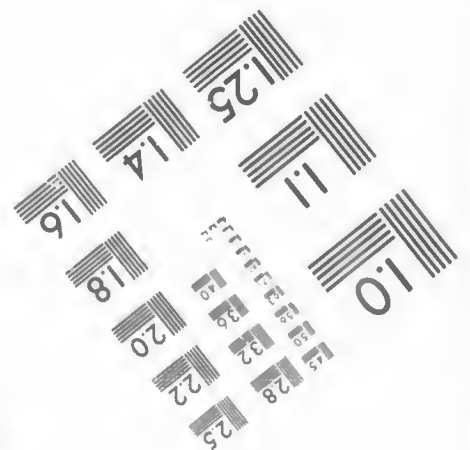
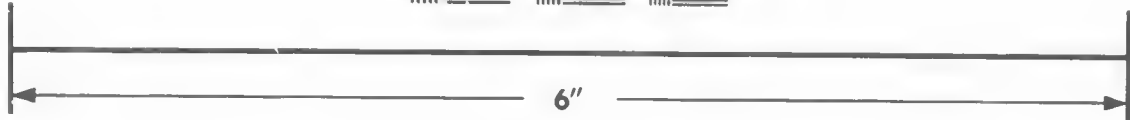
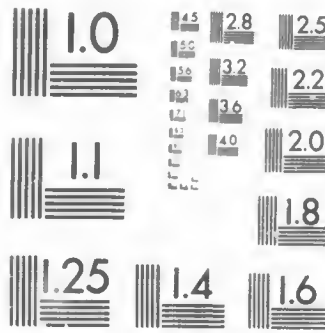


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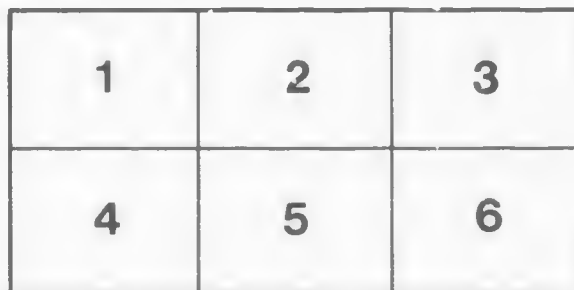
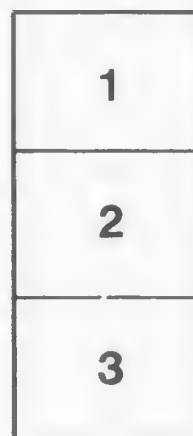
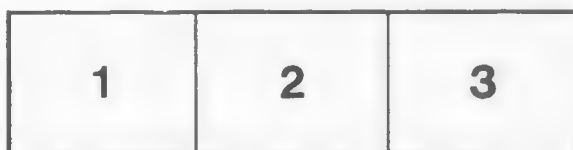
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Introduction.



THE Anthracite Coal Regions of Pennsylvania, present to the visitor many attractive features, and many that, while not attractive in the strict sense of the word, are of interest to those in quest of information and experience. The huge culm piles, the great breakers, the massive machinery for hoisting and pumping, the long underground passages, wherein busy workers dig the coal, its transportation to consumers; all these are of interest to the city dweller.



A MINER.

Trusting that the few Scenes in the Coal Regions in this little volume will clearly illustrate some phases of the industry,

