COAL AGE

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R. DAWSON HALL
Engineering Editor

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Strike in Great Britain

AT LAST THE PEOPLE of Great Britain face the general strike so long threatened and so much discussed. Sympathy with the miners will doubtless be quite general in the United States. They are not paid any wonderful wages though they are well in line with those paid other wage earners in Great Britain. Compared with our own workmen, they are underpaid, and their wages would be still lower if the owners of the mines had reduced them in a degree necessary to meet competition.

But it is easy to discuss wages in a vacuum. It must be remembered that Great Britain is in Europe and must compete with Europe, that her beds of coal are in many places quite thin and in most places, as she would say, quite "fiery." The roof is bad and the danger of spontaneous combustion, especially in one thick seam, is such that the need for close stowing of rubbish adds greatly to cost. The objection to the use of trolley locomotives has also hampered production.

When men produce less than one ton per man per day, when they have to compete with others having low wages and have to supply coal to industries which, in turn, have to meet the competition of those in other countries which buy their coal from operators paying low wages, what can be done to keep the wage scale up to American levels?

The large mass of workmen who are taking part in the general strike doubtless feel they have a right to combine. The public of Great Britain believes also that it has the right to enter into a combination as against the first group. No one knows what such an action as this might effect. The first group declines to serve the second group, and the second group may refuse to serve the first, and without going into details, it may be surmised that the first group may find the reaction to its attack on the second group extremely disastrous. There is something ominous in the words "Organization for the Maintenance of Supplies." The idea was not intended doubtless to be menacing, but what may not happen if the second group, which has the road transport facilities in its hands, decides to maintain supplies for its own advantage solely.

Growing Old

TOO MUCH HAS BEEN SAID by the critics of the coal industry as to its archaic methods. It is indeed not up to date. No industries are. If they could be, they would be obsolete tomorrow. Progress is a matter of tearing down and building up, rejecting old equipment and buying new. Most industries are none too active in thus cleaning house and wiping out equipment that has ceased to have value. A big mine takes about five years to construct and about twenty, thirty or forty to exhaust.

It would be a slow industry that would not develop in the quinquennium some new method of operation, and in the longer periods many developments may take place. Perhaps the appropriate change in methods can and will be effected, but if the revision is large and requires ruthless scrapping of recently purchased equipment or of recently constructed development the change may not be made.

In all industries the trouble is that we do not recognize "obsolescence." It is not carried on the books like depletion and depreciation. The United States Steel Corporation is quite aggressive in keeping its plants up to the minute. The authorities term this "plowing in profits." Recently it has been questioned whether that is a correct term. Is it not rather correcting obsolescence? Certain it is, that unless the mining man is to spend money steadily to bring equipment to date he is going to fall behind in competing with new plants which have newness and nearness to the shaft to give them the jump on the older developments. At one plant eight-mile hauls are necessary to get coal to the surface. To cope with such a handicap there is no solution other than that afforded by an extreme in efficiency; yet the old mine, built as a leader some decades back, cannot be abandoned. Can it renew its youth after so many years? Unless it does, it cannot hope to be in the running.

Let us be in all things fair. Are there not in Washington inefficiencies and buildings out of date? Is the ancient Patent Office and the furbelowed Treasury Building up to the minute? Is the firetrap Printing Office even permissibly suitable to its purpose? Washington dreams not only for a better coal industry but for itself better departmental conveniences and better organization of its own many establishments. The practice of all of us falls ever measurably below our standards of practice and our dreams of possible performance.

A Word to the Farmers

SUCH DISTRESS has come to the farmers that the National Industrial Conference is appealing to the public to do something wise and constructive to put this large population on its feet. The case the Conference makes is excellent. If the farmers were making more money they would be better buyers and so help industry in general. In particular they might well consume more coal. Many farmers heat their houses only in spots by the use of stoves rather than throughout by the aid of furnaces and as they use little fuel can afford in their idle moments to split wood for their needs and so do without coal altogether. Give them somewhat larger profits, and the stove would give way to the furnace as it has already done in many places.

The farmer has suffered from a shrinkage in land values that has jeopardized all his investments and in some cases broken the banks from which he has borrowed, in which he has invested or by which his loans

have been carried. But coal lands have also shrunk in value. In some cases the prices quoted may be little lower than they have been, but the lands have no sale, and if they were sold they would have to be sacrificed. An owner advertised recently a piece of land in the Elkhorn district with virgin timber, four seams of good coking coal with oil and gas. He will sell it for $35 an acre.

Farmers in Iowa, with land at $150 to $275 which used to range about $400 an acre, sell your corn lands and buy for $35 an acre lands underlaid with four far-famed seams of coal! You have heard that the coal barons have fleeced you for generations. Now is your chance to free yourselves from dependence upon them and make an easy fortune. Why hesitate? You have assurances from all quarters that farming is ill-paid and coal mining highly profitable. As coal lands can be bought cheaply why not retrieve your fortunes by a shift in business? Or does the price itself make you wonder if what you have heard has been a tale without substance.

Friendly Counsel

NOBODY CAN ACCUSE the New England retail coal merchants of unfriendliness toward the anthracite industry. When those dealers in convention assembled express regret that the producers made no reduction in prices on April 1 and couple that expression with a plea to the operators to maintain standards of preparation, the opinions thus mildly voiced carry more weight than stern censure from sources less closely allied with the hard-coal industry. The retail distributor is the real contact man between the producers and the public. When he speaks, as in this case, he reflects not only his own feelings, but the reactions of the man who burns the coal.

Certain groups outside the trade have capitalized the failure of the operators to cut prices this spring in a way probably not contemplated or anticipated by the producers. It was a point strongly pressed by Congressional advocates of coal regulation, some of whom endeavored to read into this action a betrayal of the public trust reposed in the industry during the recent strike. That householders, too, resent the denial of their expectations was evident in the discussion which preceded the adoption of the resolution of regret by the New England retail association.

Possibly if the industry could have foreseen how its policy was to be interpreted, a different action, or at least a full explanation of the reasons for the departure from tradition, might have resulted. To retreat now, however, would accomplish nothing but to make a bad situation much worse. Even belated explanation of the reasons back of the change in policy probably would increase instead of diminish criticism and antagonism.

The question of prices is debatable. The same thing cannot be said of preparation. Good faith and sound merchandising alike obligate the producers to maintain as a minimum the standards which they themselves fixed. Any change made should be in the direction of more exacting standards, and a change in that direction should not be postponed too long. Preparation which falls below the existing standards ought not to be countenanced. Nevertheless, since the strike ended some coal which did not measure up to grade and size has entered the channels of interstate commerce. Complaint against quality and sizing is still too common for the good of the industry. The discreet hint in the resolution of the New England Coal Dealers' Association will not be lost upon aggressive producers.

Visualizing the Problem

TO ANALYZE A PROBLEM correctly is a big step toward its solution. To visualize that analysis and to make the major points stand out so that remedies or corrective measures suggest themselves is a short cut to a prompt and effective solution.

A better aid to effective management than graphic charts would be hard to find. They are easy to construct once the required data are at hand. We are all interested in peak loads and demand charges. If we knew the nature and character of the load, which the demand meter does not show, and the time of the occurrence of peaks we can switch the units around until we approach as near as possible to a straight line which would be 100-per-cent load factor.

Tabulated data are hard to analyze. Take the same data and chart it, and we have a picture of the entire structure, whether it be mining, organization or the power system.

Graphic load-distribution charts are not difficult to construct and they analyze the load and its character which a graphic recording demand meter does not do, the graphic recording meter merely showing the peak demand and the time of its occurrence. One of these completed charts would suggest many switches in loads from the day to the night.

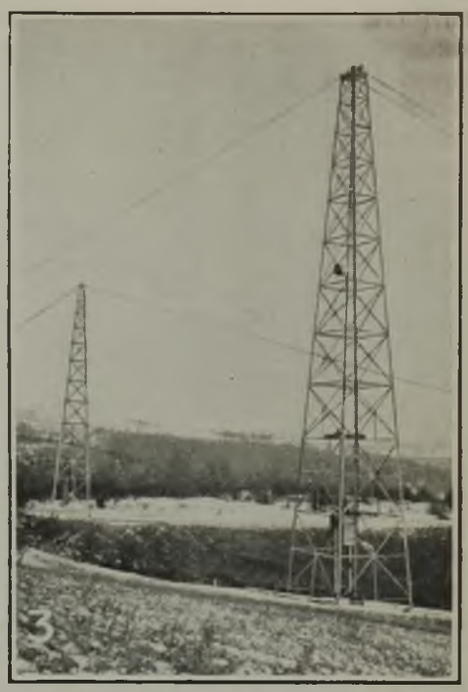
Interest in lowering peaks increases as the changes are effective. Much can be done if further studies are made. For instance, sumpage arrangements may be made to handle sixteen hours' storage and pump only at night. Thus it may be possible to take many horsepower off the day load and switch it to the night load. Using purchased power this would be a large saving, and even under company-generated power it would be well worth while.

Cheaper to Wash Out Refuse Than to Gob It

IT HAS LONG been the practice at coal mines to separate the gob from the coal within the mines and not allow it to reach the light of day. This separation is necessarily made by hand and consumes much time. As a result it was correspondingly expensive.

Where sufficient room is available on the surface for the disposal of gob or where this refuse is flushed back into the mine for roof support, improved methods of washing render it profitable for the coal companies to bring out and treat a far larger percentage of rock than was formerly possible from a commercial standpoint. Thus where binders of such consistency that they may be passed through the rolls are encountered, these impurities may be loaded, brought to the surface, crushed and then washed or floated out of the mine product at less expense than this refuse can be picked from the coal and gobbed within the mine.

Conditions in this regard, however, differ widely. An article this week shows the practice of the Woodward Iron Co., that finds it more profitable to leave the dirt in the mine than to haul it a long way underground, to hoist it, to dump it, to haul it to the washer, to wash it and then to haul the washer reject to the dump for disposal.



Warden Mine Installs Aerial Tramway to Dump Four Hundred Tons of Refuse Daily

Rock and Picking Table Reject Fall Into Steel Bin and Is Loaded Alternately Into One of Two 2-ton Cars Which Carry It Out on a Leg of the Triangular Tramway System

A STRIKING example of the awakening of coal operators to the necessity of modernizing their equipment is afforded by the new Warden mine, of the Pittsburgh Coal Co. located at McAdams, Pa. From first to last, the thought behind this plant has been to obtain a layout that will provide a maximum output at lowest unit cost.

One of the most difficult problems facing the designing engineers was that of handling and disposing of the slate and refuse. The site chosen for the tipple was in a long and comparatively narrow valley with high hills on both sides. The railroad tracks, storage tracks and public highway practically fill the floor of the valley, the tipple structure itself extending from the base of the hill behind it, half way across the flat land adjacent to the stream. To find dumping room for refuse anywhere in the valley would be impractical, yet the coal company's engineers estimated there would be at least 400 tons of refuse produced daily when the mine reached its maximum production. With such a large quantity of material to be disposed of, it was necessary to find dumping area not only sufficient in size to take care of several years' refuse, but also near enough to the tipple to keep down handling costs. Behind the tipple, and at right angles with the valley is a break in the hillside forming a triangular shaped "draw" some 10 acres in extent. This was the only dumping area available. The sides of the "draw" widened as the distance from the tipple increased forming an area shaped like a half funnel with its mouth at the tipple, where it is not more than 50 ft. wide. The length of the funnel is about 800 ft. and the width across the far end about 600 ft.

In the headpiece Fig. 1 shows the tramway with the loading terminal in the foreground. Fig. 2 is a view looking up the "draw" from the tipple. This shows the spread of the tramway legs which is sufficient to enable the dump to cover the entire available spoiling area. Fig. 3 shows the tail towers with the counterweighted guide sheave for the haul rope. The height of the track cables above the ground indicates the possible height of the dump piles.

Slate Had to Be Lifted Out of Valley

As all slate brought from the mine as well as all refuse from the picking tables at the tipple were to be dumped into a bin below the level of the mine-car track, the task of raising the refuse to piles of any considerable height so as to obtain maximum advantage of the dumping area available, presented a difficult problem.

The slate-handling equipment was designed and constructed by the Interstate Equipment Corporation of New York. In general it consists of a two-car type of aerial tramway, an unusual feature however, being the placing of the outer terminals, or tail towers, approximately 360 ft. apart measured horizontally, giving, in effect, tramways with a common loading point located below the slate bin at the tipple. This arrangement utilized practically the entire available area for dumping purposes.

In plan, the tramway layout forms a triangle, each leg being approximately 800 ft. long with the base, or distance between tail towers, 360 ft. in length. The angle between the two legs of the tramway at the loading terminal is approximately 24 deg. A single four-wheeled car of 2-ton capacity rides on fixed track cables between the loading terminal and tail tower on each leg of the tramway.

The cars are attached to an endless haul rope which passes over a drive wheel at the loading terminal, then

Fig. 4—Looking Down "Draw" from Tail Towers Toward the Warden Tipple

Shows how draw dips toward center line. Refuse piles will probably overlap at the bottom when the piles reach the full contemplated height.

along one leg of the tramway to the tail tower, down the tail tower to a counterweighted sheave, across to the second tail tower and back to the loading terminal. The cars are permanently fastened to the haul rope in such position that when a car is at the loading terminal of one leg, the other car is at the extreme length of travel of the opposing leg.

PILES TO BE ONE HUNDRED FEET HIGH

The ground level at the outer end of the tramway is about 100 ft. higher than at the loading terminal and to provide additional height for dumping the refuse, the tail towers were made 125 ft. high. Each leg of the tramway has one intermediate supporting tower located 300 ft. distant from the loading terminal. These towers are 75 ft. high thus giving a clear dumping space under each leg of the tramway approximately 500 ft. long where slate may be dumped in piles 100 ft. high.

The heights of the two intermediate supporting towers above the loading terminal cause each car to climb a grade of 35 deg. before reaching the dumping span, the incoming car on one leg of the tramway helping to offset the power pull necessary to raise the loaded car on the other. A 40-hp. electric motor located at the loading terminal furnishes the power. It is belt-connected to a countershaft which in turn is geared to the drive-wheel shaft.

ONE MAN HANDLES ENTIRE OPERATION

The tramway cars are loaded from a steel bin under the tipple through two undercut gates, each located over one leg of the tramway. The gate-opening mechanism and motor control is brought to a platform control station, so that one man easily controls the whole operation. No tripping device is required in the dumping span as each car has an integral opening mechanism which may be adjusted by the operator in a few seconds so as to cause either car to discharge its load at any desired point along the dumping spans. This solves a difficult problem as the slate dumps will probably catch fire and make it inconvenient or even dangerous for men to work on them.

This tramway was placed in operation early in January and, although the mine is not as yet producing much coal, the operating cost of the tramway evidently will not exceed 2c. per ton of slate handled, including power and labor. A similar installation to handle 1,100 tons of refuse daily is now being installed at the Montour No. 9 mine of the same company.

Parr, Given Chandler Medal, Discusses Coal

S. W. PARR, head of the division of industrial chemistry at the University of Illinois, inventor of a corrosion-resisting alloy known as illium, which serves as a substitute for platinum in the laboratory, and deviser of the Parr calorimeter, delivered on April 23, the Chandler address at Columbia University and was awarded the Chandler medal given by that body in recognition of outstanding achievement in chemical science. The address was entitled "The Constitution of Coal with Special Reference to Problems of Carbonization," the eighth of a series of lectures for which provision was made in 1910 by the establishment of the Charles Frederick Chandler Foundation in honor of that pioneer in the American Chemical industry.

Referring to his own researches Professor Parr declared that when coal was submitted to the extraction process using phenol as the solvent the resinic material was dissolved from the mass leaving the lignite material behind. This lignite residue would not coke but the resinic had the coking quality in high degree.

As a result of studies along this line it is revealed that coals, especially of the mid-continental area, are much more sensitive in their chemical characteristics to alteration than the coking coals of the eastern part of the United States, but by utilizing the information thus attained, it is possible to follow methods of procedure which will conserve these coking constituents, thus forming a coke of excellent density and strength. Studies of this type on the constitution of coal reveal the conditions which must be followed.

EXOTHERMIC HELP IN CARBONIZING

It may be said further that these conditions suggest what is known as the low-temperature type of procedure in preference to the higher temperatures of the standard coking process. It is further of interest to note that by observance of the conditions revealed by these studies it is possible to accomplish a low-temperature carbonization in a cross-sectional area of from 12 to 14 in. instead of the narrower section of 5 or 6 in. ordinarily assumed to be necessary. In this connection Professor Parr described the features of the retort and of the process for the carbonization of Illinois coals which have been developed over a considerable period of years by himself and his associates at the University of Illinois. The coke produced is smokeless and especially adapted to household appliances, and the byproducts are of special interest because of the fact that under the conditions prescribed a large yield of gas is obtained—from 4 to 4½ ft. per pound of coal. The other main byproduct, the tar, is of interest because of its type, which has an established commercial value.

Two steps are involved in the process that Professor Parr described; in (1) the coal is given a preliminary heating to a point short of fusion and in (2) it is coked in a vertical shaft retort of narrow cross section heated externally to 1,100 to 1,300 deg. F. Professor Parr said that the exothermic reaction which took place after the preliminary heating would do little to coke the coal if the heat it supplied were available when the moisture was still present but coming as it did when the coal was unable to absorb heat without a rise of temperature it had an immense effect and aided the process of carbonization materially.

Keeps Dirt in the Mine And Only Coal on the Payroll

Woodward Iron Co. Samples Each Mine Car, Saving by Not Paying Coal Price for Rock and by Not Hauling Rock Underground or on Railroad

By J. H. Edwards
Associate Editor
Huntington, W. Va.

IN THESE DAYS of a continuous drive for lower production costs, most mine managements think it a cause for congratulation if they can reduce the number of men above ground or point to the installation of equipment which has separated one or more names from the semi-monthly payrolls. At the Mulga mine of the Woodward Iron Co., in Alabama, however, not only is the regular tipple crew employed but there are eight additional workers who are kept busy sampling the coal to determine the percentage of slate in each car dumped. And the extra service actually saves money.

The Mulga mine is operating in the Pratt seam, which averages 4½ ft. in thickness. Fourteen inches from the bottom is a 6- to 8-in. streak of shaly rock; near the top is another parting 2½ in. thick. The coal is shipped as mine-run to the washery, which is operated in connection with the byproduct ovens.

Before the introduction of the present sampling system the refuse hauled away from the washery averaged 19 per cent of the coal mined. Now the average is 12 per cent. This 7-per cent reduction represents a large saving. The miners are not paid for loading it. Fewer mine cars and other equipment are required to handle the same quantity of usable coal. In consequence, the costs of mine haulage are reduced. Freight charges

Fig. 2—Showing Sampling Car Below Rotary Dump

The samples are taken from holes in the baffle plate below the dump. Because of the restricted headroom gravity chutes from the receiving gates to the samplers could not be installed. This condition necessitates the use of the small drop-bottom car for conveying the samples to the chutes above the respective samplers. Because practically every car is sampled, it requires two men to operate the small car fast enough to keep up with the dumping.

The headpiece shows the top-works of the Mulga mine. On the end next to the shaft the tipple has three decks. The sampling machines are located on the lower deck. Hoisting at this mine is by means of double-deck cages. When the photograph was taken from which the illustration has been prepared, the work of tearing down a large wooden storage bin, which stood at the left, had just been completed, but the old lumber had not been cleared away. Getting rid of this bin eliminated a worrisome fire hazard.

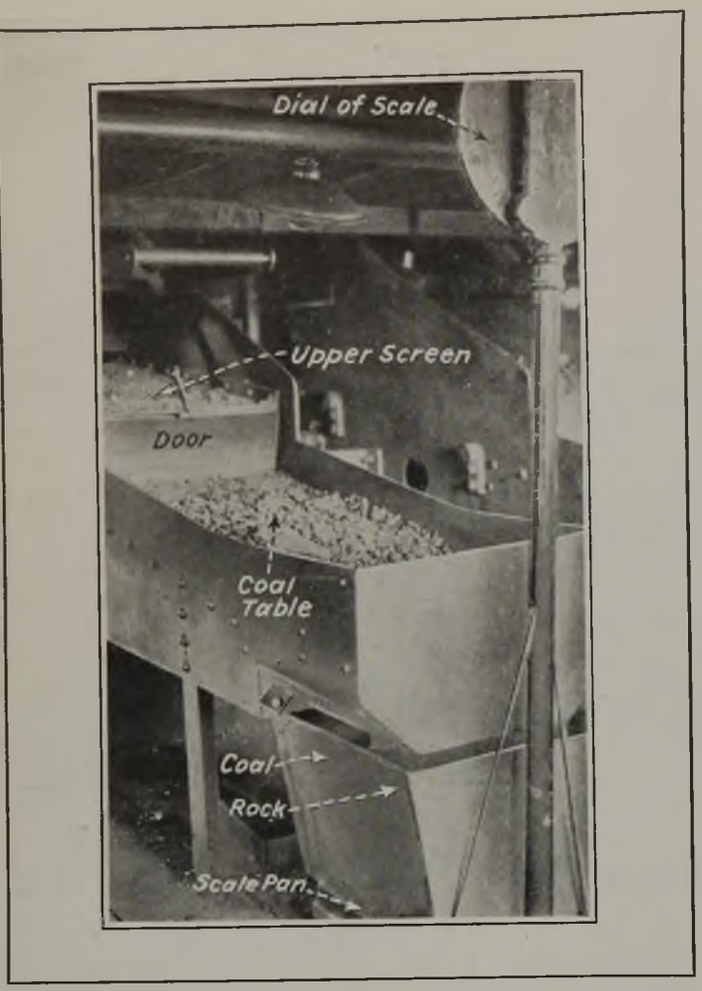


Fig. 1—One of Four Samplers

The samplers are arranged in two pairs back to back. The screens and picking tables are 24 in. wide. Three men do the picking on each pair of samplers. This means that one man must divide his time between two of the machines. The weigh hopper, which is mounted on the scale at the lower right, has two compartments, one for rock and one for coal.

on the transport of coal to the washery and on the refuse from the washery to the dump are also lowered.

Fig. 1 is a close-up of one of the four samplers used. Each consists of a double-deck shaking screen, a picking table and a two-compartment weigh hopper mounted on a dial-equipped platform scale. The screens and picking table are 24 in. wide and only a few feet in length. The upper screen plate has 1-in. diameter perforations and the lower has holes of $\frac{5}{8}$-in. diameter. After the lump material which passes over the upper screen has been picked, the gate at the end of the lower deck is opened allowing the second size to pass over the table. The fine material which passes through the lower screen goes directly to the fine-coal chute of the tipple and thence to the railroad car.

The refuse from the picking table is dropped into the smaller compartment of the scale hopper, and the coal drops or is pushed by hand into the larger compartment. The whole weight is recorded opposite a key number which identifies the check number. A second gate is then opened to empty the hopper and the weight of rock is then recorded. From these two figures the percentage of refuse is calculated.

The total weight of sample taken from each mine car is roughly 60 lb. Six men do the picking from the four samplers. The samples are taken from holes in the baffle plate below the rotary dump. Because of the limited headroom in this tipple, a small drop-bottom car or buggy, operating on a 10-in. gage track, is used to convey the coal from the receiving point to the sampler chutes. Two men operate this car.

Ten per cent is set as the allowable quantity of rock and slate loaded. A bonus of 3c. per ton for each per cent below ten is paid to the miner, and he is docked 2c. for each per cent above ten. The advantage of making the bonus larger than the dockage is evident.

The Woodward Iron Co. installed the first samplers in 1920. Now each of their three mines are equipped with samplers, making a total of ten machines in use. The equipment used is the Ramsay patented mine sampler. The principle upon which this sampler operates was described in *Coal Age*, Vol. 11, p. 506.

Missouri Has Seventy-Nine Billions Of Tons of Coal

Information in regard to the analyses, heating values, and general characteristics of numerous Missouri coals are given in Technical Paper 366, entitled "Analyses of Missouri Coals," just issued by the U. S. Bureau of Mines. The coal reserves of the State of Missouri before mining began are estimated at approximately 79,000,000,000 tons. Of this quantity, about one-half of one per cent has been exhausted.

The annual output of the state ranges from three to five million tons, and though perhaps five or six times this quantity of coal annually is used in the State, yet, largely because the coal beds are thin and mining costs high, the mines are restricted to local markets where low freight rates offset the disadvantages of high mining costs.

Missouri has four continuous workable beds, which in downward order are as follows: Lexington, Mulky, Bevier, and Tebo. In addition, there are several beds of small extent. The Tebo bed, though locally thin, is almost everywhere present northwest of its line of outcrop and is at present mined chiefly in Linn, Grundy, Chariton, and Henry Counties. The Bevier, Lower Rich Hill, or Weir-Pittsburg Lower coal, as it is variously called, is extensive and is mined at many places, yielding more than half of the coal produced in Missouri. The Mulky, Summit, and Lexington beds are relatively thin, but are persistent. The Mulky bed is of most importance in Montgomery, Ralls, Audrain, Macon, Randolph, Chariton, Carroll, Lafayette, and Johnson Counties, the Summit in Howard and Boone, and the Lexington in Lafayette, Ray, Putnam and Adair Counties.

Mine Thickest and Shallowest Beds

At present the larger mining operations in Missouri are concentrated in such areas as are underlain by coals that are thicker or more easily mined than those found elsewhere in the area of coal-bearing rocks. In addition to the counties already mentioned, Caldwell, Callaway, Clay, Platte, Schuyler and Vernon Counties contain some thicker coal beds.

"Pocket" coals are worked in a small way in Moniteau and Cole Counties and are at present at a number of points in areas farther south and east. Some lignite is known to be present in the Cretaceous and Tertiary rocks of the southeastern corner of the State, but the beds have not been examined in detail and they can be only of minor importance for a number of years to come.

