week Ended Nov. 21, 1925

FROM HAMPTON ROADS	
For Bermuda:	Tons
Amer. Schr. William H. Harriman, for St. Georges	2,323
For Barbados:	
Nor. Str. Bueland, for Bridgetown..	4,913
For Brazil:	
Br. Str. Gretaston, for Rio de Janeiro	6,000
Br. Str. Eastway, for Rio de Janeiro	7,597
For Italy:	
Ital. Str. Aquitania, for Bagnoll.....	6,516
For Trinidad:	
Nor. Str. Nils, for Port of Spain....	2,513
For France:	
Ital. Str. Masaniello, for Marseilles..	6,397

FROM PHILADELPHIA	
For Cuba:	
Br. Str. Baron Ellbank, for Havana..	—

FROM BALTIMORE	
For Brazil:	
Br. Str. Shannonmede, for Paranagua	5,930
For Porto Rico:	
Am. Str. Mary, for San Juan.....	661
Am. Str. Millinocket, for Guanica (coke)	70

Hampton Roads Coal Dumpings*

	Nov. 12	Nov. 19
N. & W. Piers, Lamberts Pt.: Tons dumped for week....	133,542	97,460
Virginian Piers, Sewalls Pt.: Tons dumped for week....	89,515	86,410
C. & O. Piers, Newport News: Tons dumped for week....	136,008	113,383

*Data on cars on hand, tonnage on hand and tonnage waiting withheld due to shippers' protest.

Pier and Bunker Prices, Gross Tons

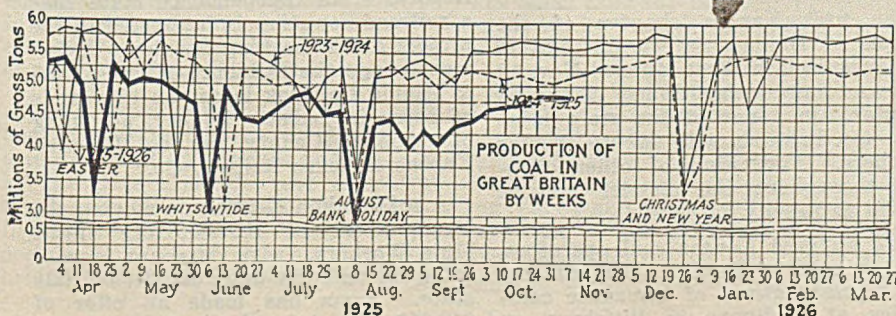
	Nov. 14	Nov. 21†
Pool 1, New York.....	\$5.75@ \$6.00	\$5.75@ \$6.00
Pool 9, New York.....	5.00@ 5.25	5.00@ 5.25
Pool 10, New York.....	4.65@ 5.00	4.75@ 5.10
Pool 11, New York.....	4.55@ 4.70	4.55@ 4.70
Pool 9, Philadelphia....	5.05@ 5.30	5.05@ 5.30
Pool 10, Philadelphia....	4.80@ 5.10	4.80@ 5.10
Pool 11, Philadelphia....	4.50@ 4.75	4.50@ 4.75
Pool 1, Hamp. Roads..	5.25@ 5.35	4.85@ 6.00
Pool 2, Hamp. Roads..	4.85@ 5.00	4.60@ 4.75
Pools 5-6-7, Hamp. Rds.	4.65	4.50

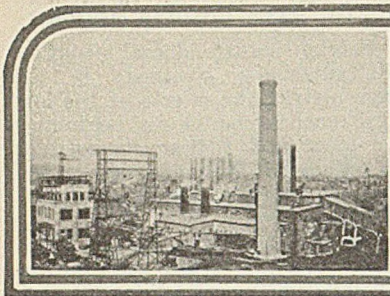
BUNKERS		
Pool 1, New York.....	\$6.00@ \$6.25	\$6.00@ \$6.20
Pool 9, New York.....	5.25@ 5.50	5.25@ 5.55
Pool 10, New York.....	4.90@ 5.25	5.00@ 5.35
Pool 11, New York.....	4.80@ 4.95	4.80@ 4.95
Pool 9, Philadelphia....	5.30@ 5.55	5.30@ 5.55
Pool 10, Philadelphia....	5.10@ 5.35	5.10@ 5.35
Pool 11, Philadelphia....	4.75@ 5.00	4.75@ 5.00
Pool 1, Hamp. Roads..	5.25@ 5.35	4.85@ 6.00
Pool 2, Hamp. Roads..	4.85@ 5.00	4.60@ 4.75
Pools 5-6-7, Hamp. Rds.	4.75	4.50

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

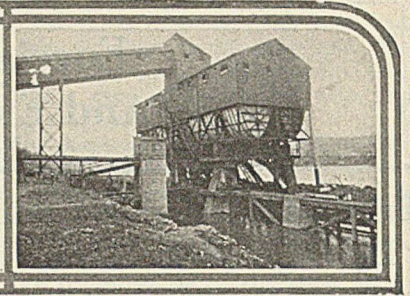
Quotations by Cable to <i>Coal Age</i>		
Cardiff:	Nov. 14	Nov. 21†
Admiralty, large....	22s.6d.@ 23s.9d.	23s.@ 23s.6d.
Steam smalls.....	10s.6d.@ 11s.	10s.3d.
Newcastle:		
Best steams.....	15s.6d.@ 15s.9d.	17s.6d.@ 18s.
Best gas.....	16s.6d.	16s.6d.
Best bunkers.....	14s.6d.	15s.@ 16s.3d.

