

The Colliery Engineer

Formerly
Mines and Minerals

Vol. XXXV—No. 2

SEPTEMBER, 1914

Scranton, Pa.

THE Truesdale colliery is located in Hanover Township, about eight miles south of the city of Wilkes-

Barre, Pa., along the Newport & Hanover branch of the Lackawanna Railroad. The development of

The Truesdale Colliery

The Largest Shipper of Anthracite. A History and Description of the Mine and Its Development

By P. H. Devers*

13-inch concrete wall is used for the same purpose. Both walls have 4' x 6' blow-out panels placed 30 feet

Red Ash beds, which appeared near the surface on account of the Warrior Run anticline, that practically divides this

property into two separate mining basins, at least so far as economical mining is concerned.

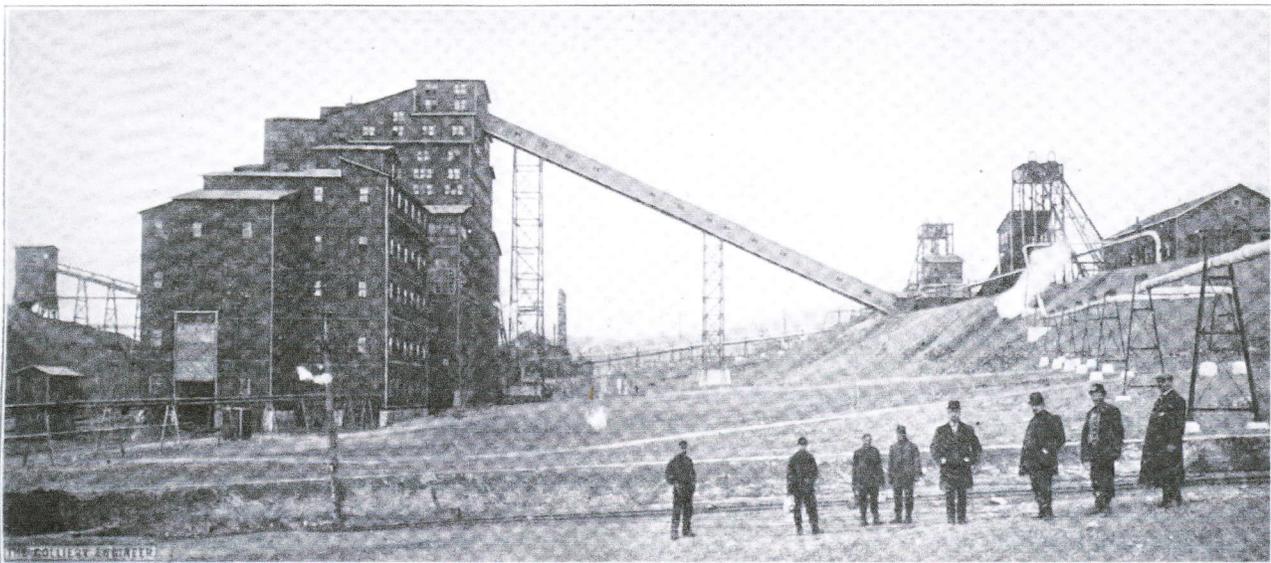


FIG. 1. TRUESDALE BREAKER, THE LARGEST ELECTRIC COAL BREAKER IN THE WORLD

these mines was begun in 1903, at which time the sinking of two rectangular shafts was started. The shafts are 14 ft. x 45 ft., inside, in section, and 560 feet in depth to the Ross beds. Both shafts are lined and divided into four compartments. Two 8' 4" compartments are for hoisting; one 8 ft. 4 in. is a pumpway, and one 14 ft. x 18 ft. is an airway. The two hoisting compartments in No. 1 shaft are separated from the airway by a 13-inch brick wall; in No. 2 shaft, however, a

*Assistant District Superintendent D., L. & W. Coal Co.

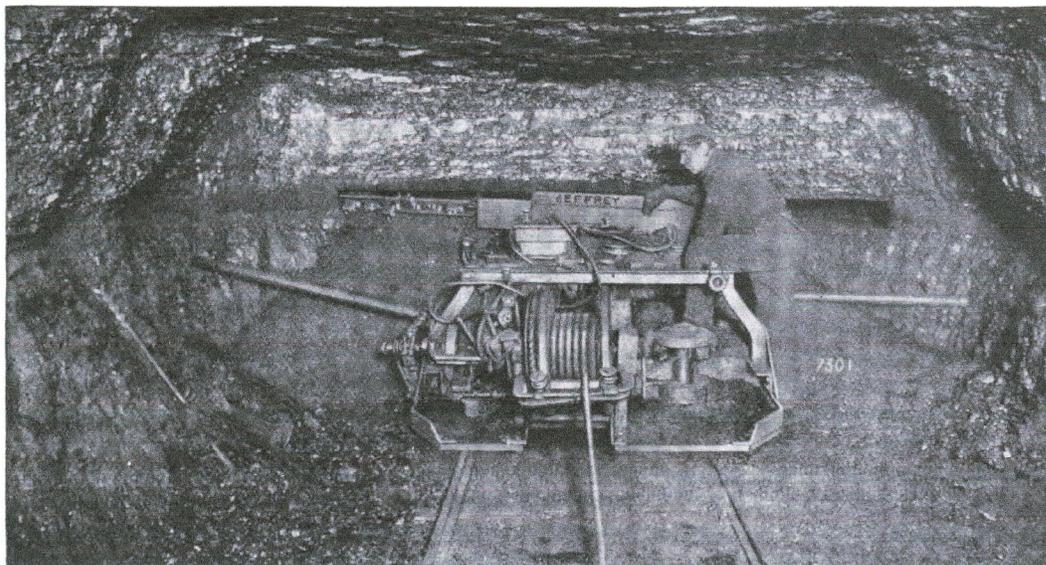
apart, which are closed by walls of one brick in thickness, their object being to protect the main walls in the event of an explosion of gas in the mine workings. In addition to the shafts the Truesdale colliery has three slopes from the surface and two 7' x 12' rock tunnel openings made necessary by the irregular pitch of the beds, and for the quick development of the mine. The Holland, or No. 1 tunnel, was driven many years ago and abandoned after some mining had been carried on in the Forge, Twin, Top Ross, Bottom Ross, Top, Middle, and Bottom