Smokeless Coals Of West Virginia

What Constitutes Smokeless Coal and Where It Is Found—West Virginia in All Has Thirteen Billion Tons in Reserve

By David B. Reger
Assistant Geologist, West Virginia Geological Survey, Morgantown, W. Va.

David B. Reger

IN 1858 H. D. Rogers,* state geologist, of Pennsylvania, proposed a classification of the coals of high rank. Briefly stated this was based on the diminishing carbon content, there being four ranks known as anthracite, semi-anthracite, semi-bituminous coals, and bituminous coals. Lignites and peats, because of their low rank, appear to have been omitted in his classification.

In 1879 Persifor Frazer,† of the Second Geological Survey of Pennsylvania, elaborated this classification and made it more definite by assigning fuel ratios to the various ranks, the term fuel ratio being defined as the quotient of the fixed carbon divided by the volatile matter. This classification is as in Table I.

Table I—Frazer's Classification of Coals

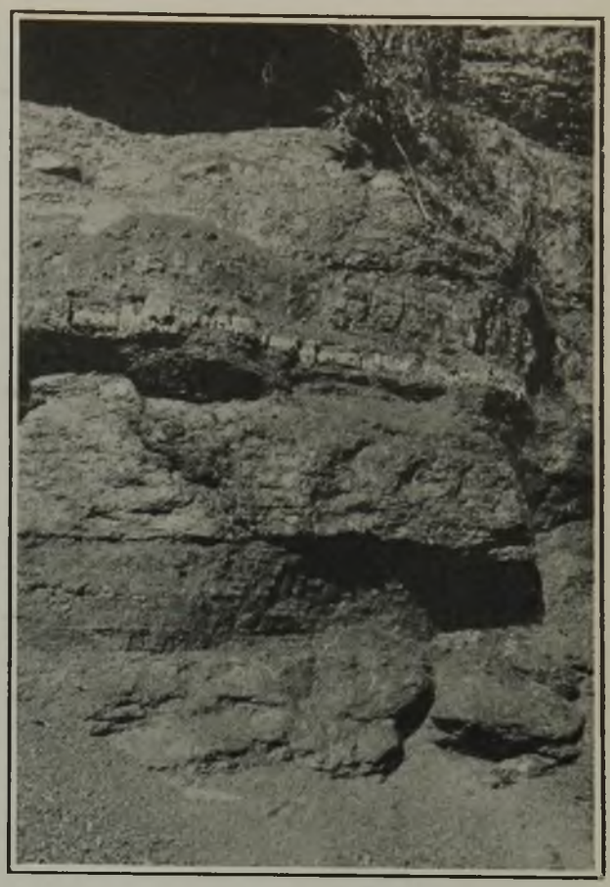
	Limiting Fuel Ratios
Hard, dry anthracite	99 to 12
Semi-anthracite	12 to 8
Semi-bituminous	8 to 5
Bituminous	5 to 0

In 1925 M. R. Campbell,‡ of the United States Geological Survey, discussed these early classifications at some length and concluded that the limiting fuel ratios should be revised in harmony with modern accepted usage. His classification, which I have reduced to tabular form is as in Table II. Where I have ventured to add to it my initials are appended.

Table II—Campbell's Classification of Coals

	Limiting Fuel Ratios
Anthracite, hard, igniting with difficulty and burning with blue flame	99 to 10
Semi-anthracite, hard, burning with a short yellow flame	10 to 5
Semi-bituminous, hard or soft, burning with thin, yellow smoke when first fired and then with short, yellow flame (the so called "smokeless" coals—D.B.R.)	5 to 2.5
Bituminous, burning with white flame and smoke (definition and lower limit by D.B.R.)	2.5 to 1

In the above classification I have made certain additions to complete the definitions, as Campbell left much to be inferred regarding bituminous coal and assigned no lower limit to its fuel ratio. As a practical matter this limit will seldom fall below one, although some cannels are lower.



In West Virginia, as elaborately described in many detailed reports of the West Virginia Geological Survey, the coals range in rank from semi-anthracite to butuminous there being a progressive increase in volatile matter from southeast to northwest across the state. For purposes of discussion they may be divided as follows:

Berkeley County Field, a deposit of semi-anthracite, not operated and probably of small value.

Potomac Field, semi-bituminous (smokeless) coal.

New River-Pocahontas Field, semi-bituminous (smokeless) coal.

Coals not yet studied, in parts of Randolph, Pocahontas and Greenbrier Counties, partly semi-bituminous and partly bituminous.

All other Coal Fields, entirely bituminous and not herein further discussed.

BERKELEY COUNTY FIELD—In Berkeley County and the edge of Morgan, as indicated in map, is a basin, approximately 13 miles long by one or two miles wide, containing semi-anthracite coal in the Pocono Series of rocks. This is highly folded and partly overturned. This coal has been described by various writers and has been discussed in detail by Grimsley.* The average of four samples of coal collected by him from old dumps is as Table III.

From the above average analysis it is evident that the coal is semi-anthracite. The samples appear to be low in impurities, but in point of fact Dr. Grimsley states that they are only fragments from old dumps and that in all prospects and attempts at mining the good coal was found to be so mixed with slate and so crushed

Article read before West Virginia Coal Mining Institute at its winter meeting in Morgantown, W. Va.

The headpiece shows the No. 3 Pocahontas bed uncovered by Chesapeake & Ohio R.R. just north of Rodes on Piney Creek in Raleigh County.

*The Geology of Pennsylvania, Vol. 2, p. 988; 1858.

†Second Report of Progress of the Laboratory of the Survey, Second Geological Survey of Pennsylvania, Report MM, p. 144; 1879.

‡Valley Coal Fields of Virginia, Virginia Geological Survey, pp. 116-130; 1925.

*G. P. Grimsley, Jefferson, Berkeley and Morgan Report, W. Va. Geological Survey, pp. 345-360 and separate map; 1916.

Where Pittsburgh Bed Is Being Stripped

Coal at the stripping pit of H. P. Brydon & Brother, Inc., Shores Knob, Mineral County. The top of the coal is plainly visible about 4 ft. above the top of the two-foot rule held in the hand of the geologist, who will be recognized as the author of the article. The rock above the coal is known as the Pittsburgh sandstone.

and irregular that failure has resulted from all operations. Others who have examined the territory, including myself, agree as to these facts. In consequence, the

Table III—Pocono Series Coals of Berkeley County Field

	Per Cent
Fixed carbon	81.72
Volatile matter	11.33
Moisture	0.48
Ash	6.47
	100.00
Sulphur	0.83
Phosphorus	0.033
Fuel ratio (Fixed Carbon divided by Volatile Matter)	7.2

field must be dismissed as a present source of smokeless coal.

Potomac Field—This field, shown in (see state map) embracing parts of Mineral, Grant and Tucker Counties along the Western Maryland Ry. and the Baltimore and Ohio R.R. in northeastern West Virginia, is an area forty miles long and seven or eight miles wide in which there are fourteen minable coals of smokeless or semi-bituminous rank varying in fuel ratio from 2.7 to 4.6. These coals I have fully described in detailed reports of the West Virginia Geological Survey,† and there are additional descriptions of earlier dates by Stevenson, White and others.

These coals have been mined for many years, the product being shipped mainly to eastern markets for smithing, steam, and domestic fuel. The Sewickley ("Tyson") and Pittsburgh ("Big vein") seams are nearing exhaustion but there is still a large tonnage in the Elk Lick ("Four-foot," or "Barton") Bakerstown ("Freeport," or "Thomas") Mahoning ("Six-foot") and Upper Freeport ("Split-six" or "Davis") beds. For several years the field has been much hampered by unfortunate labor troubles and low prices so that the output has been low, but many mines are in operation, the capacities of which could be greatly expanded under favorable conditions.

Table IV shows the average analyses of these coals, and their fuel ratios with estimates of original and present available tonnage. If 80 per cent of the present available 2,150,041,198 tons be recovered it is evident that the field will produce 1,720,032,958 short tons.

Sixteen Seams in Southern Field

New River-Pocahontas Field—This is located in southern West Virginia and includes part of Fayette, Raleigh, Wyoming, McDowell, Mercer and Summers Counties. It covers a territory 80 miles long and 25 to 30 miles wide. There are sixteen seams of semi-bituminous or smokeless coal, all of which are in the Pottsville series, two being in the Kanawha group, six in the New River group and the remaining eight in the Pocahontas group. At many localities several of these beds are operated in the same mountain but on account of the regional northwestern dip there is probably no single place where all may be found. These coals have been fully described by Hennen and Krebs* in detailed reports of the West Virginia Geological Survey, and there are earlier reports of a more general nature by Stevenson, White, Campbell and others. Certain additional matter on Mercer and Summers Counties prepared by myself is now on the press.

These coals are low in ash, sulphur and phosphorus, but high in thermal content and fixed carbon, with fuel

Tipple of United States Coal & Coke Co.

No. 4 mine in the No. 3 Pocahontas bed near Thorpe, McDowell County. This property is a short distance from the village of Gary.

ratios that vary from 2.8 to 4.9. They are shipped both east and west for steam and domestic fuel, and are also the principal coals used by the United States Navy and by the merchant marine vessels coaling at Atlantic ports. As metallurgical fuel they are used extensively, but in the manufacture of coke it is often necessary to mix them with coals having a higher ash in order to get the required strength for the blast furnace. In

†David B. Reger, Tucker Report (1923), and Mineral and Grant Report (1924); West Virginia Geological Survey.

*Ray V. Hennen, Wyoming and McDowell Report (1915), and Fayette Report (1919); C. E. Krebs, Raleigh County and Western Portions of Mercer and Summers Counties Report (1916); West Virginia Geological Survey.

In Mineral County the Monongahela Series Has a Few Strippable Areas

Pittsburgh coal at stripping plant of Smith Big Vein Coal Co. This pit is northwest of Sulphur City in the Elk Garden field, an extension of the Georges Creek region of Maryland. Several feet of coal are concealed by the water by which the strip pit has been flooded. Note the brightness of the coal despite light cover.

quality they are the equal of any other smokeless coals in the world, and the mining conditions are so good that no other region can compete with them in the cost of delivered heat units.

The New River-Pocahontas Field is served by the Chesapeake and Ohio, Norfolk and Western, Virginian, and Kanawha and Michigan railways, and it is equipped by hundreds of large and efficient mines so that many millions of tons per year are placed on the market. At the same time the field is capable of carrying a large overload in fuel emergencies and of indefinite expansion in response to a prolonged demand.

Table V shows the average analyes of these coals, together with their fuel ratios and estimates of original and present available tonnage. If 80 per cent of the present available 11,082,856,023 tons be recovered the future output will be 8,866,284,818 short tons. All the analyses in this and other tables were of coal samples taken by members of the West Virginia Geological Survey and analyzed in the laboratory of that organization.

COALS NOT YET STUDIED—In the western edges of Greenbrier and Pocahontas and in the Cheat River valley of central Randolph County are large areas of Kanawha and New River coals, much of which will probably be of semi-bituminous or smokeless rank. These coals have not been studied in sufficient detail, however, to permit an authoritative classification to be made, and for this reason they have been separately designated in the map. A few mines are now in operation in central Randolph and in Greenbrier County.

In the southern halves of Nicholas and Webster and the southwestern corner of Randolph there are further large areas of pure New River coal which do not quite reach the average fuel ratio of 2.5 named by Campbell

Welch

Second largest town in smokeless fields of West Virginia. Once it stood outside the activity it served because the Pocahontas seams under the town laid below water level. Now a number of shafts have been sunk correcting that condition, and all Welch suffers from is a foothold on the hills. The valleys are narrow the hills are high and not level on top.

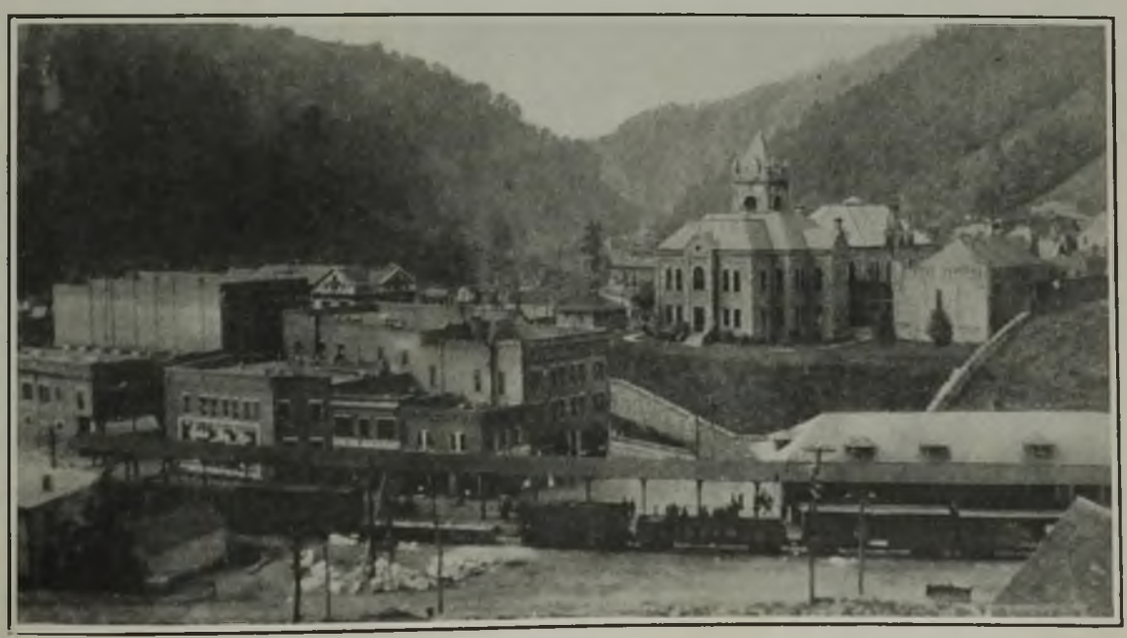


Table IV—Semi-Bituminous (Smokeless) Coals in Potomac Field of West Virginia

Counties	Coal Steam	Average Analysis (As Received) Moisture	Volatile Matter	Fixed Carbon	Ash	Sulphur	Phosphorous	B.t.u.	Fuel Ratio	Original Tonnage (2,000 Lb.)	Present Available Tonnage (2,000 Lb.)
Mineral & Grant	Sewickley (Tyson)	10.22	20 98	57.82	10.98	1.10	0.0187	10,053	2.7	1,867,853	93,218
Mineral & Grant	Redstone									5,085,020	2,542,514
Mineral & Grant	Pittsburgh	2.11	19.82	71.86	6.21	0.92	0.0246	13,869	3.6	41,828,751	418,287
Mineral & Grant	Little Pittsburgh	0.86	25.94	67.85	5.35	0.95	0.099	14,890	2.6	334,541	334,541
Mineral & Grant	Little Clarksburg (Franklin)	2.66	21.39	64.97	10.98	1.43	0.0119	12,424	3.0	28,658,995	28,658,995
Mineral & Grant	Elk Lick (Four-foot)	1.72	15.63	71.54	11.11	3.06	0.0211	13,617	4.6	120,880,742	108,792,668
Mineral & Grant	Harlem	0.25	17.10	72.10	10.55	2.31	0.0100	13,985	4.2	90,242,381	90,242,381
Mineral & Grant	Upper Bakerstown									91,496,909	91,496,909
Mineral & Grant	Bakerstown (Thomas)	1.48	15.94	72.72	9.86	1.67	0.0216	14,010	4.6	416,698,445	416,698,445
Mineral & Grant	Mahoning (Six-foot)	1.92	15.60	72.43	10.05	0.97	0.0428	13,744	4.6	104,460,365	104,460,365
Mineral & Grant	Upper Freeport (Split-six)	4.29	18.50	66.61	10.60	1.62	0.0375	12,866	3.6	815,766,590	815,766,590
Mineral & Grant	Upper Kittanning	0.36	16.00	71.60	12.04	2.17	0.0101	13,887	4.5	8,475,034	8,475,034
Mineral & Grant	Lower Kittanning	0.65	18.35	69.42	11.58	2.07	0.0084	13,759	3.8	53,052,595	53,052,595
Totals, Mineral & Grant										1,778,848,221	1,721,032,538
Tucker	Little Pittsburgh	0.86	25.94	67.85	5.35	0.95	0.099	14,890	2.6	235,224	235,224
Tucker	Bakerstown (Thomas)	3.19	24.10	64.66	8.05	0.92	0.029	14,118	2.7	111,151,181	78,750,000
Tucker	Upper Freeport (Davis)	3.37	22.52	66.11	8.00	1.04	0.030	14,067	2.9	230,554,368	205,000,000
Tucker	Sewell (Sharon)	2.18	23.73	62.69	11.40	0.93	0.014	13,427	2.7	145,023,436	145,023,436
Totals, Tucker County										486,964,209	429,008,660
Totals, Potomac Field										2,265,812,430	2,150,041,198

as the lower limit of semi-bituminous coal. I have described these areas in detail in county reports of the West Virginia Geological Survey. Owing to the lack of trunk-line transportation they have been but slightly exploited, but the reserve tonnage is large.

SMOKELESS FIELDS OF OTHER STATES—In the Appalachian region the smokeless coals of West Virginia compete first of all with the anthracite of eastern Pennsylvania, which is more favored as a domestic fuel and which because of its situation is more easily delivered to eastern markets, but which is mined at incomparably higher cost and may therefore be styled a luxury fuel.

Semi-anthracite coal is mined in Sullivan County, Pennsylvania. According to a general analysis published in the *Coal Catalog* the fuel-ratio is 8.2, there being two mines listed from the county in that publication.

In Virginia there are semi-anthracite coals in the Pocono (Price) series in Augusta, Bland, Botetourt, Montgomery, Pulaski, Roanoke, Smyth and Wythe Counties, as described by Campbell in the "Valley Coal Fields of Virginia," previously cited. These coals vary

Seam Its Own Monument

The Norfolk & Western R.R. uses the coal as its level for passing through the hill near Coaldale, Mercer County. As the coal, No. 3 Pocahontas, was 9 ft. 6 in. thick, the contractors made rapid progress and shipped a lot of the "spoil" to market. No more striking advertisement of the excellence of Pocahontas coal, its resistance to weathering, its thickness and its cleanness could be devised.

Table V—Semi-Bituminous (Smokeless) Coals in New River-Pocahontas Field of West Virginia

Counties	Coal Steam	Average Analysis (As Received) Moisture	Volatile Matter	Fixed Carbon	Ash	Sulphur	Phosphorous	B.t.u.	Fuel Ratio	Original Tonnage (2,000 Lb.)	Present Available Tonnage (2,000 Lb.)
Fayette	Douglas	1.42	20.72	70.05	7.81	0.97	0.103	14,686	3.4	33,593,472	
Fayette	Sewell	0.88	24.05	71.39	3.68	0.82	0.008	15,066	3.0	967,190,917	
Fayette	Fire Creek	0.83	19.99	75.02	4.16	0.68	0.031	15,191	3.8	442,848,384	
Fayette	No. 6 Pocahontas	0.58	20.89	75.78	2.75	0.54	0.007	14,850	3.6	124,694,508	
Fayette	No. 3 Pocahontas	0.32	22.70	73.07	3.91	1.92	0.005	15,030	3.2	77,914,552	
Totals, Fayette Co										1,646,241,823	1,446,241,823
Raleigh, Mercer and Summers	Gilbert	1.02	24.46	70.64	3.88	0.88	0.014		2.9	30,108,672	
Raleigh, Mercer and Summers	Sewell	1.15	18.87	77.00	2.98	0.63	0.0045	15,150	4.1	558,683,136	
Raleigh, Mercer and Summers	Beckley	1.17	17.81	77.10	3.92	0.72	0.016	15,041	4.3	880,957,440	
Raleigh, Mercer and Summers	Fire Creek	1.21	19.59	75.89	3.31	0.67	0.019	15,286	3.9	334,540,800	
Raleigh, Mercer and Summers	No. 8 Pocahontas	0.74	19.43	77.25	2.58	0.77	0.001		4.0	52,968,960	
Raleigh, Mercer and Summers	No. 6 Pocahontas	1.60	20.38	73.61	4.41	0.74	0.0085	14,419	3.6	185,948,928	
Raleigh, Mercer and Summers	No. 3 Pocahontas	1.31	16.30	77.06	5.33	0.67	0.0042	14,746	4.7	987,452,928	
Raleigh, Mercer and Summers	No. 2 Pocahontas	0.78	18.09	76.53	4.60	0.93	0.004			283,244,549	
Totals, Raleigh, Mercer and Summers										3,313,905,413	3,213,905,413
Wyoming and McDowell	Iaeger	0.61	24.75	68.46	6.18	1.38	0.016		2.8	355,541,580	
Wyoming and McDowell	Sewell "B"									119,877,120	
Wyoming and McDowell	Sewell	1.47	20.29	74.78	3.46	0.75	0.0087	15,126	3.7	866,795,111	
Wyoming and McDowell	Welch	1.38	19.39	72.01	7.22	0.74	0.017	14,532	3.7	360,188,928	
Wyoming and McDowell	Beckley	1.07	17.90	73.28	7.75	0.81	0.016	14,145	4.1	1,039,306,752	
Wyoming and McDowell	Fire Creek	0.79	21.05	75.06	2.60	0.71	0.010		3.6	864,230,400	
Wyoming and McDowell	No. 9 Pocahontas	0.70	19.03	76.67	3.60	0.74	0.021		4.0	175,633,920	
Wyoming and McDowell	No. 7 Pocahontas	0.76	20.77	64.16	14.31	0.70	0.011		3.1	77,501,952	
Wyoming and McDowell	No. 6 Pocahontas	0.44	20.33	75.13	4.05	0.80	0.041		3.7	220,796,928	
Wyoming and McDowell	No. 5 Pocahontas									73,598,976	
Wyoming and McDowell	No. 4 Pocahontas	1.91	15.93	77.40	4.76	0.65	0.006	14,953	4.9	808,473,600	
Wyoming and McDowell	No. 3 Pocahontas	1.16	17.90	76.13	4.81	0.76	0.008	14,957	4.3	1,750,763,520	
Total, Wyoming and McDowell										6,722,708,787	6,422,708,787
Total, New River-Pocahontas Field										11,682,856,023	11,082,856,023

Smokeless Coal Fields of West Virginia

The smokeless coal lies in almost a continuous belt near, but not at, the eastern borders of the state with Mineral County at one end and McDowell County at the other. The continuity, however, is only geographical. Geologically all measures are represented from the Monongahela series beds to the Pottsville series, showing that fuel ratio is a function rather of the location than of the coal horizon.

generally from 5 to 8 in fuel-ratio and are therefore truly smokeless but the general range of ash is from 14 to 25 per cent, so that there is objection on that account. There are perhaps a dozen commercial mines in Montgomery and Pulaski Counties, some of the product being used as steam fuel and some being sold to the eastern domestic trade as "Virginia anthracite."

In Maryland the semi-bituminous area includes parts of Allegany and Garrett Counties, embracing the Georges Creek Basin and others further west, and being a connecting link between the Potomac Field of West Virginia and the Central Field of Pennsylvania.

In Pennsylvania semi-bituminous coal occurs principally in Clinton, Clearfield, Indiana, Cambria, and Somerset Counties, with scattered deposits in several others. These coals are similar in character to those of the Potomac Field of West Virginia.

In Virginia semi-bituminous coals are largely confined to the northwestern part of Tazewell County, this area being the type locality of Pocahontas coal.

It is evident from the above statements that the State of West Virginia has in reserve approximately 13,233,000,000 short tons of semi-bituminous or smokeless coal of which approximately 10,586,000,000 short tons can be recovered in mining.

Large Quantities of Water Enter Mines

On the authority of the secretary of the Pennsylvania State Department of Mines, R. D. Leitch, associate chemical engineer of the U. S. Bureau of Mines, Pittsburgh, Pa., says that fifty-four representative mines in the anthracite region average 16 tons of water removed as drainage per ton of coal mined and seventy-five bituminous mines average 36 tons of water per ton of coal. "The figure for bituminous mines," says Mr. Leitch "seems abnormally high; 5 or 6 tons of water per ton of coal would probably be nearer the average for the bituminous mines of this state. Examination of a great number of analyses of mine waters in Pennsylvania indicates that an estimate of 200 grains of sulphuric acid may be assumed. Therefore it would appear that upwards of 9,000,000 tons of sulphuric acid is being dumped annually into the streams of Pennsylvania alone." Drainage from other states on the Ohio River watershed would double this figure. Of more than 300 mines in Pennsylvania, only four showed water which was not acid. C. M. Young states that "there are no fish in the Monongahela River, few in the Allegheny and none in the Ohio until after the Little Kanawha enters at Parkersburg, W. Va., 183 miles below Pittsburgh, Pa."

In Shallow Beds, Effect of Rain Is Devastating

If the water falls into a low area of the coal bed, which is not self draining the water rises till it can flow over the natural dams in the mines. A lake, like that in the Mammoth Cave of Kentucky, is formed and it remains till pumps or underground channels drain off the water.

Tar Is Being Coked in Beehive Ovens

An interesting use is being made of several of the old beehive ovens at the Virginia mine of the Gulf States Steel Co., near Bessemer, Ala. Coal from this mine is shipped to the byproduct plant and the tar shipped back to the mine to be coked in the beehive ovens, thus facing the coking process a second time and this time actually becoming coke.

The difficulty of marketing the tar led to the experiment of attempting to coke the material. A trial in a beehive oven showed that a good grade of coke could be made from this tar which, until that time, had bid fair to find no market large enough to absorb it.