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





News Items From Field and Trade



ALABAMA

The Alabama By-Products Corporation has resumed operation of its Clipper Mine, located near Dora, Walker County, which had been on the idle list for some time.

A new slope mine is being developed by the Brookside-Pratt Mining Co. at its Warrior River operations, in Walker County, near Carbon Hill, which will increase the daily output of prepared coal to between 1,500 and 2,000 tons. In order to handle the increased tonnage new jigs are being added to the washery and the tippie capacity is being enlarged. The coal from the new opening will be brought out on a conveyor belt to the tippie. The entire plant has been electrified and additional electric locomotives will be added to the inside haulage. The head offices are located in Birmingham.

The Sloss-Sheffield Steel & Iron Co. has started up its Ivy Mines, near Dora, which had been idle for some time. Its coal and coke requirements have been increased by the blowing in of another furnace. Domestic coal, for which there is a good demand, also is produced from this operation.

COLORADO

The Pikeview mine of the Pikes Peak Fuel Co. was again operating Nov. 10 at normal capacity, with all men back at work, following a one-day walkout. The decision of the men to return to the mine followed a compromise between the miners' demand for a return to the 1919 scale and the operators' proposed wage reduction to approximately the 1917 scale. The new scale gives day laborers \$5.75, machine miners will receive 61c. a ton on production, while pick miners will continue to receive 76c. a ton on a contract basis. The company's former wage gave laborers \$5.25 a day, machine miners 57c. a ton, while the pick miners were not affected.

IDAHO

Coal shipped to Boise City over the new railroad is selling at \$13 per ton, while last year the same grade of coal freighted in by trucks retailed at \$23 per ton.

ILLINOIS

The Assumption Coal Co., with a capital of \$150,000, has been incorporated and will begin operation of the mine at Pana, which has been idle for

more than a year. The incorporators are: O. D. Hedrick, C. C. Cazalet and M. J. Fitzgerald.

Preliminary work has been started for the opening of Mine No. 7, of the Peabody Coal Co., at Kincaid. The mine has been closed since May, 1925. When operating at capacity it gives employment to over 900 men.

The Weaver mine of the Old Ben Coal Corporation began work Nov. 4, after having been idle since last February. When this mine is working at full force its payroll runs from \$75,000 to \$80,000 a month. The mine is served by the Illinois Central and the Chicago, Burlington & Quincy railroads. With the recent resumption on full time in the No. 7 mine of the Consolidated Coal Co., at Herrin, and the reopening of the Weaver mine, only three large mines in Williamson County will be idle. These are Consolidated No. 8, at Clifford, and two Old Ben mines known as the West mine and No. 18, in Johnston City.

IOWA

C. W. Duro, Des Moines, has acquired the interests in the Madrid Coal Co. owned by W. H. Evans and H. E. Evans, of that city, placing practically all of the stock in that company in possession of three men, Mr. Duro, E. O. Preston and C. W. Springer. Mr. Duro is now connected with the Great Western Coal Co. and Mr. Preston and Mr. Springer are the owners of the Beaver Coal Co., Des Moines.

The Central Iowa Fuel Co. began the sinking of a new shaft Nov. 2 about six miles northeast of Charitan, on the Peter Lawson farm. The mine is fitted with all modern equipment. As it is only a short distance from the Olmitz and Tipperary coal road, the expenditures for track extension will not be great.

KANSAS

The first Kansas chapter of the Joseph A. Holmes Safety Association was organized in West Mineral Nov. 10 and was named the "James Sherwood Chapter," in honor of the state mine inspector. It starts with twenty charter members. Formation of other chapters throughout the district will be pushed as rapidly as possible.

Two hundred Kansas coal operators, men in other phases of the industry and representatives of insurance companies at a dinner in Pittsburg on

Nov. 12 discussed means for reducing liability rates, which operators assert have reached an exorbitant level in this field. Insurance representatives expressed the belief that rates might be lowered if proper effort were put forth by the companies to promote safety of employment and also guard against fraudulent claims. Increase in insurance rates from \$3.40 per \$100 payroll to \$6.40 since the compensation law went into effect was attributed by operators to fraudulent claims.

Nineteen of 150 union coal miners, who last summer refused to return to work when operators of local mines issued an ultimatum suspending the wage scale then in force, returned to work and accepted a \$5 a day scale, C. N. Fish, manager for the Home Riverside Mining Company, has announced. Fish said he expected more of the miners to return in the next few days.

The Kansas mining district had 238 mines working in early November, an increase of 103 over the same time last year, according to figures compiled by James Sherwood, state mine inspector. As this includes a number of "dinky" mines, working only a few men each, the total of employees is not proportionately increased, but it is estimated that 6,000 miners are now working, compared with slightly more than 3,000 a year ago. A number of large mines have swung into action this fall after being idle two or three years. For the first time in three or four years a majority of the "dinkies" are working. Inspector Sherwood predicts that tonnage figures for November and December will set a high record for recent years and that the 1925 total will be substantially larger than the 4,491,069 tons in 1924.