The erection of the Truesdale breaker and washery was started in 1903; and the buildings completed and placed in operation November 15, 1905. The breaker is composed of structural steel to the top of the pockets, from there up it is of wooden construction, but the management intends to change the wood work to steel when repairs are needed, and then enclose the upper structure with wired glass. This improvement will make the Truesdale plant modern in every respect, in fact it was the second anthracite breaker which used electricity to

Will Do Everything We Claim

The JEFFREY ARCWALL MINING MACHINE

in operation at the mine of the Bessemer Coal & Coke Co., Russelton, Pa., is daily demonstrating its superiority over the Undercutting Type of Machines.



Cutting in room with a Jeffrey Arcwall Coal Cutter, in mine of the Bessemer Coal & Coke Co.

Here are some of the results, as reported by
Mr. Jas. G. Bart, General Superintendent of the Company

Cutting out the bone parting eliminates all impurities from the coal.

Shooting the coal in two benches in comparison with shooting the full thickness of the seam results in a better grade of lump coal—requires less powder—lessens danger to roof.

Allows a larger percentage of recovery from the seam, as under the Undercutting System it was necessary to leave 2 or 3 inches of good coal on the bottom to avoid cutting into the fire clay.

Requires less manual labor than the SHORTWALL Type of machine. No time is wasted in loading or unloading from truck or tracks or in the transferring from place to place. Requires no slack shoveling.

When cutting in clean coal it requires no more power for operation than the SHORTWALL Type of machine.

Cost of maintenance is less than that of Undercutting Machines.

Write for our New Bulletin No. 129-A 13, giving full particulars about the machine that Mines More Coal—Produces Better Coal—Reduces Mining Costs.

JEFFREY MFG. CO., 913 North Fourth St., COLUMBUS, O.

New York Philadelphia Charlestown, W. Va. Birmingham Boston Pittsburgh Chicago Denver Montreal

Preparation Counts Nowadays

Pneumelectric

TRADE MARK

Coal Punchers Produce Clean Coal



THE market nowadays demands clean coal. Differences in sale prices due to preparation of coal in many cases justify the slight additional cost of undercutting coal by punchers rather than by chain machines.

The Pneumelectric Puncher eliminates cutting into the bottom or rolls—eliminates the production of dirty coal. The undercut that it gives makes room enough for the coal to be shot down by light charges of explosive. Hence, there is less tendency to break up roof coal or slate and mix it with the coal in shooting. More lumpy coal is produced and there is greater safety.

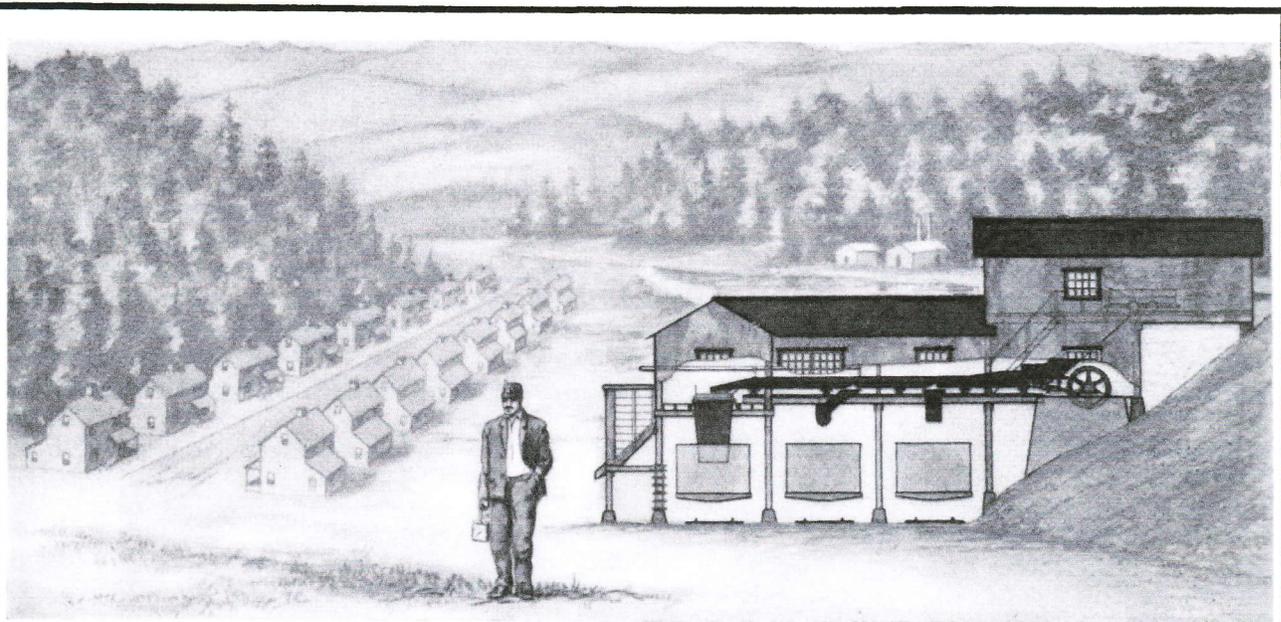
The Pneumelectric Puncher has all the economies and advantages due to the use of electric power.