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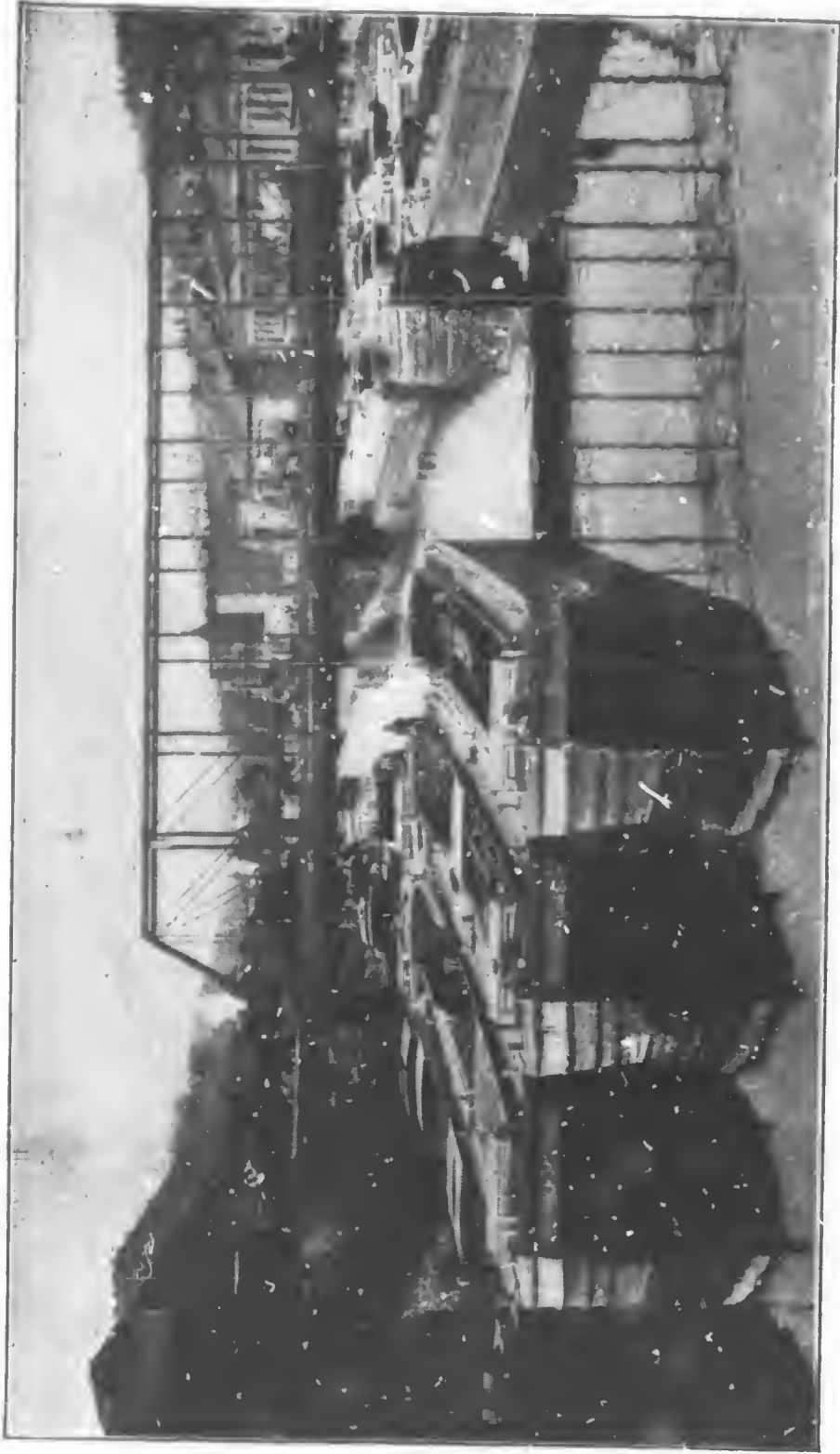
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PACKER No. 5 COLLIERY, OF THE LEHIGH VALLEY COAL CO.,

is situated on the line of the Lehigh Valley R. R. near Girardville, Schuylkill County, Pa., on lands leased from the Girard estate. It was opened in 1885, a shaft 18 feet by 52 feet being sunk in the rock to the depth of 500 feet, from which point a tunnel was driven about 1,000 feet south to the Buck Mountain vein, cutting five workable seams, the largest of which is the Mammoth, at this point 45 feet in thickness. The coal is free-burning white ash of excellent quality and appearance. The shaft is the largest in the Schuylkill Valley and is divided into four hoistways, an airway and a pumpway. The breaker is large and thoroughly equipped with all the modern improvements for cleaning and preparing coal, its capacity being about 1,500 tons per day. The colliery gives employment to about 700 men and boys.



