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American Engineer and Railroad Journal.....	Am. Eng.
Engineering News	Eng. News
Engineering Record	Eng. Rec.
Locomotive Engineering	Loc. Eng.
Railroad Gazette	R. R. Gaz.
Railway Age	Ry. Age.
Railway Engineering and Maintenance of Way.....	Ry. Eng.
Railway Master Mechanic	Ry. M. M.
Railway and Engineering Review	Ry. Rev.

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Acme Machinery Co., Cleveland, O.

Ajax Mfg. Co., Cleveland, O.

National Machinery Co., Tiffin, O.

Bolt Pointing Machines.

Acme Machinery Co., Cleveland, O.

Foote-Burt Co., Cleveland, O.

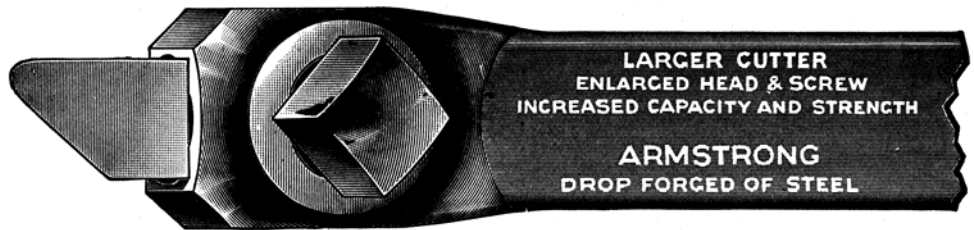
The National Machinery Co., Tiffin, O.

ARMSTRONG TOOL HOLDERS

will do more work and cause less trouble than any other tools you can put on your lathes and planers. Experience counts in making tool holders just as it does in any other line, yours for instance. It's easy for us to make better tool holders than anybody else; that's been our specialty for years, and it don't cost us (or you) one cent extra.

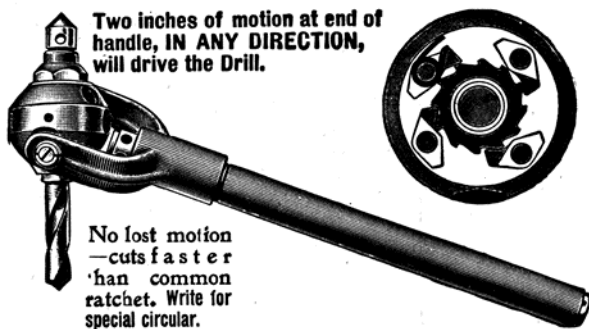
WE MAKE A COMPLETE LINE—A Tool Holder for Every Operation on the Lathe and Planer

Cutter is Extra Large and is supported directly under strain of cut.
Our Patented Relieved Seat prevents chattering and breaking of cutter.



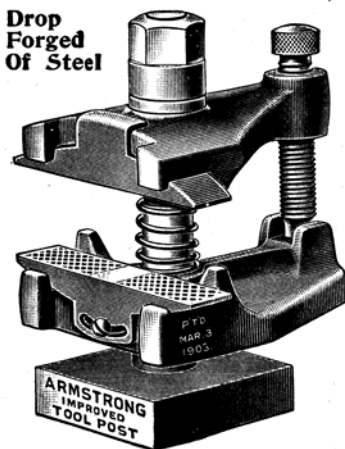
Patented February 28, 1893, and patent pending

Armstrong Universal Ratchet Drill



A Few of These Ratchets

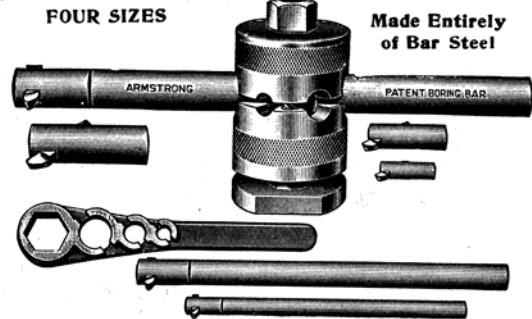
in your erecting and repair department will repay their cost many times in the course of a year. They have a special field of their own in which neither air or electric drills nor the common ratchet can compete.



The Armstrong Improved Tool Post

FOUR SIZES
 OUR improved Tool Post combines in itself the strength and holding power of the Strap and Stub Tool Clamp with the convenience of the "open side" and ordinary Set Screw Tool Post. Write for special circular.