If you haven't all the details on this Pneumelectric Puncher, write for them now. They will interest you.

Pittsburgh, Pa.
2328 Oliver Bldg.
Charleston, W. Va.
901 Kanawha St.
Denver, Colo.
1710 Glenarm St.
Knoxville, Tenn.

The *Pneumelectric* Machine
TRADE MARK
Company
Syracuse New York

Salt Lake City, Utah
109 W. 2nd South St.
Montreal, Can.
309 Craig St., West
Madisonville, Ky.
Birmingham, Ala.



The Three Great Coal Producers

NATURE — MINER — "MARCUS"

Each represents a process; and each succeeding process adds a greater value to the coal.

Process No. 1, Nature; process No. 2, Miner; process No. 3, Marcus.

We have no control over nature; your miners are unknown quantities to us. But we control

The "MARCUS"

—the patent combination Picking Table and Screen that adds the final touch of value to your coal. It makes poor coal good; good coal better.

The "Marcus" is the tipples equipment that has put "fact" into the satisfaction that exists between so many operators and dealers.

Far sighted operators would install the "Marcus" for its ultimate results alone—increased value of coal, elimi-

nation of complaints, reduced selling costs.

In addition to ultimate results, the "Marcus" is of such design as to require less height of new tipples and to permit easy installation in old tipples.

Add the extensive experience and **Know How** embraced in R. & S. SERVICE and you have a sum total of value that makes "Marcus" installation inevitable.

Ask for "Marcus Satisfaction Facts" today.

"Puff! the Contract—"



ROBERTS AND SCHAEFER CO.

Chicago

Engineers
and Contractors

U. S. A.

"Satisfy the Client"





Johns-Manville Service is an evolution—the growth of half a century's endeavor to insure permanent satisfaction to users of J-M Products, of whatsoever kind. The sale of an article is not the end, it is really the beginning of J-M responsibility.

Does your braking material satisfy these three reasons? J-M Asbesto-Metallic Brake Blocks do.

If you are interested in a material for your brakes and clutches that will operate for months without appreciable wear, if you can use a brake block that will not even char under great frictional heat and that is unaffected by water, climate, oil or grease, then try J-M Asbesto-Metallic Brake Blocks.—*For structural reasons.*

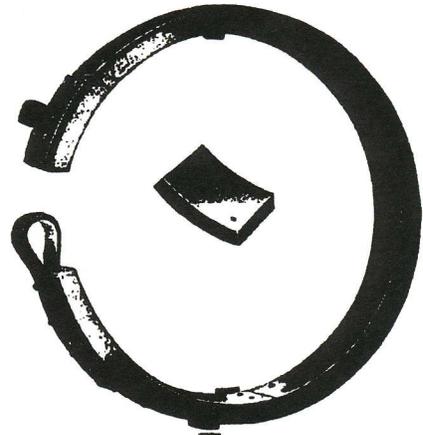
If you need accurate braking—a brake that will respond to the slightest pressure or the "hardest jam" without feeling the shock, try J-M Asbesto-Metallic Brake Blocks.—*For operating reasons.*

If you want your brake to be a "safety" brake, that will not slip or creep, even in the presence of oil, grease or water, try J-M Asbesto-Metallic Brake Blocks.—*For safety reasons.*

What more can we say of this material except to suggest that you try it on your brakes and clutches?

Made in any shape, and size to suit your requirements.

Let us have a sketch along with your request for particulars.



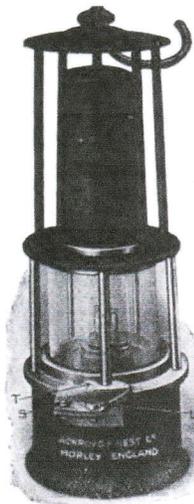
H. W. JOHNS-MANVILLE CO.

Atlanta	Chicago	Denver	Kansas City	Memphis	Newark	Philadelphia	Salt Lake City
Baltimore	Cincinnati	Detroit	Los Angeles	Milwaukee	New Orleans	Pittsburgh	San Francisco
Boston	Cleveland	Galveston	Louisville	Minneapolis	New York	Portland	Seattle
Buffalo	Columbus	Indianapolis			Omaha	St. Louis	Toledo

THE CANADIAN H. W. JOHNS-MANVILLE CO., LIMITED,

Toronto, Montreal, Winnipeg, Vancouver.

3190



The World's Safety Lamp Experts

have the best equipped Factory and Staff in the world for the accurate productions of high-class Safety Lamps and Underground and Lamproom equipment.

Hailwood's Patent Fool-proof flame-proof Underground Lamp Re-Lighting Machines, Lamproom lighting and unlocking machines; Lamp Cleaning

Machines; Filling Machines; Iron Lampstands; Cleaning Benches, etc.; etc.;

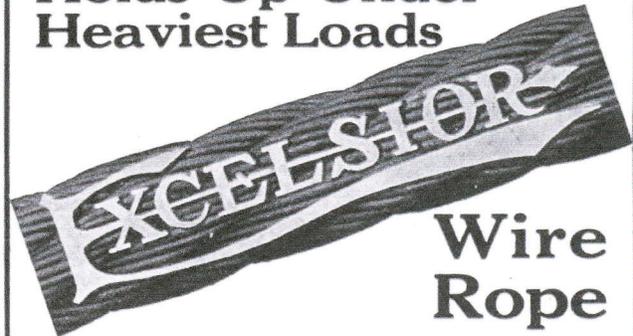
All kinds of Lamp Glasses and Cleaning Brushes.

ACKROYD & BEST, Ltd.

No. 2 Arrott Power Building
Barker Place, Pittsburgh, Pa., U. S. A.