Electric Undercutter's Progenitor

Useful but Rapidly Vanishing

It is quite probable that many coal miners of the younger generation have never seen a pneumatic coal puncher in operation, as this forerunner of the present undercutter is now almost extinct in American coal mines. The accompanying illustration shows a machine of this kind at work in the No. 1 mine of the Gatliff Coal Co., Gatliff, Ky. If the movements of this machine when in operation were not restrained it would go through all the antics of a small rapid-fire cannon. Accordingly the operator sits on an inclined platform, called the puncher board, with his heavily-shod feet, sometimes assisted by wooden blocks, acting as chocks behind the puncher wheels, while he guides the pick point by means of two heavy hand holds on the rear of the cylinder.

Pittsburgh Institute Seeks Light On Two Questions of Safety

How Near Should Trolley Line Approach Face? And What Firefighting Equipment Should Be Provided—A. W. Hesse Reads Paper

THE PITTSBURGH COAL MINING INSTITUTE held its second meeting of the year in the Chamber of Commerce Building auditorium, at which the principal speaker of the evening was A. W. Hesse, chief engineer of the Buckeye Coal Co., Nemacolin, Pa., who read a paper on "Principal Factors in the Development of a Bituminous Coal Mine with Regard to Efficiency and Safety." The meeting, which was held April 17, was well attended and marked by several lively discussions on safety in mines with reference to secondary haulage locomotives, the supplementing of sprinkling at the face with rock dusting in gaseous mines, steps which must be taken to prevent the ignition of gas and the equipment necessary for fighting fires. W. L. McCoy acted as chairman. Secretary Maize announced that the paid membership numbered 1,600.

Fan, Like Boy's Suit, Soon Outgrown

Mr. Hesse's paper dealt with the features which must be incorporated in the design and construction of a new mine plant to obtain the greatest efficiency and safety in mining. He emphasized the need for reserve fan capacity so as to provide sufficient air at all times with ever-changing conditions. He sees no wisdom in striving for peak mechanical efficiency from a mine fan because its attainment requires fixed operating conditions which cannot be maintained. Sprinkling at the face is a necessary adjunct to the practice of rock dusting at least in gaseous mines. A mine, like a factory, is not complete without telephones for direct communication.

In his paper Mr. Hesse mentioned the flameproof cable-reel locomotive used in the Nemacolin mine of his company. Richard Maize, state mine inspector, said this locomotive, as handled at Nemacolin, is safer than flameproof cutting machines. He declared himself confident that it is safer than any type of locomotive not operated by storage batteries. The locomotive is totally inclosed and provided with an interlocking switch, by means of which the electrical circuit to the cable is closed when the trolley harp is lowered to an inoperative position. It is safer than any of the cutting machines because it moves into a place only after the face has been cut and shot and does not go any closer to the face than the length of a mine car.

Severed Cable as Cause of Ignition

C. P. Byrne, state mine inspector, asked what would happen if the wheels of this locomotive severed the cable. In reply it was said that a safety fuse would blow, breaking the circuit immediately. Three fuses are provided which are rotated into place as needed, and are protected so that, when they blow out, the flame cannot ignite gas outside the housing. The latter is effectively padlocked. The danger of damage to the cable by the locomotive wheels is minimized by the attention which the motorman gives to the reeling in of the cable from his seat which is located on the outby end of the locomotive. Asked if arcs ever formed between the wheels of this locomotive and the track rails, Mr. Hesse replied that the foreman of the Nemacolin mine reported that he never seen such arcs.

Mr. Hesse added that this locomotive, like other explosion-proof equipment, is safe only so long as it is kept in proper condition. He had heard of instances where explosion-proof equipment had been repaired with parts which were not standard, in which case the repaired machine was no longer explosion-proof.

Several members sought a definition of the term "return air" in the state mine laws, but everyone asked evaded the issue. All as much as admitted that no definite line could be drawn to divide intake from return air within a split. Harvey Nelms laughingly repeated a definition heard in Harrisburg, that air was to be regarded as on the return after it had passed the last working man on the split.

Safety as Constructor's Consideration

"About nine out of every ten mines," said Mr. Byrne, "are not laid out with safety in view." Locomotive operation in working places is exceedingly dangerous because there is no requirement that the face be examined before a locomotive is allowed to enter a place. State mining laws are more or less specific in the regulation of all equipment other than locomotives.

The question was raised, how far a trolley wire or power line should be carried with respect to the face. Inspector Byrne thinks such conductors should not extend beyond permanent ventilation at any time, by which he meant that they should not be extended as far as any temporary stopping or brattice. Inspector Pratt said he believed that these lines should end at a point a certain distance outby of the last crosscut. What that distance should be he was not ready to say. A committee of five appointed to investigate this problem will report its findings and recommendations at the next meeting.

More Than Water Lines Needed

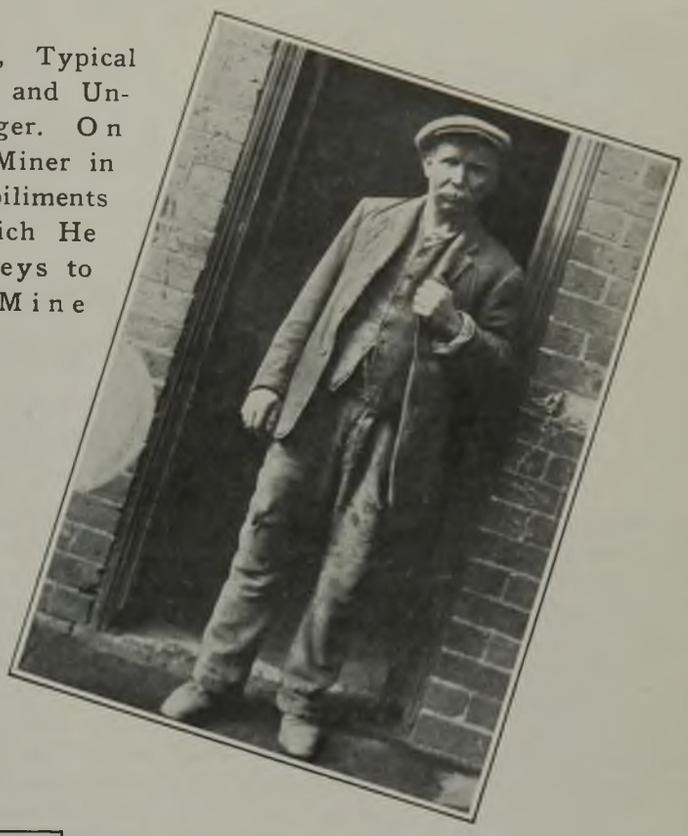
Francis Feehan of the U. S. Bureau of Mines, asked Mr. Hesse if water lines are adequate for the fighting of mine fires. Mr. Hesse replied that water lines ought to be supplemented with other equipment. A committee of three was appointed by the institute to determine what firefighting equipment should be installed. This committee also will report its findings at the next meeting.

J. J. Forbes, of the U. S. Bureau of Mines, said that after three years' study the Bureau has determined that about 98 per cent of fine coal dust is formed during cutting and loading operations. By laying the fine coal dust at the face, sprinkling increases considerably the effective life of an application of rock dust. In mines not equipped with pipe lines water might well be applied to cutting machine in sprays from a water-tank trailer equipped with pump or compressor.

Using coke breeze—At a conference at Sheffield University, Sheffield, England, on "Solid Smokeless Fuels," it was suggested that a coal with an excess of binding material could be mixed with coke breeze to reduce swelling, to destroy the plastic layer and in general to speed up carbonization.

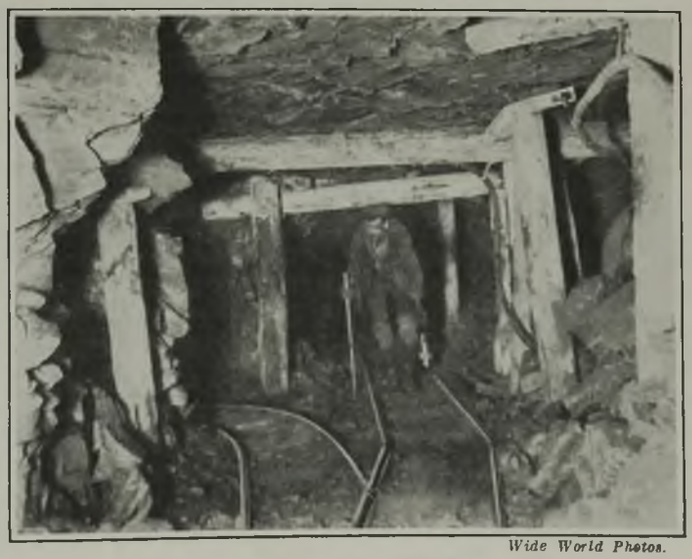
Participants in Great Britain's Oft-Repeated Coal Crises

On Left, Typical Manager and Undermanager. On Right, Miner in the Habiliments in Which He Journeys to the Mine



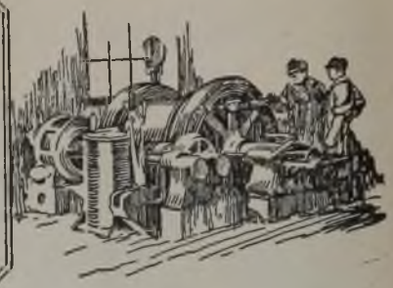
Stripped to the Waist in a Warm Mine, Undercutting Coal in a Place Where the Fractured Face Is Working Freely Under the Weight of a Heavy Roof.

A Deputy on His Rounds. If the Tracklaying Is Typical No Wonder Small Cars Are General and Derailments Frequent. Note How Switch Rail Is Pivoted at Frog.



Wide World Photos.

Practical Pointers For Electrical And Mechanical Men



Straight Socketing with Zinc Proves Efficient but Not Popular

Turn-Back Method Brings Unequal Strain on Wires —How One Mechanic Satisfied His General Superintendent That the Socket Would Outpull the Rope

Despite the recommendations of wire-rope manufacturers, that socketing be done by leaving the wires straight and filling the space with spelter (pure zinc) after the wires have been thoroughly cleaned with a dilute solution of muriatic acid, many coal companies still persist in the practice of turning the wire ends back into the socket and using babbitt as a filler.

Manufacturers report that repeated tests have proven the straight wire-brush and pure-zinc method of socketing to be the most efficient. When done in this way all wires of the rope are held so as to be under equal tension.

Zinc-Filled Stands Test

Psychology apparently enters into the reason for continued preference of many individuals for the turn-back method. There is a certain comforting security in the thought that the wires are turned back into the the socket and that all break before failure of the rope. The fact is, that as usually applied without careful cleaning of the wires and with a filler of babbitt, the turn-back method will not allow the rope to withstand the ultimate tension for which the rope is rated.

Before the turned-back ends of the wires could resist tension, the wires would have to slip slightly, and as soon as this happens those wires which do not slip must bear an undue proportion of the load. This may cause these wires to break, thus weakening the whole rope and causing it to fail.

Two actual instances where the master mechanics of mines tried to introduce the manufacturers' method of socketing throw an interesting light on the situation. The first case was on a man-and-material incline 1,600 ft. long rising at an angle of 30 to 45 deg. Here the general superintendent learned by chance that the master mechanic had deviated from the "turn-back and babbitt" method of socketing the $\frac{3}{4}$-in. rope. This superintendent immediately began an investigation and asked the master mechanic to prove that the new socket will have as much strength as the rope.

Accordingly several pieces of new $\frac{1}{2}$-in. rope were socketed by the straight wire brush and zinc method. The wires were carefully cleaned with a weak solution of muriatic acid, rinsed, and dried before the zinc was poured. The 200-ton wheel press in the mine shop was utilized as a pulling machine to test the socketed cables to destruction.

The superintendent predicted that the wires would pull out of the zinc filling, but no such thing happened. He was satisfied after he had seen two ropes break near the center, and the eye of the socket break on another rope. There was no sign of the wires slipping in the zinc.

Master Mechanic Convinced

At another mine the master mechanic decided to deviate from the past practice in socketing the $1\frac{3}{8}$-in. rope of a skip hoist. He ordered some spelter and muriatic acid for the occasion and applied the rope in the socket by the straight wire brush method. He was, however, not satisfied with the appearance of the job so decided to "play safe" by going back to the old method.

He cut into the cone of zinc and imbedded wires to find out if the metal was properly adhering to the wires. He was disappointed to find that the zinc did not appear to have "tinned" the wires to any extent, and concluded that perhaps the filling material sent on his order for spelter was not the "correct mixture." He later learned that by "spelter" the rope manufacturers meant pure zinc and that it was not to be expected that the zinc would "tin" the wires.

These two cases are probably typical of the hesitation with which the old method of rope socketing is abandoned for the new. Another factor which limits the adoption of the recommended method is that zinc and muriatic acid are two materials which few mines keep in stock.

Paddle Wheel Gives Evidence If Pump Is Operating

Pumpers usually have much spare time, and those of an ingenious turn of mind usually utilize their idle moments to contrive ways and means of making the work still easier. This anxiety, however, to lighten toil which is never onerous may result in an improvement to the pumping system. An example is the paddle-wheel flow indicator in use at the main sump of the Exeter mine of the Kingston Pocahontas Coal Co., near Welch, W. Va.

The sump is adjacent to the main pumping station near the shaft bottom. About 1,500 ft. away are located two gathering pumps which discharge through a common line to the main sump. The attendant of the main station looks after these gathering pumps. In case one or both should stop the pumper must immediately investigate the trouble.

Pumper Now More Efficient

Before he had an indicator of the performance of the pumps he was required to make frequent trips of inspection, which system sometimes resulted in a pump being stopped for a long time before its inactivity became known. The time of the pumper taken up in making these trips to the gathering pumps could

Showing Wheel at Time of Contact

The four paddles are made of wood and each has a copper strip on the outer edge, which strip is connected to the signal lamp through the shaft. The distance of the wheel from the discharge opening is adjusted so that the wheel turns slowly.

be better spent in the main pump-room where several large and important pumps are in use.

The discharge from the gathering pumps is within a few steps of the main pump room, but the pumper claims that by looking at the discharge it was difficult to determine if both pumps were operating properly. Accordingly he built and installed the paddle-wheel contactor shown in the illustration.

As the wheel is turned by the water, a 50-watt lamp, mounted in a prominent location in the main pump room, is blinked at a frequency corresponding to the quantity of water discharged. This lamp is on a grounded circuit, and the connection is made through the shaft and metal edges of the paddles to a contact wire fastened to a water pipe. A limited quantity of current flows through the lamp at all times due to the contact with the water, but the lamp brightens each time that a blade of the wheel touches the wire brush.

No doubt this type of flow indicator has been used many times, and therefore cannot be classed as a new idea. It, nevertheless, is an interesting application of the toy paddle wheel, and there may be other mines which would profit by installing a similar device.

Grease Wire, Not Wheels

In an article entitled "Shoes Outlast Wheels in Alabama Mine" appearing in the "Practical Pointer" section of the issue of April 1 it is said the "trolley wheels" are greased once a week at the mine of the New Castle Coal Co., New Castle, Ala. This should read, of course, not "trolley wheels" but "trolley wires!"

Hollow-Axle Lubrication On Locomotives

Journal bearings of inside-frame mine locomotives sometimes suffer for the want of lubrication because it is not always easy and convenient to apply the lubricant where needed. With this in mind a hollow-axle system was specified by engineers of the Fordson Coal Co. on certain of their new locomotives.

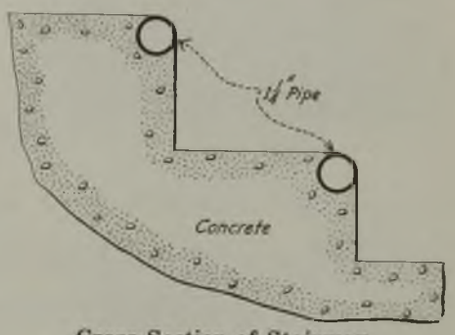
Longitudinal holes have been drilled in the center and end of each axle. These extend to the adjacent bearings where they connect with radial outlet holes. An automatic ball-type grease plug is screwed into a recess in the end of the axle. The lubricant is easily and conveniently forced to the right spot by means of a pump-type grease gun.

Pipe Saves Step Noses From Abrasion and Chipping

The edges of the steps of concrete stairways should be provided with nose pieces, especially if material of any kind is to be moved either up or down over them. Although pieces of this kind are regularly made and sold they are somewhat expensive as compared with some of the scrap material available about most mines.

The accompanying illustration shows how the Kingston Coal Co., of Kingston, Pa., has protected the corners of the treads on a stairway leading into the basement of its office, over which cans of ashes and other material are daily handled. The nose of each step in this instance is protected by a piece 1¼-in. pipe cast into the concrete and extending into the retaining or wing wall upon either side. This takes the excessive wear normally coming on this sharp edge and prevents the concrete from being chipped.

Almost any size of pipe from 1- to 2-in. will serve this purpose. Less, than 1-in. would not be stiff enough



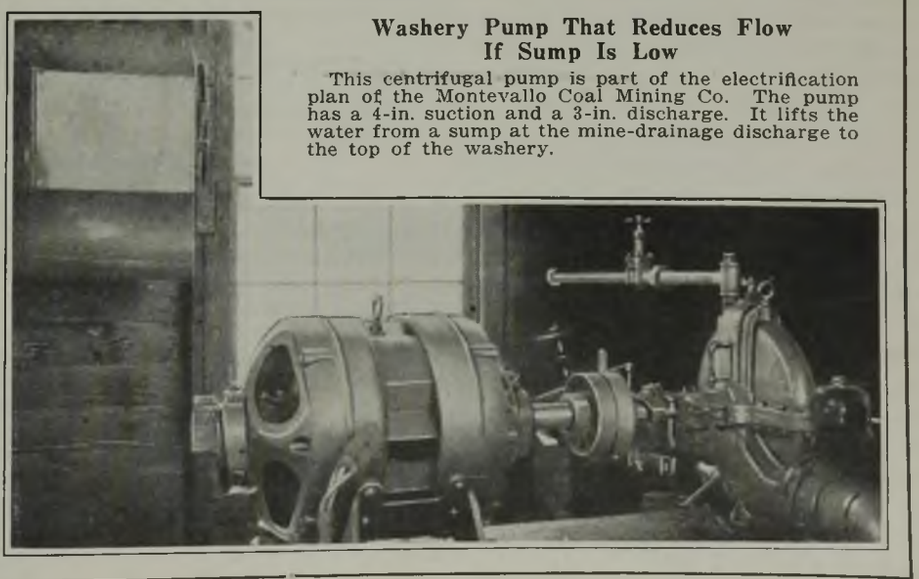
Cross-Section of Stairway

Into the nose of each step is built a piece of pipe. This is set tangentially to both tread and riser and effectively protects the nose of the step from chipping and abrasion.

and more than 2-in. would have too great a radius of curvature and might prove unsafe as the foot would tend to slip off such an easily rounding edge. Smaller pipe might be rendered of sufficient stiffness by welding short pieces onto it at right angles at intervals of a foot or more and building these into the concrete of the step. This would render the edge far less rounding and at the same time afford ample protection.

Float Valve Restricts Flow When Sump Gets Low

At the Aldrich Mine, of the Montevallo Coal Mining Co., in Alabama, a 250-gal. centrifugal pumping station has been installed as part of an extensive electrification program. The squirrel-cage motor, by which the pump is driven is rated at 30 hp., 2,300 volts and 1,750 r.p.m. A balance float valve installed in the discharge line of the pump reduces the flow of water in case the supply of the sump begins to get low.



Washery Pump That Reduces Flow If Sump Is Low

This centrifugal pump is part of the electrification plan of the Montevallo Coal Mining Co. The pump has a 4-in. suction and a 3-in. discharge. It lifts the water from a sump at the mine-drainage discharge to the top of the washery.

News Of the Industry

General Strike On in Great Britain When Coal Negotiations Break Down; Civil Liberties End; Troops Called

A general strike of British industrial workers began at midnight, May 3. All attempts at negotiation of a new agreement between the coal operators and miners having failed, the General Council of the Trades Union Congress ordered a general walkout. Estimates of the number of men affected vary all the way from 2,525,000 to 5,000,000. Of these, 1,120,000 are coal miners.

"The government has found itself challenged by an alternative government," Prime Minister Baldwin told the House of Commons Monday night. "This is a threat to the freedom of our Constitution."

He warned the leaders that their actions would bring the country "nearer to civil war than for centuries." But even as he spoke, orders were being wired to workers throughout Britain to get ready to strike.

Long before midnight thousands of workers had already received their instructions to quit work. These included those employed in transport, the printing trades, the metal and heavy chemicals group of the iron and steel industry, and, to a limited extent, the building, electrical and gas workers.

On Tuesday no newspapers appeared, all race meets were declared off, there was a likelihood that the theaters would close and practically no trains, street cars or busses were running. The government, however, had enrolled thousands of volunteers; had gathered a huge fleet of motor cars; had commandeered tons of foodstuffs and coal and other necessaries and had made far-reaching plans for meeting the den of the strikers.

Emergency Act Issued

The government propmtly promulgated an "Emergency Powers Regulation, 1926," signed by the King in Council, and the suspension of all civil liberties. In effect, the country is placed under martial law. Last Saturday, four hours after the declaration of the miners' strike, a proclamation calling for citizen volunteers for the O. M. S. (Organization for the Maintenance of Supplies) was posted throughout the country. It is believed that the government can muster 75,000 volunteers, in addition to about 500,000 men in the army, navy, air force and militia.

The breakdown in negotiations between the coal operators and miners came on Friday night, when the miners refused to accept the final offer of the mine owners. The men were asked to agree to an eight-hour working day. In return they would be paid a national minimum wage of 20 per cent above the 1914 standard wage, instead of 33⅓ per cent. The eight-hour day was to be worked until 1929, when a commission of inquiry would ascertain whether the economic position of the industry would justify a return to a seven-hour day or, alternatively, fix the date on which the hours should be shortened.

Mr. Baldwin asked if this plan was the fullest concession the operators were ready to make. They assured him that it was. Thereupon the Premier referred the offer to the miners' delegates in a memorandum.

Miners Reject Offer

The answer of the miners follows:

"In reply to the government memorandum the miners state they are not prepared to accept a reduction in wages as a preliminary to the reorganization of the industry, but they reiterate that they will be prepared to give full consideration to all the difficulties connected with the industry when a scheme for such reorganization shall have been initiated by the government."

The reply also expressed the opinion that the present working hours are long enough to supply all the coal for which a market can be found; that they are as long as any man should be expected to pursue in such a dangerous and arduous calling; that to extend the hours in the present circumstances is simply to swell the ranks of the unemployed and to invite similar measures on the part of Britain's foreign competitors.

Briefly to review the events of the last few days: Friday, April 30, was the last day of the subsidy. Shortly after midnight following that day an official announcement was made that the negotiations between the operators, miners and the government had definitely broken down. On May 1 the representatives of the most powerful British labor unions decided to declare a strike at midnight on Monday, May 2. The text of a royal proclamation bearing the date April 30 was issued May 1. It declared that a state of emergency existed and thus gave the government the special powers conferred on it under the Emergency Power act of 1920. About this time troops were quietly moved into the mining areas of South Wales, Lancashire and Scotland. They have been kept under cover so as not to excite any undue animosity.

The Central League of Transport Workers in Holland on May 3 issued a manifesto declaring that not "one ton of coal may be exported to England." The German Miners' Federation in a manifesto declared May 3 that it would act strictly in accord with the international miners' agreement at Brussels and prevent the transportation of coal from Germany to England during the British coal strike. On the other hand Rinaldo Cappellini stated on the same date at Wilkes-Barre, Pa., that the miners of the anthracite region cannot abrogate their contract with the anthracite operators to direct where the operators shall place their coal.

The railroad men, dock workers and miners of France have called a meeting to decide on the measures to be taken in view of the British strike. Sir Samuel Kelly's mines in the north of Ireland are still working and it seems likely that coal will continue to be produced from this property.

Pittsburgh Open-Shop Output Tops Union for First Time

For the first time in 30 years, or since the organization of the United Mine Workers, the total output of the open-shop coal mines of the former Pittsburgh union district for one week has exceeded that of the union mines of the district for that week. This conclusion was reached after a survey made by the Pittsburgh Coal Co. showed that the total tonnage of open-shop mines of three companies which are operating independent of the United Mine Workers was 77,700 tons for the week ended April 24.

Eleven mines of the Pittsburgh Coal Co. in the Pittsburgh district, working on the November, 1917, wage scale dumped 46,667 tons of coal through their tipples during the week; three mines of the Ellsworth Collieries Co., subsidiary of the Bethlehem Steel Corporation, loaded 25,000 tons, and the mines of the Pittsburgh & Erie Coal Co., at Braznell, in Fayette County, loaded 6,033 tons.

Exact figures as to the union tonnage in the district are not available, since the Pittsburgh Coal Producers Association was dissolved last December. Those who made the survey, however, learned that slack work prevailed at the union mines of the district during that week.

The Ellsworth Collieries Co. is operating one mine each at Marianna, Ellsworth and Bentleyville, in the Pigeon Creek valley of Washington County.

Relief from Legislative Shackles Chief Need of Coal, Say Spokesmen; McAuliffe Favors Full Fact-Finding

Washington, D. C., May 4.—The public interest will best be served by allowing the coal industry to work out its own salvation, unhampered by further legislative enactments. This is the answer spokesmen for the coal trade are making before the House committee on interstate and foreign commerce, which is considering proposals for broadening the scope of federal powers in mediation, emergency distribution and continuous, compulsory fact-finding. Action along the lines suggested, they assert, would either be unconstitutional or impracticable or both. Moreover, government interference in the past, it was charged, has been responsible for national strikes.

The attack begun by Harry L. Gandy, executive secretary, National Coal Association, at the hearings last week and continued by Walter Barnum, president, Pacific Coast Co., was renewed yesterday by Roderick Stephens, chairman, committee on governmental relations, National Retail Coal Merchants' Association; Charles O'Neill, secretary, Central Pennsylvania Coal Producers' Association, and J. G. Bradley, head of the Elk River Coal & Lumber Co. and a former president of the National Coal Association.