3-Bar Boring Tool



Increases production and reduces cost of tool maintenance. Cutters cannot jar loose. High Speeds and Big Feeds only set them tighter. Write for special circular.

Do you want our catalog? It's A Tool Holder Encyclopedia.

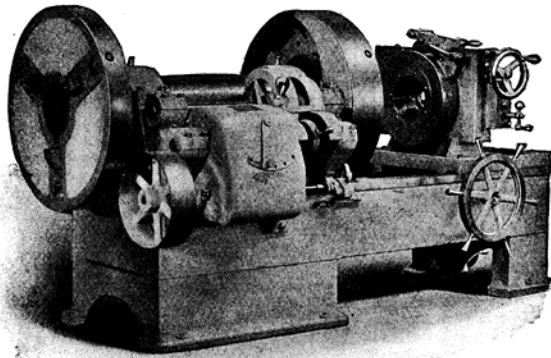
Armstrong Bros. Tool Co.

129 N. Francisco Ave., Chicago, U. S. A.

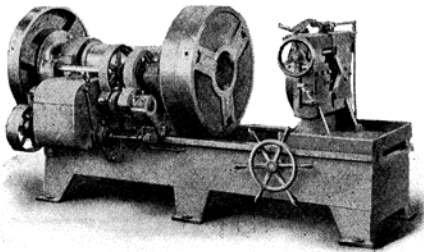
"The Tool Holder People."

IMITATIONS ARE UNSATISFACTORY—INFRINGEMENTS ARE UNLAWFUL

PIPE THREADING MACHINES



This cut shows the No. 6 machine which threads and cuts off from $1\frac{1}{4}$ in. to 6 in. It has ten speeds, two gripping chucks, sliding head, steel clad die head and other improvements.



We have a complete line of machines for threading all sizes of pipe from $\frac{1}{4}$ to 12 inches. Each machine was designed with the idea of getting the work out rapidly, with as little wear as possible. Hence we use hardened steel instead of cast iron in many places. To get the work out we give a large number of speeds.

Our booklet explains matters clearly. Send for it.

The Stoever Foundry & Mfg. Co.

MYERSTOWN, PA.

BUYERS' GUIDE—Continued.

- Bolt Threading Machines.**
Acme Machinery Co., Cleveland, O.
Foote-Burt Co., Cleveland, O.
Williams Tool Co., Erie, Pa.
- Books.**
D. Van Nostrand Co., New York.
- Boring Mills.**
Bullard Machine Tool Co., Bridgeport, Conn.
Prentiss Tool & Supply Co., New York.
Sellers & Co., Wm., Philadelphia, Pa.
- Boring Machines, Metal.**
Foote-Burt Co., Cleveland, O.
- Boring Machines, Wood.**
American Wood Working Machinery Co., New York.
Bentel & Margedant Co., Hamilton, O.
Greenlee Bros. & Co., Chicago.
- Boring Tools.**
Armstrong Bros Tool Co., Chicago, Ill.
Western Tool & Mfg. Co., Springfield, O.
- Brake Beams.**
Buffalo Brake Beam Co., Buffalo, N. Y.
- Brake Jaws.**
Cleveland City Forge & Iron Co., Cleveland, O.
- Brake Shoes.**
Railway Materials Co., Chicago.
W. M. Simpson, Chicago.
- Brass Castings.**
Homestead Valve Mfg. Co., Pittsburg, Pa.
- Brass Founders.**
Homestead Valve Mfg. Co., Pittsburg, Pa.
- Brass Foundry Equipment.**
Whiting Foundry Equipment Co., Harvey, Ill.
- Brass Working Machinery.**
Warner & Swasey Co., Cleveland, O.
- Bridge Paint.**
Detroit Graphite Mfg. Co., Detroit, Mich.
Heath & Milligan Mfg. Co., Chicago.
Lucas & Co., John, Philadelphia, Pa.
St. Louis Surface & Paint Co., St. Louis, Mo.
Stowell Mfg. Co., Jersey City, N. J.
- Brushes, Paint.**
McKim, John & Co., Philadelphia, Pa.
Wolfe Brush Co., Pittsburg, Pa.
- Building Felts and Papers.**
Franklin Mfg. Co., Franklin, Pa.
- Bulldozers and Bending Machines.**
Ajax Mfg. Co., Cleveland, O.
National Machinery Co., Tiffin, O.
- Bumping Posts.**
McCord & Co., Chicago.
- Canvas Paints.**
Detroit Graphite Mfg. Co., Detroit, Mich.
Heath & Milligan Mfg. Co., Chicago.
Lucas Co., John, Philadelphia, Pa.
St. Louis Surfacer & Paint Co., St. Louis, Mo.
- Car Axles.**
Cleveland City Forge & Iron Co., Cleveland, O.
Gould Coupler Co., New York.
- Car Bolsters.**
Bettendorf Axle Co., Davenport, Ia.
- Car Cleaner.**
Cleanola Co., Allegheny, Pa.
- Car Cleaning Brushes.**
McKim & Co., John, Philadelphia, Pa.
- Car Couplers.**
Gould Coupler Co., New York.
McConway & Torley Co., Pittsburg, Pa.
National Malleable Castings Co., Cleveland, O.
- Car Forgings.**
Cleveland City Forge & Iron Co., Cleveland, O.
- Car Gaining Machines.**
(See Woodworking Machinery.)
- Car Heating and Car Heaters.**
Gold Car Heating & Lighting Co., New York.
Safety Car Heating & Lighting Co., New York.
- Car Lamps.**
Safety Car Heating & Lighting Co., New York.
- Car Lighting.**
Gould Coupler Co., New York.
Safety Car Heating & Lighting Co., New York.
- Car Lighting Storage Batteries.**
Gould Storage Battery Co., New York.
- Car Paints.**
See Paints.
- Car Roofing.**
Drake & Wiers Co., Cleveland, O.
- Car Shop Machinery.**
American Wood Working Machinery Co., New York.
Bentel & Margedant Co., Hamilton, O.
Greenlee Bros. & Co., Chicago.
Smith, H. B. Machine Co., Smithville, N. J.