Telephones: P. & A. Main 2217
Bell Grant 1619

Holds Up Under Heaviest Loads



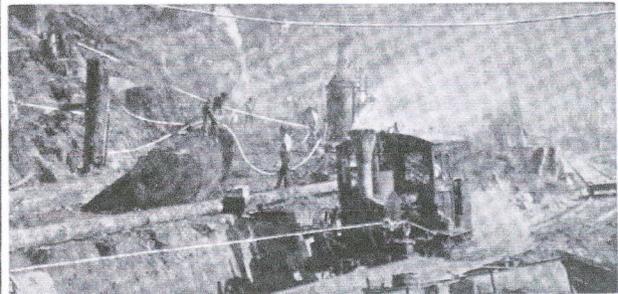
Wire Rope

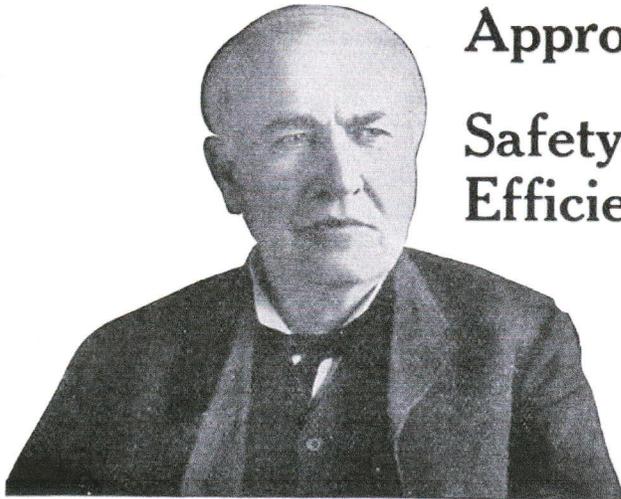
This long-wearing, smooth-laid, tested rope has a first-class reputation among lumbermen, collieries, oil-well drillers, general contractors and U. S. engineers.

We make special types for each kind of hoisting and hauling, using selected crucible and plow steel.

Write for description and prices. Ask for Catalog Y.

WRIGHT WIRE CO., Worcester, Mass.





Approved by Bureau of Mines
Schedule 6A
Safety and Practicability and
Efficiency in General Service

THOMAS A. EDISON never asks the public to pay for his experiments. After he announced the invention of the lightest, strongest and most durable storage battery ever conceived, he worked on it for eight years before he placed it on the market. For five years the battery that received his approval has remained practically unchanged and today operates over one-third of all the electric trucks and delivery wagons in the country, mining locomotives, industrial trucks and tractors, and is found in every service where sturdiness and reliability are essential.

After exhaustive tests as to ruggedness, cleanliness, safety, illuminating value and *maintained capacity*

The Edison Electric Safety Mine Lamp

has received Mr. Edison's personal approval.

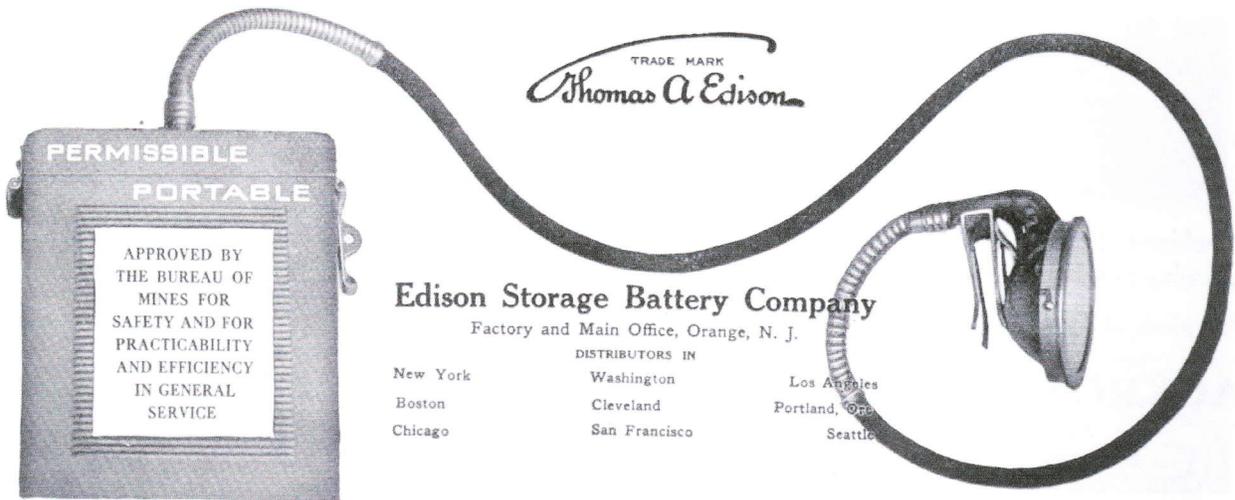
THE RATHENAU GOLD MEDAL is placed at the disposal of the American Museum of Safety by the *Allgemeine Electricitaets Gesellschaft* of Berlin, to be awarded annually for the best device or process in the electrical industry for safeguarding industrial life and health. The first award of the Rathenau Medal was to the Edison Electric Safety Mine Lamp.