The only voice of dissent so far heard in this chorus of condemnation by representatives of the industry has been that of Eugene McAuliffe, president of the Union Pacific Coal Co., a subsidiary of the Union Pacific R.R. Mr. McAuliffe, who appeared before the committee on April 29, came out flat-footedly for government fact-finding, mediation in labor disputes and full emergency control.

Anthracite Counsel Testifies

This morning the anthracite industry was given its first opportunity to reply to the many charges made against it by some of the earlier witnesses when Walter Gordon Merritt, general counsel for the Anthracite Operators' Conference, took the stand. Mr. Merritt was just summarizing his review of labor relationships, which he characterized as the dominant problem, when the committee adjourned for the day. The witness emphasized the adherence of his clients to the principle of arbitration, but reserved stating the attitude of the industry on the specific legislative proposals being considered by the committee until later in his testimony.

Chairman James S. Parker, who discussed the situation with the President last Friday, has stated both publicly and privately that the committee will report out a bill at this session. He is hopeful that the House will pass the measure before adjournment. No official disclosure as to the scope of the committee bill has been made. Many observers, however, are convinced that it will incorporate compulsory fact-finding in some form in its provisions. Whether it will go beyond that is considered more or less doubtful, although committee members in their examination of witnesses have appeared to be unwilling to accept the contention that the government is powerless to prevent an interruption to the flow of coal.

A subcommittee of the Senate committee on education and labor also is wrestling with a bill, but no hearings have been held on the measure. This Senate bill, framed by Senators Borah (Idaho), Metcalf (Rhode Island) and Copeland (New York), would give the President emergency seizure powers and re-enact the provisions of the Federal Fuel Distributor law for emergency control of distribution. Fact-finding machinery, probably under the supervision of the Bureau of Mines, would be set up. Senator Copeland is quoted as saying he will press for early consideration, but definite action at this session of Congress seems unlikely.

The biggest element of uncertainty which has been injected into the situation is when Congress will adjourn. Originally it was planned to end the sessions on May 15. That date has gone into the discard and June 1 is doubtful because of the insistence of certain members that other legislation, notably farm relief and radio control, be acted upon before Congress winds up its business. If the adjournment is unduly held up, proponents of coal bills will be given an opportunity for urging action on their program.

Calls Retailer Innocent Bystander

The testimony of Mr. Stephens before the House committee yesterday in a measure was an amplification of the position taken by the retailers when called upon recently by Secretary Hoover to state their attitude toward coal legislation. The retailers, he explained, are not directly involved in mine labor disputes and, therefore, can express only the views of the innocent bystander. He did not think, however, that the problem of labor relations could "be solved by legislation." Questioned by Representative Newton (Minnesota), Mr. Stephens said that he did not believe it was the function of Congress to act as a "wet nurse" to the public. At the same time he did not object to granting the President power "to handle a real emergency" if such powers had not already been given.

It was the opinion of the retailers that distribution in times of stress could be worked out more equitably and successfully by the industry itself than by a government agency. Mr. Stephens also questioned the conclusion that "fact information" is a cure-all. "If facts could prevent coal shortages and high prices," he asked, "why is it that strikes have occurred so frequently since the Coal Commission made its report?"

Fact-finding in normal times, he contended, can serve no useful purpose unless the federal government intends to set up machinery to control prices and profits. But no reason has been suggested why coal should be singled out for such treatment and a general excursion into the field of regulation of production, distribution and prices is counter to the American theory of government.

Eugene McAuliffe

Representative Wyant (Pennsylvania), who several times since the hearings opened has stressed the spread between mine quotations and retail prices, examined Mr. Stephens on that subject. It developed that the witness had sold Clearfield mine-run, costing approximately $6, New York, at $7.75 and $8.75 during the strike and West Virginia coal at a maximum of $9.50. The domestic consumer, however, demanded choice screened fuel, for which the New York retailer had charged $14 to $18. This coal had cost as high as $7.50 at the mines and carried a freight rate of $4.19. It was subject to a heavy degradation, leaving slack in the dealers' hands for which there was no market.

Retailers Unjustly Accused

Mr. Stephens sharply challenged charges of profiteering made against Washington retailers at a Senate committee hearing several weeks ago. It was unfair, he said, to take the price on one grade of coal and ignore the costs and realizations on all the other sizes and grades which the retailer must handle. As a matter of fact, Washington dealers had not averaged over 25c. a ton net on their business, some lost as much as 18c. and the highest average profit was under 50c.

Congressman Newton pointed to the conflict between the witness and Representative Wyant on the question of responsibility for profiteering as evidence of the need for a disinterested fact-finding body. He also brought up the subject of licensing dealers in interstate commerce as a means of regulation. Mr. Stephens thought conditions so changed since 1919-20 in the proportion of union-mined coal and in the attitude of the public toward substitutes as shown in the recent anthracite strike that such control was unnecessary.

Generally speaking, the witness told Congressman Corning (New York),

there would be no disinclination upon the part of the retailer to opening his books to an impartial agency, provided that the examination would cover a long enough period to take in both valleys and peaks and so give a true picture. It was Mr. Stephens' belief, however, that more could be accomplished through voluntary co-operation than mandatory legislation.

How the intrusion of the federal government in wage negotiations has made national strikes possible was described to the committee by Mr. O'Neill. Between 1886 and 1919 there had been only one strike of any consequence in the unionized bituminous fields and that had been settled without government interference or public inconvenience. Prior to the time Dr. Garfield, U. S. Fuel Administrator, participated in the negotiations in the fall of 1917, agreements in different parts of the country expired on different dates. The basic Central Competitive Field contract ran out March 31, but agreements in the Southwest, Pacific Coast and Intermountain states, western Kentucky and the Kanawha and New River districts of West Virginia did not.

Deplores Federal Interference

Without government interference the industry itself "had worked out an arrangement which provided for an effective basic wage agreement made by a large and representative group of tonnage upon the economic conditions existing in the country and yet preventing the exercise of the arbitrary power to shut down all the unionized mines in the nation." The Washington agreement provided for the same expiration date in all districts. Thus, "with one stroke of the pen, governmental activity was instrumental in wiping out the system that avoided the emergency of a nation-wide strike which this committee is now talking about and considering."

That the government cannot compel men to work was shown in the injunction proceedings of 1919. "The court ordered the United Mine Workers to withdraw the strike order. A meeting of the miners' officials was called and the strike order was canceled—but the miners remained on strike." In the subsequent negotiations, added the witness, three branches of the government—the Department of Labor, the Fuel Administration and the Bituminous Coal Commission—"made three interpretations of the same state of facts and arrived at three different conclusions!"

Economic conditions, said Mr. O'Neill, are working to restore the pre-war situation. The unsound system maintained by the union is driving more and more tonnage to the non-union fields. Freight rates, too, are helping the Southern districts. The union output is contracting. "Government cannot cure this." Restoration of the pre-war status can and will be brought by the industry itself in a very short time. "The best that Congress can do to help this along is to leave the matter alone."

During the war, Mr. O'Neill testified in answer to a question from Congressman Wyant, the government had encouraged overdevelopment by allowing a 75c. premium to wagon mines. These mines, for the most part loading box cars, had enjoyed a full car supply.

J. G. Bradley

Mr. Bradley, the next witness, caustically criticized Congressmen introducing coal-control bills. His remarks drew a rebuke from the committee and a demand that the speaker confine himself to the subject under discussion. The crises which have provoked Congress to consider legislation, he said, have come from without the industry. In 1916-17 and in 1919-20 it was a failure of transportation that caused prices to skyrocket. In the 1919 and 1922 strikes the industry was the victim of a lawless organization. The transportation situation had changed and the labor problem, he contended, was taking care of itself in the expansion of non-union tonnage. If Congress wants to do something, let it change the appropriations given the Department of Justice by removing the bar against using such money in prosecution of labor combinations.

Charges Juggling of Statistics

Questioned by Congressman Mapes (Michigan) on fact-finding, Mr. Bradley replied that he had suggested to Mr. Hoover the advisability of amending the Census law so that the Census Bureau might have the same authority over mines as over manufacturers. He was opposed, however, to the creation of special bureaus to collect special statistics because such statistics were manipulated to support special theories. The Coal Commission, he declared, could not have reached some of the conclusions it did had it studied the statistics gathered under its direction.

Mr. Mapes wanted to know whether the witness would abolish the Department of Agriculture and the Bureau of Foreign and Domestic Commerce. Another member remarked *sotto voce* that the witness was in favor of abolishing everything. Mr. Bradley's declaration that it was not the function of the government to act as "a smelling committee" led Mr. Mapes to retort that the proper function of the government was to aid industry. Mr. Wyant asked whether the President should have power to protect the public. Mr. Newton repeated the thought in another form. The witness answered that such powers as might lawfully be granted the President already had and that the hope of federal interference in strikes would prolong such contests.

Mr. Gandy, concluding his testimony April 28, answered a barrage of questions from Congressmen Newton, Lea (California), Nelson (Maine), Huddleston (Alabama), Shallenberger (Nebraska) and Dennison (Illinois). He again explained his objections to the proposed legislative program. He could conceive neither of complete unionization as a remedy for coal-trade ills nor the possibility of modification of the Sherman law. Strikes, he pointed out, were not profitable. Prices over the years had been reasonable to the public and were little higher today, despite increases in production costs, than before the war. Emergency wage-fixing by governmental authority would only postpone a settlement of labor disputes.

Mr. Barnum, who followed Mr. Gandy, insisted that both relatively and actually the bituminous industry was efficiently conducted. In support of that position he compared average realizations in the United States with coal prices abroad, percentages of coal mined by machines and output per person employed. In 1921, for example, the average realization in this country was $3.24 per ton, against $5.04 in Great Britain and $6.27 in Belgium; in 1924 the average here was $2.46, as compared with $4.16 in Great Britain and $4.43 in Germany.

Can't Account for Hoover Dictum

Asked how he reconciled his claims on efficiency with Secretary Hoover's famous characterization of the industry, Mr. Barnum replied that he could not account for Mr. Hoover's views. He felt, however, that those directly engaged in the industry have a better opportunity to judge its efficiency. The witness told the committee that the margin of profit was too narrow and that the operators would be overjoyed with an average of 25c. per ton.

"The coal industry," maintained Mr. McAuliffe, the only witness heard last Thursday, "needs a new viewpoint." It has been too much a gambling venture, depending upon strikes and transportation difficulties to create panic demands. No industry of comparable importance has been as backward in labor relations, marketing methods and general production technique. For example, the steel industry, twenty-five years ago as chaotic as the coal industry today, "has displayed a will to compose its business and labor affairs. The coal industry, saturated with coal-mining and sales traditions imported from Great Britain, has failed to make even a substantial start in that direction.'"

Irregularity in coal operations and unbalanced, hysterical buying have compelled the railroads to invest two dollars in transportation facilities to handle coal for every dollar invested in the mines. Most of this railroad investment is non-productive eight months out of the year. This is a burden which indirectly falls upon the coal consumer although it has removed

transportation shortage as a cause of high coal prices.

There are signs, too, that labor also must accept the principle of a business relation with the industry or disappear by attrition. The curse of present-day unionism, he said, was the craze for office. If someone could guarantee Mr. Lewis his job, the witness thought the president of the union would express a different viewpoint. Today, however, conservative officers are the victims of the political machinery of their organizations.

The Jacksonville agreement, he stated a little later during a colloquy with Congressman Huddleston, had been the best thing under the circumstances. He though that Mr. Lewis had felt that a three-year contract would give labor a chance to compose itself and lay the ground for a prevention of recurring strikes. The witness was satisfied to go along with the union if given a business administration. If not possible to work with the United Mine Workers, he probably would shift to the company union as the next best thing.

The witness put himself on record as definitely opposed to government ownership and to compulsory arbitration. "All the industry needs is a little intelligent guidance in finding itself." He advocated a law which would provide for a true and complete assembly by the Bureau of Mines of all the facts, including labor costs, cost of materials, hours worked, total costs and realizations. Such data would form a basis for intelligent determination of disputes and pave the way for mediation and conciliation on a sound basis. The cost of collecting such facts would be inconsequential both to the government and to the industry.

"The theory of a fact-finding law and a mediation and conciliation board," explained Mr. McAuliffe, "is based on the principle that neither side to a controversy could afford to defy public opinion when the facts relating to the same were available and of an authoritative and dependable character." Facts now available do not meet these tests.

Arbitration Methods Resented

It was the witness' belief that the method and character of arbitration heretofore employed were "more objectionable to labor than is the principle. Provision should be made by law for placing in the hands of the President the broadest possible power over the industry in the event a cessation of production, in part or whole, takes place and which is of a proportion that prejudices the well-being of the people." Such authority should cover emergency operation and distribution and include power to temporarily fix wages and selling prices. The determination of the exact methods to be employed should rest with the President and the working out of details with the Secretaries of Labor, Commerce and War.

Although urging these broad powers, Mr. McAuliffe voiced the belief that with all the facts available, their exercise probably would not be necessary. "The coal industry today," he concluded, "is in no sense organized, preferring to remain divided along

Walter Barnum

labor, geographical, market and other lines. It has had a generation of opportunity to find itself—and has failed. What it most needs today is to know the truth about itself, and, given such, it will pick its way up to and on to higher ground. Coal is a basic, fundamental necessity, and the welfare of society and government depends on its continuous production and transportation. It is, as managed today, wasting labor, wasting human life, and wasting itself."

Many Illinois Operators Now Handling Non-Union Coal

Invasion of non-union western Kentucky continues by Illinois operators seeking coal tonnage for distribution to replace their own product, made practically unsaleable by the wage scale in union territory. Almost all of the Illinois shippers are now selling western Kentucky coal, having suspended operations at their own mines because of the unsatisfactory price return.

Except for the Peabody Coal Co. and the Old Ben Coal Corporation, shippers handling non-union product maintain silence on the connections they have, regarding the non-union venture as merely an expedient.

In Chicago the move into western Kentucky is accepted as something more than a mere gesture in the attempt to bring about a solution of the wage problem when the union scale expires next spring. The jobbers' move is considered as an expansion of definite permanency aimed at broadening tonnages available for sale and distribution.

Gossip in Chicago on consolidations in Illinois is light. The reported merger at Belleville, in the Standard field, by the Bell & Zoller interests apparently is slumbering. It is declared there will be no development of note in this direction for the present.

Latest estimates are that only 100 mines in the state out of a total of approximately 400 are in operation and that one-third of the 100 mines are "captive" or industrially owned, leaving a scant 60 to 70 commercial mines to provide Illinois coal for the market.

Paisley's Boyd Mine Resumes On Non-Union Basis

Operations were resumed on a non-union basis April 29 at the Boyd mine of the Elm Grove Mining Co., Elm Grove, W. Va. The mine, which is controlled by the J. A. Paisley interests, of Cleveland, had shut down more than a month ago following a strike by union miners who refused to agree to a monthly payday. Three others of the company's mines were closed at the same time.

The Boyd mine had been operating under the Jacksonville agreement previous to the shutdown.

Pickets were on duty near the Boyd mine when the attempt to resume was made, but the picketers remained well away from company property. Ten state troopers were stationed in Triadelphia, but none was at the mine during the first few days. However, they are being held subject to call.

The new wage scale posted at the Boyd mine is: Loading machine coal, net ton, 63c.; cutting, 12½c.; entry yardage, 72c.; entry room yardage, 72c.; room neck yardage, 56c.; track layers (day), $6.50; drivers, $6; motormen, $6; trip drivers, $6; all inside day labor, $5.70, and all outside laborers, $5.44. The reduction is approximately $1.56 per man per day.

John Cinque, president of the sub-District No. 5 of District 6, United Mine Workers, in charge of the local district, stated that the members of the United Mine Workers would not go back to work under the proposed agreement.

Overtures made to the United Mine Workers of eastern Ohio by John S. Snure, manager of the Valley Camp Coal Co., also controlled by the J. A. Paisley interests, in connection with the operation of the Lucy and the Oco mines, located in Belmont County, have been ignored by the miners.

It was proposed by Snure that the two mines resume under the Jacksonville agreement, with the monthly payday, instead of the semi-monthly pay.

Union Firm for Jacksonville Pact

W. T. Roberts, secretary of the district union, said that "Paisley knows the Jacksonville contract and that is what he will have to live up to, to do business with us. We accept nothing short of the complete scale agreement."

Operations were resumed on an open-shop basis at the Mona Mine, at Maidsville, late last week, two cars being loaded during the first day's operation. This Paisley mine under normal conditions has a capacity of about 20 railroad cars. As to whether or not an effort will be made in the immediate future to operate the Connellsville By-Product Coal Co. plant on Scotts Run, the largest single producing mine in that section of West Virginia, no announcement has been made other than that the company has nothing to offer the employees except the 1917 scale.

Union miners continue to picket the plants of the Cleveland-Morgantown Coal Co., owned by the Pursglove interests, as well as the Paisley Connellsville By-Product plant, but so far there has not been any interference with the men going to work.

House Committee Hopes To Report Constitutional Fact-Finding Bill Soon

By Paul Wooton
Washington Correspondent of *Coal Age*

Assurances have been given the President by Chairman Parker of the House committee on interstate and foreign commerce that a coal bill will be reported by his committee and will be pressed for passage at this session of Congress. The President has been advised further that a majority of the committee has come to an understanding as to the principle of the bill that will be recommended, although the details have not been worked out as yet.

It was stated at the White House that this information is very gratifying to the President and that he thinks Congress should enact legislation at this session along the lines indicated.

Any coal bill recommended by the committee is likely to pass. The committee on interstate commerce as now constituted enjoys high prestige in the House. It has the reputation of being conservative and careful. This means that many members who will not have had an opportunity to study the bill will vote with the committee. Moreover, any champions that the coal industry may have among the members of the House seem not to be aggressive.

When Representative Jacobstein made his speech in the House on April 27 a fine opportunity was presented to call to the attention of a large attendance of the membership the arguments against the constitutionality of the proposals made by the New York Congressman. As it was, ten members participated in the debate, but their object was not to disagree with the conclusions of Mr. Jacobstein but to bring out additional points to support his contentions. No champion of the coal industry arose to point out the vulnerable spot in the New York legislator's argument. This tends to confirm the opinion that no great difficulty will be experienced in getting a coal bill through the House.

Action Less Likely in Senate

In the Senate interest centers on other things. The prospects for action are more remote. A sub-committee of the committee on education and labor is considering all of the coal bills in the hope that the Copeland measure can be revamped into such form as will meet the approval of the full committee. Some of the provisions of the Oddie bill probably will be attached to the legislation which may be reported out. The chances all are that any bill that this committee may report will be less acceptable to the Senate than the bill likely to be presented in the House. The Senate, however, is in no humor to take up new business likely to provoke long debate.

The most significant point in the situation, however, is the fact that a bill passed by the House at this session will be before the Senate when Congress meets in December. At that time the rumblings of the storm likely to accompany negotiations for the renewal of the Jacksonville agreement will be heard. It is easy to see that a situation may develop that would cause the Senate to take quick action on pending coal legislation.

In the testimony of Eugene McAuliffe, of the Union Pacific Coal Co., the so-called administration members of the committee heard testimony very much to their liking. It will not be surprising if the legislation recommended by the committee will follow the advice of Mr. McAuliffe to propose a "federal fact-finding law that will provide for a true and complete assembly of all of the facts that surround the operations of the coal and coke industry, including the cost of labor, material, hours worked, hours of work available, total cost and realization, with the margin of profit gained or the loss sustained."

Smoke Nuisance Attacked

City combustion engineers in Chicago began a drive on smoke violators last week. The city Health Commissioner charges wanton air pollution and told a number of the violators haled before an inspection board that every man, woman and child in the city must pay an average of $12 a year because indolent and inefficient janitors and engineers cloud the air with smoke and soot. It was asserted that the aggregate cost is $35,000,000 annually for extra laundering and cleaning and that the annual waste in coal alone amounted to $7,500,000. The Health Commissioner said that 30,000,000 tons of coal literally went up the chimneys last year, as he said that smoke is nothing but unburned fuel.

38 Indiana Miners Jailed or Fined for Rioting

Following a trial lasting many days thirty-eight union miners were found guilty of riot by a jury in circuit court at Boonville, Ind., last week. A total of sixty-two defendants were tried. Three of those found guilty received fines and jail sentences, two fines without jail sentences and thirty-three were fined $25 and costs. William Stinson, of Oakland City, Ind., district board member of District No. 11, United Mine Workers, was find $500 and given ninety days in jail. Ed Spencer was fined $400 and given sixty days, and Alvie Lenn, $350 and thirty days. Steve Evans was fined $350, and Ersie Spencer, $200, with no jail sentence.

When the jury's verdict had been read the judge continued the bonds in force and continued the case until May 4, when the men were to be sentenced. No intimation was given as to what action the United Mine Workers will take toward an appeal. The case grew out of occurrences at the John Bull and Possum Ridge mines on Feb. 16, when organized miners are alleged to have beaten several non-union miners at each of these mines. Of the total of sixty-five miners indicted, three never have been apprehended.

Mining Engineer Hammond Banqueted by His Friends

Dinners were held in South Africa, Japan and in many European and American cities May 3 in honor of John Hayes Hammond on his attainment of the age of 71, but the largest celebration was held in New York City, which "Jack" Hammond himself attended. The President of the United States, the governors of ten states, twenty ambassadors and foreign ministers, railroad presidents, generals and admirals sent felicitations by telegraph, cable and mail.

C. S. Thomas, former U. S. Senator from Colorado, presided, and the speakers were Dr. A. T. Hadley, president, Yale University, who went to school and college with Mr. Hammond and who studied at Berlin when Mr. Hammond was at Freiburg; J. J. Davis, U. S. Secretary of Labor, on whose board of education Mr. Hammond had served; Dr. Alexander C. Humphreys, president of Stevens Institute of Technology, where Mr. Hammond received the doctorate; Key Pittman, U. S. Senator from Nevada, who recorded Mr. Hammond's contribution to mining, which latter he declared to be the determining factor in civilization, without which the upward progress of mankind could, in fact, be scarcely conceived; Colonel Henry D. Lindsay, past national commander, American Legion, who spoke of Mr. Hammond's war services; J. W. Bryan, of the National Press Club, whose club house, now building, finds in Mr. Hammond almost a foster-father, and Rev. J. E. Freeman, Bishop of Washington, who spoke of Mr. Hammond as a cathedral builder and, though eminently successful, not so much a man of wealth and power as one in happy accord with his fellow men. Dr. Humphreys in his address called attention to the fact that Mr. Hammond exemplified the oft-repeated statement that a man trained as an engineer and having an engineer's qualifications and aptitudes made an ideal man for service in public affairs.

Messages were read from Calvin Coolidge, the recently deceased Luther Burbank, Vice-President Dawes, Cardinal Hayes, Mayor Walker of New York and Chief Justice Taft, all of which spoke of Mr. Hammond in the highest of praise.

Coal Consumption by Trains Higher in February

Coal consumption during February by Class 1 railroads of the United States in locomotives in freight and passenger train service totaled 8,351,191 net tons, compared with 7,973,137 tons in the corresponding month of 1925, according to a report by the Interstate Commerce Commission. Consumption by districts was as follows: Eastern, 4,057,632 tons; Southern, 2,048,680 tons; Western, 2,244,879 tons, compared with 3,861,919, 1,879,326 and 2,231,892 tons, respectively, in February of last year. [The average cost of coal used by these railroads, printed in *Coal Age* last week —page 614—was erroneously stated as for March. The figures were for February.]

Cassidy Mine Ordered Closed Because of Blowouts

Owing to a series of "blowouts," the last of which on April 6 caused the death of two miners, George Wilkinson, chief inspector of mines for British Columbia, ordered the closing of the affected section of the Granby Consolidated Mining, Smelting & Power Co.'s Cassidy colliery, in the Nanaimo district of Vancouver Island. Mr. Wilkinson stated that in the area affected, comprising some 20 acres, there had been 39 blowouts, or approximately one for every 150 ft. of driving. These blowouts often project heavy pieces of rock, and add considerably to the hazards of coal mining.

Charles Bocking, general manager; T. Plummer, comptroller for the Granby company, and Robert Henderson, superintendent of the Cassidy colliery, informed William Sloan, Minister of Mines, that the maintenance of the order would mean abandonment of further development in the southern area of the colliery, thereby limiting the life of the colliery to three and a half or possibly four years.

Mr. Sloan said that while he was anxious to assist the company in every way to bring production to the highest possible point, the safety of the miners was of primary importance. He said that careful consideration would be given to the situation by his department and a decision would be reached within two weeks.

Since the Cassidy mine was started, some six years ago, there have been 187 blowouts in different parts of it, and in 1921 there were two fatalities from this cause. The company employed George S. Rice, of the U. S. Bureau of Mines, to make an examination of the property, find the cause of the explosions, and suggest a remedy to safeguard the company's employees. Mr. Rice recommended that holes be drilled well ahead of the driving to relieve the gas pressure, and this practice has worked admirably in thick seams, but in development work, in driving through pinched portions of the seams, as in the instance of the recent fatal blowout, the practice recommended by Mr. Rice does not give the same warning, as the pockets of gas seem sometimes to escape the drillholes.

Chicago Association Expands

The Coal Division of the Chicago Contracting Team Owners' Association has been admitted to membership in the National Retail Coal Merchants' Association. Membership was obtained last week by Paul N. Snyder, manager of sales of the Calumet Coal Co., Frank Carey, of the Carey Coal Co., R. A. Miller. of Miller & Banker. and M. E. Robinson, Jr., of the M. E. Robinson Coal Co., all retailers with yards on the south side. About a year ago several members of the Chicago Coal Merchants' Association withdrew because of disagreements over policies and joined the Coal Division of the Chicago Contracting Team Owners' Association, which had previously been organized as a dual association in opposition to the Chicago Coal Merchants' Association.