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Chicago

The Railway Materials Company

New York

OUR 500 X PLUMBAGO



Is refined and ground at our Cleveland Facing mill, from the best grade of Ceylon Graphite.

It is ground very fine and has a brilliant silver polish. Can be applied with a brush or shake bag and slicked with the hand or tool. Gives a nice blue color to the castings, and peels them perfectly clean.

We will send a pound sample for trial free of all charges. Send for No. 37 Catalogue.

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CLEVELAND, OHIO.

WE DESIGN AND BUILD COMPLETE FOUNDRY PLANTS

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J. S. SMITH, Sec'y.-Treas.

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THE BUCKEYE LOCO TIRE EXPANDER.

PAINTING & WHITEWASHING MACHINE.

WALTER MACLEOD & CO.
MANUFACTURERS OF
THE BUCKEYE LIGHT AND HEATER.
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CODES A. B. C. LIEBERS.

THE BUCKEYE BOILER.

213 East Pearl Street,

CINCINNATI, OHIO.

BUYERS' GUIDE—Continued.

- Car Springs.**
Pittsburg Spring & Steel Co., Pittsburg, Pa.
- Car Trucks.**
Bettendorf Axle Co., Davenport, Ia.
- Car Ventilation.**
Safety Car Heating & Lighting Co., New York.
- Car Wheels.**
Vulcan Iron Works, Wilkes Barre, Pa.
- Car Wheel and Crank Pin Presses.**
Watson-Stillman Co., New York.
- Cars.**
Bettendorf Axle Co., Davenport, Ia.
Ralston Steel Car Co., Columbus, O.
- Cars, Dump, Ballast, etc.**
Ralston Steel Car Co., Columbus, O.
- Cars, Steel.**
Bettendorf Axle Co., Davenport, Ia.
- Cars, Tank.**
Bettendorf Axle Co., Davenport, Ia.
- Car Wheel Plants.**
Whiting Foundry Equipment Co., Harvey, Ill.
- Car Window Strips, Metallic.**
Metal Plated Car & Lumber Co., New York.
- Castings, Brass.**
Homestead Valve Mfg. Co., Pittsburgh, Pa.
- Castings, Railway.**
Chester Steel Castings Co., Phila., Pa.
Gould Coupler Co., New York.
National Malleable Castings Co., Cleveland, O.
Vulcan Iron Works, Wilkes Barre, Pa.
- Castings, Malleable Iron.**
Gould Coupler Co., New York.
National Malleable Castings Co., Cleveland, O.
- Chucks, Drill.**
Standard Tool Co., Cleveland, O.
- Clamping Machines.**
American Wood Working Machinery Co., New York.
Smith, H. B. Mach Co., Smithville, N. J.
- Cleaners and Polishing Compound.**
Cleanola Co., Allegheny, Pa.
- Clevis Nuts.**
Cleveland City Forge & Iron Co., Cleveland, O.
- Coach Roof Paints.**
St. Louis Surfacers & Paint Co., St. Louis, Mo.
- Cock Grinders.**
Warner & Swasey Co., Cleveland, O.
- Cold Water Calcimine.**
Lucas & Co., John, Philadelphia, Pa.
- Cold Water Paints.**
Lucas & Co., John, Philadelphia, Pa.
- Colors.**
Heath & Milligan Mfg. Co., Chicago.
Lucas & Co., John, Philadelphia, Pa.