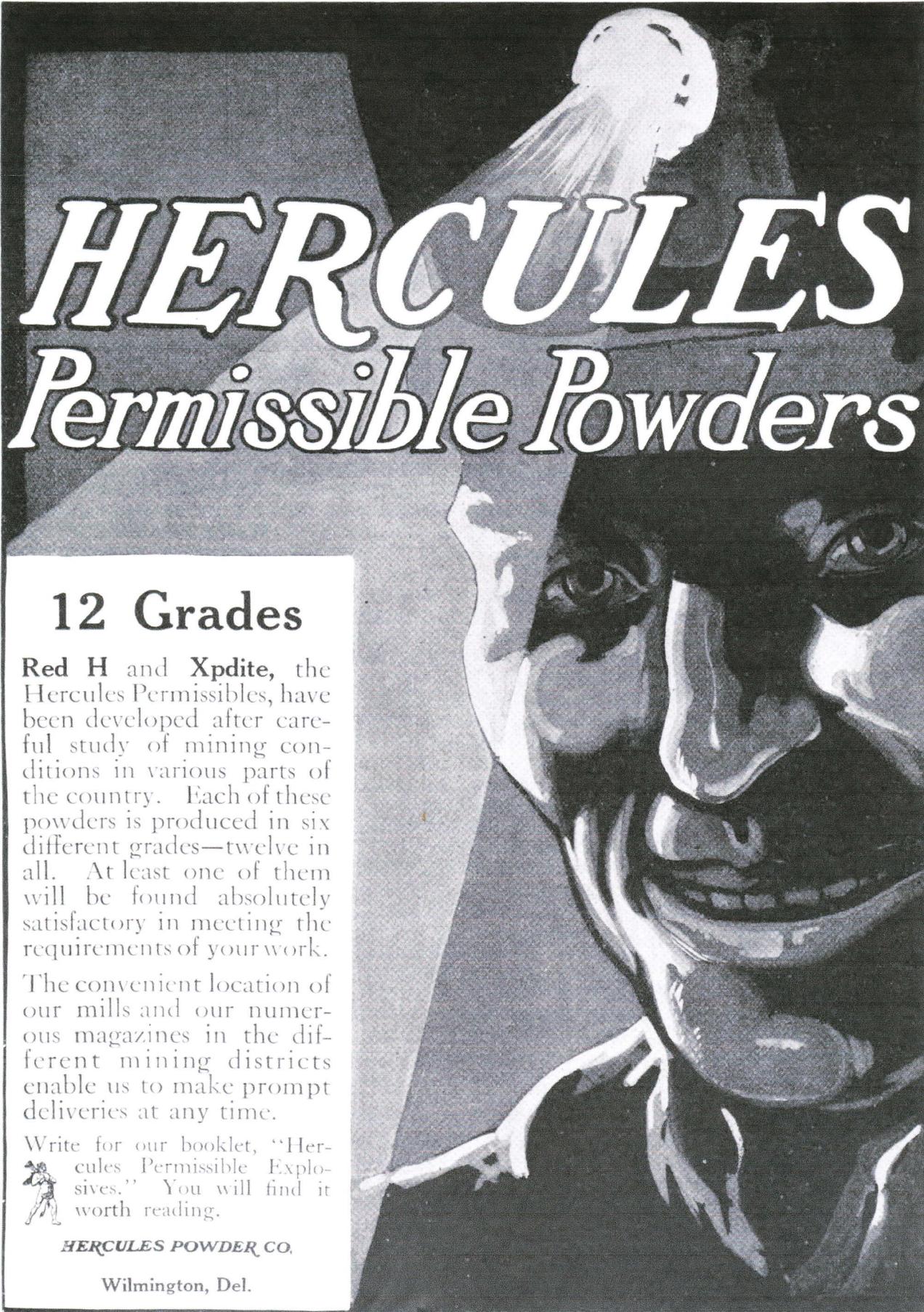


THE GRAND PRIZE of the First International Exposition of Safety and Sanitation was awarded to the Edison Electric Safety Mine Lamp.



THE FIRST APPROVAL for Electric Safety Mine Lamps under the Present Government Code has been awarded the Edison Electric Safety Mine Lamp by the United States Bureau of Mines. *So far it is the only electric safety mine lamp to receive this approval.*





HERCULES

Permissible Powders

12 Grades

Red H and **Xpdite**, the Hercules Permissibles, have been developed after careful study of mining conditions in various parts of the country. Each of these powders is produced in six different grades—twelve in all. At least one of them will be found absolutely satisfactory in meeting the requirements of your work.

The convenient location of our mills and our numerous magazines in the different mining districts enable us to make prompt deliveries at any time.

Write for our booklet, "Hercules Permissible Explosives." You will find it worth reading.



HERCULES POWDER CO.

Wilmington, Del.

BALDWIN

THE MINER'S  LIGHTING BUG

Carbide Mine Lamp Has Made Good



No. 32A
List Price \$1.00

The Past Nine Years have witnessed a remarkable growth in the use of Baldwin Mine Lamps. Today these lamps are used in practically every mining section in the world. They have made good in the largest and most modern mines.

The Baldwin Has Made Good because it was good at the start and we have kept it right up to the minute ever since.

The Baldwin Has Made Good because it is the easiest lamp to operate and care for. The Water-Supply is automatically controlled—never any hand-regulation necessary—never any blowing at the burner and never any waste of carbide.

The Baldwin Has Made Good because it is durable—parts subjected to greatest wear are get-at-able and easily replaced. Should a part corrode, it is easily cleaned.

The Baldwin Has Made Good because the burner can be changed in the dark. The burner cannot be broken and as it mixes air with the burning gas, it will not carbonize.

The Baldwin Has Made Good because the reflector is as rigid and secure as though a part of the lamp, still it's removable.

The Baldwin Has Made Good because the Sparker-Lighter works every time, there's never a miss.

The Baldwin Has Made Good, because every lamp is sold on proof. Not until you have tried a Baldwin and have actually seen it in operation do we ask you to assume the responsibility of purchase.

We Will Loan You a Baldwin For 30 Days

Simply write us on your company's letter-head and we will send you a lamp. All we ask is that you test it in comparison with others and at the end of 30 days, either send us the price of the lamp or return it.



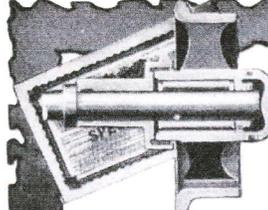
No. 25A
List Price \$1.00

John Simmons Co.

