

# BLACKSMITHS' TOOLS AND MACHINERY

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*Catalogue B-20*

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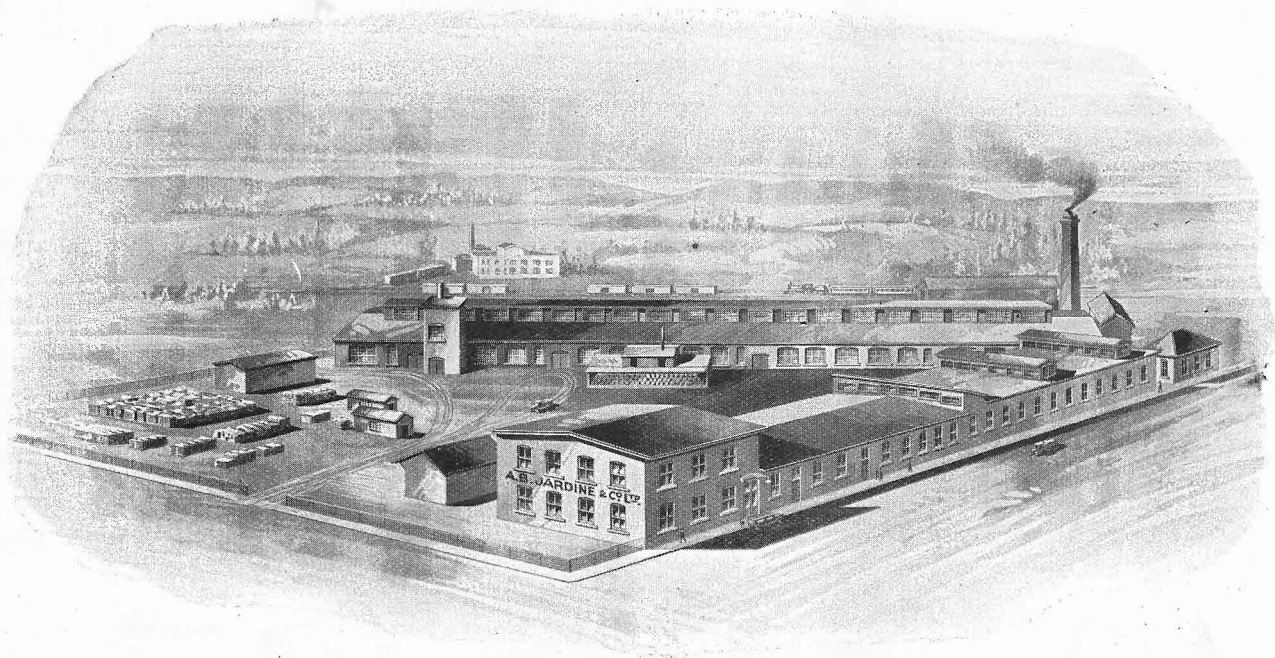


**A. B. Jardine & Co.**

Limited

HESPELER, ONTARIO, CANADA

*Established 1870*



*The "Jardine" Shops, Hespeler, Ont.*

A. B. JARDINE & CO., LIMITED



HESPELER, ONTARIO, CANADA



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## Notice

**F**OR over 50 years we have been manufacturing Tools that have the reputation of being the best that human ingenuity and skill can produce. In the manufacture of our Thread Cutting Tools we use nothing but the **Best English Tool Steel** and have not at any time deviated from this practice.

New Tools are being added and improvements made in details, keeping our line of Tools and Machines in the lead.

**Guarantee.** Our work is fully guaranteed against defects in workmanship or material; should there through human weakness be any defective tools from the Jardine shops they may be returned to us **prepaid** and we will replace them free of charge.

**Special Work.** Clear and precise specifications must accompany orders for special work. Send a sample or drawing if possible. We cannot be responsible for errors when drawing is not supplied.

**When Ordering** regular goods use the names and terms as listed in Catalogue, and be sure your order contains full instructions.

**When mailing samples** or other articles to us put your own name, as well as our address on the parcel. Don't use a paper tag, it is very liable to be torn off. Use linen tag, or better still, write the address on the parcel.

**Shipping Instructions.** If shipment by any special route is desired, send full instructions. In the absence of definite instructions we will use our best judgment.

**Our responsibility** ceases when goods have been shipped. Claims for loss or breakage must be made on the carriers. We will at any time cheerfully give any assistance in our power in tracing goods that may become lost or delayed in transit.

Orders from customers with whom we have no account must be accompanied by cash.

Make cheques and money orders payable to A. B. Jardine & Co., Limited, Hespeler, Canada.

**A. B. JARDINE & CO., Limited**  
HESPELER, CANADA

Hespeler, April, 1927.





## “JARDINE” CANADIAN GIANT POWER HAMMERS

### Nos. 25 and 50



This high grade Power Hammer is suitable for either manufacturing or jobbing.

The frame is strong and rigid. The cone shaped anvil block has the weight necessary to receive the shock of the blow.

There are convenient means for making adjustments necessary for different classes of work. It is simple in construction and easy to operate. Material and workmanship are of the best.

All revolving parts are ground straight and true.

The ram runs in V slides proportioned in length to prevent wearing out of parallel. Provision is made for taking up wear in the slides.

The pitman is of phosphor bronze.

The ram and connections between ram and pitman are either steel forgings or steel castings.

The dies for hammer and anvil are of tool steel. They are held in machined seats by tapered keys, the taper to suit the keys being in the ram and anvil block.

The friction clutch pulley on the crank shaft may be driven in either direction. The belt may be run direct from the line shaft to the friction pulley. No countershaft necessary.

Adjustment is provided for height of ram from anvil to suit difference in thickness of work.

The treadle is adjustable for height from floor to suit the foot.

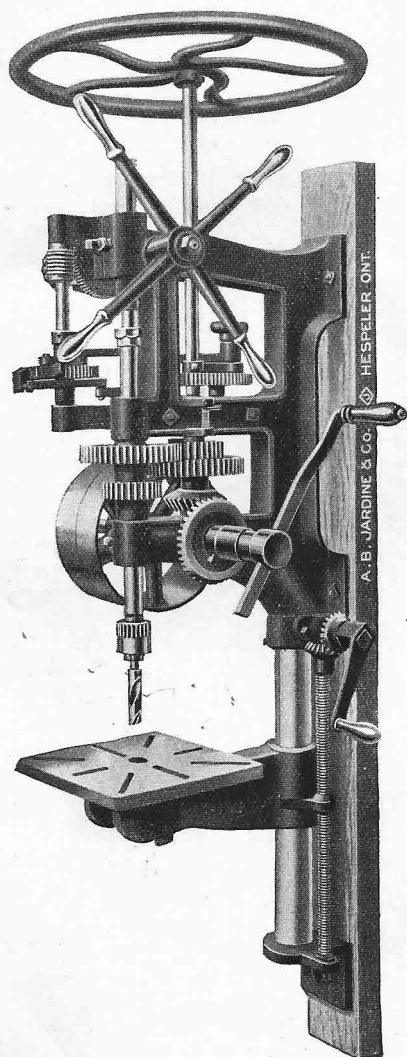
Every hammer is belted and run before leaving the factory.

	No. 25	No. 50
Floor space required.....	17" x 28"	20" x 35"
Height over all.....	5' 5"	5' 11½"
Size of upper die.....	3" x 1½"	3" x 5¾"
Size of lower die.....	3" x 2"	3" x 5¾"
Will forge stock.....	2" round	2½" round
Weight of ram and hammer die.....	30 lbs.	60 lbs.
Size of pulley.....	3½ x 10"	5" x 12"
Revolutions per minute.....	About 400	About 300
Horsepower required.....	1½ H.P.	2½ H.P.
Weight of machine.....	800 lbs.	1750 lbs.
Shipping weight.....	850 lbs.	1875 lbs.
Price.....	\$150.00	\$241.00

For list of repair parts see page 43.

## HAND DRILLING MACHINE No. 6

An Upright Machine Capable of First-class Machine Work.



Hand lever feed and power feed, which can be changed to coarse or fine as desired. The feeds are independent of each other, and spindle has quick return.

Fast and slow speed to spindle; instant change of speed.

Perfect cut gearing both bevel and spur.

Ball bearing on end of spindle.

Drills to centre of a 24 inch circle.