- Combination Tap and Drill.**
Standard Tool Co., Cleveland, O.
- Continuous Platform and Buffers.**
Gould Coupler Co., New York.
- Contractors' Equipment and Supplies.**
Vulcan Iron Works, Wilkes Barre, Pa.
- Contractors' Light.**
Macleod & Co., Walter, Cincinnati, O.
Wells Light Mfg. Co., New York.
- Contractors' Locomotives.**
Vulcan Iron Works, Wilkes Barre, Pa.
- Core Ovens.**
Smith, J. D., Foundry Supply Co., Cleveland, O.
- Couplers, Car.**
Gould Coupler Co., New York.
McConway & Torley Co., Pittsburg.
National Malleable Castings Co., Cleveland.
- Couplers, Pilot.**
Gould Coupler Co., New York.
- Cranes, Hand, Steam, Electric.**
Whiting Foundry Equipment Co., Harvey, Ill.
Case Mfg. Co., Columbus, O.
Sellers & Co., Wm., Philadelphia, Pa.
- Crank Pin Presses.**
Watson-Stillman Co., New York.
- Crank Pin Turner.**
Underwood, H. B., & Co., Philadelphia, Pa.
- Crucibles.**
Smith, J. D., Foundry Supply Co., Cleveland, O.
- Crucible Tool Steel.**
McInnis Steel Co., Corry, Pa.
- Crushed Steel.**
Pittsburg Crushed Steel Co., Pittsburg, Pa.
- Cupolas and Cupola Blocks.**
Smith, J. D., Foundry Supply Co., Cleveland, O.
- Curled Hair.**
Baeder, Adamson & Co., Philadelphia, Pa.
- Cutting-Off Saws.**
Bentel & Margedant Co., Hamilton, O.
Smith, H. B. Mach. Co., Smithville, N. J.
- Cutting-Off Tools.**
Armstrong Bros. Tool Co., Chicago, Ill.
- Cutters, Milling.**
Standard Tool Co., Cleveland, O.
- Cutting-Off Machine for Self-Hardening Steel.**
Armstrong Bros. Tool Co., Chicago.
- Cylinder Packing.**
Franklin Mfg. Co., Franklin, Pa.
- Dado or Grooving Heads.**
American Wood Working Machinery Co., New York.
Bentel & Margedant Co., Hamilton, O.
- Depot and Station Paints—(See Paints).**
- Die Heads, Adjustable, Self-Opening.**
Geometric Tool Co., New Haven, Conn.
- Die Steel.**
McInnes Steel Co., Corry, Pa.
- Disc Grinders.**
Armstrong Bros. Tool Co., Chicago.
- Draft Gears and Draft Rigging.**
Farlow Draft Gear Co., Baltimore, Md.
Gould Coupler Co., New York.
McCord & Co., Chicago.
- Draftsmen's and Engineers' Supplies.**
Kolesch & Co., New York.
- Draftsmen's Tools.**
Starrett Co., L. S., Athol, Mass.
- Draughting Room Supplies.**
Kolesch & Co., New York.
- Draw Bar Attachments.**
Farlow Draft Gear Co., Baltimore, Md.
- Draw Bridge Machinery.**
Nichols, Geo. B. & Bro., Chicago.
- Drill Chucks.**
Standard Tool Co., Cleveland, O.
- Drill Holders.**
Armstrong Bros. Tool Co., Chicago.
- Drill Presses.**
Foote-Burt Co., Cleveland, O.
Garvin Machine Co., New York.
- Drills, Reamers, Etc.**
McInnes Steel Co., Corry, Pa.
Standard Tool Co., Cleveland, O.
- Drill Sockets.**
Standard Tool Co., Cleveland, O.
- Drilling Machines.**
Foote-Burt Co., Cleveland, O.
Sellers & Co., Wm., Philadelphia, Pa.