100 Center St. New York

Branches

288A Market St., San Francisco, Cal. 150 Bleury St., Montreal, Can.



How "Personally Conducted" Heat Treatment Protects

(Continued from last issue)

HEAT treatment—Annealing—is much like the "rub down" a person gets after a Turkish bath. It rests the metal; relieves it of all the terrific strains to which it is subjected during casting and chilling. It revives the wheel, stimulates it, and makes it strong and lasting. In

Enterprise Chilled Car Wheels

heat treatment is "personally conducted." In giving this final touch to the wheel, Mr. Whitney centers upon it all his own vast experience—experience accumulated through three generations, since the beginning of the industry in 1847. Every wheel user appreciates, no doubt, the value of continued "personal conductings" by one of the Whitneys, the originators of the industry. May we send additional facts?

(To be continued)

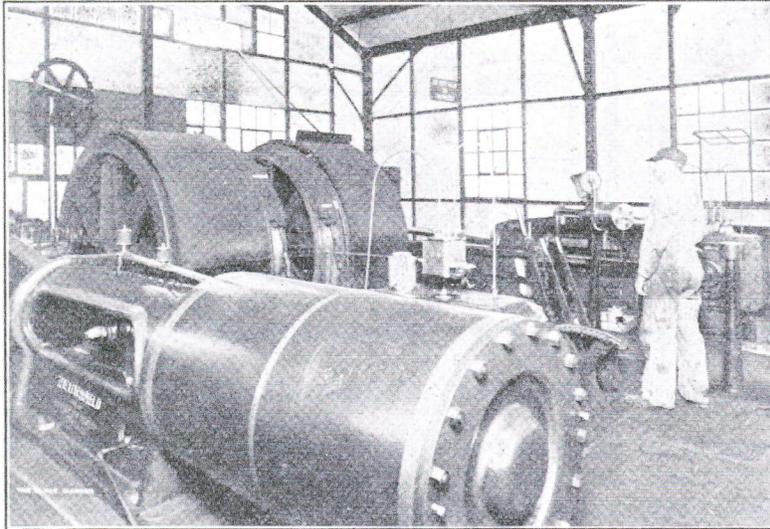
Enterprise Fdy. & Mach. Co.

Shelby Street & V. & S. W. R. R.

Virginia— BRISTOL —Tennessee



THE "LITCHFIELD"



A Pair of "Litchfield" 26x42 Hoisting Engines at the old Ben Mining Company's Mine at West Frankfort, Ill.

This illustration shows a pair of our 26x42 HOISTING ENGINES with 8-ft. diameter drums, annealed cast steel drum spiders, steel cranks and steel crossheads. All parts have a very high factor of safety.

These engines are equipped with STEAM BRAKE, STEAM REVERSE and our SELF-CLOSING LEVER THROTTLE VALVE.

We have just installed a similar engine (somewhat larger, 28x42) for the Bell & Zoller Mining Company at the famous ZEIGLER MINE, where 8 tons of coal are being hoisted per trip.

We will be glad to have COAL MEN who are interested in this class of machinery, visit these mines and see the performance of our engines in actual service.

Ask the ENGINEER what he thinks of our SELF-CLOSING LEVER THROTTLE and ask us about our HEAVY DUTY SHEAVE WHEEL WITH RENEWABLE STEEL LINING.

LITCHFIELD FOUNDRY & MACHINE CO.
Litchfield, Illinois

Do You Run a Store?

The tendency of the General Store of the present day is toward a higher degree of

EFFICIENCY

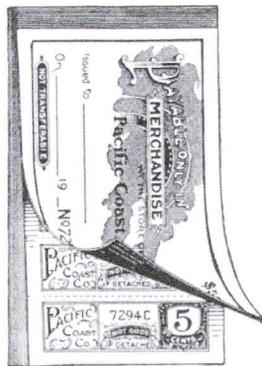
a more dependable SYSTEM, greater

Accuracy, Simplicity and Convenience

Allison Coupon Books

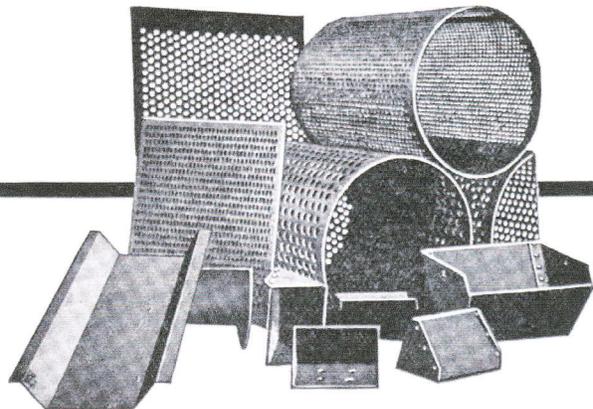
—now in universal use, are the result of a general NEED for an elastic, simple, flawless system of tender to replace the awkward and cumbersome methods formerly employed.

With Allison Coupon Books you issue a book to an employee and he signs for it on the first inside page, which is detachable. The storekeeper tears out this page, and turns it over to the paymaster to be deducted from the next time check. As the man buys goods at the store the storekeeper tears out coupons of corresponding value, which are kept and counted same as cash, but which are of no value aside from this, and if lost or stolen cannot be used again. The Allison Coupon Book system is popular with employees, too. They see that the plan is fair, and its convenience and simplicity appeals to them.



ALLISON COUPON COMPANY
Indianapolis, Indiana, U. S. A.

"Hendrick" Perforated Metals



Conveyor Trough and Flights, Buckets
(plain and perforated), Stacks and Tanks

General Sheet Iron Work

Hendrick Mfg. Company
Carbondale, Pa.