John R. Stanley, of Rocky Ford, Colo., recently recorded a coal lease option on Montgomery County land near Independent. While this option covered only 80 acres it is reported that Stanley has taken options on 3,000 acres south and east of Independence. Reports from Independence state that a railroad company is interested in the project and is backing Stanley. A few months ago the Pittsburg-Midway Coal & Mining Co. took leases on thousands of acres in Labette County, adjoining Montgomery County, for the Missouri-Kansas & Texas Railway Co.

A referendum election on moving the headquarters of District 14, United Mine Workers, from Pittsburg is indicated for an early date, district officials state. Arma has made an offer of \$18,000 cash toward erecting a head-

quarters building in that town and Frontenac has offered to give a theatre building, valued at \$50,000, which can be remodeled for offices.

William Harkes, general superintendent of the Central Coal & Coke Company during a visit to Pittsburg on Nov. 11 directly denied a persistent report that the Central is preparing to reopen its mine No. 50. The two mines it is now operating have a daily production of 2,000 tons, he said, which is ample to meet present market conditions. The Central's mines in the district other than the three referred to are being operated under subleases.

A proposal to subscribe to blanket insurance for all members of District 14, United Mine Workers, soon will be submitted to a referendum vote by district officials if no opposition to the plan develops in response to an inquiry sent locals by district officials Nov. 14. The proposal is for a blanket policy of \$500 a man, to cost between \$1.10 and \$1.15 a month each. The plan has the approval of district officials, but a referendum will be necessary to add a clause to the district constitution authorizing the executive board to purchase the insurance.

A new shovel mine will be opened soon near Mulberry on 160 acres of land leased from J. G. Miller and Miss Ada Miller by a group of men headed by E. M. Roberts, of Pittsburg. Other members of the company are Frank Thomas, of Mulberry, and Hy McCullough, Boyd Spencer and H. H. Hughes, all of Pittsburg. The coal is in a 38-in. seam, from 10 to 20 ft. from the surface. A caterpillar type steam shovel has been ordered by the new company.

MICHIGAN

Receivership for the Cooper Coal Co., organized to operate coal mines in Saginaw and Shiawassee counties, was asked in an action brought last week in Circuit Court at Saginaw by John Winship, who alleges there is \$3,425 due him on a note brought from William Carmichael securing a loan made to the company.

MINNESOTA

An extra 25c. delivery charge on consumer deliveries in the outskirts of Minneapolis and St. Paul, which has been in force for some years, has been absorbed. When it was made it was because of the long distance from the coal yards to the outlying sections. But the coal business has been decentralized, and coal yards exist within a mile or so of every section of the city. The change was made through the influence of the Twin City Coal Exchange.

The Pittsburgh Coal Co.'s No. 1 dock, one of the landmarks at Duluth, is being dismantled. It was built in 1881 by the Ohio Coal Co. and later was taken over by the Pittsburgh Coal Co. In 1895 the old wooden bridges on the dock were replaced with six new steel bridges and in 1897 two additional steel

bridges were built. Power was supplied from a central steam plant of five 100-hp. boilers. In its day the plant was regarded as one of the most efficient at the head of the lakes, having a daily average capacity of 4,000 tons in unloading vessels. It had been out of commission since 1917, the Pittsburgh interests having built a modern new dock.

OHIO

Operations were resumed at the Lincoln mine of the Lorain Coal & Dock Co., at Lansing, about three miles west of Bridgeport, on Nov. 9. The mine had been idle since November, 1924, owing to a fire which had raged for several weeks. Within a short time it is planned to have about 500 men at work.

Work of cleaning up the Fort Pitt mine, just across the river from Moundsville, W. Va., was started during the week beginning Nov. 9, and operations will be resumed within a short time. This mine when operating employs about 300 men. It has been closed down for about a year. A few weeks ago the tippie was destroyed by fire but repairs that will permit operation can be made quickly.

Dumpings at the Toledo docks of the Hocking Valley Ry. for the week ending Nov. 18 totaled 201,912 tons, as compared with 230,502 tons during the corresponding week last year. The loadings at the docks during the present season up to Nov. 18 were 7,857,230 tons as compared with 6,371,138 tons in the corresponding period of 1924.

Attorneys Harry B. Arnold and Francis J. Wright have entered suit against 53 coal companies, which held membership in the Southern Ohio Coal Exchange, of Columbus, for legal services performed in fighting the so-called Ohio-Michigan case for railroad rate adjustment before the Interstate Commerce Commission. The Southern Ohio Coal Exchange was forced into the hands of W. W. Metcalfe as receiver about eight months ago and has been in process of liquidation.

Arrangements have been made to start mines Nos. 5 and 7 of the New Pittsburgh Coal Co. in about two weeks which will add materially to operations in the Nelsonville section of the Hocking Valley.

The Jacksonville mine of the Essex Coal Co., the largest of the company in the vicinity, has been opened following an idleness of almost a year. The announcement is made that the mine is opened on the Jacksonville scale. The same company is operating several mines in the Pomeroy Bend field on the 1917 scale basis.

Secretary G. W. Savage of the Ohio division of the United Mine Workers has issued a statement in which he attempts to show that mining conditions have improved materially in the Hocking Valley and southern Ohio field. He said that 60 per cent of union miners are now employed on the Jacksonville scale as compared with 30 per cent dur-

ing the summer months. About 700 to 800 men are working in the Sunday Creek section of the Hocking Valley, but there is not much activity in the remainder of the field. Several mines near Cambridge have been reopened and a half dozen in Columbiana and Jefferson counties have resumed.