Sure Grip Chuck on spindle, takes drills with  $\frac{1}{2}$  inch shank only.

Drills must have a flat on shank.

Run of feed 6 inches.

Run of table on pillar  $15\frac{1}{2}$  inches.

Table raised and lowered by crank and screw.

Table large and machined on face.

Pulleys 10 inches diameter,  $2\frac{1}{2}$  inch face; should run about 175 revolutions per minute.

Driving shaft on hand machine is extended so that pulleys may be used without alteration.

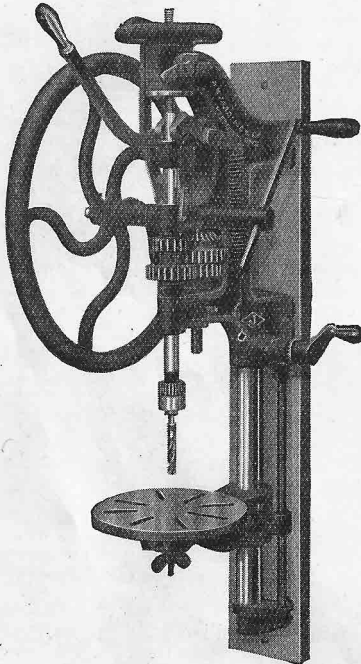
For hand only (without pulleys)  
shipping weight 385 lbs.....\$91.50

For hand and power (as illustrated),  
shipping weight 415 lbs.....\$96.50



## DRILLING MACHINES Nos. 8 and 80

For Hand or Power



Patented Opening Feed Nut, opened by one motion of a lever. All parts strong and substantial, cannot get out of order, wears as well as a solid nut.

Hand Lever Feed, used for countersinking or light drilling, also to lower the drill quickly to the work.

Hand Screw Feed.

Automatic Adjustable Power Feed, three changes of feed can be made while machine is running.

Automatic Quick Return of spindle can be had with all feeds, by opening the feed nut.

Back Geared Spindle, giving two speeds, quick change.

Table raised and lowered by crank and screw.

Patented Clamp for table bracket, holds the table bracket positively rigid, no spring clamp to break.

Ball Bearing on end of spindle to take thrust of feed screw, eliminates friction.

Cut gears throughout.

Driving shaft made long enough for pulleys for power.

Sure Grip Chuck, on end of spindle, takes drills with  $\frac{1}{2}$  inch shank only.

Drills must have a flat on shank.

Drills to centre of 21 inch circle.

Run of feed 4 inches.

Run of table on pillar 15 inches.

Greatest distance from spindle to table 15 inches.

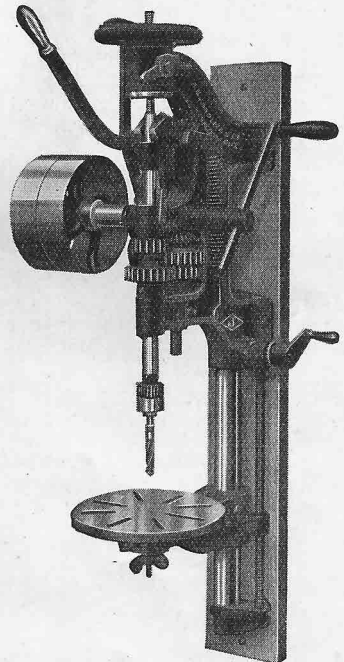
Tight and loose pulleys 10" x  $2\frac{1}{2}$ " face, should run about 170 revolutions per minute.

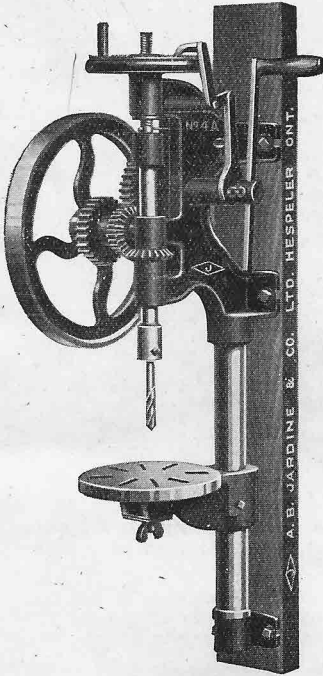
No. 8, for hand only, shipping weight 250 lbs. Price.....\$60.00

No. 80, for power only, shipping weight 240 lbs. Price.....\$60.00

No. 800, for hand and power, (with both pulleys and flywheel), shipping weight 270 lbs. Price.....\$65.00

For list of repair parts see page 45.





## HAND DRILLING MACHINE No. 4A

### With Ball Bearing

The machine is strongly built, well made and well fitted with reamed bearings. There are no babbited bearings to wear loose. The pillar is extra large in diameter, giving a rigid support to the table arm. Improved clamp on table arm. Table is machined, giving a perfect level face for the work. The machine has ball thrust bearing on end of spindle automatic feed with three changes; drills to centre of 16 inch circle; run of feed is 4 inches; greatest distance from point of drill spindle to table arm, 17¼ inches.

**QUICK CHANGE GEARING:** Giving two speeds for small and large holes. The speed that is right for a ¼ inch hole cannot be nearly right for a ¾ inch hole. Even a ½ inch or ⅞ inch hole requires slower speed than the one speed machine gives. We give two speeds requiring only a few seconds to change.

Shipping weight, 170 lbs.

Price, \$39.50.

For list of repair parts see page 46.

## HAND DRILLING MACHINE No. 10

### With Ball Bearing

This machine embodies very important improvements and comes at a price within the reach of any user of a Hand Drilling Machine.

It is of the same general design as our No. 4A. Ball Bearings between spindle and feed screw, thus minimizing friction. Improved clamp on table arm. Heavy slotted table to hold the work. Automatic feed with three changes, and a change of feed can be made while the machine is running. Fly wheel turns two and one half times to one turn of the crank.

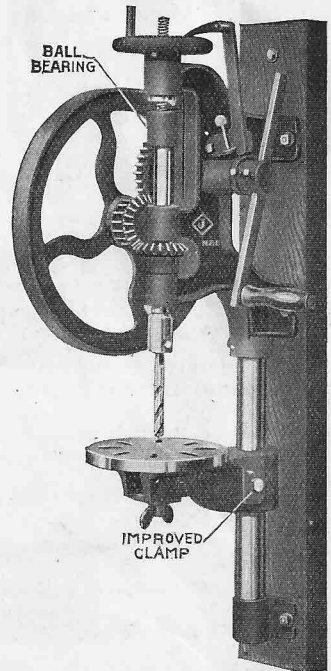
We take pleasure in offering this machine at a very moderate price. It will do as good work as the most expensive machine. Except in drilling very large sized holes, it works as easily as the most expensive machine, and more than nine-tenths of the drilling in the average blacksmith's shop is in small sized holes.

Drills to centre of 14 inch circle.

Shipping weight, 125 lbs.

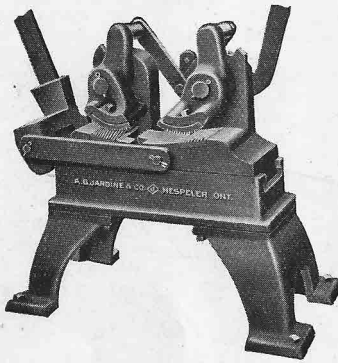
Price, \$25.50.

For list of repair parts see page 47.





## TIRE UPSETTER NO 5



Upsets tires up to 4 inches wide by 1 inch thick and axles up to  $1\frac{1}{4}$  inches.

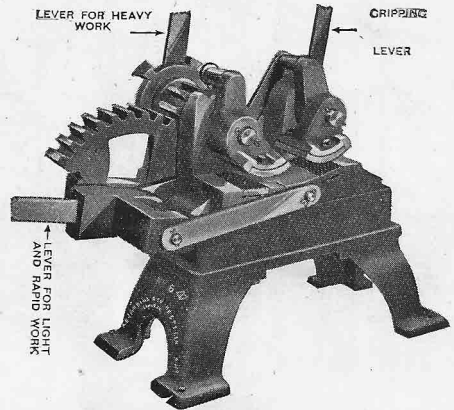
Jaws have tool steel face, with machine cut teeth, carefully tempered. Both upper jaws are operated by one lever with equalizing links giving quick and sure grip.