THE DELAWARE AND HUDSON CANAL AT HONESDALE

As seen from a point a little east of the lower bridge. At the left will be seen two large piles of coal awaiting shipment, having been brought to this point by the gravity road, during the winter, perhaps, when the canal was frozen and nothing could be sent away by that route. At the base of one of the piles will be noticed a steam shovel with which coal is gathered up when it is so placed that it cannot run into boats without handling. The company has appliances at this point for washing and screening coal, when necessary, before loading into boats. The canal extends from this point to Rondout, N. Y., a distance of 108 miles.

THE COST OF ANTHRACITE.

There is often a great deal of controversy in print and otherwise, in regard to the cost of a ton of Anthracite at the mines. The following is submitted to us as the result at a colliery in the Wyoming region shipping over 150,000 tons per annum:

	Outside Expenses.	Inside Expenses.	Total.
Labor.....	\$.496	\$1.174	
Supplies.....	.046	.310	
Repairs.....	.019	.030	
	\$.561	\$1.514	\$2.075

The coal at this colliery is mined from the top and bottom splits of the Red Ash vein, averaging respectively seven and six feet of good coal. The above cost does not include the expense incurred in driving gangways, airways and tunnels, nor the amount expended from time to time in improvements nor royalty. At another colliery, producing white ash coal in the same district, it is said that the cost of putting Anthracite coal on the cars at the breaker under favorable circumstances, from a seam of advantageous size and hardness, would be for labor and materials from \$1.30 to \$1.40. To this should be added royalty and sinking fund charges, running all the way from 30 cents to 50 cents additional. These figures are based upon the entire output of the mine, including Pea, Buckwheat and Rice coal, and include no charge for interest. There are undoubtedly favorable cases where the results may be considerably less than the figures given, but there are others where they would not. Freight to New York is about \$1.75 to \$2.00.

~~~~~

## ANTHRACITE GROWTH—25 Years.

In 1869 the Anthracite tonnage was 13,866,180 gross tons, divided as follows:

|  | Schuylkill. | Lehigh.   | Wyoming.  |
|--|-------------|-----------|-----------|
|  | 5,775,138   | 1,949,673 | 6,141,369 |

In succeeding years the figures have been :

|           |            |           |            |
|-----------|------------|-----------|------------|
| 1874..... | 6,866,877  | 2,773,836 | 9,504,408  |
| 1879..... | 8,960,329  | 4,595,567 | 12,586,293 |
| 1884 .. . | 9,478,314  | 5,562,266 | 15,677,753 |
| 1889..... | 10,474,364 | 6,285,421 | 18,647,925 |
| 1893..... | 12,357,443 | 6,892,352 | 23,839,741 |

In the quarter of a century the tonnage has increased nearly 30,000,000 tons.



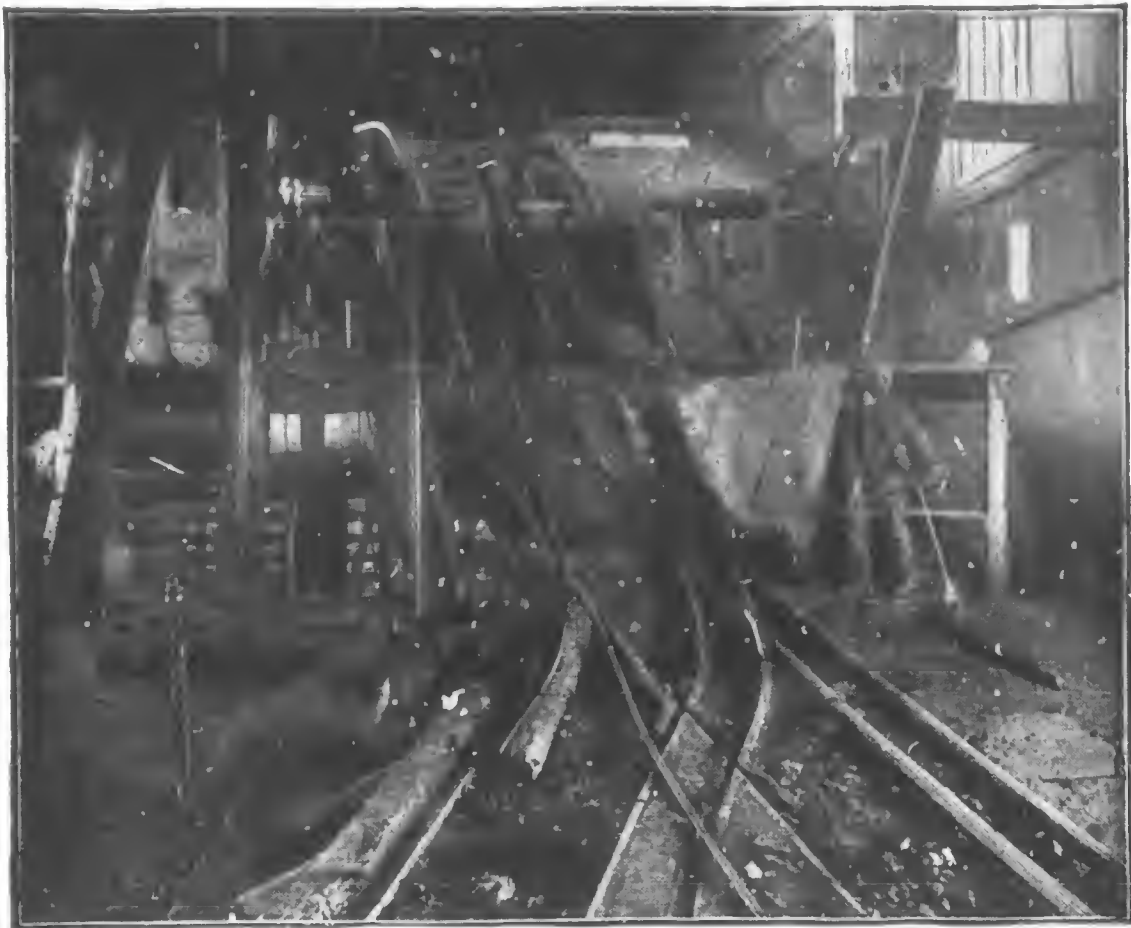
**Plane on Gravity Road, near Carbondale.**

COAL CARS GOING UP NO. 4 PLANE ON THE GRAVITY ROAD OF THE D. & H. CANAL CO.— About midway between the cars and the front part of the picture will be seen a derailing switch by which a train would be run off upon the ground if it should break loose from the cable or if the cable should break. These switches are placed at frequent intervals on every plane.