PENNSYLVANIA

Last-minute decision not to open the East End mine of the Chartiers Creek Coal Co., near Canonsburg, probably was due to the decline in the market. The mine was to have opened on the Jacksonville scale.

Preparations are being made to start coal stripping operations in Baggaley. John I. Irwin, who recently bought the land, has shipped a steam shovel to the operation.

John C. Graham, of Butler, has been elected a director of the Standard Coal & Coke Co., of Chicago. Mr. Graham has been producing coal in the Pittsburgh district for 10 years.

Dismissal of the petition filed Nov. 5 by Harry F. Sinclair, oil man of New York, to intervene in the proceedings between the Harrison National Bank of Cadiz, Ohio, and the Carnegie Coal Co., was asked at Pittsburgh Nov. 18 in an answer filed by the coal company, which branded Sinclair's action as superfluous, impertinent and scandalous. The oil man asked the court to replace the two receivers of the coal company. Sinclair brought suit for \$125,000, which he seeks to recover on a promissory note he claims he indorsed in favor of R. B. Haverstick, treasurer of the coal company. The company's answer asserted the retention of W. M. Wilshire and C. G. McGregor is necessary to the operation of their mines.

Machinery at the Oakdale mine of the Carnegie Coal Co. was damaged considerably last week by vandals who were under the impression, it is believed, that the mine planned to start on the 1917 scale.

The Bethlehem Mines Corporation, which is endeavoring to operate the Marianna mines, near Bentleyville, on the 1917 scale, is experiencing considerable trouble in getting production started, it is learned. Snipers are firing shots at spasmodic intervals at the tippie, and windows in the power house have been broken. Early last week one man was arrested by state police. Operation plans of the company are behind schedule.

The Glen Alden Coal Co., Scranton, one of the largest anthracite companies, deferred action on its semi-annual dividend at the regular meeting Nov. 10. No statement was forthcoming from the directors following the passing of the dividend. A rate of \$3.50 a share was inaugurated in May, 1924.

The Pittsburgh Terminal Coal Corporation reports net income of \$173,177 for the September quarter, after all expenses and reserves for depreciation, depletion and other deductions. After

preferred dividend requirements, this is equal to 94c. a share earned on the 120,000 shares of capital stock outstanding, against 22c. a share earned in the previous quarter.

UTAH

H. C. Marchant, general manager of the Superior-Rock Springs Coal Co., with headquarters in Ogden, has been appointed assistant to P. J. Quealy, president of the Kemmer Fuel Co. Hereafter he will have his headquarters in Kemmerer, Wyo., except that for the next few months he will be in Denver, Colo.

WEST VIRGINIA

The West Virginia Coal & Coke Co. has resumed operations at its mines and ovens at Junior, in Barbour County, and now has 52 ovens in blast there. All the plants of the company where there are coke ovens have now resumed work, and owing to the large amount of tonnage required for the burning of coke, the company is operating all its mines except one on a full-time basis. Before resuming work at Junior it was necessary to rebuild a tippie at that place, the old one having been destroyed by fire several years ago and never having been rebuilt owing to the poor demand existing for coal during the last few years. Approximately 150 men are being given employment at the Junior plant.

All coal loading records of the Norfolk & Western Ry. were broken in October when the total number of cars loaded with coal in all districts on the line reached 79,397, 3,391 more than were loaded in September. A new high record for weekly coal loadings was established in the last week of October, when 18,369 cars were loaded as against the previous high record of 18,145, made during the week ended Oct. 10.

J. T. Dunigan, president and general manager of the Coal River Collieries Co., announced that October production, 66,185 tons, was the largest in the history of the company. All of the mines of the company are now operating and arrangements are being made to open a new mine at Plant No. 2, in the Cedar Grove seam. This operation is now producing 150 tons daily and within 30 days the capacity of 300 tons will be reached. The Southside mine, at the same operation, in the Lick Creek division, will be opened soon.

CANADA

Charles Murphy, general manager of the Western lines of the Canadian Pacific, says little or no coal is going into Manitoba from the south, and that nearly all the domestic fuel is being shipped from Alberta. As a matter of fact, it is being shipped as far east as Chapeau, in Ontario, 375 miles east of Fort William. Ninety per cent of the coal in Winnipeg, he said, came from Alberta. "I think there is no question of the market being main-

tained if good quality coal is shipped," he remarked. Mr. Murphy said that the railway put in heavy supplies of steam coal before the grain movement began, in order that equipment might be utilized. The company, however, was still taking from 3,000 to 4,000 tons a day.

Traffic

Cancellation of Joint Rate Is Upheld

Proposed cancellation of joint rates on anthracite from Lake Erie and Niagara frontier junction points to Sparland and Henry, Ill., has been upheld by the Interstate Commerce Commission in a mimeographed report on Coal from Erie, Pa., etc. The cancellation of these rates will leave in effect a combination on Chicago \$1.14 per gross ton higher. The combination on Chicago is the usual basis of rate construction in this territory. Respondent carriers justified the cancellation on the non-compensatory character of the joint rates.