The machine is extra heavy and calculated to stand the strain of upsetting the heaviest tires up to 4 inches wide.

Weight, 375 lbs.

Price, \$48.25.

## TIRE UPSETTER NO. 6



Has two pulling levers, one for light work and one with heavy gearing, giving ample power for the heaviest work.

Both upper gears are operated by one lever with equalizing links that adjust them to uneven thicknesses, giving a quick and sure grip.

Jaws are faced with plates of tool steel with machine cut teeth carefully tempered.

Upsets tires up to 4" wide by 1" thick, and axles up to  $1\frac{1}{4}$  inches.

Weight, 435 lbs.

Price, \$57.00.

For list of repair parts see page 36.

## IMPROVED TIRE UPSETTER NO. 2

It has quick grip, both the eccentrics being raised and lowered by one lever with equalizing links. It has strong and sure grip, the eccentrics and jaws being faced with tempered steel. The tire cannot slip.

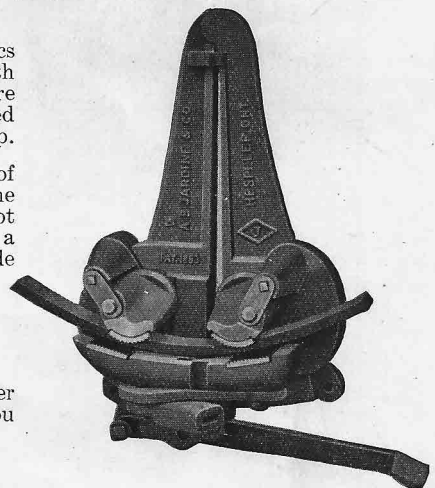
It is durable, the upsetter being made of heavy castings, strong enough to stand the very heavy work it has to do. All pivot pins are of steel. The eccentric strap is a heavy forging and the machine is well made throughout.

Weight, 175 lbs.

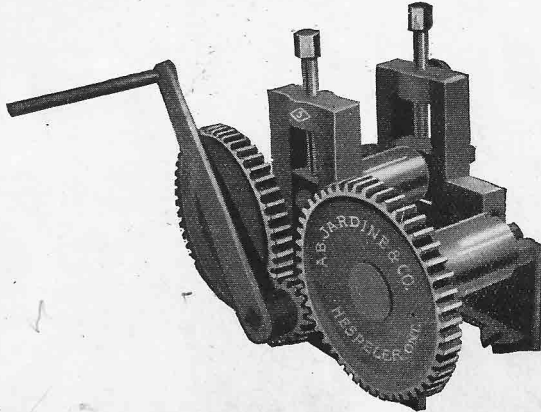
Price, \$23.60.

When ordering steel plates, specify upper or lower plate, and right or left side, as you stand facing the machine.

For list of repair parts see page 36.







**No. 2 TIRE BENDER**

It is strongly geared and will bend iron up to 4 inches in width, and is good for tires up to 2 x 3/4 inches. It has change of speed for light and heavy tires. The middle roller is removable, to take the tire out after bending or to round up welded tire. A convenient, strong and cheap bender.

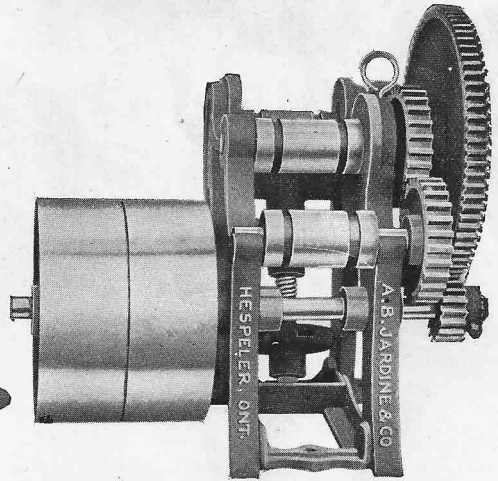
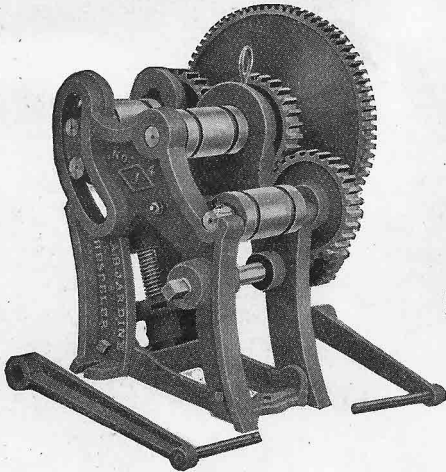
Weight, 120 lbs.

Price, \$20.50.

For list of repair parts see page 37.

**NO. 4 TIRE BENDER**

**No. 40 TIRE BENDER**



All the rollers are geared. Rollers are grooved for bending circles edgewise. Unless otherwise ordered grooves are made for 3/8" and 1/2" iron.

Will take iron up to 6" wide, bends up to 4" x 1", or wider iron of proportionate thickness, or 1 3/4" x 3/8", edgewise for circles.

All our Benders have centre rollers removable.

Weight, 220 lbs. Price, \$41.50.

For list of repair parts see page 37.

Made from the same patterns as our Hand Tire Bender No. 4, a general description of which (opposite) applies also to this machine.

It is capable of doing first-class work on tires up to 4 x 3/4 in., but for continuous duty on heavy tires we recommend our heavier machine No. 70, (see page 9).

If desired, it can, for a slight extra charge, be arranged to drive by crank when power is not available. Tight and loose pulleys are 1 1/4 inches diameter by 4 1/4 inch face.

Weight, 245 lbs.

Price, \$55.50.

**TAPER MANDREL**

The mandrel is 48 in. high, 12 in. diameter at the base, and 2 3/4 in. at top.

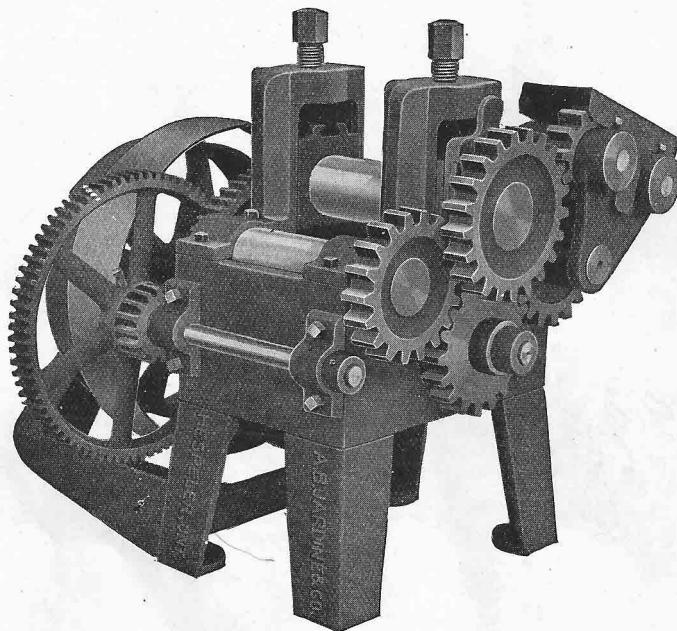
The groove which runs the whole length of the mandrel is very convenient for gripping the work with the tongs or for rounding a ring with an eye-bolt on it.



Weight, 150 lbs.

Price, \$16.00.

## TIRE BENDER No. 70



This is a powerful machine, which will bend tires up to 6 in. x 1 in.

All the rollers are driven.

The centre roller is removable.

There are two driving pulleys, giving a change of speed.

The bearings are of ample length, the gears are heavy, and the machine through-  
out is of proportions to perform its heavy duty without fear of breakage.

Countershaft should run about 210 revolutions per minute.

Shipping weight, 850 lbs.

Price, complete with countershaft, \$280.00.

We can also supply this Bender for hand use, without countershaft and pulleys  
and with legs to raise the machine to a convenient height.

No. 7 Bender for hand only, supplied with two cranks.

Shipping weight, 575 lbs.

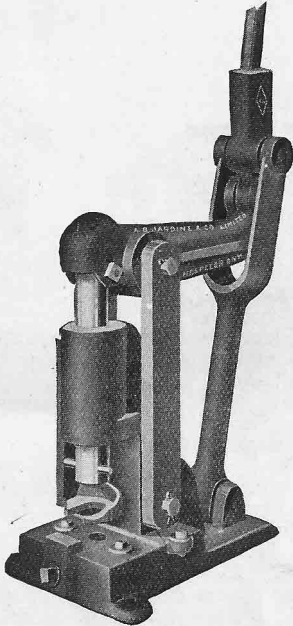
Price, \$198.50.