## SLATE PICKERS.

The slate pickers in an Anthracite breaker sit on benches above the drifting streams of coal, and, with patient eyes and grimy fingers, pick out slate and stone from among the mass sliding along in front of them. When it comes too fast they shut it off until the quantity in front of them has been cleaned and run off. Examining the Stove and Nut sizes are small boys, some of them perhaps but ten or twelve-year-old youngsters.

Behind the rows of little fellows who bridge these dusty brooks stands an overseer or task-master to keep them in order and up to their work. A very necessary provision, perhaps, to insure faithful work, but nevertheless one apt to arouse feelings of pity and indignation on the part of an uninitiated visitor, seeing for the first time such young fellows working at such a task in the dust-laden air prevailing all through a hard-coal breaker.



INTERIOR OF A BREAKER.

The breaker top, showing the means for hoisting and dumping the mine cars.



**AN UNDERGROUND STABLE.**

One of the places in Packer No. 5 colliery where the mules that haul the mine cars are kept. A cat will be noticed in a prominent place in the foreground. Rats are numerous in these stables and it is necessary to have one or more cats about so that at least some portion of the feed may be saved for the mules.

Seldom are the mine mules taken up from their dark quarters when once they have begun their underground life. When there is a strike they are taken to the surface and after shoes have been taken off they are put at pasture, that they may take advantage of the opportunity for recreation while the mine is idle.

Mules are used in preference to horses because they are smaller and more sure-footed; at the same time they are strong and have enough intelligence to perform their work well. The use of locomotives in mines is very restricted; only in a mine having large openings with comparatively straight and level tracks can a steam locomotive be operated to good advantage. Electric motors working on the trolley system have lately been put in operation with much success. When the machinery has been simplified and cheapened the trolley may supersede the mine mule as it has superseded his cousin, the street railway horse.



SLATE PICKERS' ROOM



ROOM IN A BREAKER.

(SEE PAGE 8.)





**AN UNDERGROUND JUNCTION POINT.**

A scene in the interior of Packer No. 5 colliery, where gangways run east and west on the Holmes vein, branching from the main tunnel which will be seen running straight ahead.

The laws of Pennsylvania provide that each mine must have two separate and distinct means of entrance and exit. It is intended that in case of accident to one shaft there shall still be a way out. Usually the two shafts are at the extremes of the property being worked, and a main thoroughfare runs between, connecting them.

In a colliery that has been worked for a number of years, twenty or thirty as is sometimes a case, the main entries, gangways, breakthroughs, airways, etc., are so numerous that the map of them, always kept accurate and up to date, resembles the plan of a large irregular city. The visitor who became lost in such a mine would be in sad need of assistance.