Coke Rate Situation in Tangle

The rate situation on coke to the Middle West has been further complicated by the action of the Interstate Commerce Commission in revoking the permission it recently gave Alabama roads to establish rates to southeastern Michigan 50 and 75c. per ton over the Chattanooga basis on short notice. Tariffs filed to become effective Nov. 13 were rejected on the ground that certain provisions would conflict with the long-and-short haul section of the Act to regulate commerce.

Permission to establish these rates on short notice had been granted in the first instance on representations that there was a need for such movement because of the shortage in domestic fuels created by the anthracite strike. These representations were challenged by byproduct plants in Illinois and Indiana, which declared that they could take care of the market in question. At that time the protestants asserted that demand from retailers for household fuel was by no means taxing oven capacity.

Another proposal before the Commission affecting the coke adjustment in Central Freight Association Territory is that made by carriers serving byproduct plants in western Pennsylvania. These railroads propose to reduce rates from Clairton, Bessemer, Wylie, Glassport and Pittsburgh to points in Pennsylvania, Ohio, Michigan, Indiana, New York and Ontario 10 to 88c. per ton, widening the present differential of 15c. under Connellsville to as high as 63c. in some cases. Protest has been made by the Coke Producers' Association of Connellsville, which sets up that the rates proposed would disrupt rate relationships which have existed for years, would give undue preference to Clairton and unjustly discriminate against the beehive ovens.

More Rates on Coke Approved

Additional tariffs naming reduced rates on coke for intrastate movement have been approved by the Public Service Commission of New York. Interest in the rate adjustment has been heightened by the domestic demand for coke created by the anthracite strike. The new rates and routes approved are:

Buffalo, Rochester & Pittsburgh Ry., Charlotte to Rochester, 80c. per net ton; Charlotte to Garbutt, Mumford, LeRoy, Scottville and Wheatland, \$1.39; to Pavilion, Rock Glen, Warsaw and Wyoming, \$1.51; to Perry and Silver Springs, \$1.89; effective Nov. 10.

Genesee & Wyoming R.R., Caledonia, Retsof Jct., P. & L. Jct. and Greigsville to Fraser, Greigsville, Halite, Inverness, Retsof, Taylor and York Center, 72c.; effective Dec. 10.

Lehigh Valley R.R., Buffalo, East Buffalo and Harriet to Elmira (including points on D. L. & W. and Erie railroads where switching charge does not exceed 38c. per ton), Elmira Heights, Horseheads, Breesport, Erin, Park Station and Swartwood, \$2.14; effective Dec. 7.

New York Central Lines, Charlotte to Rochester (Kent St. and Portland Ave.), 80c.; effective Nov. 7.

Chicago District Fight Revived

Rates on bituminous coal to points in the Chicago switching district are again before the Interstate Commerce Commission in a complaint filed by the Illinois Coal Traffic Bureau attacking the rates from mines in Illinois. The adjustment of rates to this vast industrial and domestic coal-consuming district—sharing with Pittsburgh the distinction of being the largest coal-consuming areas in the world—has been before the Commission in one form or another for several years. Rates from Indiana mines to the Chicago district and to all points in Illinois and Wisconsin have been put in issue in complaints filed by the Indiana Bituminous Coal Operators' Association.

Obituary

Thomas Griffiths, superintendent of the Wolf Den Coal Co., Shallmar, Md., since 1917, died at the home of his son-in-law and daughter in Cumberland, Md., on Nov. 14th. He had been in ill health for about two years but had apparently fully recovered when he suffered a relapse two months ago. Mr. Griffiths was well known to mining men in Pennsylvania, Maryland and Virginia, in all of which localities he operated for some of the largest companies, among which were the Rochester & Pittsburgh Coal & Iron Co., Berwind-White Coal Mining Co. in Pennsylvania and the Houston interests in Virginia.

Samuel E. Stimmell, 47 years old, for the past 12 years superintendent of the Export mines of the Westmoreland Coal Co., died in his home in Export, Pa., from typhoid fever last week. Mr. Stimmell was a mining engineer. He leaves his wife and two children.

A. E. Moore, aged 65, a prominent coal operator, died at his Columbus (Ohio) home recently, following a short illness. He had been a resident of Columbus since Oct. 1, when he moved from Charleston, W. Va., but had spent the greater part of his younger days in the Buckeye capital. At the time of his death he was connected with the Indian Coal Co., of Charleston, and was formerly president of the Hocking Valley Mining Co., of Athens; the Orange Gas Coal Co., of Athens, and the Coal Valley Mining Co., of Charleston. He is survived by his wife, a son and a daughter.

Coming Meetings

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

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

Smokeless Coal Operators' Association. Annual meeting, Dec. 10, at Washington, D. C. Secretary, E. J. McVann, Washington, D. C.

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

American Mining Congress. Twenty-eighth annual convention, Dec. 9-11, Washington, D. C. Secretary, J. F. Callbreath, Munsey Bldg., Washington, D. C.

American Wood Preservers' Association. Annual meeting, Jan. 26-28, 1926, at Cleveland, Ohio. Secretary, E. J. Stocking, Chicago, Ill.

Coal Club of Philadelphia. Annual meeting, Jan. 28, 1926, at the Bellevue-Stratford Hotel, Philadelphia, Pa. Secretary, C. K. Scull, Philadelphia, Pa.