All our Tire Benders have removable centre roller.

For list of repair parts see page 38.



### LIGHT BENCH PUNCH



An excellent punch for light work, and is used extensively by manufacturers of fire escapes and iron railings. It should be on the bench of every machine shop, and blacksmith shop.

When required we fit it with shears at a slight extra cost.

Will punch  $\frac{1}{4}$  inch hole in  $\frac{1}{4}$  inch iron, and proportionately larger in thinner iron, will gum any cross-cut saw. Weight, 75 lbs. Depth of throat,  $1\frac{3}{8}$  in.

Price, without punches or dies.....\$21.00  
 Price, with four round punches and dies..... 27.00  
 Price, with four punches and dies for saw gumming, 42.50

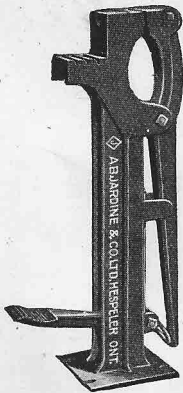
We keep in stock Saw Gumming Punches and Dies  $\frac{1}{8}'' \times \frac{7}{8}''$ ,  $\frac{3}{16}'' \times \frac{7}{8}''$ ,  $\frac{1}{4}'' \times \frac{7}{8}''$ ,  $\frac{5}{16}'' \times \frac{7}{8}''$  and  $\frac{3}{8}'' \times \frac{7}{8}''$  and Round Punches and Dies  $\frac{3}{16}$  1/32,  $\frac{1}{4}$  1/32,  $\frac{5}{16}$  1/32,  $\frac{3}{8}$  1/32. All other sizes and Square Punches and Dies made up as ordered.

Unless otherwise ordered we make round and square punches and dies 1/32 inch oversize.

For list of repair parts see page 39.

### No. 2 FOOT VISE

Grips the shoe quickly and holds it firmly. The anvil block is tempered crucible steel, proper shape for inside of calk. Jaw 4" wide. Weight, 100 lbs. Price, \$16.40.



No. 2  
FOOT VISE

### No. 3 FOOT VISE AND BOLT HEADER

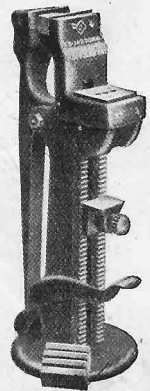
The Foot Vise has tempered, crucible steel anvil, bevelled at one end, square at the other, for square and bevelled calks. The back jaw is self-adjusting to the back of the shoe. Jaw 6 in. wide.

#### FOR BOLT HEADING

Pressure on the treadle operates a short, stiff arm (not shown in cut) opposite the pivot of the swinging side of the machine. This closes the dies of Bolt Header as firmly as a vise. When pressure is removed from treadle the bolt is free to be taken out to square the head. No time lost adjusting machine while the bolt head is cooling.

No. 3, weight, 210 lbs. Price \$28.75.

For list of repair parts see page 41.



No. 3 FOOT  
VISE AND  
BOLT  
HEADER



## COMBINED PUNCH AND SHEAR

Shears up to  $\frac{3}{4}$  inches square or  $1\frac{3}{4} \times \frac{5}{8}$  inches and thinner iron up to 4 inches wide; has a fence or stop for cutting off a number of pieces the same length, and a bar to prevent the work from rising while being cut.

The lower cutter is adjustable for wear. The punch beam is adjustable to accommodate for wear of punches. Centre of punch is  $3\frac{1}{8}$  inches clear of back of throat.

It will punch  $\frac{3}{8}$  inch hole in  $\frac{3}{8}$  iron or  $\frac{3}{4}$  inch hole in  $\frac{1}{4}$  inch iron. We supply, when required, punches and dies for saw gumming. The punches and dies are of the best cast steel, and are well fitted.

The regular assortment of round punches and dies is  $\frac{1}{4}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$  inches, all  $1/32$  inch oversize.

Any four sizes of Round Punches and Dies in even eighths or sixteenths from  $\frac{3}{16}$  to  $\frac{5}{8}$ , all  $1/32$  oversize, may be ordered in place of the above assortment without extra charge.

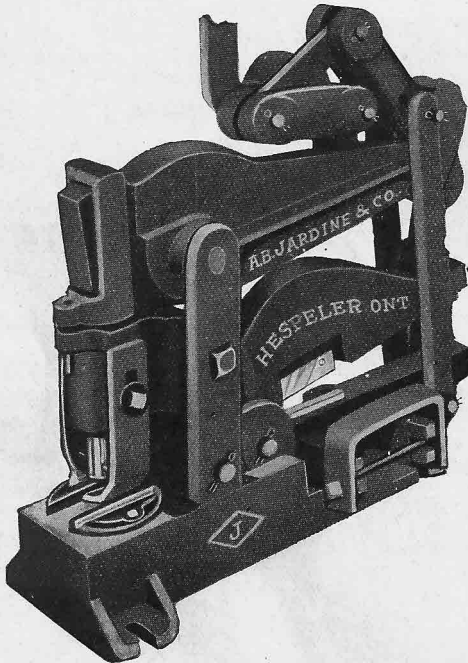
Shipping weight, 300 lbs.

Price, without punches or dies. \$59.00

Price, with four round punches and dies..... 64.50

We keep in stock round punches and dies  $\frac{3}{16}$  1/32,  $\frac{1}{4}$  1/32,  $\frac{5}{16}$  1/32,  $\frac{3}{8}$  1/32,  $\frac{7}{16}$  1/32,  $\frac{1}{2}$  1/32,  $\frac{5}{8}$  1/32. All other sizes and square or saw gumming punches and dies are made up as ordered.

All round and square punches and dies are made  $1/32$  inch oversize unless specially ordered otherwise.



For list of repair parts see page 40.

## HAND SHEAR

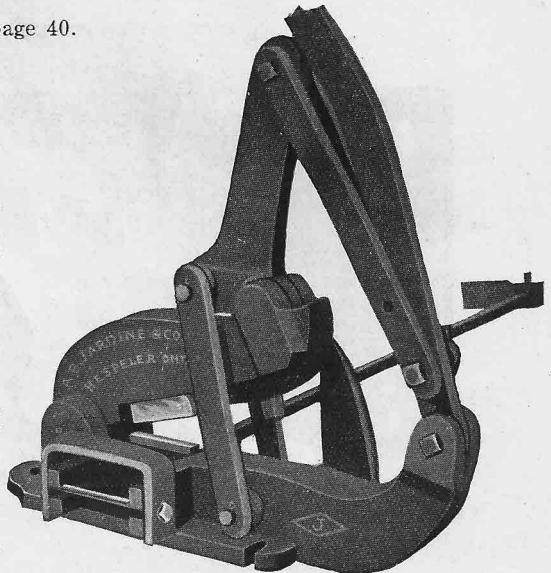
This shear will cut off iron up to  $\frac{3}{4}$  in. square, or  $1\frac{3}{4} \times \frac{5}{8}$  in. and thinner iron up to 4 in. wide. It is especially designed to meet the wants of a general blacksmith and is handy and convenient, as well as durable and strong. It is provided with a fence or stop, for convenience in cutting a number of pieces the same length, and a bar to prevent the iron from rising or twisting while being cut.

The shear blades are of the best cast steel, and are adjustable for wear.

Weight, 175 lbs.

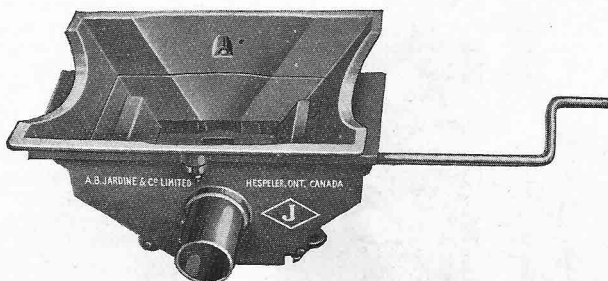
Price, \$33.50.

For list of repair parts see page 38.