GENUINE RAILROAD FINISHES

CROCKETT'S RAILWAY VARNISHES

Railway Body.

A varnish, very durable and brilliant, and specially adapted to finishing passenger coaches and trolley cars. It has a good body, works freely and dries dust-free in ten or twelve hours.

Railway Rubbing.

A varnish, made expressly for undercoats on passenger coaches and trolley cars. It works easily, and can be rubbed in forty-eight hours.

Inside Car.

A varnish, drying with a fine and durable lustre in eight hours. It works easily and is more elastic than ordinary inside varnishes.

Open Car.

For one coat use on electric open cars for the entire surface, including seats, dries hard and with durable lustre.

Engine Finishing.

A medium drying, finishing varnish, made from the hardest gums, designed to withstand the rough usage on a locomotive.

Engine Rubbing.

A varnish for undercoats on locomotives and similar purposes. It works easily, dries quickly, and can be rubbed in from twenty-four to thirty-six hours.

Locomotive Black Finish.

A medium drying and durable black finish or enamel, made from the best materials, and designed to withstand the rough usage on a locomotive.

Smoke Stack.

A slow drying black varnish for locomotive iron work and similar purposes, designed to resist the action of heat and exposure.

Coach Japan.

This japan has been a standard article with railroad painters for many years, and has an unrivaled reputation. It is a very powerful dryer, absolutely reliable and uniform.

Brown Japan.

For freight paints.

Floor Finish.

Where a varnish is required that can be frequently washed with hot or cold water. Can be rubbed or left with a gloss.

Spar Composition.

Composed of the best materials purchasable, is the most durable, the best known and has the largest sale of any Marine Varnish manufactured. Positively salt and fresh water-proof, is invaluable for Exterior Marine Work of any kind, and as its name indicates particularly adapted for Spars of Steamships, Yachts and Canoes. Also a finish for Decks, Outside Doors, Piazza Floors, Store Fronts, etc. It will not crack, turn white or blister.

Primelac.

After making many experiments we have produced this article, which we consider indispensable. It fills the pores of the wood and kills all resinous matter and prevents sweating. It dries hard in a few hours, with smooth surface, and is a firm foundation for the after coat.

THE DAVID B. CROCKETT COMPANY
BRIDGEPORT, CONN.

BUYERS' GUIDE—Continued.

Drilling Machines, Portable.
Coates Clipper Mfg. Co., Worcester, Mass.

Driver Brake Shoes.
Railway Materials Co., Chicago.

Simpson, W. M., Chicago.

Drop Hammers.
Chambersburg Engineering Co., Chambersburg, Pa.

Drop Test Machines.
Whiting Foundry Equipment Co., Harvey, Ill.

Dump Cars.
Ralston Steel Car Co., Columbus, O.

Duplex Drill Lathes.
Garvin Machine Co., New York.

Dust Guards.
Franklin Mfg. Co., Franklin, Pa.

Gould Coupler Co., New York.

Eccentric Rolls.
Ajax Mfg. Co., Cleveland, O.

Electric Cranes.
Case Manufacturing Co., Columbus, O.

Whiting Foundry Equipment Co., Harvey, Ill.

Electric Drills and Grinders.
Macleod & Co., Walter, Cincinnati, O.

Electric Lamp Brackets.
Wells Light Mfg. Co., New York.

Electric Storage Batteries.
Gould Storage Battery Co., New York.

Emery Cloth and Paper.
Baeder, Adamson & Co., Philadelphia, Pa.

Emery Steel.

Pittsburg Crushed Steel Co., Pittsburg, Pa.

Emery Wheel Dressers.
Diamond Saw & Stamping Wks., Buffalo, N. Y.

Engineer's Instruments and Supplies.
Kolesch & Co., New York.

Engineers' Supplies.
Kolesch & Co., New York.

Expanded Metal.
Merritt & Co., Philadelphia.

Expanders, Tube.
Henderer's Sons, A. L., Wilmington, Del.

Files and Rasps.
Nicholson File Co., Providence, R. I.

Fillers.
Lucas, John & Co., Philadelphia, Pa.

Heath & Milligan Mfg. Co., Chicago.

St. Louis Surfacers & Paint Co., St. Louis, Mo.