**TIMBERMEN IN A GANGWAY.**

There are many necessary vocations in connection with the production of coal aside from that of actual "mining," and the various employees are classified under such heads as inside foremen, miners, makers' laborers, timbermen, tracklayers, drivers and runners, door boys and helpers, so that the persons actually mining the coal, from the seam or vein in which it is found, form but a small percentage of the sum total. In one of the large Anthracite districts of Pennsylvania the total number of inside employees was 10,145 and but 4,127 of these were actually classed as miners. Outside employees numbered 3,976 of all classes. Accidents occur inside from many causes and the most prolific is from falls of coal and rock; thus in the district under notice we find a total of 54 deaths and 109 persons injured in the year. There were 36 killed and 43 injured by falls of roof; of course, many accidents are

largely avoidable and the timberman is the one who is supposed to prevent them as far as practicable, particularly in the main roads or gangways, but they do occur, as the reader is only too well aware, despite all the precautions which are taken. It is a well-known fact that persons who are daily, and almost hourly, exposed to danger become so accustomed to it as to regard it with an indifference approaching contempt. Oftentimes when a miner knows very well that a prop should be "stood" in a certain place to secure the roof, he will put off standing it until he has "loaded another car" or has "drilled and fired another hole," but while the car is being loaded the top falls and he is killed. The foremen are untiring in their efforts to render secure the lives of the men, but the strictest discipline in regard to the matter of propping fails to reduce the death list.



### THE BRAKEMAN

Has a hard task any way one can look at it. Out in all sorts of weather, rain, snow, or hotter than Tophet, the men on the coal trains, which wind their way down the mountain sides with their loads of Anthracite, have no sinecure; sometimes the train runs away and a few car loads are spilt out over an embankment and an occasional brakeman is spilt overboard also, or crushed between the cars. Those who have seen these worthy fellows running along the top of coal laden-cars, setting one brake after another in order to stop the momentum, may have wondered if they were well paid for the risks they take. They are not. When you read of all trains being blocked by snow or that there is so little demand for coal that a lot of train crews have been laid off, you will, perhaps, give a passing thought to the idea that this means so much less wages for the class of whom an individual is here pictured.

A great number of cars are, of course, required for the transportation of the 42,000,000 tons of Anthracite produced each year and coal cars form a large proportion of the rolling stock of the lines in the State of Pennsylvania. The Philadelphia & Reading R. R. has 19,147 eight-wheel cars and 1,664 four-wheelers, a total of 20,811 out of an aggregate of 31,114 cars of all sorts. On the Lehigh Valley the schedule is, 26,311 four-wheelers, 7,179 eight-wheelers, total, 33,490 out of an aggregate of freight cars of all sorts of 47,829. It will be noticed that this company has an unusually large number of small old-fashioned cars, these have been found unprofitable and are gradually going out of service; it takes so many of them to make up a full load for a locomotive that the number of brakes and couplings to be looked after in such a train is very great and accidents are more likely to happen than on a train of fewer and larger cars. A total of 22,576 out of an aggregate equipment of 33,265 is the record of the Central R. R. of New Jersey, and