## FLEWELLING EXTENSION TUYERE



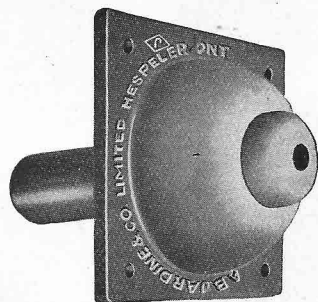
The Flewelling Tuiere is closed or extended by a right and left hand screw operated by a crank. Can be closed for a small fire the same as an ordinary tuiere and can be extended to uniformly heat a 12 inch plow share in the same time taken to make a short heat in an ordinary fire.

Will heat a  $2\frac{1}{2} \times \frac{1}{2}$  inch wagon tire, ready to put on a wheel in from five to eight minutes.

The handiest and best tuiere made for regular repair blacksmith work.

Weight, 82 lbs. Price, \$14.00.

## SIDE BLAST TUYERE

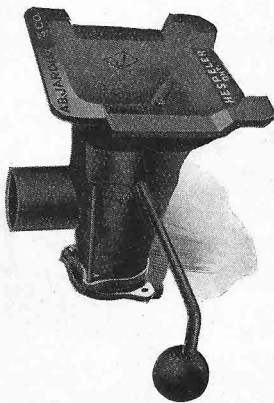


The breast and point are extra heavy.

Breast 9" x 9"

Weight, 35 lbs. Price, \$4.50.

## CENTRE BLAST TUYERE

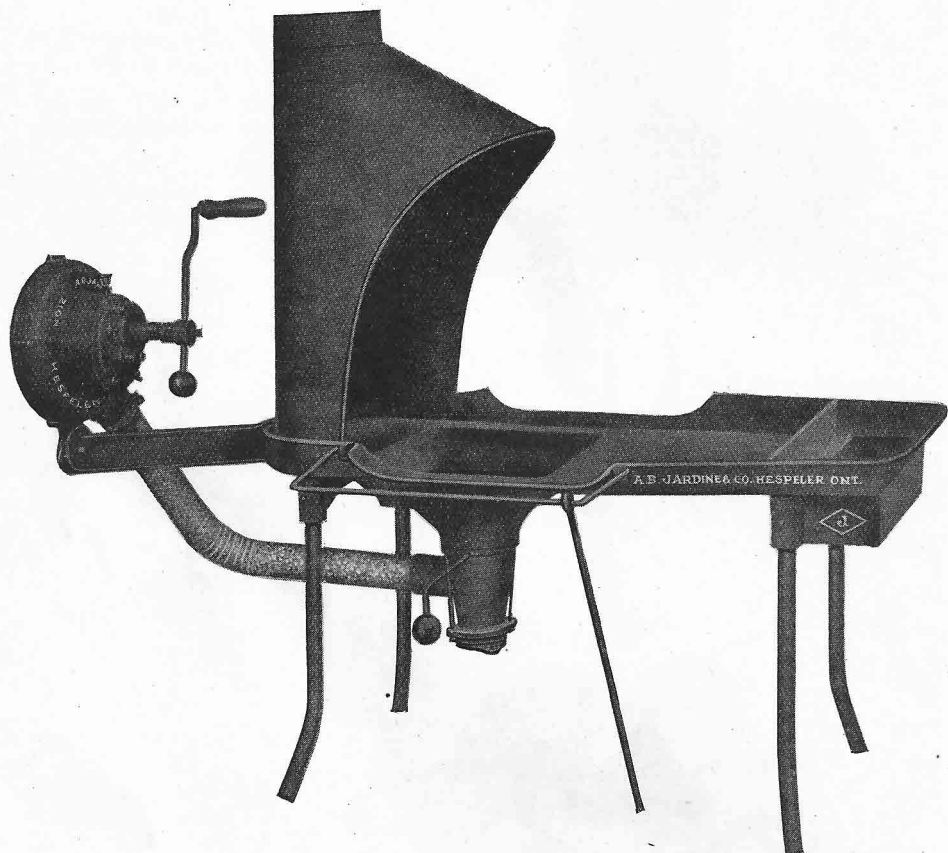


The Ball, in opening is so arranged that it will break the clinkers and allow them to drop out at the bottom. It also allows the blast to come out at the centre, as well as sides, making a perfect fire. The extra weight is distributed around the fire pot, making it indestructible.

Weight, 55 lbs.

Price, \$7.25.





### No. 10 FORGE

SUITABLE FOR ALL CLASSES OF WORK UP TO 4 INCH IRON

Legs are removable.

Hearth, 31 x 44 inches. Blower, 12 inches. Length over coal tank, 53 inches. Height, 31 inches.

The tuyere is made extra heavy where the fire comes in contact, no danger of burning out.

The bottom of pan is lowered to make ample room for a large fire without spreading.

Weight, 325 lbs. Price, \$60.00.

A. B. JARDINE &amp; CO., LIMITED



HESPELER, ONTARIO, CANADA

### No. 20 FORGE

Suitable for all purposes when a portable forge is needed.

Legs are removable, making it possible to pack in small space.

Tuyere of same construction as the more expensive forges.

Fan that will supply blast sufficient for 4-inch iron.

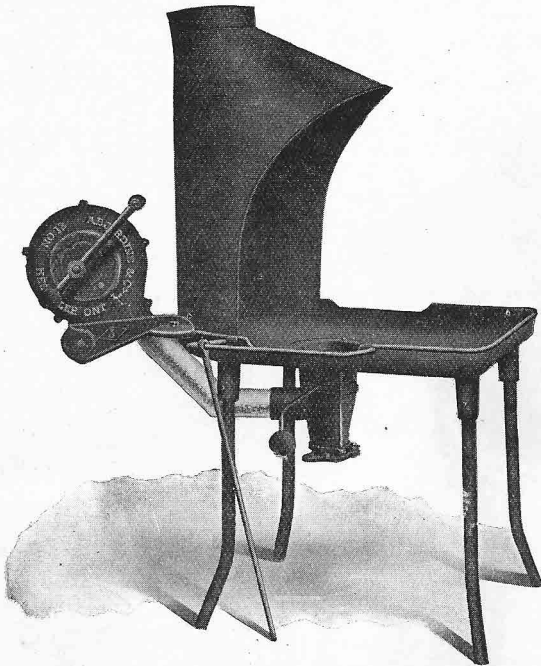
Hearth, 24 x 36 in.

Height, 31 in.

Fan, 12 in.

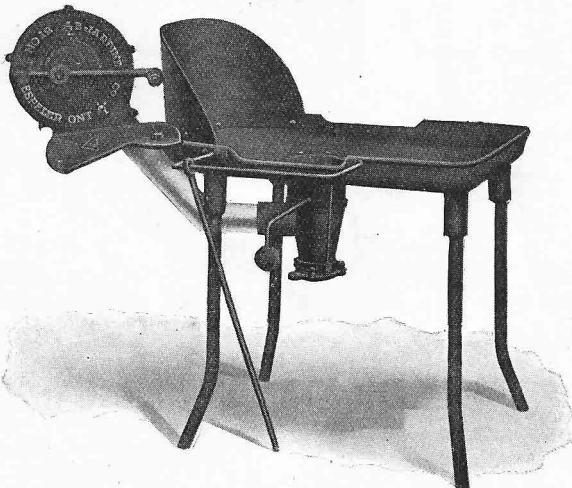
Weight, 210 lbs.

Price, \$46.70.



### No. 30 FORGE

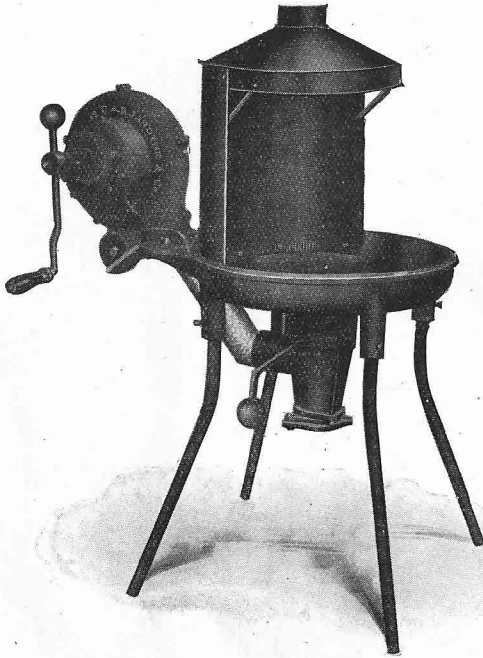
Suitable for contractors and all outdoor work.