Gay Mine Has First Fatality in Its History; In 22 Years Never Had Strike or Shutdown

For the first time in 22 years, the Gay Coal & Coke Co. had a fatality on April 28 at Gay mine, at Mount Gay, Logan County, W. Va. The mine had produced 4,000,000 tons of coal without a death. The Gay Coal & Coke Co. is the pioneer coal company in the Guyan Valley. The record is probably unsurpassed in the annals of the bituminous coal industry.

The fatal accident happened at 1:30 a.m., April 28, when Bud Wheatley, a negro, was caught by a slate fall and instantly killed. One hundred and forty men are employed in the mine, which was opened on Thanksgiving Day, 1904, when it was necessary to haul the coal in wagons to a siding in the town of Logan. Three teams did this work and three of the four teamsters were alive according to last reports, they being Tom Gilpin, Don Ellis and Jack Dempsey, heavyweight boxing champion.

In summing up the history of the mine, Robert M. Lambie, chief of the state Department of Mines of West Virginia, said in part: "Twenty-two years without a fatality; 22 years without a strike; 22 years without a shutdown; 22 years under the same active management."

H. S. Gay, president of the company, attributes much of the success of the low fatality rate to the systematic methods of F. C. Kellerman, foreman of the mine for the first 17 years of operation. Other factors, Mr. Gay said, were observance of the mining laws, good roof conditions, timbering done under the supervision of a company official, employment of native West Virginians with few exceptions and up-to-date transportation equipment and methods.

Ask Concessions on Deadwork To Open Ohio Mines

Several meetings of operators in the southern Ohio field, especially in the Nelsonville-Athens section, have been held recently at Nelsonville in an effort to obtain concessions from the various locals of the miners' union, which it is believed would enable some mines to resume operations. The matter is being worked out by the special scale committee and steps will soon be taken to have a joint meeting with union officials to consider the proposition. The proposal being worked out by the operators has to do with reduction in the cost of yardage, laying of track and setting of props as well as other small jobs. Under the Jacksonville scale miners are not permitted to do this work, but it is planned to get concessions which will permit mines to do such odd jobs and thus decrease the cost of production.

N. D. Monsarrat, head of Monsarrat Bros., operators in the Hocking field, has a plan which he will probably submit to the miners. His proposal is to have 60 per cent of the selling price go to the miners, to be divided equitably, and 40 per cent to the operators, the scale to be adjusted every three months and the miners having permission to audit the company's books. This proposition is not meeting with much favor among miners as a rule.

Southern Ry. Buys Equipment

The Southern Ry. has closed an agreement for equipment to cost $6,900,000. The purchases will include twenty Mikado type locomotives, ten consolidated type locomotives, twelve Pacific type locomotives, seven Mallet locomotives, twelve eight-wheel switching locomotives, four steel postal cars, twenty-five steel passenger coaches, fifteen steel baggage-express cars, 1,000 steel-frame coal cars, six steel mail-baggage cars, 1,000 box cars and 250 ballast cars.

Opening for Coal Economist

The U. S. Civil Service Commission announces an examination for assistant business economist (coal) to fill a vacancy in the Bureau of Mines, Washington, D. C., and vacancies occurring in positions requiring similar qualifications, for duty in Washington, D. C., or in the field. The entrance salary is $2,400 a year. After the probational period required by the civil-service act and rules, advancement in pay, without material change in duties, may be made to higher rates within the pay range for the grade, up to a maximum of $3,000 a year. Promotion to higher grades may be made in accordance with the civil-service rules as vacancies occur, provided the employees possess the qualifications deemed necessary for the corresponding advance in duties and responsibilities. Receipt of applications will close May 11, 1926.

The Commission also announces an examination for associate physicist ($3,000) and assistant physicist ($2,400), receipt of applications for which will close June 6. The examinations are to fill vacancies in the Bureau of Standards and the Bureau of Mines, Department of Commerce, and in positions requiring similar qualifications. At present there is a vacancy in the Bureau of Mines, in the position of assistant physicist, for duty at Pittsburgh, Pa. Advancement in pay may be made to $3,600 a year for associate physicist, and $3,000 for assistant physicist.

For physical chemist, applications will close May 25. The examination is to fill a vacancy in the Pittsburgh station of the Bureau of Mines and vacancies in positions requiring similar qualifications. The entrance salary is $3,800, and advancement may be made without change in assignment up to $5,000.

Information and application blanks may be obtained from the U. S. Civil Service Commission, Washington, D. C., or the board of civil service examiners at the post office or custom house in any city.

Miners Strike Over Wage Cut By Gilbert-Davis Co.

A possible break with the union by the Gilbert-Davis Coal Co., the last remaining company actively operating in the northern West Virginia field under an agreement with the United Mine Workers, was indicated late last week when miners at the company's plant in the Scotts Run district of Monongalia County, West Virginia, went on strike as soon as it became known that they were supposed to have been working on a reduced wage scale since April 1. The reduction amounted to 15 per cent.

At the meeting at which it was decided by union miners to discontinue work, James Rogers, president of the Gilbert-Davis local, admitted that he had been notified some time ago by R. M. Davis, general manager of the company, that a 15-per cent cut would be made April 1, but because no further notice had been forthcoming he had not notified the pit committee. A further conference was scheduled for early this week, it was stated by Sanford Snyder, international representative in charge of Monongalia County union affairs.

Snyder asserted that the union was not taking any backward step and that there could be no deviation from the Jacksonville wage scale.

Reorganization Sought

An attempt is being made to reorganize the Carbonizing Process Corporation, capitalized under Delaware laws at $1,000,000. Two of the stockholders —George W. Disher and George S. Johns—have filed suit for a receiver in the Circuit Court of St. Louis County at Clayton, Mo. The concern was formed to produce a low-temperature process for reducing oil shale and creating a smokeless fuel from coal. The Coal Products Engineering Co., a subsidiary, had the Missouri rights and operated an experimental plant at Affton, Mo., with offices in the Federal Commerce Trust Building, St. Louis.

The receivership petition alleges that the directors of the Carbonizing Process Corporation diverted funds of that company to the use of the Coal Products Engineering Co., which had an identical board of directors. Mismanagement, waste of property, assets and income also are charged.

It was further charged that large blocks of stock were issued without consideration to F. W. Love, George W. Marshall, O. W. Hoopaw and others, and that a reorganization in 1924 was carried through without the approval of a majority of the stockholders of the company.

Walter Barnum, president of the Pacific Coast Co., New York, which has coal operations in the State of Washington, is being urged strongly for the presidency of the National Coal Association. The suggestion seems to be regarded as a happy one by so many of the operators that some are predicting his election at the Chicago meeting, June 9-11.

Forty-Year Service League Of Union Pacific Co.

Those who have been with the Union Pacific Coal Co. twenty or more years are eligible to membership in the company's Old Timers' Association, which will hold its second annual meeting on June 6 at Rock Springs, Wyo. These youngsters of twenty years' service and the officials of the company, who are likewise eligible even though still more recent, have little standing in the organization alongside of the real old timers who have served more than forty years, of whom there are 24, including James Moon, president of the association and a trackman, who has served 52 years, and Thomas H. Butler, the mine superintendent at Hanna, Wyo., who can show only 45 years of service. One man has been with the company 49 years; three, 47 years; three, 46 years; four, 45 years; four, 44 years; two, 43 years; two, 42 years; three, 41 years, and only one 40 years.

Canadian Steamship Lines To Stay in Coal Trade

"There is no foundation for the statement that the Canada Steamship Lines, Ltd., is withdrawing from the coal business," said T. R. Enderby, general manager of the company, in commenting on recent reports current in Montreal to the effect that the company was likely to retire from the coal business.

"During the 1925 season an extensive business in the sale and handling of coal was carried on by its subsidiary, the Century Coal Co.

"Acquisition of the George Hall Coal & Shipping Corporation and the Great Lakes Transportation Co. will add to the equipment formerly used by the Century Coal Co."

Private Enterprise to Exploit Korean Coal Reserves?

Shanghai, China, Feb. 27.—A survey by the government general of Korea of reserve coal deposits in the Daido, Koto, Kosei, Junsen and Kaisen districts, South Heian Province, indicates a total of 600,000,000 tons. Calculating the annual demand in Korea at 1,000,000 tons, the reserves are sufficient for 600 years. It is understood that in exploiting these fields, the government general is in favor of leasing them to private interests for operation rather than developing them under government auspices.

Since improved traffic facilities, such as the Heijo-Gensan and Kan-Kyo railways and the harbors at Sei-shin, Yuki, and Chinnampo, are in a fair way of realization, according to Mr. Kuroki, chief of the mining section in the government general, it is likely that a decision in regard to exploitation of the coal fields will be made soon.

High Safety Records Made In Bronze Trophy Contest

Extraordinary records of production with no loss of time occasioned by accidents were revealed in connection with the announcement made April 29 by Secretary Hoover of the Department of Commerce, of the names of mines and quarries adjudged winners of the national safety competition held under the auspices of the Bureau of Mines for the bronze trophy, "Sentinels of Safety," donated by the *Explosives Engineer* magazine. A Maryland quarry operated 350 days and worked 202,663 man hours during 1925 with no loss of time from accidents. Four other quarries, located in Indiana, Tennessee, New York and California, also operated with no loss of time due to personal injuries.

The winner in the anthracite group is the Upper Lehigh mine, Upper Lehigh, Pa., operated by the Hazle Brook Coal Co. Honorable mention was accorded the Midvalley mine, Wilburton, Pa., operated by the same company.

The winner in the bituminous coal mining group is No. 6 mine of the United States Coal & Coke Co., at Gary, W. Va. Honorable mention was given the No. 3 mine of the same company, also located at Gary, and the Rossiter No. 4 and 5 mine, at Rossiter, Pa., operated by the Clearfield Bituminous Coal Corporation.

Members of the jury of award were H. Foster Bain, James F. Callbreath, W. H. Cameron, H. L. Gandy, A. T. Goldbock, William Green and H. G. Jacobsen.

Gets Life Term for Murder In Insurance Plot

William H. Turner, former superintendent of the Auburn Coal Co. mine at McCarr, Ky., under indictment for the murder of two miners on Jan. 17, 1925, in an alleged framed explosion was sentenced to life imprisonment April 29 by a jury in the Circuit Court at Pikeville, Ky. One of the dead men was identified as Turner and members of his family collected about $85,000 of insurance money. Later Turner, who had fled to Europe, turned up and confessed the plot, apparently as a result of his failure to get part of the money.

Evidence indicated that Turner and some of his relatives conceived the scheme of sending Henry Wilson and another man into the mine to fire a shot when no one else was in the mine. Wires apparently had been connected so that when the men made connections at the other end, the explosion took place. The men were so badly mutilated that it was impossible to identify them positively, as both were decapitated. Turner had left his coat, watch and other personal effects at the scene of the explosion.

The Artemus Jellico Railroad Co., a coal road from Artemus, Ky., to Anchor, formerly the Cumberland Railroad Co., has asked the Interstate Commerce Commission for authority to operate the line and right of extension. It is understood that the company plans connections through the mountains to Knoxville, Tenn.

Germany Resuming Old Place In Export Coal Market

Berlin, Germany, April 15.—Definite figures on the German exports and imports, now available, show 7,680,000 tons of bituminous coal imported in 1925, compared with 13,000,000 tons in 1924 and 10,540,000 tons in 1913. Exports last year were 13,645,000 tons. These figures clearly demonstrate that the foreign coal trade has again become an asset of German business. In 1924 imports of 13,000,000 tons were only in small part balanced by exports of 2,795,000 tons. In 1923, the year of the Ruhr occupation, exports were only 1,200,000 tons as against imports of 25,000,000 tons.

More marked still is the change in coke movement. Imports last year dropped to 69,000 tons, as compared with 338,000 tons in 1924. Exports, on the other hand, rose 3,776,000 tons. Although both imports and exports still remain behind those of 1913, the approach to pre-war conditions is unmistakable, especially when considering that large quantities of coal and coke going to France and Belgium under the Dawes plan are not included in the official statistics.

Of the 7,600,000 tons of coal imported nearly 4,000,000 tons came from former German possessions, the Sarre district, Polish Upper Silesia, and in a minor degree Alsace-Lorraine. Imports from Polish Upper Silesia, however, ceased during the second half of 1925 owing to the fact that the agreement reached after the partition of Upper Silesia, stipulating monthly shipments to Germany of approximately 500,000 tons, has expired and presumably will never be renewed.

Britain Only Exporter to Germany

The present situation leaves Great Britain practically the sole exporter to Germany of coal and in a lesser degree also of coke. As far as British imports are concerned, it is partly based upon the fact that the British market is still able to offer coal in German districts reached by water transportation at or below corresponding German prices. Quality also plays some part. Vigorous endeavors are being made to eliminate British coal from the German market as far as it is bought in consideration of prices, but preliminary figures of business within the first months of the year indicate no success of this movement in spite of special freight rates having been granted for coal shipped to districts in which British competition is most pressing. The increased coal exports of 1925 are a reward of the strenuous efforts made in this direction.

German coal has made progress in nearly all its pre-war markets, with the exception of the Austro-Hungarian successor states, Russia, Belgium and France, which latter two countries still receive considerable quantities on reparation account. Furthermore, a number of new countries are registered as a market of German coal in the definite returns of 1925 which were not listed in those of 1913. Among such may be mentioned Norway, Portugal, British Mediterranean, Dutch India, Turkey and Uruguay. The best coal customer is Holland.

Traffic News

No Cut in Belleville Rates To Missouri River

Equalization of rates from the Belleville district to Kansas City and St. Joseph, Mo., and Atchison and Leavenworth, Kan., with rates in effect from the Springfield district of Illinois via the Alton and Wabash railroads has been denied by the Interstate Commerce Commission in a decision in *Fifth & Ninth Districts Coal Traffic Bureau vs. Chicago, Rock Island & Pacific Ry. Co. et al.* The Commission, in an opinion by Commissioner Meyer, finds the existing rates from the complaining field neither unreasonable nor unduly prejudicial.

The case just decided is another chapter in the fight over rates to Missouri River crossings and related points which started ten years ago when the Chicago & Alton slashed its charges from Springfield to Kansas City and, as a result, built up its fine coal movement from practically nothing to over 500,000 tons per year. The Wabash, not to be outdone, met the cut via its Hannibal route. Other roads, however, have never reduced their rates to the Alton-Wabash levels.

Prior to the summer of 1916, the rates from Belleville, except via the Southern Ry., were 25c. per ton higher than from Springfield and rates from the group of mines immediately north of the Belleville district proper were on a parity with the Springfield district rates to Kansas City. At the present time the Wabash and Alton rates from the Springfield district to Kansas City are $2.49 on fancy lump, $2.37 on commercial lump and $1.98 on fine coal.

Via the Burlington the rates are $2.89 on lump and $2.38 on fine coal; via other routes rates of $2.98 and $2.92 are in effect. Lines charging $2.98 and $2.92 extend those rates to the other destination points involved; via the Wabash and Alton, a differential of 40c. per ton over the Kansas City rates is in effect.

Except via the Burlington, where a $3.28 rate is in effect on lump, complainants' mines are charged $2.98 on lump and $2.92 on fine coal.

The Alton was originally a defendant in this case, but complaint against it was withdrawn by the complainants. This, the Commission, held, narrowed down the question of undue prejudice to the Wabash R.R. This latter line was not responsible for the reductions from the Springfield district, but merely followed the lead of the Alton to protect its traffic. The Commission, therefore, found the charge of undue prejudice was not sustained.

Penna. Rate Makers Reversed

The Pennsylvania Public Service Commission was without authority to reduce freight rates on intrastate shipments of coal within six months of the return of the carriers to private control from federal control under the Transportation Act of 1920, the U. S. Supreme Court held April 26 in a decision by Justice Holmes. The decision reversed the rulings of the state courts, which had ordered the Pennsylvania and New York Central railroads to grant reparations to the New York & Pennsylvania Co., a shipper, for alleged overcharges on intrastate shipments of coal during the period involved.

At Odds on Coke Rates from Alabama to Michigan

A hearing was held before the coal, coke and iron ore committee, representing coal-carrying railroads, in the Chamber of Commerce, Pittsburgh, Pa., on April 29, to consider the continuation of emergency rates on coke from Birmingham, Ala., to points in Michigan, instituted during the anthracite strike. The emergency schedule expired April 30. The Birmingham interests asked continuation of the emergency rates. Byproduct plants in the Connellsville region were willing that through rates be continued, but contended that they should be on a higher level than the rates which expired.

No decision was reached by the committee and the matter probably will get before the Interstate Commerce Commission in an informal way in an effort to find some common ground and fair basis to both the Southern and Northern operators. These rates have already been the cause of considerable litigation before the I. C. C., the Northern interests having opposed their establishment before they were instituted. The rate from Connellsville to Detroit, 372 miles, is $3.65; Birmingham to Detroit, 742 miles, $4.65; Connellsville to Grand Rapids, 490 miles, $4.16; Birmingham to Grand Rapids, 767 miles, $4.91.

Indiana Miners and Operators Ask More Favorable Rates

Representatives of the coal mining industry in Indiana, including both operators and miners, are urging the state Public Service Commission to use its influence in bringing about a change in freight rates so that Indiana coal may compete with coal produced in Kentucky, West Virginia and other states. The complaints against prevailing rates were presented April 23 at the request of the state mining board.

The conference was held behind closed doors and attendants refused to discuss the plans considered. It was suggested that the Interstate Commerce Commission make a change in the rates with a possible view to raising them as they relate to some of the other zones and lowering them as they affect the Indiana field. The particular shipping destination point seemed to be Chicago and surrounding territory.

Members of the mining board, all of whom attended the conference, are: William A. Mitch, secretary-treasurer of District 11, United Mine Workers, and John A. Templeton, operator, both of Terre Haute; Tyler G. Lawton, of Bicknell, president of District 11; Jonas Waffle, of Terre Haute, and Albert Daly, of Knightsville, state mine inspector. Others who attended were Warren Blauvelt, William Zellars, Jet Moorman and B. E. Neal, operators. The commission made no promises, but heard the arguments advanced.

News Items From Field and Trade

ALABAMA

Convict Probe Broadens.—Inquiry into the death under mysterious circumstances of James W. Knox, a convict at the Flat Top camp, has been steadily widening as new witnesses appear before the Grand July. The Grand Jury will investigate conditions at other convict camps, including the Banner Mines, and possibly the entire convict leasing system and some of the high officials. Reports indicate that the Grand Jury's attention had been called to two other deaths at Flat Top under conditions similar to Knox's. A visit to the Banner camp and another to Flat Top are scheduled.

A new steel tipple is being erected and other improvements made to facilitate handling and preparation of output at the Parrish mine of the Railway Fuel Co. This operation, on the Mary Lee seam in Walker County, is one of the largest producers in the district, the output being in excess of 600,000 tons annually. It is a subsidiary of the Southern Ry., the lines of this system taking the entire output for locomotive and other fuel requirements.

The Southeastern Coal Co., formerly the Winona Coal Co., is erecting 50 five-room houses for employees at its mines at Gorgas.

COLORADO

Coal output in Colorado in March was 791,000 tons, an increase of 170,000 tons over the corresponding month of 1925, according to the state coal mine inspector's report. This increase in production was obtained with 12,296 men employed, compared with 13,008 a year ago.

The Colorado Fuel & Iron Co. reports for the first quarter of the year a surplus after all charges of $1,121,115, against $569,752 in the same period a year ago. Gross receipts were $10,557,454, in comparison with $10,866,067, while operating expenses were $8,571,837, in contrast with $9,429,861.

Examinations for deputy state coal mine inspector will be held at the Capitol Building, Denver, June 3, 4 and 5, under supervision of the Civil Service Commission. Applications must be filed by May 25. On the same dates at the same place, examinations will be held for mine officials by the state board of coal mine examiners.

INDIANA

According to an order by Judge Caleb J. Lindsey, L. A. Folsom, receiver, will receive bids for the Pigeon Creek Coal Co. strip mine property at Boonville for thirty-five days. The company has been operating under a receivership for some time. A portion of the property consists of a large acreage of strip coal. In case the receiver shall receive a bid sufficient to discharge all liens against the property, he was ordered to report to the court. If bids are insufficient, the receiver was ordered to sell the property at public sale on the fifteenth day following the expiration of the thirty-five days.

Plans are under way for a third coal mine at Somerville, 25 miles north of Evansville, to be operated by the same company which is now operating mine No. 1 at Somerville. The new mine will be known as mine No. 3 and will give employment to between 100 and 200 men, it is announced.

According to William Mitch, secretary-treasurer of the Indiana miners' union, a rock-dusting bill was passed at the last session of the state Legislature which compelled rock dusting in gassy or dusty mines, but it was lost somewhere between the Legislature and the Governor's office and therefore never was signed and did not become a law. The miners are preparing another similar bill for the next Legislature.

The Possum Ridge Coal Co.'s mine between Evansville and Boonville, has been closed down for several weeks while the company has been constructing a new airshaft at the suggestion of the state mine inspector.

KANSAS

The suggestion that the Kansas state mine-rescue and first-aid meet be held at Pittsburg later this year was definitely rejected at a meeting in Pittsburg on April 26. A couple of weeks before, plans for holding the meet in Pittsburg in May were halted because of lack of money. It is probable that a meet of smaller scope than that originally planned will be held in connection with Labor Day festivities at Arma.

Work Was Resumed April 17 at Jackson-Walker Coal & Mining Co.'s mine No. 16, near Dunkirk. The mine had been closed down six weeks. It is operated under lease by John Fulton.

At the mine examinations in Pittsburg, April 17, seven men sought certificates as shotfirers; three as gasmen, five as engineers and eight as mine foremen.

Fire of Unknown Origin during the night of April 19 destroyed the tipple and top buildings at Hamilton Coal & Mining Co.'s mine No. 7, near Radley. The mine was operated under lease by the Englevale Coal Co. The structures will be rebuilt.

KENTUCKY

An explosion early the morning of April 27 occurred while Burley Fugate and Jeff Wilson, inspectors for the Duvin Coal Co., at Providence, were making an inspection prior to start of the day's work in the mine. Wilson was cut off by a slate fall and was later taken from the mine dead. Fugate was not injured, and was able to get to the surface and call assistance. The mine caught fire, but the blaze was put out and the barricade removed within a few hours.

Orlando Seymour, 18 years of age, self-confessed slayer of William Schanzenbacher, 33 years of age, manager of one of the yards of the St. Bernard division, West Kentucky Coal Co., Louisville, has been sentenced to death for the crime. Seymour and a boy named Huddleston tried to hold up Schanzenbacher and take company money, which the latter was taking to his home for safe keeping. Evidence showed that the boy demanded the cash, and then started shooting. The other boy hasn't been tried as yet.

The West Kentucky Coal Co. discontinued the loading of coal at its South Diamond mine, near Morton's Gap, on May 1. The mine has been operated for 40 years. The company will continue to mine coal from workings of the mine but it will be hauled to the tipple of the Fox Run mine of the company, near St. Charles, where coal from both mines will be loaded into railroad cars. Employees of the mine will be distributed at the Arnold Nos. 9 and 11 mines, near Earlington, and at Fox Run mine.

MINNESOTA

The Carnegie Dock & Fuel Co. has taken over the business of two prominent independent retail concerns, the Crail Coal Co. and the Murray Coal Co. The Carnegie company already had yards in St. Paul and Minneapolis.

OHIO

Bids will be received by the clerk of the Cincinnati Board of Education until May 10 for supplying public schools with coal in the following amounts: 10,445 tons of smokeless mine-run, 5,115 tons of bituminous nut and slack, 1,466 tons of bituminous lump and 541 tons of bituminous mine-run.

The tipple of the Preston-Morgan Coal Co.'s mine near Nelsonville was burned to the ground recently, entailing a loss of about $18,000. It is doubtful if the tipple will be rebuilt for the time being at least.

The Columbus Board of Purchase has rejected all bids for 21,700 tons of Ohio nut, pea and slack which were opened April 14. The board was authorized to purchase coal for the various city departments on the open market for the time being. The W. S. Harman Coal Co., Columbus, was low bidder at $1.24 per ton for 15,000 tons Hocking nut, pea and slack while the Red Jacket Consolidated Coal & Coke Co., Columbus, was low bidder on 6,700 tons of West Virginia nut, pea and slack, at $1.25 per ton for the Water Works Department.

Charles Minich, of Greenville, has been appointed receiver for the Ohio Tennessee Coal Co., which owns 4,700 acres of land in Monroe County. Directors in filing a receivership petition declared the company had assets of $556,763 but was in danger of insolvency because of threatened foreclosures. The company was organized to mine coal in the southeastern Ohio field.