Fireproof Building Materials.
Franklin Mfg. Co., Franklin, Pa.

Fireproof Paints.
Detroit Graphite Mfg. Co., Detroit, Mich.

Flanges, Pipe.
Jefferson Union Co., Lexington, Mass.

Flanging Machines, Hydraulic.
Chambersburg Engineering Co., Chambersburg, Pa.

Flexible Shafting.
Coates Clipper Mfg. Co., Worcester, Mass.

Flue Cleaners.
Western Tool & Mfg. Co., Springfield, O.

Flue Expanders.
Faessler, J. Mfg. Co., Moberly, Mo.

Flue Welding Machines and Furnaces.
Macleod & Co., Walter, Cincinnati, O.

Flue Rollers.
Faessler, J. Mfg. Co., Moberly, Mo.

Flue Sheet Drills.
Foote-Burt Co., Cleveland, O.

Forging Hammers.
Chambersburg Engineering Co., Chambersburg, Pa.

Forging Machines.
Acme Machinery Co., Cleveland, O.

Ajax Mfg. Co., Cleveland, O.

National Machinery Co., Tiffin, O.

Sellers & Co., Wm., Philadelphia, Pa.

Forgings.
Cleveland City Forge & Iron Co., Cleveland, O.

McInnes Steel Co., Corry, Pa.

Monarch Tool Works, St. Louis, Mo.

Forming Machines.
Ajax Mfg. Co., Cleveland, O.

Garvin Machine Co., New York.

Foundry Equipment and Supplies.
Ph. Bonvillian & E. Ronceray, Paris, France.

Whiting Foundry Equipment Co., Harvey, Ill.

Smith, J. D., Foundry Supply Co., Cleveland, O.

Four-Way Valves.
Homestead Valve Mfg. Co., Pittsburg, Pa.

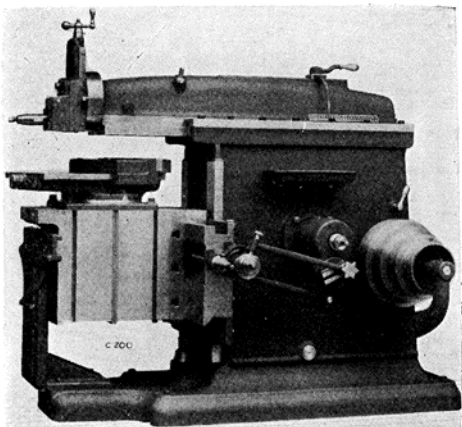
Freight Car Pains—See Paints.

Friction Buffers.
Gould Coupler Co., New York.

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24-inch B. G. Crank Shaper

Powerful—Accurate

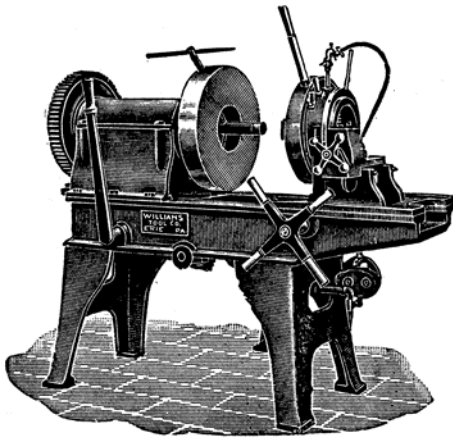


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WE will place a B. G. Crank Shaper in your shop, without order from Pur. Agent, freight prepaid, as a test machine. If not as represented, return at our expense. If the best of its type, pass a requisition for it. **¶** We know our shaper is best adapted to R. R. Shop requirements. We want to prove it to you.

Queen City Machine Tool Co.
Cincinnati, Ohio

A PIPE CUTTING EQUIPMENT



of Williams Machines will meet all requirements of modern work

COMPLETE LINE OF PIPE CUTTING MACHINES
For Up-to-Date Shops

Newly designed, strong construction, rigid and convenient in operation. Quick opening and adjustable dies. Six speed changes without shifting a gear.

7 sizes, capacities 1-4 in. to 12 in.


WILLIAMS TOOL CO.
ERIE, PA.

Best Paint

PARROTT

Manufacturers

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Varnish Remover

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Under License by
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Established 1846.

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Bridgeport, Conn.

Highest Grade

Car and Locomotive Varnishes

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Chicago The Railway Materials Company New York

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Unequaled in
CUTTING POWER — DURABILITY — UNIFORMITY

NICHOLSON FILE CO.