Legs are removable, making it possible to pack in small space for moving.

Hearth, 24 x 36 in. Height, 31 in. Fan, 12 in.

Weight, 209 lbs. Price, \$43.60.



### No. 40 FORGE

Suitable for all kinds of work within its capacity.

Legs removable, insuring small space in moving.

Blower and Tuyere equal to work larger than size of forge implies.

Hearth, 22 in. diameter.

Height, 31 in. Blower, 12 in.

Weight, 165 lbs.

Price, \$40.50.

### No. 50 FORGE

Suitable for all classes of work from the smallest to anything within its range.

Legs removable, insuring small space in moving.

Blower and Tuyere capable of work up to 3 in.

Hearth, 22 in. diameter.

Height, 31 in. Blower, 12 in.

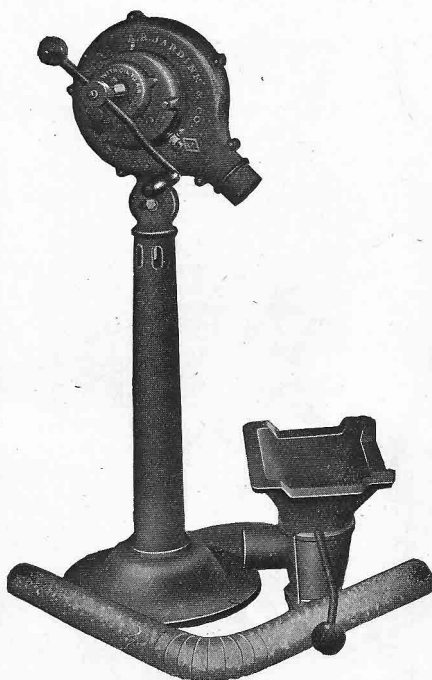
Weight, 150 lbs.

Price, \$36.70.





## HAND BLOWERS



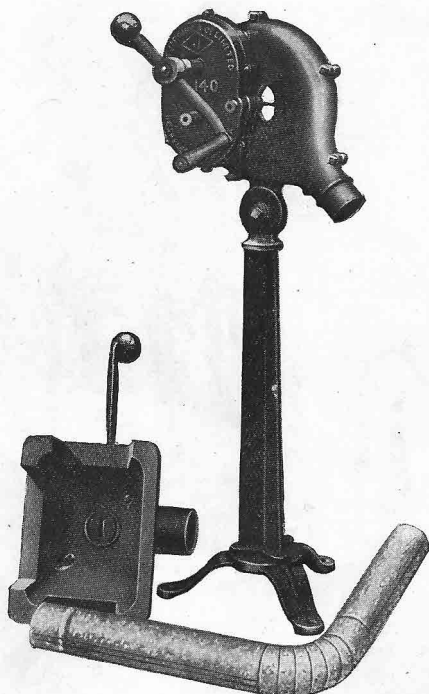
No. 2

**Helical Gears on high speed shafts**

The gears are cut on the best automatic gear-cutting machinery, and the shafts ground straight and true to fit bearings reamed to exact size—insuring wearing qualities and minimum of friction. All wearing parts automatically oiled.

A full set of jigs and tools got up for the Blower make all parts interchangeable. The fan is 12 inches diameter and can be run in either direction. It gives a blast, ample for any blacksmith fire.

Weight, 135 lbs. Price, \$32.70.

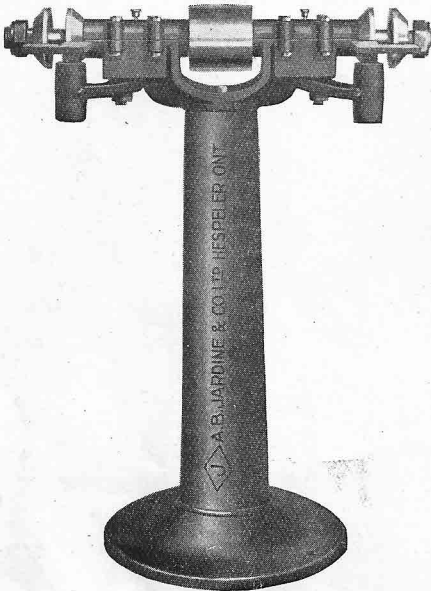


No. 140

A newly designed Blower simple in construction, having only two pairs of gears. Shafts ground true, gears accurately cut, the high speed gear on fan shaft helical cut, (the teeth angling across the face of the wheel), the smoothest running gear tooth known, practically noiseless and frictionless, outlasting the ordinary style of gearing for high speed and giving beyond comparison more satisfactory service. All wearing parts automatically oiled.

Weight, 125 lbs.

Price, \$27.30.



**PEDESTAL GRINDER**

For general grinding and polishing in Machine Shops, Blacksmith's Shops, Automobile Repair Shops, etc. A strong stiff frame, heavy steel spindle, best workmanship throughout, moderate price.

Height of spindle from floor 36 inches.

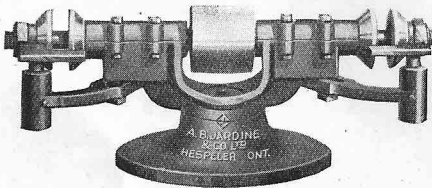
Spindle  $1\frac{3}{8}$  inch diameter, 29 inches long, carries wheel at each end, ground bearings.

Pulleys  $4\frac{3}{4}$  inches diameter,  $4\frac{1}{4}$  inches face.

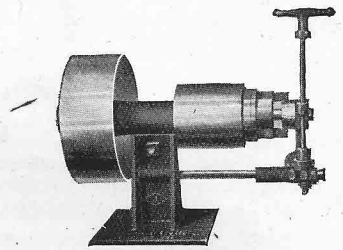
Adjustable rest for work.

Pedestal Grinder, with two rests, complete with countershaft. Shipping weight 175 lbs. Price.....\$58.00

Pedestal Grinder, with two rests, without countershaft. Shipping weight 120 lbs. Price.....\$34.00



**BENCH GRINDER**



**COUNTERSHAFT**

This Grinder is identical with Pedestal Grinder catalogue No. 15 shown above excepting that it is placed on a low base which makes it the proper height when fastened to a bench.

Bench Grinder, with two rests, complete with countershaft. Shipping weight 155 lbs. Price.....\$53.00

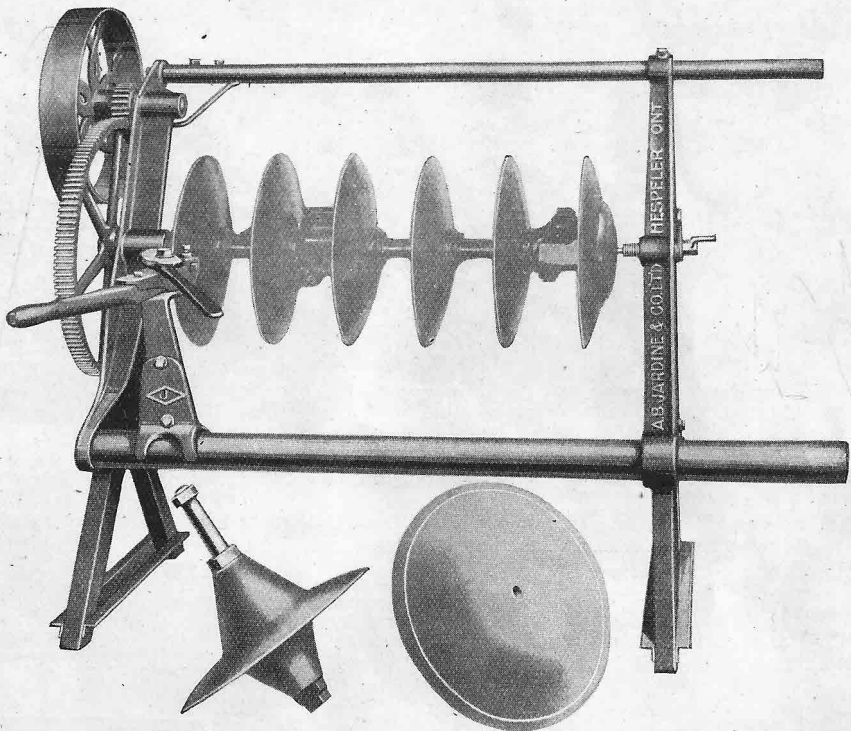
Bench Grinder, with two rests, without countershaft. Shipping weight 100 lbs. Price.....\$29.00

Countershaft for Grinder, complete. Shipping weight 55 lbs. Price.....\$24.00

For list of repair parts see page 48.