OKLAHOMA

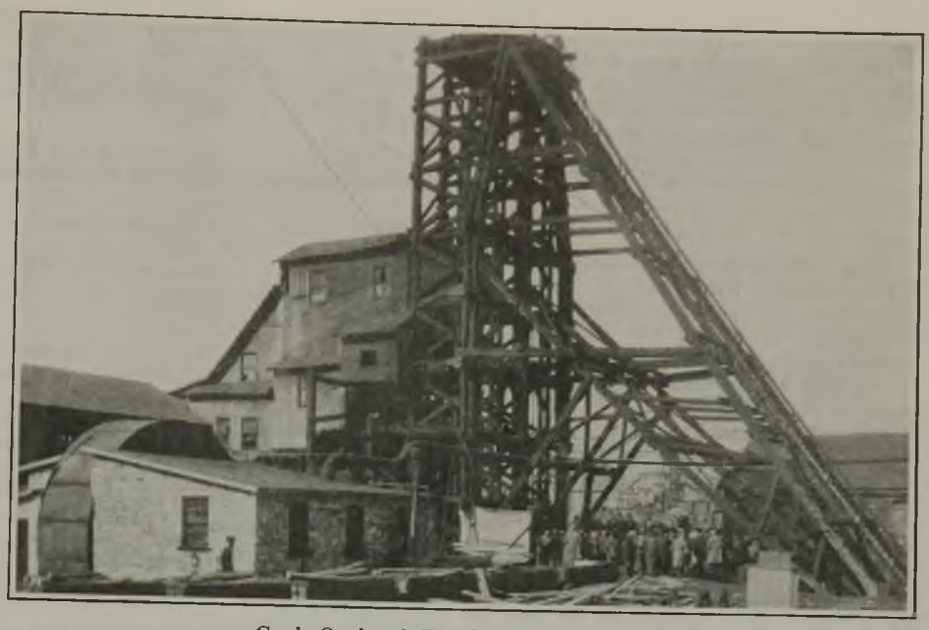
The Cambridge Collieries Co., which has 14 mines in the vicinity of Cambridge, is preparing to operate after a year's shutdown. The company has promulgated an adjusted wage scale based on the 1917 agreement and has announced its intention of opening its mines "with or without the miners' union."

PENNSYLVANIA

Lewis to Boost Pinchot.—John L. Lewis, international president of the United Mine Workers, will campaign in Pennsylvania next week in the interest of the candidacy of Governor Pinchot for the Republican nomination for United States Senator. Mr. Lewis will be accompanied by Thomas Kennedy, international secretary, and Philip Murray, vice-president. May 10 and May 11 will be spent in the soft-coal fields of western and central Pennsylvania, and the remainder of the week in the hard-coal regions. The officers of the five districts of the United Mine Workers in Pennsylvania recently indorsed the candidacy of Mr. Pinchot. The primary will be held on May 18. The other candidates seeking the Republican Senatorial nomination are Senator George Wharton Pepper and Congressman William S. Vare.

The Kuhn Brothers mine at Cokeburg Junction, one of the largest independent mines in the district, has resumed operations under the Jacksonville wage scale. The mine, which had been idle for several months, employs 600 men when operating at capacity.

Osborne Mine Resumes Open-Shop.—The Youghiogheny & Ohio Coal Co. has reopened its Osborne mine, at Wyano, on a non-union basis. The first attempt to operate was made Monday, May 3. The scale is not exactly the 1917 list, in some respects being slightly higher and in others slightly under. Prior to reopening the company posted notices calling on former employees to return to work, saying that a number of them had made overtures for the resumption of the mine. The mine had been shut down since July, 1924.



Crab Orchard Tipple, Eccles W. Va.

Shows surface plant of the Crab Orchard Improvement Co., where nineteen men perished in two explosions on March 8. The first blast occurred in Mine No. 5, where twenty-nine men were working, and spread to No. 6, where thirty-seven others were engaged. Forty-seven were rescued. In April, 1914, an open light caused a coal-gas explosion in No. 5 mine, in which 186 men lost their lives. The Crab Orchard company is a subsidiary of the Stonega Coke & Coal Co., controlled by the Wentz interests.

The Superior Court of Pennsylvania last week sustained the conviction of John A. Bell, former Carnegie banker and coal operator, and refused his appeal for a new trial. He was found guilty of embezzling and misapplying more than $600,000 of the funds of the Carnegie Trust Co., of which he was president.

Net earnings of $93,352, after charges, are reported for the first quarter by the Cosgrove-Meehan Coal Corporation. This is equal to 37c. a share on the 240,462 shares of common stock outstanding. Earnings for that quarter in 1925 were $18,353.

The Cowanshannock Coal & Coke Co. is building at its mine near Yatesboro a modern steel tipple similar to the one built by the Rochester & Pittsburgh Coal & Iron Co. at Ernest.

What has been referred to as a "monkey breaker" has been placed in operation by the Philadelphia & Reading Coal & Iron Co. at its Alaska mine, near Mount Carmel, where the breaker was recently destroyed by fire. This so-called "monkey breaker" was erected in record breaking time and coal is now being prepared in steam sizes for the market. The men laid off by the breaker fire have already returned to their former positions. In the meantime the coal company is pushing work on plans for the new steel breaker at the Alaska mine.

Oscar B. Goodyear and others have purchased from Madeira, Hill & Co. the entire capital stock of the Ashman Coal Co. Mr. Goodyear and his associates have taken over the operation of the Ghem mine, at Munson, including the sale of the coal.

Officials of the Hudson Coal Co. are anxious to purchase outright the cemetery of St. Hedwig's Polish Catholic Church at Larksville. Some time ago the company offered to move all of the bodies to a new cemetery and pay something for the change besides but the offer was rejected. It is the desire of the company to mine all the coal beneath the burial grounds. Most of the members of this congregation are mine employees.

Pinchot Can "Fire" Coal Police.—Whether or not Governor Pinchot is contemplating making wholesale dismissals among the coal and iron police he has just asked for and received an opinion from Attorney General Woodruff which informs him that he can dismiss them "to the extent of elimination." The Governor's grievance seems to be with the coal police, and the Attorney General in his decision on the points raised by the Executive says that during the past sixty years there have been complaints that the special policemen have been used in a way "to harass and oppress the striking miners of certain parts of the Commonwealth." A year ago twenty coal and iron police were dismissed from service in the western part of the state.

The Pennsylvania Coal & Coke Co. and subsidiaries report March deficit of $46,470 after charges, ordinary taxes, depreciation and depletion, but before federal taxes, against a deficit of $39,-910 in March, 1925. Deficit for the first three months of 1926 totaled $20,205, comparing with a deficit of $158,684 in the same period of the previous year.

After baffling all efforts of fire fighters for many years a blaze in the old Jersey mine, in Plymouth township, is now beyond control and as a result the Glen Alden Coal Co. has closed operations at the Avondale mine, and the George Lindsay Coal Co., an independent concern, also has been forced to curtail mine production, putting 1,000 men and boys out of work. Several workers of the Avondale and Lindsay mines were overcome by blackdamp while fighting the flames. All modern methods are being used to fight the blaze, but officials admit the situation has become serious.

TEXAS

The Texas Pacific Coal & Oil Co. reports for the quarter ended March 31, 1926, net income of $774,522 after expenses and charges, but before depreciation and depletion, against $493,126 in the first quarter of 1925.

UTAH

Sues for Heavy Damages. — The United States Fuel Co., of Salt Lake City, one of the two largest mining companies in Utah, has filed suit in federal court against the Lion Coal Co., of Ogden, to recover damages in the amount of $173,400.88. The two companies own adjacent properties in Carbon County and the plaintiff company alleges that in underground workings the Lion company has extracted $10,684 worth of coal from the ground belonging to it. It is further charged that the workings of the Ogden company have shut off from the United States Fuel Co.'s mine coal valued at $51,996.78. The plaintiff company charges that defendants have mined the coal entirely away from the adjoining boundary, making it necessary to leave pillars 100 ft. wide. The Industrial Commission of Utah requires that pillars 50 ft. wide shall be left at the exterior borders of a coal mine as a safety precaution.

VIRGINIA

For the first quarter of 1926 the Clinchfield Coal Corporation reports a net income of $126,684, after fixed charges and federal taxes, compared with $158,450 in the same period last year. The 1926 earnings are equal, after preferred dividendes and preferred-stock sinking funds, to 63c. a share on 145,476 shares of common stock, while the 1925 quarterly income equaled 86c. a share.

WASHINGTON

E. L. Brewer, of Satsop, has been elected president of the Morton Coal Co., which owns a valuable property at that place. J. W. Strubel, Elma business man, was chosen vice-president, and J. M. Bell, of La Grande, secretary. John McDonnell, of Morton; Floyd Sherwood, of Ajlune, and H. W. Gibson have been added to the board of directors. Plans have been made to develop a daily output of 300 to 400 tons.

New washing machines are being installed at the Bellingham coal mines.

WEST VIRGINIA

To Hear Coal Men on Taxes.—Taxation in West Virginia as it affects coal will be discussed by prominent coal men during a series of public hearings to be conducted by the tax commission of seven appointed by Governor Gore under legislative resolution to investigate and report on the question of revenue for state purposes. Meetings are to be held at Bluefield, May 10; Huntington, May 12; Charleston, May 14; Martinsburg, May 31; Clarksburg, June 2, and Wheeling, June 4. The West Virginia Coal Association is preparing a brief with particular reference to comparative receipts and expenditures since 1910, together with a résumé of such information as has been heretofore issued through the offices of the association to its membership. The brief probably will be presented at Huntington on May 12 or at Charleston on May 14.

Admitting that plans are going forward to organize the coal miners for collective bargaining with operators, R. M. Williams, former union leader in the Fairmont field, has confirmed reports that he is endeavoring to enlist supporters in the formation of a new labor organization.

The Maryland Coal Co. has reopened its No. 2 mine at Wendell, in the Taylor County field, giving employment to about 300 miners. It is possible, officials state, to operate the mine from three to five days a week, and indications point to steady operations for some time to come. It is possible, according to reports, that the Permid and Morgan mines at Hardman will resume operations soon, after being closed down for several months.

Carl L. Hornor, of Clarksburg, has been named as receiver for the personal property of the Wilbur Fuel Co., operating a mining plant at Lost Creek, Harrison County, on petition of H. D. Talbott Co., Inc., a general insurance and bonding concern. The Talbott company claims that it holds a debt of $7,991.51 against the Wilbur Fuel Co., the Thermal Coal Co., the Vulcan Coal Co. and others, and that there is an indebtedness of $700,000 against the Wilbur company, which is said to be unable to meet the obligation. Back pay of $12,000 also is said to be due miners.

Rock-dusting is nearly completed in the Carolina mine, No. 86, of the Consolidation Coal Co. Limestone has been used in nearly all of the workings and the treatment will be repeated as needed.

Administration offices of the Sycamore Coal Co., operating in the Winifrede seam near Williamson, will be removed to Huntington, quarters in the First Huntington National Bank building having been leased. S. W. Patterson and George Patterson, brothers, owners of the company, are residents of Huntington and are active in the civic and business life of the city. Production of the Sycamore mines is handled through the Old Ben Coal Corporation, Chicago.

One of the largest gatherings of mining men in southern West Virginia will be held in the Look Creek Y. M. C. A. at Mount Hope on Saturday evening, May 8, when the Fayette County and Raleigh County Mining Institutes and the men in the mining extension department of West Virginia University, Morgantown, will hold a banquet.

The West Virginia Eagle Coal Co. Boncar, Fayette County, is erecting a tipple with shaker screens, picking tables and loading booms at a cost of $25,000. The Eagle and No. 2 gas seams are worked there and the plant will have a capacity of 1200 tons.

A wooden tipple of the Davis Creek Land & Coal Co., five miles from Charleston, was burned down on April 24.

According to an announcement made on May 1 by Robert M. Lambie, chief of the state Department of Mines, 115 safety meetings were held in West Virginia during March.

E. W. Tildesley, president, and Sidney S. Stone, secretary and treasurer of the Tildesley Collieries Co., a coal sales agency of Charleston, which went into bankruptcy several months ago, were sentenced on April 30 by Judge McClintock, in federal court in Charleston, to serve two and a half years in the federal penitentiary in Atlanta, Ga. Both men entered a plea of guilty to using the mails to defraud in that they gave false financial ratings and statements. Failure of the concern caused three coal companies to go into bankruptcy, according to reports.

The New River & Pocahontas Consolidated Coal Co. has just completed work on a new steel tipple at its Kaymoor No. 1 mine. It is a four-track structure, capable of handling 250 tons of coal an hour. An output of 900 tons a day is now being handled over it. With better facilities now available for handling output at the No. 1 mine and with a decreased demand for coal, the No. 2, mine, at South Fayette, has been closed indefinitely.

The Ephraim Creek Coal & Coke Co. near Thurmond, Fayette County, has started to rock-dust its mine, according to a report received by the state Department of Mines, in Charleston.

The Camp Branch Coal Co., Greendale, Nicholas County, is planning to install a new tipple at its operation, according to reports.

WISCONSIN

The Stott Briquet Co. is enlarging its briquetting plant at Superior to increase its capacity. A new dryer will be added to the equipment. The present rated capacity of the plant is about 60 tons per hour and the improvements will permit an hourly output of 90 tons of briquets made from anthracite dust.

CANADA

J. S. Woodsworth (Labor, Winnipeg North Centre) called attention in the Dominion House of Commons April 23 to a report appearing in an English newspaper to the effect that 10,000 Welsh miners were coming to Canada in connection with a scheme which would "revolutionize coal mining in Canada." If this report were correct, had these men been informed of conditions in the Dominion? Charles Stewart, acting Minister of Immigration and Colonization, replied that he had no knowledge of the scheme to bring these miners to Canada or the proposed development.

Representatives of 25 municipalities in various parts of Ontario met in Toronto April 27 to consider the coal situation. The meeting was addressed by Premier Ferguson of Ontario and Premier Brownlee of Alberta, and a resolution was adopted calling for the appointment of a special committee to make an effort to obtain a supply of Alberta coal for Ontario. The speakers urged that, if necessary, the traffic be encouraged by a government subsidy.

Among the Coal Men

A. J. Johnson, who recently severed his connection with the Standard Elkhorn Coal Co., Garrett, Ky., as vice-president and general manager, is now president of the Jacks Creek Coal Co., Johnsonia, Ky. His successor with the latter company is **H. H. Davis**, of Huntington, W. Va., formerly general manager of the Kentucky Elkhorn By-Product Coal Co., Dorton, Ky.

A. T. Watson has been appointed director of purchases and stores of the Consolidation Coal Co., with headquarters at Fairmont, W. Va., effective May 1. He has been succeeded as general purchasing agent by F. C. Davis. C. S. Moss, who was in charge of the stores of the Kentucky division, has been appointed general manager of stores with headquarters at Fairmont. The announcement of the changes was made by F. R. Lyon, vice-president in charge of operations of the Consolidation company, the appointments having been approved by C. W. Watson, president of the company.

R. C. ("Jack") Ferrell has resigned as secretary of the Logan Fuel Co., coal wholesalers, with offices in Charleston, W. Va., to accept a position with the Kanawha & Hocking Coal Co., at Longacre. C. A. Pauley, who had been Mr. Ferrell's assistant for some time, has been made secretary of the Logan Fuel Co. The changes were effective April 1.

George Wolfe, former secretary of the Winding Gulf Operators Association, underwent an operation last week which will keep him several weeks in a hospital. Mr. Wolfe was injured while exercising in the Y. M. C. A. gymnasium at Norfolk, Va.

C. W. Watson, president of the Consolidation Coal Co., has been elected to the executive committee of the Elk Horn Coal Corporation, succeeding J. W. M. Stewart, of Ashland, Ky., and to the board of directors, succeeding Harry Clark, of Fairmont, W. Va. The Consolidation Coal Co. stockholders at their annual meeting elected **G. J. Anderson**, executive vice-president, a director to succeed George C. Jenkins, resigned.

G. J. Anderson, executive vice-president of the Consolidation Coal Co., has been elected a director to succeed George C. Jenkins, resigned.

John A. Emslie has been appointed by general sales manager J. E. Westervelt, of Castner, Curran & Billitt, as the company's resident sales manager at Cincinnati. He was vice-president and general manager of the Creech Fuel Co. His place in the latter company has been taken by **Cliff R. Thomas**, long associated with the organization. **Elmer Wierhake**, who was for many years with the Kentenia Coal Co. and who opened the Cincinnati office for the General Coal Co. in 1924, has been appointed assistant to Mr. Emslie and will have charge of distribution for the company in Ohio.

A. B. Thurman, for a number of years property man for the Crowe Coal Co., has been appointed justice of the peace in Arma, Kan., to succeed Henry Forsyth, another former coal company employee, who died recently after having served as justice in Arma for many years.

Paul Shriver, for eight years a member of the Norfolk staff of the Smokeless Fuel Co., has accepted a position in the Norfolk office of the Consolidation Coal Co., which is enlarging its force. His position with the former concern has not been filled.

George S. Brackett

George S. Brackett, head of the Brackett Statistical Service, Fairmont, W. Va., became identified with the Consolidation Coal Co. on May 1. The understanding is that Mr. Brackett's work will be similar to that which he has done for the operators as a whole in the northern West Virginia field. The Brackett Service has been replaced by the Northern West Virginia Coal Bureau, which will operate under a governing committee of five operators, of which J. A. Clark, Jr., is chairman.

Milton Goodman resigned April 1 as sales manager of Richards & Sons, producers of Indiana coal, to manage his own company, the Gibraltar Coal Corp., 1930 Straus Building, Chicago. Mr. Goodman is president of the Gibraltar company, which is newly organized. **E. E. Munger** will be associated with him as vice-president. They will handle all coals, principally southwestern Indiana, southern Illinois and western Kentucky. **H. L. Jump** succeeds Mr. Goodman as sales manager of Richards & Sons. Mr. Jump comes from the eastern department of the company.

R. S. Frazier, for the past five years engineer at the Hiawatha mine of the United States Fuel Co., Hiawatha, Utah, has resigned to take up orange-growing in California.

Obituary

S. M. Williams, Former Head Of Burns Bros., Dies

Stephen M. Williams, former vice-president of the Central Railroad of New Jersey and chairman of the board of directors of Burns Brothers' Coal Co., died April 29 at the Hotel Majestic, New York City, in his eighty-seventh year.

He was born and educated in New York City. While a young man he entered the service of the Central Railroad of New Jersey in a minor capacity. After rising to the vice-presidency he retired about twenty years ago and became interested in several coal companies in New Jersey. When they were merged several years ago with Burns Brothers, he became an official of that corporation. He had not been active in business in recent years.

During the eighties and nineties when he lived in Roselle, N. J., Mr. Williams was active in New Jersey politics, serving several times as chairman of the Democratic State Convention.

W. H. D. Gibson, vice-president in charge of sales of the J. K. Dering Coal Co., Chicago, died from heart disease April 25 at San Antonio, Texas. He was buried April 27 in Oakwood Cemetery, following funeral services at Oakwood Chapel at 3 p. m. Mr. Gibson was 55 years of age and is survived by a brother and two sisters. He began as an office boy with the Chicago & Eastern Illinois R.R. and rose to the general freight agent position from which he stepped into the organization of the J. K. Dering Coal Co.

William Potter, who was appointed by President Wilson during the war as Federal Fuel Administrator for Pennsylvania, died April 29 at the Jefferson Hospital, Philadelphia, Pa., following an operation for appendicitis. Besides being the head of the large oilcloth manufacturing business of Thomas Potter's Sons, he held many positions of importance, being at one time ambassador to Italy, and at his death he was president of Jefferson Medical College, Philadelphia.

Association Activities

The Virginia Coal Operators' Association at its annual meeting, April 17, elected the following officers: President, Lee Long, president, Clinchfield Corp., Dante; Vice-president, Webb J. Willis, president, Norton Coal Co., Norton; Secretary-Treasurer, C. B. Neel, Norton. The directors include the officers and Douglas Terpstra, general manager, Premier Red Ash Coal Co., Red Ash; A. W. Wagner, president, Virginia-Lee Co., St. Charles; J. D. Martin, general superintendent of coal mines, Virginia Iron, Coal & Coke Co., Roanoke; R. E. Taggart, vice-president, Stonega Coke & Coal Co., Big Stone Gap, and R. S. Graham, vice-president, Wise Coal & Coke Co., Norton.

Production And the Market

Soft-Coal Trade Suffers from Waiting Policy; Anthracite Demand Quiet but Steady

Positive progress toward stability in the bituminous-coal trade is still difficult to discern, developments during the last week having been largely of a negative character. While the British labor tie-up brought about by the collapse of negotiations between the coal miners and operators will inevitably influence the coal trade on this side of the Atlantic, its effect at first will be more of a psychological than a tangible nature. It is too early at this writing to foresee how far-reaching its results may be, which will depend on the extent of the strike and how long it lasts.

Delay in the opening of lake navigation continues to limit the movement of tonnage from eastern Kentucky and West Virginia, which is having a depressing effect on sentiment in those fields. General industrial demand is good—in fact, is increasing in some lines—but open-market buying is keeping producers on the ragged edge. Contracting is backward in all markets, Mr. Micawber's policy being played for all it is worth.

Shift to Non-Union Coal in Midwest Still On

Large Middle Western consumers continue to shift from Illinois and Indiana coals to the cheaper output of non-union mines, the latest development along that line being the recent decision of one of the railroads to close its own Illinois mines and obtain its fuel supply from the docks. Smokeless coals showed renewed strength in the Chicago market last week because of export possibilities, and in Cincinnati an advance is expected within a fortnight. The Hocking Valley Ry. has lifted its embargo on shipments from southern West Virginia to Toledo, but fears are felt that there will be another tie-up unless navigation opens soon. Trade continues quiet at the Head of the Lakes and in the Southwest. The general sluggishness is unrelieved in central and eastern Ohio, western and central Pennsylvania and at Buffalo.

A slightly firmer tone has appeared in New England, due to the possibility of a demand from British shippers. At New York a more cheerful note prevails; surplus tonnages are diminishing and increased activity in contract renewals is expected. The Philadelphia, Baltimore and Birmingham markets are marking time.

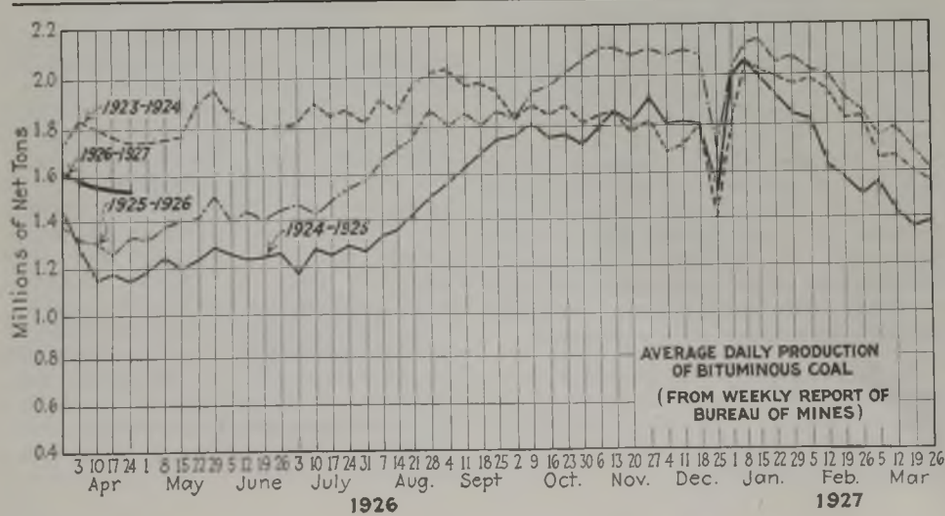
Price changes have been so slight as to make scarcely any appreciable difference in the average figure, *Coal Age* Index on May 3 standing at a fraction under 159 and the corresponding price at $1.92, a decline of about 1c. from the preceding week.

Production of bituminous coal also varies but little from recent levels, the total for the week ended April 24 being estimated by the Bureau of Mines at 9,251,000 net tons, a decline of 54,000 tons from the preceding week. Anthracite output continues to advance slightly, as shown by a total for the week ended April 24 of 2,095,000 net tons, an increase of 9,000 tons over the week before.

Domestic Hard Coal Firm; Steam Sizes Weak

Company producers of anthracite are moving domestic sizes without much difficulty, though buyers exhibit no unseemly anxiety to place orders. Independents are able to obtain only small premiums for their product, with pea in best demand. The weather has helped current demand, but buying for spring and summer fill-ups is below normal. May 1 circulars continue the price basis established at the close of the anthracite strike, as forecast in *Coal Age* at that time. Steam sizes are feeble.

The Connellsville coke market is dull, and an increase in spot offerings threatens to depress prices still further.



Estimates of Production

(Net Tons)

	1925	1926
BITUMINOUS		
April 10	7,843,000	9,420,000
April 17 (*a*)	7,515,000	9,306,000
April 24 (*b*)	8,030,000	9,251,000
Daily average	1,338,000	1,542,000
Cal. yr. to date (*c*)	154,389,000	178,296,000
Daily av. to date	1,595,000	1,841,000
ANTHRACITE		
April 10	1,672,000	1,793,000
April 17	1,522,000	2,086,000
April 24 (*b*)	1,880,000	2,095,000
Cal. yr. to date (*c*)	27,461,000	17,484,000
BEEHIVE COKE		
April 17	201,000	233,000
April 24	189,000	228,000
Cal. yr. to date (*c*)	3,938,000	5,746,000

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

Shift to Non-Union Coals Continues

In the Middle West the shift of large consumers from Illinois and Indiana to the cheaper non-union coals continues. Within the past few days one of the important railroads in that section has laid plans to close down its own Illinois mines and to seek its fuel supply from the docks. Many big industrial plants, which have not definitely changed over, keep the producers on tenterhooks by open-market purchases. This policy, however, helps to maintain firmness in spot quotations.

Domestic business is slow. No operation in the southern Illinois field is wholly free from "no bills" of prepared coal and the number of suspensions is steadily growing. Only a few mines are working in the Duquoin district, but railroad storage orders are helping out the Mt. Olive section. The Standard field still suffers from ruinous competition. Central Illinois and Indiana are finding the going hard these days.

In the Chicago market, smokeless coals were stronger last week because of the export possibilities. High-volatile offerings, on the other hand, were weak. There was some small-lot weather business in St. Louis territory, but the volume was not large. Retails schedules effective May 1 show Standard coal at $4.75; Mt. Olive, $5.50; Franklin County, $6.25; gas coke, $10.25; byproduct coke, $10.50@$11; smokeless coal, $8.75@$9; domestic anthracite, except pea, $15.75@$16.50, and pea, $13.50.