PROVIDENCE, R. I., U. S. A.

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Successors to WOLFE, WALKER & CO., Ltd.

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Retail Store, 505 Liberty St.
PITTSBURG, PA.



Manufacturers of Superior

Brushes

Especially Designed for
Rail Roads

THE "GLOBE" VENTILATOR

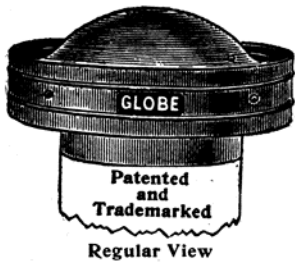
For ventilating cars and railroad buildings of every
character

The "Globe" Ventilator is absolutely storm and
cinder proof

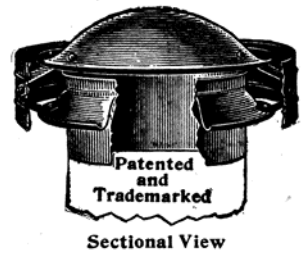
The "Globe" Ventilator is manufactured by

The Globe Ventilator Company

TROY, N. Y.



Regular View



Sectional View

Write for
Sample Card

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Buy
It

Paste, Semi-Paste and Liquid

For Cars, Bridges, Train-sheds, Structural Work and other Wooden and Metallic Surfaces

In preparing Ferrico Paint the most careful attention has been given to the requirements of the surfaces upon which it is to be applied, also to the character of each pigment used.

In grinding, the drying properties of the pigments used in the various colors have been carefully studied and a vehicle used which exactly meets the requirements of each pigment, so that in making reductions the same quality and quantity of thinners can be used in all shades.

MADE IN ELEVEN SHADES AND ELASTIC RED LEAD

Heath & Milligan Mfg Co

Use
It

PAINT AND
COLOR MAKERS



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You'll
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Railway Master Mechanic

(\$1.00 per Year)

Is the leading mechanical journal of railroading, because it is read by more motive power and car shop officials than any other paper. It also carries more advertising in these departments than any other paper. Just as a bank's growth is the measure of confidence in it by its patrons so is a newspaper's growth. The Railway Master Mechanic has shown a greater growth in the past two years (400 per cent.) than any railway journal. It brings many times one dollar's worth of news to its subscribers, and therefore results to its advertisers.

Crandall Publishing Co.

Security Building 130 Nassau St.
CHICAGO NEW YORK

BUYERS' GUIDE—Continued.