## DISC SHARPENER



This machine can be set to take one disc or the full number used on the disc shaft. The tool post is not held rigidly, it sits on the lower bar, and in the operator's hands instantly adjusts itself to any size disc, following the edge whether true or wobbling, cutting it to any required angle and when required is instantly moved to another disc, no screws or bolts to adjust.

Driving gears accurately machine cut.

Regular equipment includes:—One Tool Post with tool holder and levers complete; two double ended knives; one single disc holder complete, including two Coulter attachment cones, one cast plate, one shaft.

Weight, 250 lbs. Price, \$48.50.

For list of repair parts see page 42.

## TIRE PLATE

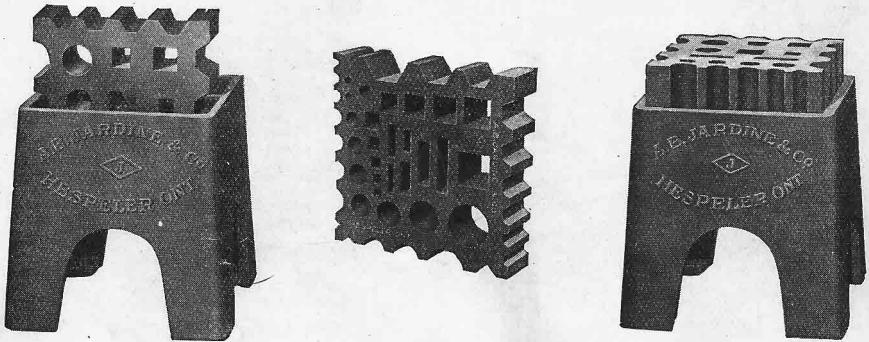
Five feet diameter; hole, 13 inches diameter. Any size tire, from a barrow wheel up, can be set on this plate.

Unless otherwise ordered, we make tire plates with a slight dish, to keep spokes of wheel clear of plate.

Weight, 550 lbs. Price, \$51.00.



### SWAGE BLOCKS AND STANDS



These Swage Blocks are carefully designed. The holes, round, square and oblong, are of sizes to suit any conceivable want in a jobbing blacksmith shop, while the swage shapes on the edges of the blocks are a good, practical substitute, at a nominal cost, for a very expensive set of forged swages, which in an ordinary shop are only occasionally required. The holes are cored with fine sand and are smooth and true.

- No. 1 Swage Block, size  $12\frac{1}{4} \times 12\frac{1}{4} \times 4\frac{1}{4}$ . Weight, 110 lbs; planed both sides. Price.....\$16.75
- No. 2 Swage Block, size  $18\frac{1}{4} \times 18\frac{1}{4} \times 4\frac{1}{4}$ . Weight 215 lbs., planed both sides. Price..... 29.00

- The stands are of ample strength and weight to resist the jar of a heavy blow.
- No. 1 Swage Block Stand, weight 140 lbs. Price .....\$19.50
- No. 2 Swage Block Stand, weight 235 lbs. Price..... 31.00

### LEVELLING PLATES

Planed true on one side.

- No. 1, 18" x 12" x  $1\frac{1}{2}$ ", weight 85 lbs.....\$12.10
- No. 2, 24" x 24" x  $1\frac{1}{2}$ ", weight 240 lbs..... 33.25



### AXLE STRAIGHTENER AND SETTER

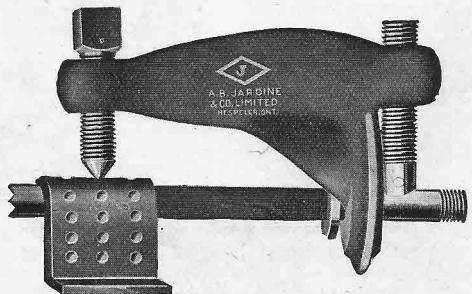
For setting axles without the trouble of taking them out of their place or heating.

The body is of malleable iron, with strong screw to apply the pressure.

The axle protector, shown covering the wooden part of the axle, is lined with leather so as to prevent injury to the wood.

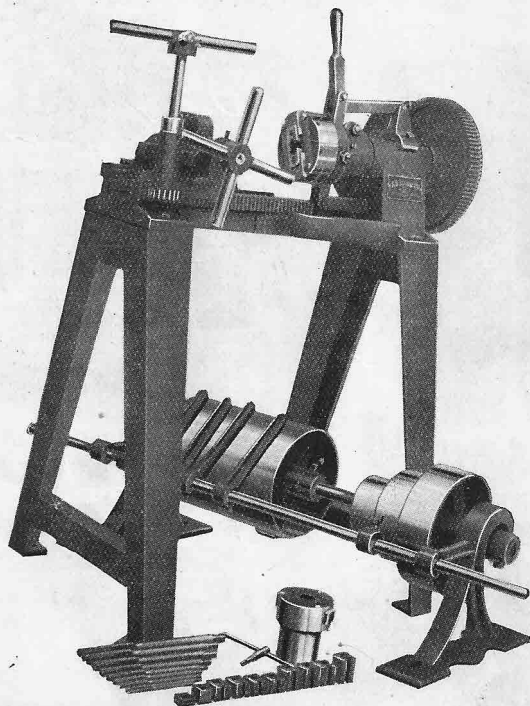
The machine is strong enough to set a bar of  $1\frac{1}{2}$  in. round iron quite easily.

The cut shows how it is applied. Price, \$11.00.





## NO. 23 POWER BOLT THREADING AND NUT TAPPING MACHINE



### Cuts up to 1 inch Bolt

The spindle or arbor runs in long bearings and carries a large cut gear on the end. This gear is driven by a pinion and three-speed cone pulley, giving three changes of speed, with ample power.

The socket in end of spindle is bored to fit the shank of collets, etc. We have superseded the old style split clamp for holding collets, etc., and now use a tapered key, making a positive drive and avoiding all risk of breakage.

Regular Equipment: Countershaft Self Centreing Tap Chuck, and Machine Taps, and either Opening Die Head and Dies, or Adjustable Dies and Collets, or Solid Dies and necessary Collets.

Taps and Dies supplied United States Standard, unless otherwise ordered.

The machine cuts  $\frac{1}{4}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$  and 1 inch.

Countershaft has tight and loose pulleys for reversing  $9\frac{3}{4}$  in. diameter for  $2\frac{1}{4}$  in. belt. Speed of countershaft 350 revolutions per minute.

With opening Die Head Equipment, shipping weight 535 lbs. .... \$282.50

With Adjustable Die Equipment, shipping weight 555 lbs. .... 227.00

With Solid Die Equipment, shipping weight 530 lbs. .... 208.50

With Countershaft, without other equipment, shipping weight 490 lbs. .... 169.00

We also manufacture this machine for Hand and Power Drive, with hand crank and gearing extra. Prices on application.

## NO. 22 POWER BOLT THREADING AND NUT TAPPING MACHINE

### Cuts up to 1 inch Bolt

Same description, capacity and equipment as No. 23 applies to this machine, except that it is not mounted on iron legs.

With Opening Die Head Equipment, shipping weight 430 lbs. .... \$262.50

With Adjustable Die Equipment, shipping weight 450 lbs. .... \$207.00

With Solid Die Equipment, shipping weight, 425 lbs. .... \$188.50

With Countershaft, without other equipment, shipping weight 385 lbs. .... \$149.00

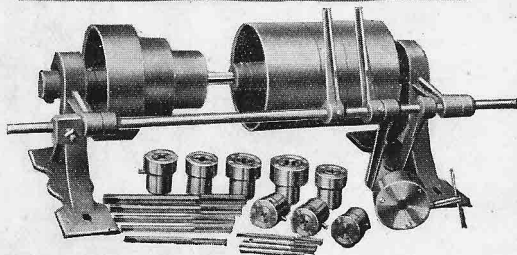
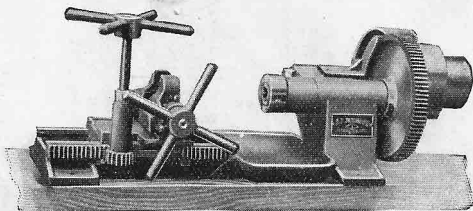
We also manufacture this machine for Hand and Power Drive, with hand crank and gearing extra. Prices on application.