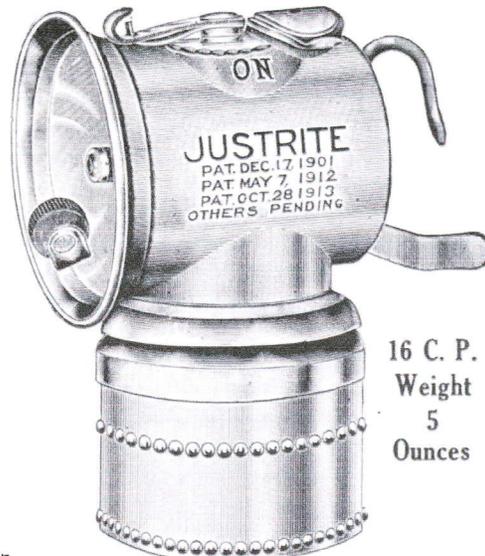
New York Office

30 Church Street

When a Better Carbide Lamp
is Made it Will Be a

Justrite
TRADE MARK

Most of the leading mining companies of the world have already adopted the Justrite—and it has been on the market but three short years. First they give one or two a trial; and this invariably results in the *adoption* of the Justrite. Why not send for a sample lamp now and *see* the Justrite advantages yourself?



16 C. P.
Weight
5
Ounces



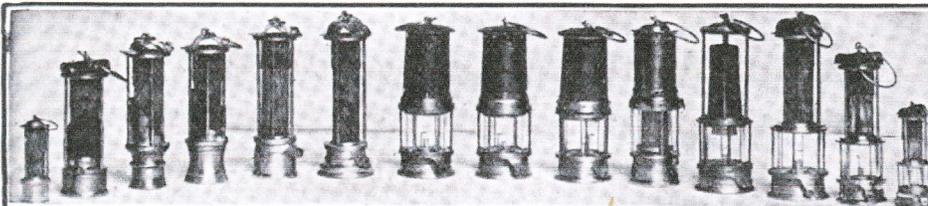
Here's Your Tip Troubles Settled

NEW METAL TIP—"The Jewel"

A perfect Metal Tip—Shell is made of brass with an imported Lava burner insert, combining the best qualities of the Metal and Lava Tip—cannot break or crack—easy to put in and take out. No. 28. Price 05c.

No. 85 Polished Brass with No. 77 Carbide Can \$1.00
No. 87 Polished Brass with Extra Bottom \$1.00
No. 89 Gun Metal Finish with No. 77 Carbide Can \$1.00
No. 86 Gun Metal Finish with Extra Bottom \$1.00
Nickel Plated at \$1.25

Justrite Mfg. Co., DEPT. G 545 Van Buren St., **Chicago, Ill.**



Hughes Bros.

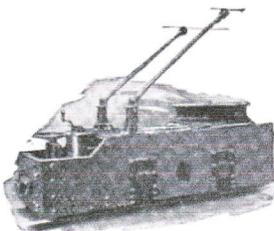
Manufacturers of
**Safety and Acetylene
Mine Lamps**

Supplies of All Kinds
420 No. Main Ave., Scranton, Pa.

Waterproof Blasting Paper

Wholesale Dealers in Paper

MEGARGEE BROS., SCRANTON, PA.



No. 6425
Mining Locomotive

LOCOMOTIVES MADE OF ARMOR PLATE

This insures Rigidity, Safety and Long Wear. The No. 6425 Locomotive shown in cut has this type of frame. Send for Catalog showing our full line of Trolley and Storage Battery Locomotives for Mine and Surface Haulage.

Mine Cars, Cages, Turntables, Switches, Track, etc.

If it's special let us Design it for you



No. 145-C. Turntable



No. 1015
Left and Right Hand Switches

THE ATLAS CAR AND MANUFACTURING COMPANY
Dept. C 1280 Marquette Road Cleveland, Ohio

WE CAN MAKE
PROMPT SHIPMENTS
OF

DU PONT
EXPLOSIVES
AND BLASTING SUPPLIES

DESPITE the present demands for explosives, our facilities for securing materials, the operation of extensive powder plants equipped with special machinery and expert employes, and ample storage and shipping arrangements enable us to promptly and satisfactorily fill all orders.

Over a century's experience in the explosive field gives us a practical knowledge of its requirements. The superiority of our products is recognized by world-wide demands.

Specify **DU PONT** when purchasing explosives and blasting supplies, and be assured of prompt shipments, uniform quality and maximum efficiency.

DU PONT POWDER CO.

ESTABLISHED 1802

Wilmington, Delaware

POWELL'S PATENT SQUIBS.

Improved Safety Rocket No. 1. Improved Safety Gas No. 2.

A part of the Match is within the Squib; also, with Patent End. No Seal to cut off. To be used as they are in the box.

Patentee and Manufacturer.

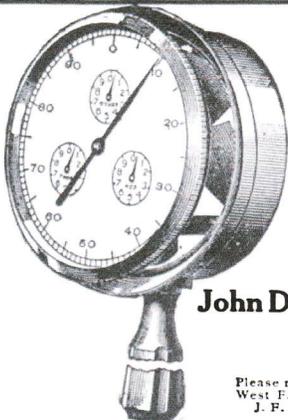
JOHN R. POWELL, - - - PLYMOUTH, PA.



Reliable Detonating Squibs

For exploding dynamite and permissible powder. Simple; safe. Cheaper than fuse or electricity.

Miners' Supply Co.
St. Clair, Pa.



The Davis Biram Anemometer offers many advantages over the ordinary Biram.

Can be used for measuring High and Low velocities.

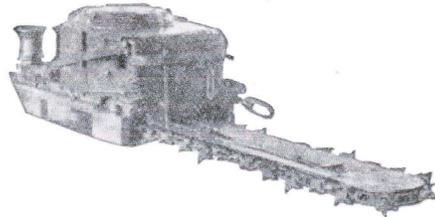
Send for full particulars

John Davis & Son (Derby) Ltd.