New Companies

British American Coke & Byproducts, Ltd., has been incorporated with a capital of \$10,000,000 to mine, produce and deal in coal, coke and other fuels, with head office in Toronto, Ont., by Walter B. Kingsmill, Stanley S. Mills, Vincent W. Price and others.

The H. T. W. Coal Co. of McCarr, Ky., with a capital of \$20,000, has been incorporated by John S. Hall, and J. W. T. St. Clair, both of Williamson, W. Va.

The Cleveland Collieries Co., Cleveland, Ohio, has been chartered with an authorized capital of 600 shares, no par value designated, to operate coal mines and properties. Incorporators are B. D. Gordon, Samuel S. Rosenthal, A. J. Schanfarber, C. R. Berne and E. L. Mueller.

The Macksburg Mining Co., Byesville, Ohio, was recently incorporated with a \$10,000 capital to mine and deal in coal. L. J. Swoll, H. P. Muhlbech, E. Delille, E. Waers and George Ruskin are the incorporators.

The Acme Coal Mining Co., with a capital of \$50,000, has been incorporated by S. J. Peters and Arthye H. McLain, Parkinson Bldg., Okmulgee, Okla.

Industrial Notes

Foots Bros. Gear & Machine Co., Chicago, Ill., is now manufacturing Sykes gears for use in IXL continuous tooth herringbone gears and speed reducers, having installed Farrel-Sykes machinery for the purpose.

W. J. Rainey, Inc. has opened a sales office at 328 and 329 Oliver Bldg., Pittsburgh, Pa., for the sale and distribution of "Rainey" products in the Pittsburgh district. This office is in charge of William Plrth, for several years Pittsburgh manager of the Whitney-Kemmerer Co.

At the last meeting of the board of directors of the Linde Air Products Co. G. W. Mead, formerly president, was elected chairman of the board and W. F. Barrett, formerly vice-president, was elected to the presidency. In addition to these changes R. R. Browning was elected vice-president in charge of sales activities and J. A. Rafferty, vice-president in charge of engineering manufacturing and research.

At a recent meeting of the board of directors of the Prest-O-Lite Co., Inc., M. J. Carney, formerly president, was elected chairman of the board; William F. Barrett, formerly vice-president, was elected to the presidency; Ralph R. Browning was elected vice-president in charge of acetylene sales activities and R. J. Hoffman was re-elected vice-president in charge of storage-battery and automotive divisions.

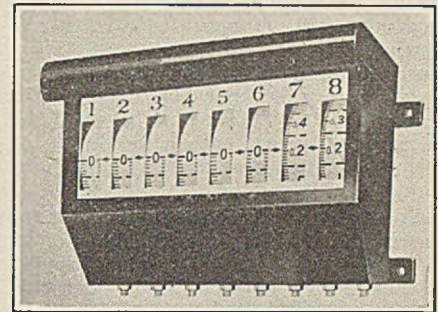
New Equipment

Multiple-Dial Draft Gage Aids In Boiler Control

In most boiler installations if continued high efficiency is to be maintained it is essential that the fireman should know accurately the draft intensity existing not only in the breeching or stack but also in the ashpit, above the fire and if possible in each pass of the boiler. Heretofore it has been necessary in most cases to employ a separate gage for each pressure desired. In order to make all of these various readings discernible at a glance as well as to render them continuously comparable one with the other the Republic Flow Meters Co., of Chicago, is introducing the instrument shown in the accompanying illustration.

This meter is made in various sizes with units ranging from three to twelve in number. It may be placed in any convenient location, usually on the front of the boiler, each component unit being connected to the point in the boiler setting where a reading on the draft is desired. An electric light housed within the curved reflector spanning the top of the instrument illuminates all of the dials uniformly and makes them easy to read and compare.

In construction this instrument is simple. One leg of a U-tube containing a non-volatile oil is exposed to the pressure to be measured. The other leg of this tube contains a counterbalanced float, which in rising and falling actu-



It Tells the Whole Story

With this new multiple-dial draft gage before him, the fireman can see at a glance the draft intensity in breeching, stack and ashpit as well as above the fire and in each pass of the boiler—and he can compare them readily.

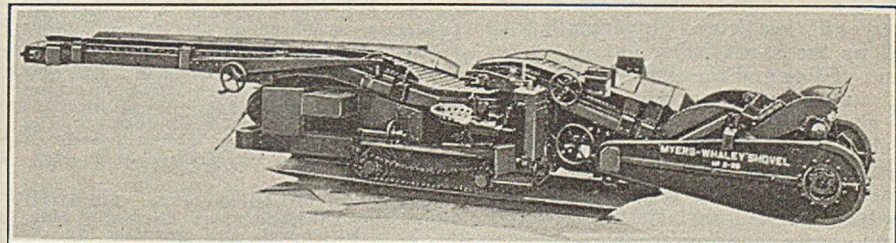
ates a gear quadrant meshing with a pinion the shaft of which carries a rotating dial. The dial somewhat resembles that of a speedometer, its readings possessing equally easy legibility. By placing the dials connected to the various points of the setting in sequence not only may the actual pressures or vacua be read directly but the relative differences between adjacent points, such as the boiler passes or the wind boxes of the stoker are at once apparent. Any marked variation from normal in these relative values indicates a change of condition within the furnace that requires investigation and usually correction. Thus the instrument aids in obtaining high efficiencies.