Late Lake Start Hurts Kentucky

The delay in opening up the lake shipping season is having a depressing effect upon sentiment in eastern Kentucky. General industrial demand, however, is good and in some lines the volume of tonnage moving is increasing. Spot screenings from both the eastern and the western fields are holding firmly at $1@$1.10. Average prices on eastern Kentucky block are slightly stronger. Western Kentucky nut is a trifle weaker and mine-run is less firm. The changes, however, have been slight.

The most interesting development at the Head of the Lakes has been the appreciation in quotations on prepared smokeless coals, which were marked up 50c. a few days ago. Mine-run and screenings were increased 25c. at the same time. Buying for household consumption was the explanation for the stronger tone. General industrial and retail demand, while fairly satisfactory in volume, is on a hand-to-mouth basis. Anthracite factors are confronted with an unwillingness of the consumer to store during the spring and summer.

Shipping Open to Milwaukee

The opening of the Straits of Mackinac has put Milwaukee coal dock managers in a state of expectancy. The steamer "W. K. Field" is due with a cargo of 10,730 tons of bituminous coal, and will be followed closely by other steamers from lower lake ports. The only other development in the situation

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

Low-Volatile, Eastern	Market Quoted	May 4 1925	April 19 1926	April 26 1926	May 3 1926†
Smokeless lump	Columbus	$2.85	$2.85	$2.60	$2.50@$2.75
Smokeless mine run	Columbus	1.85	1.90	1.90	1.85@ 2.00
Smokeless screenings	Columbus	1.40	1.10	1.20	**1.15@ 1.30**
Smokeless lump	Chicago	2.85	2.60	2.60	2.50@ 2.75
Smokeless mine run	Chicago	1.95	1.80	1.80	1.65@ 2.00
Smokeless lump	Cincinnati	2.85	2.75	2.75	**2.75@ 3.00**
Smokeless mine run	Cincinnati	2.00	1.85	1.85	*1.75@ 1.85*
Smokeless screenings	Cincinnati	1.50	1.35	1.35	1.25@ 1.50
*Smokeless mine run	Boston	4.15	4.30	4.10	**4.25@ 4.40**
Clearfield mine run	Boston	1.95	1.85	1.85	*1.65@ 2.00*
Cambria mine run	Boston	2.15	2.10	2.15	*2.00@ 2.25*
Somerset mine run	Boston	2.05	1.95	1.95	*1.75@ 2.10*
Pool 1 (Navy Standard)	New York	2.55	2.65	2.65	*2.50@ 2.75*
Pool 1 (Navy Standard)	Philadelphia	2.60	2.80	2.80	2.65@ 3.00
Pool 1 (Navy Standard)	Baltimore	1.95	2.05	1.95	1.90@ 2.00
Pool 9 (Super. Low Vol.)	New York	1.95	2.20	2.10	*1.90@ 2.25*
Pool 9 (Super. Low Vol.)	Philadelphia	2.00	2.35	2.35	2.20@ 2.50
Pool 9 (Super. Low Vol.)	Baltimore	1.85	1.90	1.75	1.70@ 1.80
Pool 10 (H.Gr.Low Vol.)	New York	1.85	1.85	1.85	1.70@ 2.00
Pool 10 (H.Gr.Low Vol.)	Philadelphia	1.70	2.05	2.05	1.90@ 2.25
Pool 10 (H.Gr.Low Vol.)	Baltimore	1.70	1.75	1.60	1.55@ 1.65
Pool 11 (Low Vol.)	New York	1.50	1.70	1.60	1.50@ 1.75
Pool 11 (Low Vol.)	Philadelphia	1.55	1.70	1.70	1.55@ 1.85
Pool 11 (Low Vol.)	Baltimore	1.45	1.60	1.45	1.45@ 1.50
High-Volatile, Eastern					
Pool 54-64 (Gas and St.)	New York	1.45	1.45	1.45	*1.30@ 1.55*
Pool 54-64 (Gas and St.)	Philadelphia	1.45	1.45	1.45	1.35@ 1.55
Pool 54-64 (Gas and St.)	Baltimore	1.50	1.30	1.25	1.25@ 1.30
Pittsburgh sc'd gas	Pittsburgh	2.40	2.40	2.30	2.25@ 2.40
Pittsburgh gas mine run	Pittsburgh	2.15	2.05	2.05	2.00@ 2.15
Pittsburgh mine run (St.)	Pittsburgh	1.80	1.95	1.95	*1.75@ 1.90*
Pittsburgh slack (Gas)	Pittsburgh	1.50	1.55	1.55	1.50@ 1.60
Kanawha lump	Columbus	2.10	2.05	2.05	1.85@ 2.25
Kanawha mine run	Columbus	1.40	1.55	1.55	1.40@ 1.70
Kanawha screenings	Columbus	1.20	.85	1.05	*.90@ 1.10*
W. Va. lump	Cincinnati	2.00	1.85	1.80	**1.75@ 2.00**
W. Va. gas mine run	Cincinnati	1.45	1.50	1.50	1.40@ 1.65
W. Va. steam mine run	Cincinnati	1.30	1.30	1.40	1.35@ 1.50
W. Va. screenings	Cincinnati	1.15	.85	1.00	.90@ 1.10
Hocking lump	Columbus	2.25	2.35	2.35	2.25@ 2.50
Hocking mine run	Columbus	1.40	1.55	1.55	1.40@ 1.70
Hocking screenings	Columbus	1.25	1.05	1.15	*1.00@ 1.15*
Pitts. No. 8 lump	Cleveland	2.25	2.25	2.20	1.80@ 2.65
Pitts. No. 8 mine run	Cleveland	1.90	1.80	1.80	1.80@ 1.85
Pitts. No. 8 screenings	Cleveland	1.50	1.40	1.40	1.35@ 1.45

Midwest	Market Quoted	May 4 1925	April 19 1926	April 26 1926	May 3 1926†
Franklin, Ill. lump	Chicago	$2.60	$2.60	$2.60	$2.60
Franklin, Ill. mine run	Chicago	2.35	2.40	2.40	**2.35@ 2.50**
Franklin, Ill. screenings	Chicago	2.10	1.85	1.90	1.85@ 2.00
Central, Ill. lump	Chicago	2.35	2.30	2.30	2.25@ 2.40
Central, Ill. mine run	Chicago	2.10	2.05	2.05	2.00@ 2.15
Central, Ill. screenings	Chicago	1.85	1.30	1.50	**1.50@ 1.65**
Ind. 4th Vein lump	Chicago	2.60	2.40	2.40	2.25@ 2.60
Ind. 4th Vein mine run	Chicago	2.35	2.15	2.15	2.10@ 2.25
Ind. 4th Vein screenings	Chicago	1.95	1.70	1.80	1.75@ 1.90
Ind. 5th Vein lump	Chicago	2.25	2.15	2.15	2.00@ 2.35
Ind. 5th Vein mine run	Chicago	1.95	1.95	1.95	1.85@ 2.10
Ind. 5th Vein screenings	Chicago	1.55	1.30	1.35	1.30@ 1.45
Mt. Olive lump	St. Louis	2.50	2.50	2.50	2.50
Mt. Olive mine run	St. Louis	2.25	2.15	2.15	2.15
Mt. Olive screenings	St. Louis	1.75	1.40	1.40	1.40
Standard lump	St. Louis	2.25	2.50	2.50	2.50
Standard mine run	St. Louis	1.80	1.80	1.80	1.75@ 1.85
Standard screenings	St. Louis	1.70	1.15	1.15	1.15@ 1.20
West Ky. block	Louisville	1.80	1.75	1.75	1.65@ 1.85
West Ky. mine run	Louisville	1.35	1.25	1.25	1.10@ 1.40
West Ky. screenings	Louisville	1.20	1.00	1.05	1.00@ 1.10
West Ky. block	Chicago	2.00	1.75	1.75	1.65@ 1.85
West Ky. mine run	Chicago	1.30	1.15	1.15	.80@ 1.50
South and Southwest					
Big Seam lump	Birmingham	2.40	2.00	2.00	**1.90@ 2.40**
Big Seam mine run	Birmingham	1.75	2.00	2.00	1.75@ 2.25
Big Seam (washed)	Birmingham	1.85	2.00	2.00	1.75@ 2.25
S. E. Ky. block	Chicago	2.25	2.25	2.25	**2.10@ 2.75**
S. E. Ky. mine run	Chicago	1.65	1.65	1.65	1.50@ 1.85
S. E. Ky. block	Louisville	2.10	2.05	2.00	**1.85@ 2.25**
S. E. Ky. mine run	Louisville	1.30	1.45	1.50	1.35@ 1.65
S. E. Ky. screenings	Louisville	1.20	1.05	1.05	1.00@ 1.10
S. E. Ky. lump	Cincinnati	2.20	2.10	2.10	**2.00@ 3.00**
S. E. Ky. mine run	Cincinnati	1.35	1.50	1.55	*1.25@ 1.75*
S. E. Ky. screenings	Cincinnati	1.15	.85	1.05	*.90@ 1.10*
Kansas lump	Kansas City	4.50	4.25	4.25	*4.00*
Kansas mine run	Kansas City	3.00	2.85	2.85	**3.00**
Kansas screenings	Kansas City	2.60	2.50	2.50	2.50

* 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	May 4, 1925 Independent	May 4, 1925 Company	April 26, 1926 Independent	April 26, 1926 Company	May 3, 1926† Independent	May 3, 1926† Company
Broken	New York	$2.34	.....	$8.05@$8.60	.....	$8.15@$9.25	.....	**$8.25@$9.25**
Broken	Philadelphia	2.39	.....	8.60	$9.25	9.00@ 9.25	$9.25	9.00@ 9.25
Egg	New York	2.34	$8.50@$8.75	8.35@ 8.60	9.25@ 9.50	8.75@ 9.25	*9.00@ 9.50*	8.75@ 9.25
Egg	Philadelphia	2.39	8.60@ 9.20	8.40@ 8.60	9.25@ 9.85	9.15@ 9.25	9.25@ 9.85	9.15@ 9.25
Egg	Chicago*	5.06	7.86@ 8.50	7.44@ 8.18	8.48	8.13	8.48	8.13
Stove	New York	2.34	8.75@ 9.00	8.85@ 9.10	9.25@ 9.75	9.25@ 9.50	9.25@ 9.75	9.25@ 9.50
Stove	Philadelphia	2.39	9.20@ 9.55	8.85@ 9.00	9.60@10.10	9.35@ 9.50	9.60@10.10	9.35@ 9.50
Stove	Chicago*	5.06	8.22@ 8.70	7.92@ 8.10	8.84	8.33@ 8.58	8.84	8.33@ 8.58
Chestnut	New York	2.34	8.50@ 8.75	8.35@ 8.60	9.25@ 9.50	8.75@ 9.15	9.25@ 9.50	8.75@ 9.15
Chestnut	Philadelphia	2.39	8.60@ 9.45	8.50@ 8.60	9.25@ 9.75	9.00@ 9.15	9.25@ 9.75	9.00@ 9.15
Chestnut	Chicago*	5.06	8.14@ 8.35	7.69@ 8.00	8.71	8.38@ 8.58	8.71	8.38@ 8.58
Pea	New York	2.22	5.00@ 5.25	5.00@ 5.60	6.50@ 7.00	6.00@ 6.35	**6.50@ 7.25**	*6.00@ 6.25*
Pea	Philadelphia	2.14	5.40@ 5.75	5.35@ 5.40	6.50@ 7.00	6.00@ 6.50	6.50@ 7.00	6.00@ 6.50
Pea	Chicago*	4.79	4.91@ 5.36	4.69@ 5.00	6.03	5.65@ 5.80	6.03	5.65@ 5.80
Buckwheat No. 1	New York	2.22	2.00@ 2.50	2.50	1.75@ 2.25	3.00@ 3.50	**1.85@ 2.50**	3.00@ 3.50
Buckwheat No. 1	Philadelphia	2.14	2.25@ 2.75	2.50	2.25@ 2.75	3.00	2.25@ 2.75	*2.50@ 2.75*
Rice	New York	2.22	1.75@ 2.10	2.00	1.50@ 1.85	2.00@ 2.25	**1.50@ 2.25**	2.00@ 2.25
Rice	Philadelphia	2.14	1.90@ 2.00	2.00	2.00@ 2.25	2.25	2.00@ 2.25	*2.00@ 2.25*
Barley	New York	2.22	1.40@ 1.50	1.50	1.10@ 1.40	1.60@ 1.75	1.00@ 1.50	*1.50@ 1.75*
Barley	Philadelphia	2.14	1.50	1.50	1.50@ 1.60	1.75	1.50@ 1.60	1.75
Birdseye	New York	2.22	1.40@ 1.60	1.60	1.00@ 1.50	2.00	1.00@ 1.50	2.00

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

was a sharp cut in the price of coke, the Milwaukee Solvay Coke Co. announcing that beginning May 1 it will deliver coke at $12.90 a ton instead of $15, which had been the price for some time past.

With warm weather prevailing at the Twin Cities there is little buying except for steam use. Some industries using water power, principally public utilities and some flour mills, have had to use steam auxiliary power because of the low stage of water due to the lack of rain. But demand from other industries has not been as active as had been hoped. Little is being done in contracting in any direction.

Spring Price Cuts in Southwest

Southwestern operators swung in line last week with announcements of spring reductions in prices. The top quotation on Kansas shaft lump was cut to $4. Strip-pit lump is quoted at $3.50; nut, $3.25; straight mine-run, $3; crushed mine-run, $2.50. These reductions and colder weather cleaned up an accumulation of "no bills." Prospects of a brisk storage business are bright. Except for those mines with industrial and railroad contracts, however, the current movement is light.

Farther west, milder temperatures slowed down business at the Colorado mines, although shippers still report a fairly steady demand for lump and nut sizes. Industrial demand also is active. In Utah, on the other hand, there is practically no call for domestic sizes and trade in general is more quiet than it has been for several months.

Ciucinnati Market Holds Its Own

Though winter's hold on the skirts of spring has slowed down lake movement, it has caused Cincinnati retailers to put in more buying orders than for years and to clean up bins and reserves in a way that is gratifying. With the regular stocking season coming, the upper lakes contemplating what must be expected from the Jacksonville agreement's termination next spring, and the British mine trouble the market is holding its own.

The best glimmer of hope has been a $3 circular on standard smokeless with excellent prospect of $3.25 spot within a fortnight. Stove and nut have been raised to $2.50, some naming $1.85 for mine-run, others $1.75. The effort to get $1.50 for byproduct slack still holds, but a scattering of screenings is still obtainable for $1.25. However the market is more $1.35-$1.40 than it is $1.25-$1.50.

The heavy make of 2-in. high-volatile, in anticipation of the opening of the lakes, is pretty well narrowed down and getting it for "mine-run" is a thing of the past. That with a lake designation takes $1.65@$1.95. Block, egg and mine-run are practically where they were a week ago. Screenings and slack still hold firm.

Last month was the best volume April in ten years for local retailers. Prices for May are unchanged. River business is at capacity with nothing untoward retarding it.

Sluggish uncertainty still marks the trade in central Ohio. Activity, it is felt, hinges largely upon the opening of lake navigation, as local steam business is quiet and domestic demand wholly dependent upon the whims of the weather man. Some railroad contracts have been closed, but many more are open. In a number of cases industrial consumers have signed up half-year agreements. For the most part, the price ideas of buyers and sellers are far apart. Southern Ohio production does not average over 17 per cent of capacity.

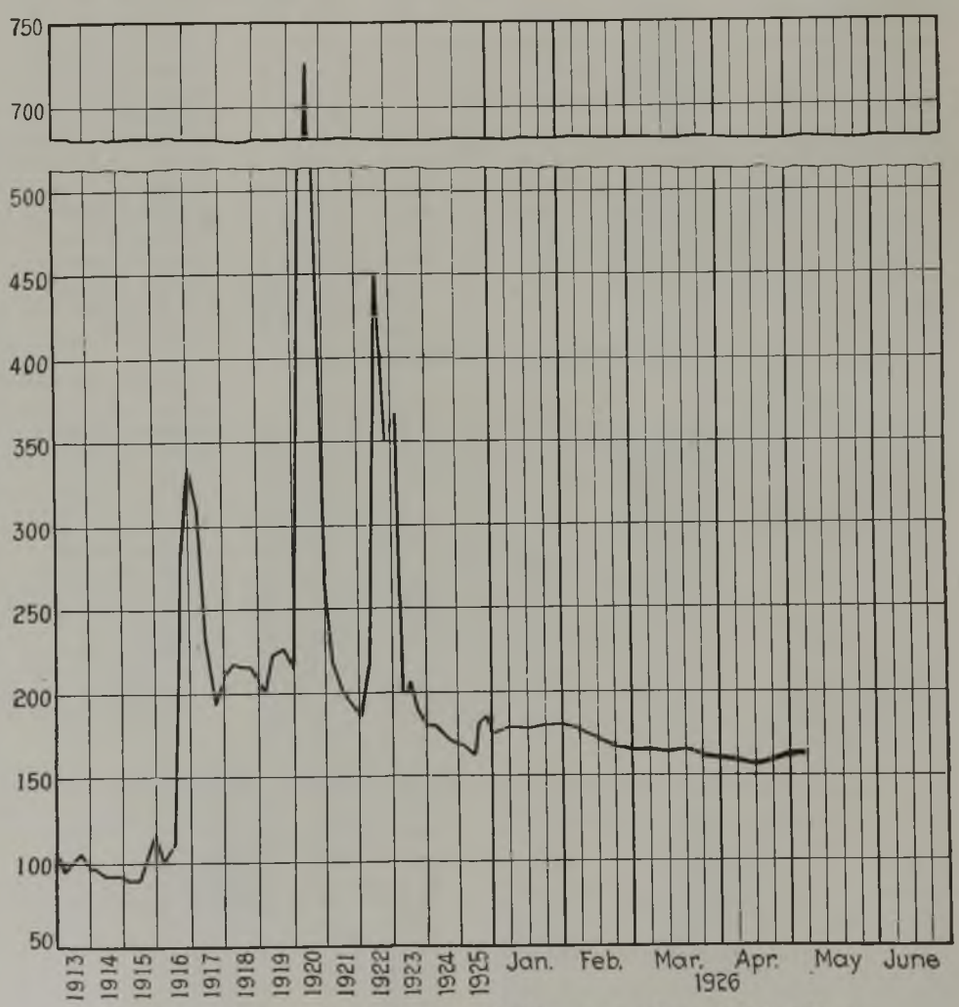
Demand Absent in Eastern Ohio

Eastern Ohio operators and jobbers report that inquiries are practically nil, and the retail business is gone absolutely. Some feelers have been out recently from large consumers for contract quotations, but no sizable agreements have been closed. Prices are unchanged except for distress lots sold at concessions to avoid demurrage. Production is being maintained at around 30 per cent of capacity. During the week ended April 24 the eastern Ohio No. 8 district produced 220,000 tons, which is 8,000 tons over output of the preceding week, and 13,000 tons over the corresponding week a year ago. Several additional mines are said to be on the verge of closing down, however.

Pessimism is the prevailing tone in western and central Pennsylvania. In the Pittsburgh district about half of the present greatly reduced output is coming from mines that have broken with the union. Mine-run prices are weakening. Youghiogheny gas holds to $2@$2.25, but good quality gas coal can be had at $1.90 or less and three-quarter at a shade under $2.25. There is little movement in steam mine-run and prices are off 10 to 15c.

In the central part of the state operators are struggling to keep mines running, but the contest is a disheartening one. "No bills" are accumulating and prices are sinking to lower levels. Pool 1 is $2.15@$2.40; pool 71, $2@$2.25; pool 9, $1.90@$2.15; pool 10, $1.75@$2; pool 11, $1.65@$1.80; pool 18, $1.60@$1.70. Except on pool 11, which is unchanged, these prices represent reductions of 10 to 30c.

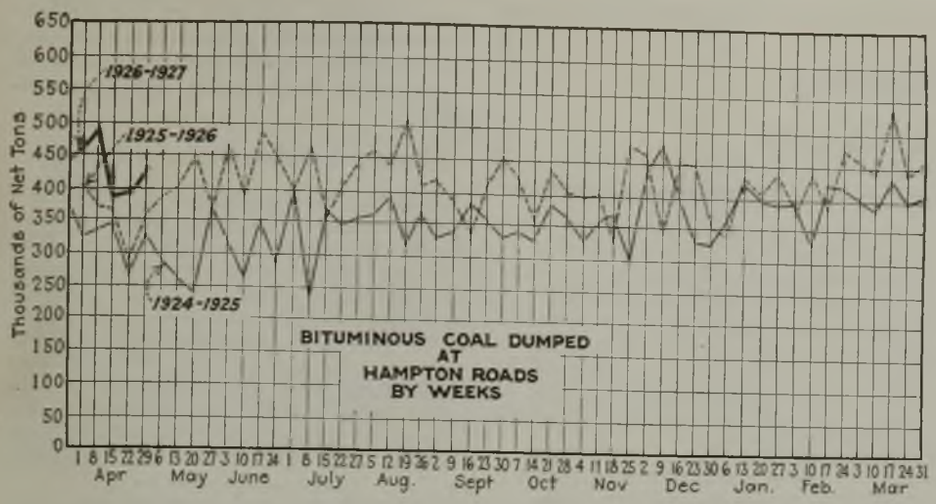
Buffalo is as gloomy as ever. Fairmont quotations are off 5 to 10c. In the domestic market, offerings of anthracite and coke leave little room for bituminous and demand for soft-coal for house-heating is extremely light. Buffalo is displaying no interest in premium anthracite. The lake trade is again in operation. Three companies already have taken tonnage and others



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

	1926				1925	1924
	May 3	April 26	April 19	April 12	May 4	May 5
Index	159	159	158	158	162	169
Weighted average price	$1.92	$1.93	$1.92	$1.91	$1.96	$2.05

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.



will follow. Actual clearances, however, will be delayed several days.

Continued cold weather keeps the retail trade at Toronto busy distributing coal. Added to this are the orders being placed for next winter's supplies. At the present time Pennsylvania anthracite has the call on the market. A small quantity of Welsh coal is moving and quite a demand for coke. Freight rates shut out Alberta coal. Recent reductions in tariffs on manufactured goods may have an adverse demand on the sale of steam sizes.

New England Spot Market Firmer

Owing partly to possible demand from English shippers the spot market for steam coals f.o.b. Hampton Roads last week was slightly firmer. Compared with $4.10@$4.15 as a minimum for No. 1 Navy Standard Pocahontas and New River a week ago there have been sales since at $4.25@$4.35, although the tonnages placed have been by no means heavy. Accumulations are still the rule, but further curtailment has been taking place and more careful supervision exercised than during most of April.

At practically all the discharging ports at this end there has been no relief from the dull market that has prevailed for some weeks. Prices on cars at Providence have been depressed to $5.25 as a minimum per gross ton, with only a reasonable volume of coal being absorbed, while at Boston the range has been about 20 to 25c. higher. Several contracts have been placed for six to nine month periods at barely in excess of $5.50.

Neither all-rail nor by water routes is there any demand for central Pennsylvania output, save in the narrow territory reserved to all-rail shippers. Prices are based on the cost of mining operations, and in no direction is there buying of any moment.

Optimists Reappear at New York

The optimists are showing their faces in the New York bituminous market. Reserve tonnages are diminishing and there is promise of more activity in contract renewals this month. It is no longer easy to buy coal at tidewater on a basis under mine quotations and spot quotations generally are so low that producers consider closing down more profitable than further reductions. Movement over the piers runs between 400 and 500 cars a day.

Slack coal is the most active size in the Philadelphia spot market. With demand for prepared sizes at such a low ebb, the tonnage of free slack naturally is limited and readily commands $1.20@$1.30. In spite of complaints that consumers will not contract, there is, nevertheless, a substantial movement of coal from the mines and no indications that the quantity will be materially reduced. The bunker market is slightly more active as some vessel owners are taking on extra coal because of the British situation. The Baltimore market is marking time.

Disposition of low-grade steam coals on the Birmingham spot market is becoming more difficult, but the medium- and high-grade fuels are moving in fair volume. Contract business is confined largely to renewals and the majority of the new agreements carry modest increases over last year's prices. A number of railroad contracts, including that of the Seaboard Air Line, are pending.

Effective May 1, prices on domestic sizes were advanced 15 to 20c. per ton. Big Seam lump is now $1.90@$2.40; Carbon Hill, $2.65; Cahaba, $3.70@$4.20; Black Creek, $3.70@$3.95; Corona, $2.90; Montevallo-Straven, $4.45; Montevallo-Dogwood, $4.70; Montevallo-Aldrich, $4.95. Egg prices are 25c. and nut 75c. under the lump quotations. There has been no change in steam prices. The foundry coke market is firm at $5.50@$6.50, ovens. Domestic egg and nut coke drag at $4.50@$5.

Hard-Coal Demand Unhurried

The New York market is absorbing all the tonnage of company domestic anthracite offered, but there is no feverish buying. Only small premiums are obtainable on independent coal, with pea the most active size. As forecast, the May 1 circulars continued the basis established at the end of the anthracite strike. Steam sizes are weak. Some distress rice was offered last week at $1 and some barley as low as 75c.

At Philadelphia the consumer demand for hard coal has been supported by the weather, but there is less than the normal buying for spring and summer fill-ups. High-premium coals are in eclipse and certain independent shippers are trying to persuade retailers to take monthly allotments at prices only 25c. over company figures. Pea continues to be in unusual demand and some dealers have been trying to satisfy their trade with a mixture of nut and No. 1 buckwheat.

The juniors drag. One of the largest company shippers is openly offering No. 1 buckwheat for spot shipment at $2.50 and has reduced the contract price to the same figure. Barley stands up better than either buckwheat or rice.