on the Delaware, Lackawanna & Western the score stands 17,863 in a total of 34,606. The Delaware & Hudson Canal Co. equipment is not reported in detail; there are about 4,000 coal cars used on its gravity road between Carbondale and Honesdale. The Pennsylvania R. R. equipment comprises 834 four-wheelers and 12,288 eight-wheelers out of 40,639 cars owned by the Company. It is also reported that there are owned by the Car Trust Companies operating over the road 35,413 cars, a large number of which are used in the coal trade. The same statement applies to several other roads, but the exact number of such cars is not embodied in the railroad reports.

The Pennsylvania R. R. is by far the largest coal carrier in this country. Its tonnage of 22,000,000 tons is largely made up of Bituminous, or soft coal. Anthracite forming about one-fourth of its total coal business. The Philadelphia & Reading is the largest carrier of Anthracite coal, carrying about 8,000,000 tons annually. The Lehigh Valley, the Delaware, Lackawanna & Western, and the Delaware & Hudson are its chief rivals and each carries an immense amount of coal each year. The superior facilities offered by the railroads of Pennsylvania have caused the use of the canals for coal traffic to be largely diminished.



**DOORWAY IN A MINE.**

Ventilation in mines is secured by having doors or brattices erected at proper places in order to divert or conduct the air in its proper course. As the doors are so arranged that the pressure of the air tends to keep them closed it is necessary to have a boy at each door to open it and keep it open while the car passes through, and this is what our picture illustrates. Genuine helpers about a mine are the "door boys"; patient little fellows who serve their part in the grand aggregate and do it well.

The importance of artificial means of ventilating a mine can scarcely be overestimated. Not only are there hundreds of men and mules to be supplied with pure air, but in many cases noxious gas escapes in more or less volume from the walls of every room and passage; this must be drawn off ere it accumulates, for when a certain percentage is present in the air most serious consequences will ensue.



**WILKES-BARRE, PA. LUZERNE COUNTY COURT HOUSE.**

Luzerne County is the greatest coal producing county in the United States; annual output over 18,000,000 gross tons.



**OBADIAH GORE.**

Obadiah Gore, of Wyoming Valley, was born April 7, 1744. Died March 22, 1821. It was he and his brother Daniel who discovered that Anthracite coal would burn, and consequently made known its value. At the time it was known simply as "black rock." The picture here given is from a portrait taken at the time when Obadiah Gore was about thirty years of age, or say at the time of the American Revolution. It is evident from his appearance that the old stock of settlers of the Wyoming Valley were persons of refinement and culture. Daniel Gore had a residence three miles north of Wilkes-Barre, then called Jacob's Plains. On a farm adjoining his to the north was a bed of rock which came to the surface, and as stated before was known as black rock. A question arose as to whether it was a form of coal. It was tried in fire places on wood fires and failed to be of use. The Gores experimented with it in a blacksmith's forge and fully established the possibility of its combustion.

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