This Shoveling Machine Will Work in 48-In. Coal

In order to meet the almost insistent demand for a coal loading machine that could be used in a headroom of 48 in., the Myers-Whaley Co., of Knoxville, Tenn., has recently placed on the market the loading machine shown in the accompanying illustration. This is known as the No. 2-25 underground shovel. It has a total length of 23 ft. 10 in., a width overall of 5 ft., (when the operator's seat is removed, 4 ft. 6 in.). The total height overall (traveling height) is 3 ft. 3 in. above the rail. The reach of the shovel is 8 ft. 6 in. on either side. The width of the shovel itself is 33½ in., outside measurement,

and the capacity of the machine is 34 cu.ft. per minute in loose material. Its weight is approximately 14,000 lb.

This machine will operate in a minimum height of 42 in. above the rail and can travel through places having a minimum clearance above the rail of 39 in. The first machine of this type is now in service in central Pennsylvania and shows an actual capacity equal to that of the regular No. 3 shovel, but since it is 6 in. lower than the No. 3 it can operate in that much less headroom. It is also capable of traveling through old workings or restricted passages in the mine which would be too low for the other machines to negotiate. It does not replace any of the other sizes now made.



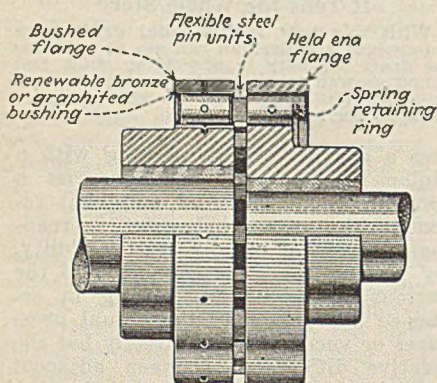
Sturdy and Strong It Loads in Low Coal

This coal loader is so designed and proportioned as to require 6 in. less headroom than other machines of the same type. Thus it cannot only work in a lower measure but can navigate passages through which the others could not travel.

Self-Oiled Flexible Coupling Should Last Many Years

On Dec. 1 Smith & Serrell, of Newark, N. J., will place on the market a line of improved Francke flexible couplings intended especially for motor, turbine and engine drives. These couplings will be manufactured in 21 regular sizes and will be known as the "bushed pin type." Their ratings will range from $\frac{3}{4}$ hp. per 100 r.p.m., with a maximum of 4,000 r.p.m., up to 3,850 hp. per 100 r.p.m., with a maximum of 490 r.p.m., and for shafts from $\frac{3}{4}$ in. to 13 in. in diameter.

As may be seen in the accompanying drawing, this new coupling retains the good features of its predecessor, known as the "heavy pattern type," and embodies several new ones of its own.



Half-Section of Coupling

The distinctive feature of this coupling which chiefly distinguishes it from all others is the renewable bronze or graphited bushings within which the flexible pin members are mounted and slide. These greatly reduce the friction of the pins and should last for years.

Thus the end movement is easier and of greater amplitude. The power transmitting qualities are greater, as are also the bores. The new coupling also should have a longer life at all speeds. Steel flanges have been used on the small and intermediate sizes.

Graphited bronze bushings will be used in No. 850 size and larger, while bronze bushings will be employed in the smaller couplings. These bushings are removably locked to one flange and the steel-pin units are free to slide a full half inch within them. As compared with the older bushings the area of the contact surfaces is more than doubled and movement takes place between steel and bronze. Graphited bushings present self-lubricated surfaces that retain their lubricating qualities for many years.

This new coupling is capable of handling all accidental misinstallations such as the shaft being out of center or out of line and the like. The flexible pins cushion starting and load shocks and absorb vibrations. The coupling is noiseless and capable of operation in either direction. In case of excessive misalignment such a coupling acts as a safety device, obviating broken or scored shafts, bearing troubles and the like. However, if more than usual misalignment is anticipated, due to non-rigid foundations or from any other cause, two couplings in tandem with

an intermediate shaft between them or a double, floating-ring type of coupling should be employed.

These new couplings are easily mounted, aligned, and fastened to the shafts they join without the aid of any special tools. They are of all-metal construction and embody no perishable material. There is no movement or wear on the shaft flanges to result in excessive renewal expense of these parts or of the complete coupling. The entire device is simple, rugged in construction and safe in operation.

Makes Stronger Bearings

Greater strength has been put into the bearings produced by Standard Steel and Bearings, Inc., by a recent change. Balls were previously made of chrome alloy. Now they are all made of molybdenum steel. This was done not only to give the balls the toughness of armor plate but also because molybdenum is the only alloy that can be put into steel in an absolutely pure state. Molybdenum is obtainable in America in sufficient quantities for all steel purposes thus making the supply independent of foreign sources.

Street Bros. Machine Works of Chattanooga, Tenn., are now making an electric hoist in sizes above 30 hp. which have all of the refinements of the company's steam hoists with efficiency improved by an enclosed gear drive. Steel cut gears run in an oil bath and are totally inclosed in an oil-tight case.

Trade Literature

Small Tools. Greenfield Tap & Die Corp., Greenfield, Mass. Catalog No. 49. Pp. 333; 5x7 in.; illustrated. Covers this company's line of small tools, including ground thread taps, spiral fluted staybolt taps, bolt and pipe threading machine. The book is well indexed for handy reference.