Baltimore retailers have been enjoying a good business in deliveries for current consumption. The desire upon the part of the consumers to lay in coal for next winter, however, appears to have been dampened.

Spot Offers Menace Coke Market

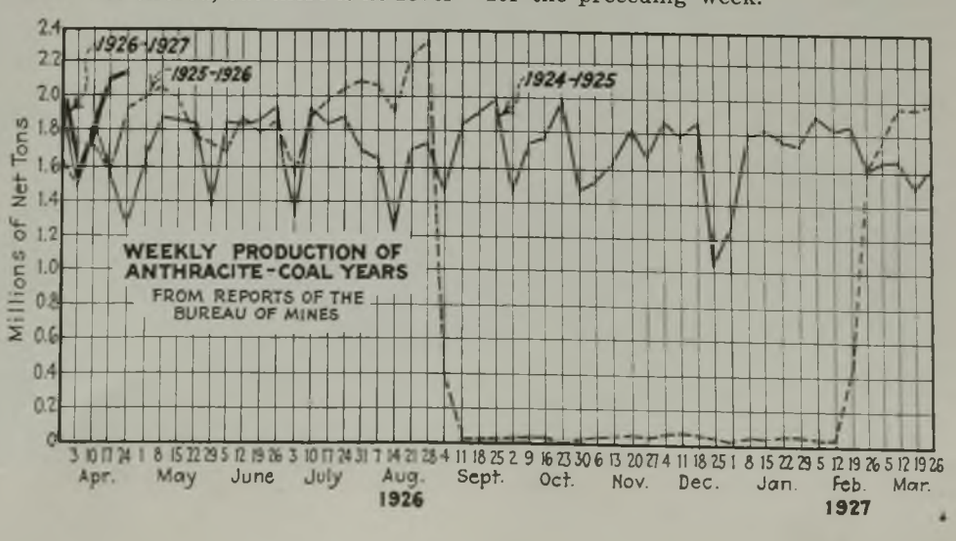
Dullness rules in the Connellsville region. Prices are unchanged, but there has been a disquieting increase in the offerings of spot furnace coke. Unless production is more sharply curtailed, it is predicted that prices will suffer. Foundries are working cautiously and most of the larger operations are well covered by contracts.

Coke output in the Connellsville and Lower Connellsville region during the week ended April 24 totaled 169,300 tons, according to the Connellsville *Courier*. Furnace oven output decreased 3,200 tons and merchant oven production, 70,100 tons, showed a decline of 3,000 tons when compared with figures for the preceding week.

Car Loadings and Supply

	Cars Loaded — All Cars	Cars Loaded — Coal Cars
Week ended April 17, 1926	964,935	167,249
Preceding week	929,506	163,897
Week ended April 18, 1925	922,778	134,172

	Surplus Cars — All Cars	Surplus Cars — Coal Cars	Car Shortages — All Cars	Car Shortages — Coal Cars
April 15, 1926	284,396	130,152	.....	.....
April 8, 1926	274,219	127,084	.....	.....
April 15, 1925	343,048	177,916	.....	.....



Foreign Market And Export News

Buying Pressure Grows In Welsh Coal Field, but Newcastle Market Lags

London, England, April 20.—The Welsh steam coal market is being subjected to pressure from both inland and foreign consumers, who are endeavoring to lay in all the stocks of coal they can before April 30. The operators have sold just about all the coal they can. Only odd lots are obtainable, and these can be obtained only at substantial premiums on recent quotations.

Prices in consequence show wide fluctuations and it is difficult to give a definite price for any class of coal, as operators are getting what they can while the rush lasts. It must be remembered that the present boom is unnatural and that the balance will be restored in a few weeks' time by unusual slackness.

There is greater optimism in Wales now over the outlook and a feeling prevails that some way out will be found which will avoid a national stoppage. One or two knotty points remain to be cleared up, chiefly the questions of national regulation of wages and working hours.

Newcastle provides a striking contrast to Wales. Though the latter field is experiencing a rush, Newcastle is quiet, and the reason probably is to be found in the fact that foreign buyers can get all the coal they want elsewhere at lower prices. There is something akin to a slump in the Newcastle market, with little prospect of a revival.

Output by British collieries during the week ended April 17, according to a special cable to *Coal Age*, totaled 5,610,000 gross tons, compared with 3,696,300 tons the preceding week.

Strike Threat Helps Belgium

Brussels, Belgium, April 17.—Fears of a general tie-up of British coal mines on May 1 have increased inquiries for Belgian fuel. The general situation, however is unsatisfactory. A number of operators are closing down collieries. Domestic stocks are growing and demand is fading.

On the industrial side, coking smalls are finding a ready market at 87@89 fr. and smalls for lime making are up to 72 fr. Lean duffs for cement burning are somewhat scarce at 42@45 fr. Official Syndicate prices on coke continue at 125 fr. for Belgian fuel and 120 fr. for German reparation coke, but open market prices are 117.50@120 fr. Effective May 1, however, the official price on reparation coke will be increased to 137 fr. and coking smalls from 83 to 88.50 fr.

French Trading Marks Time

Paris, France, April 22. — Current trading in the French coal marts jogs along with little material change. Domestic demand is seasonally dull. Industrial orders are well supported by the general commercial activity of the country. With sterling at 145 fr. and a general rush to buy British coals in anticipation of a strike, the purchases made by French buyers are very restricted. This, of course, reacts in favor of the French collieries.

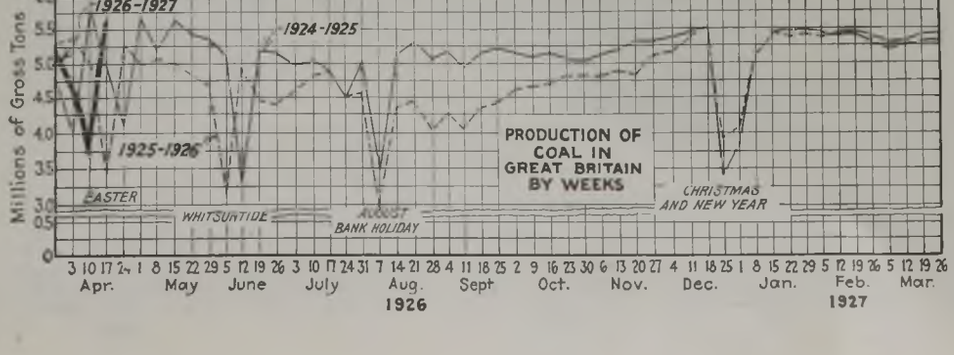
During March France imported 1,352,114 metric tons of coal—principally from Great Britain and Germany—and exported 390,392 tons. Coke imports, chiefly of German origin, totaled 518,084 tons; exports, 49,872 tons. Imports of patent fuel, with Belgium, Luxemburg and Germany the main sources of supply, were 91,294 tons; exports, 21,848 tons.

March Imports of Anthracite Make New Record

Anthracite imports into the United States during March struck a new high level, totaling 305,851 tons, of which 190,000 came from the United Kingdom, 71,000 from Germany and 25,000 from Belgium, according to the Minerals Division of the Department of Commerce. This is the greatest quantity of anthracite ever imported in an equal period of time, and is almost 100,000 tons in excess of February imports, when a record was also established.

Since Sept. 1 of last year up to April 1 this country has imported the unprecedented quantity of 938,000 tons of anthracite.

Imports of coke reached 86,000 tons, which exceeds imports of any month of this or last year. The United Kingdom led among sources of origin with 45,000 tons and was followed by the Netherlands with 34,000. Bituminous imports amounted to 45,000 tons as compared with 36,000 tons in the month preceding.



Heavy Bunkering at Panama

During March, 1926, the coal delivered by the Panama Canal coaling plants amounted to 50,031 tons. This was the largest month in coal disbursements since January, 1921, when a record of 63,420 tons was established.

On March 15, all previous records for a single day's bunkering were broken, when 8,846 tons were delivered to four commercial and three navy vessels. No record for rapid bunkering of any particular ship was established, however.

Export Clearances, Week Ended April 29

FROM HAMPTON ROADS

	Tons
For British West Indies:	
Nor. Str. Jessie, for St. Lucia	3,503
For Argentine:	
Br. Str. Vera Radcliffe, for Buenos Aires	7,726
For Italy:	
Ital. Str. Maria Enrica, for Porta Ferrajo	10,593
Ital. Str. Adamello, for Porto Ferrajo	8,402
For Brazil:	
Br. Str. Maresfield, for Rio de Janeiro	5,648
For Canada:	
Ital. Str. Eltore, for Three Rivers	6,183

FROM PHILADELPHIA

For Cuba:	
Br. Str. Baron Ailsa, for Antilla	

FROM BALTIMORE

For Italy:	
Ital. Str. Monte Nero	6,591

Hampton Roads Coal Dumpings*

(In Gross Tons)

	Apr. 22	Apr. 29
N. & W. Piers, Lamberts Pt.:		
Tons dumped for week	124,837	159,421
Virginian Piers, Sewalls Pt.:		
Tons dumped for week	89,821	112,559
C. & O. Piers, Newport News:		
Tons dumped for week	139,041	113,812

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

Pier and Bunker Prices, Gross Tons

PIERS

	April 24	May 1†
Pool 1, New York	$5.50@$5.75	$5.50@$5.75
Pool 9, New York	5.05@ 5.25	*5.00@ 5.20*
Pool 10, New York	4.75@ 5.00	4.75@ 5.00
Pool 11, New York	4.50@ 4.75	4.50@ 4.75
Pool 9, Philadelphia	5.10@ 5.40	5.10@ 5.40
Pool 10, Philadelphia	4.80@ 5.15	4.80@ 5.15
Pool 11, Philadelphia	4.25@ 4.50	4.25@ 4.50
Pool 1, Hamp. Roads	4.25	4.25
Pool 2, Hamp. Roads	4.05	**4.15**
Pool 3, Hamp. Roads	3.90@ 4.00	*3.75*
Pools 5-6-7, Hamp. Rds	3.90	**4.10 @ 4.15**

BUNKERS

Pool 1, New York	$5.75@$6.00	$5.75@$6.00
Pool 9, New York	5.30@ 5.50	*5.25@ 5.45*
Pool 10, New York	5.00@ 5.25	5.00@ 5.25
Pool 11, New York	4.75@ 5.00	4.75@ 5.00
Pool 9, Philadelphia	5.35@ 5.65	5.35@ 5.65
Pool 10, Philadelphia	5.05@ 5.40	5.05@ 5.40
Pool 11, Philadelphia	4.50@ 4.75	4.50@ 4.75
Pool 1, Hamp. Roads	4.35	4.35
Pool 2, Hamp. Roads	4.15	**4.25**
Pools 5-6-7, Hamp. Rds	4.00	**4.15**

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

Quotations by Cable to *Coal Age*

Cardiff:	April 24	May 1†
Admiralty, large	26s.6d.	**27s 6d.**
Steam smalls	17s.@18s.	**18s 3d.**
Newcastle:		
Best steams	16s.6d.	*16s.3d.*
Best gas	20s.	20s.
Best bunkers	17s.6d.	17s.6d.

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

Coming Meetings

Chamber of Commerce of the United States. United States Chamber of Commerce Bldg., Washington, D. C., May 10-13.

Chemical Equipment and Process Engineering Exposition, under the auspices of the Association of Chemical Equipment Manufacturers, Inc., at the Public Hall, Cleveland, Ohio, May 10-15. Secretary, Roberts Everett, 1328 Broadway, New York City.

Mine Inspectors' Institute of America. Annual meeting, Seventh Avenue Hotel, Pittsburgh, Pa., May 11-13. Secretary, G. B. Butterfield, Hartford, Conn.

International Railway Fuel Association. Hotel Sherman, Chicago, Ill., May 11-14. Secretary, J. B. Hutchinson, Omaha, Neb.

National Retail Coal Merchants' Association. New Willard Hotel, Washington, D. C., May 17-19. Resident vice-president, Joseph E. O'Toole, Transportation Bldg., Washington, D. C.

The American Mining Congress. Annual Exposition of Coal Mining Equipment, May 24-28, at Cincinnati, Ohio, with operating conference. Assistant secretary, E. R. Coombes, Washington, D. C.

International Geological Congress. Fourteenth congress, Madrid, Spain, May 24, 1926. Secretary, E. Dupuy de Lome, Plaza de los Mostenses, 2, Madrid, Spain.

Midwest Retail Coal Merchants Association. Annual meeting, May 25 and 26, at Kansas City, Mo. Secretary, James P. Andriano, St. Joseph, Mo.

Pennsylvania Retail Coal Merchants' Association. Annual meeting, York, Pa., May 27 and 28. Secretary, W. M. Bertolet, Reading, Pa.

Western Canada Fuel Association. Annual meeting at Winnipeg, Manitoba, Can., May 27 and 28. Secretary, W. H. Morrison, Winnipeg.

West Virginia Coal Mining Institute. Annual meeting, June 1-2, Bluefield, W. Va. (tentative). Secretary, R. E. Sherwood, Charleston, W. Va.

American Wholesale Coal Association. Annual meeting at Toledo, Ohio, June 7-9. Treasurer, R. B. Starek, Union Fuel Bldg., Chicago, Ill.

Association of Iron & Steel Electrical Engineers. Exposition and convention at Hotel Sherman, Chicago, Ill., June 7-10. Secretary, J. F. Kelly, 1007 Empire Bldg., Pittsburgh, Pa.

National Coal Association, June 9-11, at Drake Hotel, Chicago, Ill. Executive secretary, Harry L. Gandy, Southern Bldg., Washington, D. C.

American Institute of Electrical Engineers. Annual convention, White Sulphur Springs, W. Va., June 21-25. Secretary, F. L. Hutchinson, 29 West 39th St., New York City.

Illinois Mining Institute. Annual summer meeting on steamer "Cape Girardeau," leaving St. Louis, Mo., June 24 and returning June 26. Secretary, Frank F. Tirre, Central National Bank Bldg., St. Louis, Mo.

New Equipment

Pressure Assures Positive Lubrication of Worm

Worm speed-reduction gears usually are lubricated by a splash system. Either the worm or the worm wheel dips into the lubricant and the oil thrown off by the moving parts is allowed to find its way down the inside of the casing to the bearings. Special channels or other means may be provided to facilitate this method of lubrication. Splash oiling is not adequate, however, for reductions operating at high speed or those transmitting large quantities of energy.

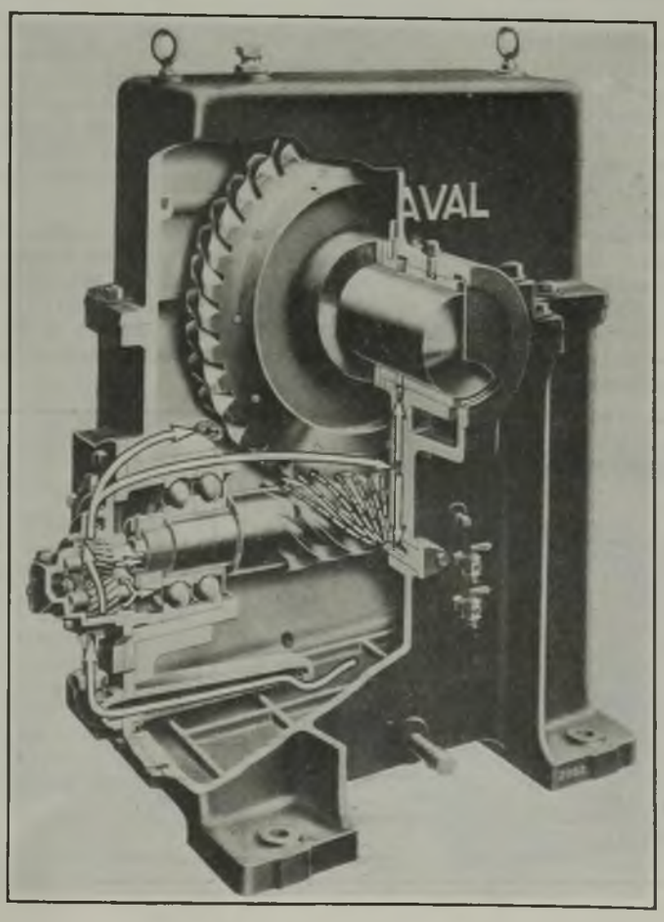
Gears intended for such speed and for the transmission of heavy mechanical loads as manufactured by the De Laval Steam Turbine Co., of Trenton, N. J., are provided with forced-feed lubrication. Oil is not only forced into the bearings but sprayed under pressure onto the worm threads. This assures a constant circulation of the oil and copious lubrication of contact surfaces at the most advantageous point. By means of a rotary pump the oil is drawn upward through a large bronze strainer, placed some distance above the bottom of the gear case. The pump delivers it through passages in the casing to the bearings and to spray nozzles located upon either side of the worm. The oil passages may be easily and readily cleaned, and the spray nozzles may be removed without disturbing any of the other piping. If desired an oil cooler may be incorporated into this system. The oil pressure is maintained constant, irrespective of the speed of the drive by means of an automatic relief valve.

Forced feed is said to eliminate heating which is so noticeable—and by reason of the excessive churning of the oil by the gears, so inevitable—with the splash system. It also obviates the frothing of the oil which is also a concomitant of the churning action. With the forced-feed system, it is claimed, a positive and continuous feed is provided to all surfaces requiring lubrication.

Alloy Valves Resist Attacks Of Corrosive Waters

A new line of acid- and corrosion-resisting valves and cocks is being placed on the market by the Barber Asphalt Co., of Philadelphia, Pa. The valves are of the gate type made with either screwed or flanged ends built in sizes ranging from ¾ to 6 in. The cocks are built with screwed ends only and in sizes from ½ to 3 in. They are of the extra heavy, plug, two-way type.

All of these fittings are made of an alloy known as Aterite, the exact composition of which is varied to suit the intended use. This alloy possesses some interesting physical qualities. Thus its elastic limit averages about 18,000 lb. and its ultimate strength about 55,000 lb. per square inch. A



Oil Where Oil Is Needed

This shows, somewhat diagrammatically, the course taken by the oil from the reservoir in the base of the casing, through the rotary pump, then through passages in the casing to the main bearings and spray nozzles. Splash systems of oiling appear to this manufacturer suited only to low speeds or the lighter installations. Frothing and heating of the oil are said to be eliminated by the forced feed because no longer is the oil picked up and churned by the worn in its rotation.

pressure of 180,000 lb. on a test piece of this metal decreased its length one half or from 1⅞ in. to 1 15/16 in. without developing cracks or flaws of any kind. The metal is thus shown to be extremely tough and ductile.

While this metal is not entirely immune to the attack of acid it is capable of resisting its ravages for a surprising length of time. It also possesses great ability to resist electrolytic corrosion when used in conjunction or in contact with the commoner metals such as copper, lead, zinc and iron. It is particularly recommended for use in chemical works but will doubtless find a place in mines where trouble is experienced from acidulous water.

Rotates Pipe and Cuts Thread

The Borden Co., Warren, Ohio, is manufacturing a machine for threading and cutting pipe called the "No. 44 Beaver power drive." This is a portable machine in which the pipe revolves and the tool remains still. Cutters can be bought for it or it can be used with hand tools. It holds pipe from ¼ to 2-in. diameter. By means of a universal-jointed shaft, it will cut 2½ to 6-in. diameter pipe by driving a No. 106 Beaver cutter.

Air Filter for Compressors And Gas Engines

Much trouble in the operation and maintenance of air compressors and internal combustion engines can be avoided by removing dirt, dust, and abrasive materials from the air before it is drawn into the cylinder. An air filter designed for this purpose is manufactured by the Spray Engineering Co., 60 High St., Boston, Mass.

In this make of filter, dust is removed by causing it to impinge on an adhesive surface, which is done by rapidly and repeatedly changing the direction of the air flow. The filter media are arranged from coarse to fine in the direction of air flow, so that where the largest percentage of dust is retained, ample space is provided for its accumulation without materially obstructing the flow of the air. By dipping or charging the cell with a special solution called "Dustix," the surfaces of the filter media are made adhesive. When the filters become dirty they may be cleaned by washing them in a hot solution of water and washing soda, thus removing the clinging dirt.

These filters are built entirely of heavy-gage metal to withstand hard usage. They are made in two types—namely, type "C" and the box type. Type "C" filters are intended for small capacities, and the box type has been designed for larger capacities. The former are small and light and can be bolted to a standard pipe flange, which, in turn, is screwed directly onto the air intake pipe.

Industrial Notes

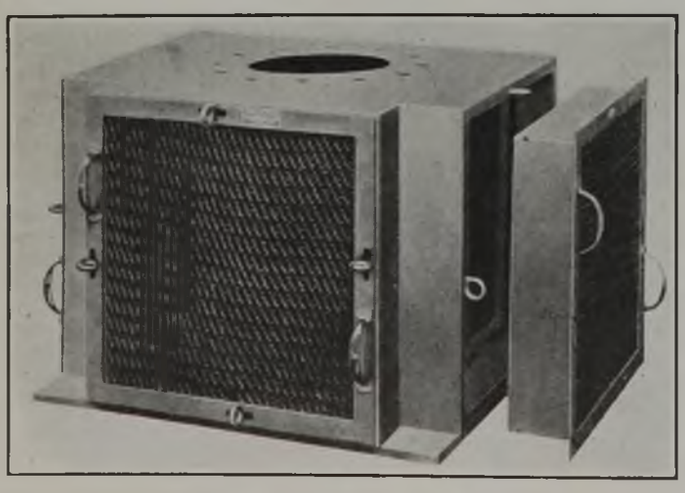
Leonard Sargeant, former sales manager and assistant general manager of the Fairmont Mining Machinery Co., Fairmont, W. Va., has been promoted to the position of general manager following the resignation of J. E. Johnson, former general manager, who will leave soon for New York City. Mr. Johnson has not announced his plans for the future.

Directors of **E. I. du Pont de Nemours & Co.** recently elected **Lammot du Pont** as president of the company to succeed Irenee du Pont, who desired to be released from the duties of the office so that he might devote more of his time to personal affairs. The retiring president was made vice-chairman of the board of directors and chairman of the finance committee. He retired from the executive committee and the new president was made its chairman.

The Electric Storage Battery Co., Philadelphia, announces the appointment of **H. B. Gay** as vice-president. Mr. Gay will continue in charge of sales. Mr. Gay, who is a graduate of Cornell University, entered the employ of the Electric Storage Battery Co. in June, 1901.

The Goulds Manufacturing Co., Seneca Falls, N. Y., announces a change in corporate name, effective April 1, to **Goulds Pumps.** There is no change in organization, business policy or ownership. The board of directors, officers, managers and personnel remain the same.

The Dodge Manufacturing Corp., of Mishawaka, Ind., has taken over the entire business and personnel of the **Hugh P. Robbins** organization, of Chicago, and has created a new division known as the material handling division, headed by Mr. Robbins.



Air Filter

Made of heavy gage metal and designed for large capacity. Air used in compressors should be free of dirt, dust and abrasive materials. A solution causes dust to adhere to metal surfaces.

New Companies

The Huskery Coal Co., 37 West Van Buren Street, Chicago, was recently incorporated, with capital of $500,000 to engage in coal mining. The incorporators are H. A. Huskery, W. P. Worth, E. C. Scarls, Frank A. Stava and Frank L. Wolf.

Super Coal Co., Inc., New York City, manufacturing coal products and briquets, has been chartered at Albany with a capital of 500 shares preferred stock of $100 par value and 15,000 shares common stock of no par value. Almet R. Latson, Jr., 193 East 17th St.; Ethel M. Jennings, 45½ Pulaski St., and Olga Beiswenger, 28 Palmetto St., Brooklyn, are the directors and subscribers. Latson & Tamblyn, 66 Broadway, New York City, are attorneys for the corporation.

The Southern West Virginia Coal Co., of Ashford, Kanawha County, W. Va., having a capital of $25,000, has been chartered by W. L. Peters, F. M. Stambaugh, D. W. Orth, D. A. Marsh and C. L. Bird, all of Charleston, W. Va.

The Camp Fork Coal Co. recently was organized with a capital of $200,000 to operate near Greendale, in the Nicholas County field of West Virginia. Among those interested in the new company are Ottway Gunmore, of Gauley Bridge; George C. Backus, E. M. Johnson, C. D. Burges and C. E. Krebs, all of Charleston, W. Va.

Bertha Jellico Coal Co., Grays, Ky., capital $10,000, has been chartered by Mattie Gray, J. H. Gray and R. C. Gray.

The Kentucky Knox Coal Co., capital $25,000, has been incorporated at Barbourville, Ky., in the eastern Kentucky district, by J. R. Ketcham, J. Q. Redding and R. D. McDade.

Articles of incorporation have been filed by the **Anchor Fuel Co.**, of Trinidad, Colo. The company is incorporated for $100,000 and has as its purpose to mine and sell coal. Incorporators are Enis A. Siegfried, Conway E. Risley and Oliver M. Knecht. Mr. Siegfried said he was not ready to announce the details of the new company's operations but that the Anchor Fuel Co. will take over the operation of some coal mining properties in Las Animas County.

The formation of the **Gifford-Brown Coal Co.**, New York City, has been announced. The members are James S. Gifford, who was connected for several years with Williams & Peters; Willis H. Brown, who has been in the coal trade for many years, and J. C. Meyerhoff, Jr., who also is well known to the trade. The new concern will occupy offices on the 6th floor of No. 1 Broadway and will handle anthracite and bituminous coals on the line at tidewater and for bunkering.

Papers have been filed chartering the **Saltillo Mining Co.**, Cleveland, Ohio, with an authorized capital of $100,000 to mine and sell coal among other things. Incorporators are S. Eugene Wood, Henry B. Johnson, Margaret England, V. J. Borth and S. J. Gibbs.