Friction Draft Gear.
Gould Coupler Co., New York.
Frogs and Crossings.
Indianapolis Frog & Switch Co.,
Springfield, O.
Front End Paint.
Lucas & Co., John, Philadelphia.
Fuel Oil Equipment for Shops.
Best American Calorific Co., W. N.,
New York.
Rockwell Engineering Co., New York.
Furnaces, Annealing, Melting, Etc.
Best American Calorific Co., W. N.,
New York.
Railway Materials Co., Chicago.
Rockwell Engineering Co., New York.
Simpson, W. M., Chicago.
Furnaces, Tire Heating.
Railway Materials Co., Chicago.
Simpson, W. M., Chicago.
Wells Light Mfg. Co., Chicago.
Furnaces, Foundry.
Railway Materials Co., Chicago.
Simpson, W. M., Chicago.
Furnaces, Natural Gas.
Railway Materials Co., Chicago.
Simpson, W. M., Chicago.
Furnaces, Oil.
Best American Calorific Co., W. N.,
New York.
Railway Materials Co., Chicago.
Rockwell Engineering Co., New York.
Simpson, W. M., Chicago.
Furnaces, Rivet Heating.
Best American Calorific Co., W. N.,
New York.
Railway Materials Co., Chicago.
Rockwell Engineering Co., New York.
Simpson, W. M., Chicago.
Gang Drills.
Foote-Burt Co., Cleveland, O.
Gang Planer Tools.
Armstrong Bros. Tool Co., Chicago.
Gang Tools.
Armstrong Bros. Tool Co., Chicago.
Gantry Cranes.
Whiting Foundry Equipment Co., Har-
vey, Ill.
Gas Furnaces.
Railway Materials Co., Chicago.
Simpson, W. M., Chicago.
Gaskets.
McCord & Co., Chicago.
Gauges, Measuring, All Kinds.
Starrett Co., L. S., Athol, Mass.
Gauges, Surface.
Starrett Co., L. S., Athol, Mass.
Gear Cutters.
Becker-Brainerd Milling Machine Co.,
Hyde Park, Mass.
Standard Tool Co., Cleveland, O.
Graphite.
Detroit Graphite Mfg. Co., Detroit.
Smith, J. D., Foundry Supply Co.,
Cleveland, O.
Graphite Paints.
Detroit Graphite Mfg. Co., Detroit,
Mich.
Heath & Milligan Mfg. Co., Chicago.
Lucas & Co., John, Philadelphia, Pa.
St. Louis Surface & Paint Co., St. Louis,
Mo.
Graphite Pipe Joint Compound.
Detroit Graphite Mfg. Co., Detroit,
Mich.
Granite Roofing.
Stowell Mfg. Co., Jersey City, N. J.
Grinding Holders.
Armstrong Bros. Tool Co., Chicago.
Grinding Machines.
American Wood Working Machinery
Co., New York.
Becker-Brainerd Milling Machine Co.,
Hyde Park, Mass.
Bentel & Margedant Co., Hamilton, O.
Coates Clipper Mfg. Co., Worcester,
Mass.
Landis Tool Co., Waynesboro, Pa.
Sellers & Co., Wm., Philadelphia, Pa.
Smith, H. B. Mach. Co., Smithville, N. J.
Grinding Machine Attachments.
Landis Tool Co., Waynesboro, Pa.
Grinding Materials and Machinery.
Pittsburg Crushed Steel Co., Pittsburg,
Pa.
Springfield Mfg. Co., Bridgeport, Conn.
Grip Sockets.
Standard Tool Co., Cleveland, O.
Hack Saw Blades.
Diamond Saw & Stamping Works, Buf-
falo, N. Y.
Starrett, L. S. Co., Athol, Mass.
Hack Saws.
Diamond Saw & Stamping Works, Buf-
falo, N. Y.
Hack Saw Machines, Power.
Diamond Saw & Stamping Works, Buf-
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Hair Felt for Insulation.
Baeder, Adamson & Co., Philadelphia,
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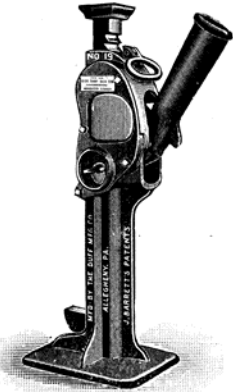
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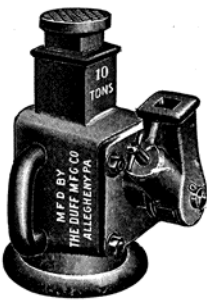
No. 19.

The No. 19 Barrett Jack

is especially designed for car repairing. Easily carried and easily operated. Designed also to grapple low set loads. Lifts and lowers on down stroke of lever only. Capacity, 15 tons.

No. 130 Barrett Geared Ratchet Lever Jack

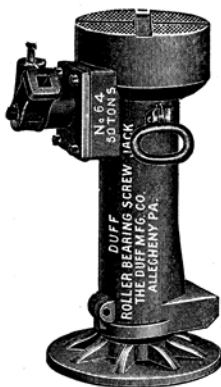
has a capacity of 35 tons and is particularly designed for the rapid handling of loaded freight cars and heavy loads in general. Single acting, raising the load on the downward movement of the lever only. This Jack permits of great ease of operation and is quick acting.



No. 58.

No. 58 Cone Bearing Journal Jack

weighs 39 pounds and has a raise of 5 inches. One man can easily replace the brasses in a truck with one of these jacks.



Ball-Bearing Jack.

The Duff Ball-Bearing Screw Jacks

are made to interchange with Duff Roller Bearing Screw Jacks, so that any shop having our jacks equipped with roller bearing can easily change them to ball-bearing jacks if desired. We shall be pleased to send full information regarding our complete line of Jacks, which are made in capacities of from 1 to 75 tons.

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Henderer's, A. L. Sons, Wilmin., Del.
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Lucas & Co., John, Philadelphia, Pa.
Jib Cranes.
Whiting Foundry Equipment Co., Harvey, Ill.
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Journal Packing.
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Bentel & Margendant Co., Hamilton, O.
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Franklin Mfg. Co., Franklin, Pa.
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Wells Light Mfg. Co., New York.
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