Apex CO₂ Meter. Uehling Instrument Co., Paterson, N. J. Bulletin 118. The principle of operation of this meter is described.

American H. S. Fans. American Blower Co., Detroit, Mich. Bulletin No. 6103. Pp. 31; 8x11 in.; illustrated. Covers the various types of the American H. S. Inlet fans which have been added to its line of Sirocco products. Tables of dimensions of the various types are given.

G-E Mechanically Operated Flow Meters for Measuring Fluids and Gases. General Electric Co., Schenectady, N. Y. Bulletin GEA-10. Pp. 43; 8x10 $\frac{1}{2}$ in.; illustrated. Describes the flow nozzle and explains the operation of the meter.

Belted Synchronous Motors. Electric Machinery Mfg. Co., Minneapolis, Minn. Bulletin No. 812. Pp. 7; 8x11 in.; illustrated. Describes synchronous motors of types designed for belted installations.

The Link-Belt Co., Chicago, Ill., has issued an interesting book commemorating its fiftieth birthday. It is prefaced by notes on early conditions in some industries. The major part of the book, which consists of 47 pp., relates to the Link-Belt development.

Carbon Circuit Breakers for Industrial Application. Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. Circular 1705-A. Pp. 24; 8x10 $\frac{1}{2}$ in.; illustrated. Contains a description of this breaker, points out the functions of the breaker contacts and outlines its characteristics of effective shock absorption, adjustment and equalization of brush pressure.

Publications Received

Standard Methods of Chemical Analysis, edited by Wilfred Scott, Sc.D., in collaboration with eminent specialists. D. Van Nostrand Co., 3 Warren St., New York City. Fourth edition. Vol. I has 748 pp. and Vol. II, 802 pp. Both volumes are well illustrated, and the price of the two is \$12.

Industrial Chemistry, edited by Allen Rogers, in collaboration with other specialists. D. Van Nostrand Co., 3 Warren St., New York City. Fourth edition. Vol. I has 511 pp. and Vol. II, 756 pp. Both volumes are illustrated, and their price is \$10.

Financial Statistics of States, 1923. Bureau of the Census Department of Commerce, Washington, D. C. Pp. 147; 6x9 in. illustrated. Price, 20c.

Radio Telephone Modulation, by Hugh A. Brown and Charles A. Keener. Engineering Experiment Station, University of Illinois, Urbana, Ill. Pp. 49; 6x9 in.; illustrated. Bulletin No. 148. Describes results of an experimental investigation of the intensity or degree of modulation obtained with representative types of radiophones.

A 1925 Review of the Department of the Interior, Hubert Work, Secretary. Pp. 39; 6x9 in.; illustrated.

A. S. T. M. Tentative Standards, 1923. American Society for Testing Materials, Philadelphia, Pa. Pp. 376; 6x9 in.; illustrated. Price, \$7 in paper; in cloth, \$8.

Bulletins 118 and 118-A, describing the Apex CO₂ recorder and indicator, are now ready for distribution by the Uehling Instrument Co., of Paterson, N. J. These instruments operate on the orifice principle and do not employ chemical solutions. The principle of operation is fully explained in the bulletins.

An Investigation of the Efficiency and Durability of Spur Gears, by C. W. Han and J. W. Huckert. The Engineering Experiment Station, University of Illinois, Urbana, Ill. Bulletin No. 149. Pp. 94; 6 x 9 in.; illustrated. Price, 50c. Describes the Lewis gear-testing machine and gives results of efficiency and durability tests.

1925 Year Book of the Merchants Association of New York. Pp. 361; 7 x 19 in. Besides the list of members and various committees the activities of the association for the year ending April, 1925, are reviewed.

Coal Analyses of Bituminous Coal Fields of Pennsylvania, prepared by the U. S. Bureau of Mines. Pennsylvania Topographic and Geologic Survey, Harrisburg, Pa. Bulletin M-6, Part IV. Pp. 263; 6 x 9 in. In addition to analyses of Pennsylvania coals, the mines from which the samples were taken are given.

Statistical Abstract of the United States, 1924. Department of Commerce, Washington, D. C. 47th number. Price, \$1 (paper covers). Pp. 824; 6x9 in.; tables.

The Geology and Coal Resources of the Coal-Bearing Portion of Lee County, Virginia, by Albert William Giles, with a chapter on "The Forests of Lee County, Virginia," by Harry Lee Baker, the former prepared in co-operation with the U. S. Geological Survey and the latter in co-operation with the Office of State Forester. Virginia Geological Survey, University of Virginia, Charlottesville, Va. Pp. 216; 7x10 in.; illustrated. Topographic and geologic maps.

Trade Marks, Trade Names, Unfair Competition. Richards & Geier, 277 Broadway, New York City. Third Edition. Pp. 46; 6x9 in. Covers trade marks in the United States and foreign countries; also schedule of charges.

Patents—Law and Practice. Richards & Geier, New York City. Third edition. Pp. 56; 6x9 in. Digest of United States law and practice and practice in foreign countries; schedules of charges in United States and on foreign patents.

Second Annual Report of the Maryland Bureau of Mines, under the supervision of the State Board of Labor and Statistics. Pp. 95; 6x9 in.; illustrated.