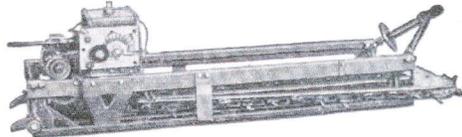
All Saints Works
Derby, England

Please note present address (removed from 110 West Fayette St., Baltimore, Md.) in care of J. F. McCoy Co., 157 Chambers St., N. Y.

MORGAN-GARDNER
COAL CUTTERS



D. C. AND A. C. SHORT WALL MACHINES



D. C. AND A. C. BREAST MACHINES

Heavy Strong Machines for difficult cutting.

Light Speedy Machines for easy cutting.

Machines for thin, medium, or thick seams, level or pitching veins.

Breast, Short Wall, Longwall, Overcutting and Special Machines.

Machines with standard or narrow kerf, single, double, or modified double bit chains—Cutter arms of any length to suit your mining conditions.

Now successfully cutting Bituminous, Lignite and Anthracite Coal, Dirt Bands and Fire Clay.

Coal Cutters with all modern improvements—Motored and equipped to do their work without distress to any of their parts, without waste of power and without unnecessary or excessive drains upon the current supply.

Designed and built—as a whole and in every detail—for low cost of maintenance—long life—effective and satisfactory service.



OVERCUTTING MACHINES



LOW VEIN BREAST MACHINES



LONGWALL MACHINES

MORGAN-GARDNER
ELECTRIC CO.

CHICAGO, ILL.

The Colliery Engineer

Weston

A. C. SWITCHBOARD INSTRUMENTS

Show the exact condition of the forces active on the circuit at any instance. They are durable, show true conditions whether the load be steady or fluctuating and are very effectively damped.

The recognized superiority of the Weston Indicating Instruments is due to the fact that this Company not only originated the art of Electrical Measurement as it is known to-day but have been the source of practically every improvement and development in that art.

Weston Electrical Instrument Co.
75 Weston Ave., Newark, N. J.
Branches in the Larger Cities



BUFF

Mining Transits and Levels

The "Buff" is sold by what the instrument does in the field, in convincing the engineer.

Send for Catalog No. 61

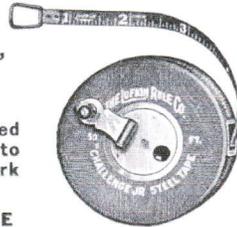
Buff & Buff Mfg. Co.
Jamaica Plain Station
Mass.

LUFKIN Measuring Tapes and Rules

Are
**ACCURATE,
DEPEND-
ABLE,**

and well fitted
in every way to
do their work

On Sale
EVERYWHERE



Their
**REPUTATION
and
POPULARITY**
are assurances
that they
"Make Good"

Catalog on Request

SAGINAW, MICH.
NEW YORK, LONDON, ENG.
WINDSOR, ONT.

THE LUFKIN RULE CO.

The Muirhead Spad

A Mining Engineer's "Center Spad" made of non-corrosive metal, brass or copper, in three sizes, as follows:

Small Spad, 1 3/8 In. Long
Medium Spad, 1 3/4 In. Long
Large Spad, 2 In. Long

*A Simple and Convenient Device
for the Saving of Time.*

Manufactured by

John Muirhead & Son

Manufacturers of Diamond Drill Supplies and Tools

Pittston, Penna.



Berger Mine Transits and Levels

are noted for their simplicity of manipulation, accuracy of division, stiffness and steadiness of adjustments under varying temperatures. Our catalog gives full information. Send for copy today.

C. L. Berger & Sons

37 Williams Street BOSTON, MASS.



Three Exclusive Advantages

are back of the forty-three years' success of

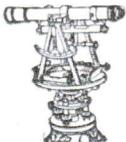
H. & B. Transits

All graduations are upon inlaid, solid sheet silver; every bearing is bronze against hard bell metal; all instruments are protected by complete sets of dust and rain guards.

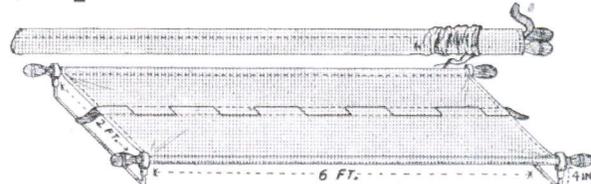
Write for free book, NOW.

Heller & Brightly

Cor. Spring Garden Street and Ridge Ave., Philadelphia



WILLIAMS' Improved Mine Stretcher



The Most HUMANE Portable Stretcher

Easily slipped under patient, occupant does not have to be lifted or dragged from it. This means the facility to convey injured persons with greatest comfort. The only real improvement in 30 years. Sanitary. Ask for details.

Williams Improved Stretcher Company
Wheeling Sole Makers West Virginia



KOLESCH & CO.

ESTABLISHED 1886

138 Fulton St., New York

Manufacturers of

High Grade Transits and Levels

Send for Catalog L-2 describing Drawing Instruments and Materials, Surveyors' Instruments and Accessories, etc.

Guaranteed Chemical Analyses

of Water, Fuels, and Other Materials.
Assays of all kinds. Fees on application.

Chemical and Assay Dept., Technical Supply Company
SCRANTON, PA.

Empire Assays and Analyses a Specialty



HOWELLS

Engineers' "RUST-PROOF" Spads

Far superior to the hammered-out horseshoe and blacksmith-made. A convenient and simple device for saving of time.

Made of Brass, Copper and Steel

Small size 1 1/2" long

Medium size 1 3/4" long

Large size 2" long

Send for prices, booklet and samples

Howells Mining Drill Company

Manufacturers of electric, air and hand mining machines
Established 1878 Plymouth, Pa.