For Prices of Taps see page 7.

Dies, Pages 12, 14, 17.

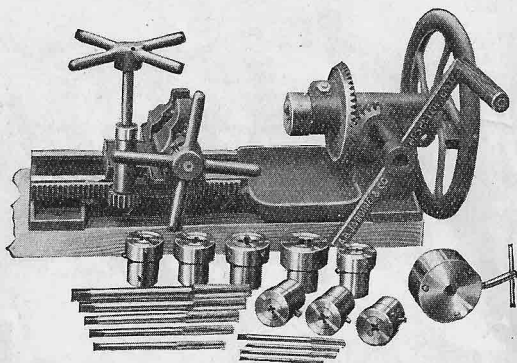
Collets, page 22. Tap Chuck, page 22.

For list of repair parts see page 34.





## NO. 11 AND NO. 12 HAND BOLT THREADING AND NUT TAPPING MACHINE



These machines are the same general design as No. 23 with the exception of the driving gears for the spindle. Gearing is two to one.

Taps and Dies supplied United States Standard, unless otherwise ordered.

No. 11 cuts  $\frac{1}{4}$ ,  $\frac{5}{16}$ ,  $\frac{3}{8}$ ,  $\frac{7}{16}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ , and  $\frac{3}{4}$  inch.

No. 12 cuts  $\frac{1}{4}$ ,  $\frac{5}{16}$ ,  $\frac{3}{8}$ ,  $\frac{7}{16}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ , and 1 inch.

Equipment same as No. 23 without countershaft.

No. 11, with Opening Die Head Equipment, shipping weight 205 lbs.....\$190.00

No. 11, with Adjustable Die Equipment, shipping weight 225 lbs.....\$133.00

No. 11, With Solid Die Equipment, shipping weight 200 lbs.....\$121.00

No. 12, With Opening Die Head Equipment, shipping weight 210 lbs.....\$208.00

No. 12, With Adjustable Die Equipment, shipping weight 230 lbs.....\$152.50

No. 12, With Solid Die Equipment, shipping weight 205 lbs.....\$134.00

Machine, without equipment, shipping weight 165 lbs. \$94.50

Collets for Adjustable Dies, each.....\$3.50

Tap Chuck.....\$25.00

## NO. 4 POWER BOLT THREADING AND NUT TAPPING MACHINE

Cuts Bolts and Nuts up to  $1\frac{1}{2}$  inches

One change of speed in gears with three step cone pulley, gives six changes of speed in machine. For hand power, crank is adjustable to length for light or heavy work. The machine has self centring vise to hold the work. Countershaft has three step cone pulley for 3 in. belt tight and loose pulleys  $11\frac{1}{4}$  in. diameter for 4 in. driving and reversing belts.

Equipment: Countershaft, Two Self Centring Tap Chucks, Machine Taps and either Opening Die Head and Dies  $\frac{3}{8}$  in. to 1 in. and Adjustable Dies and Collets  $1\frac{1}{2}$ " to  $1\frac{1}{2}$ " or Adjustable Dies and Collets  $\frac{3}{8}$ " to  $1\frac{1}{2}$ ".

With Opening Die Head and Dies  $\frac{3}{8}$  to 1", and Adjustable Dies and Collets  $1\frac{1}{2}$ " to  $1\frac{1}{2}$ ", shipping weight 865 lbs.....\$533.00

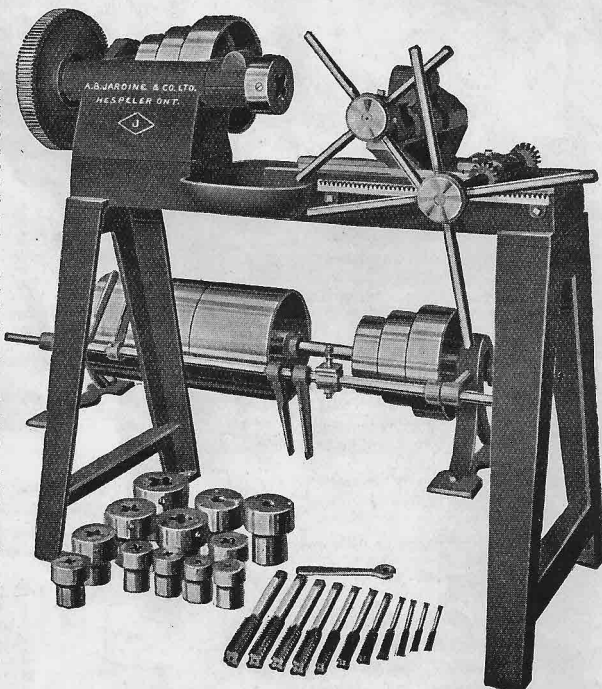
With Adjustable Dies and Collets,  $\frac{3}{8}$  to  $1\frac{1}{2}$ ", shipping weight 885 lbs.....\$479.00

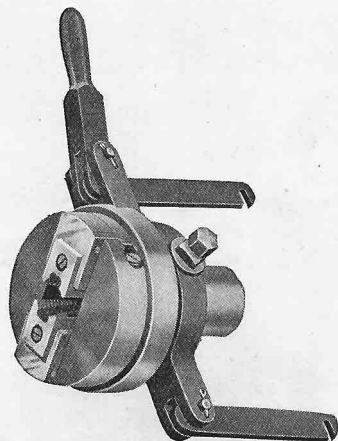
With Countershaft, without other equipment, shipping weight 750 lbs.....\$340.00

Collets, each..... \$5.00

For prices of Taps, page 7; Dies, pages 12, 14, 17.

For list of repair parts see pages 34 and 35.





## OPENING DIE HEAD

(Patented July 28, 1908)

This die head has shank to fit chuck or socket in spindle. It is operated by the hand lever which is connected to the machine by toggles shown in cut.

While low priced this die head is efficient and practical.

Price of Die Head without dies.....\$42.75  
 Price of Die Head with dies,  $\frac{1}{4}$ ,  $\frac{5}{16}$ ,  $\frac{3}{8}$ ,  $\frac{7}{16}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  
 $\frac{3}{4}$ ,  $\frac{7}{8}$ , 1".....\$83.25

United States Standard supplied unless otherwise ordered.

For price of Dies see page 12. For list of repair parts see page 34.

## TAPS AND DIES IN SETS

Your attention is particularly directed to the confusion in the threads in use in Canada.

Canadian Bolt Manufacturers a few years ago adopted the United States Standard for all Machine Bolt and Carriage Bolt threads, and the United States Standard is also coming into more general use by other manufacturers.

For this reason we strongly recommend the use of United States Standard.

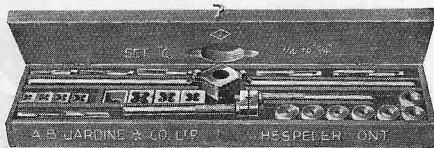
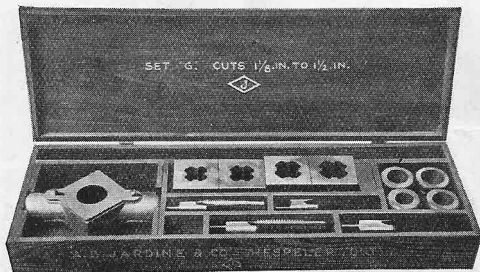
Be sure to specify the style of thread required when ordering Taps and Dies.

Unless otherwise ordered all sets Taps and Dies are furnished United States Standard.

V Thread oversize furnished at same price. Regular oversize  $1/64''$  for  $1/4''$  and  $5/16''$ , all larger sizes  $1/32$  oversize.

For Sets Taps and Dies, S.A.E. Standard, with Solid Square Dies, see page 26.

## SETS TAPS AND DIES—SOLID SQUARE DIES



Set A, $\frac{1}{4}$ , $\frac{5}{16}$ , $\frac{3}{8}$ , $\frac{7}{16}$ , 4 Taps, 4 Dies, 4 Guides, 1 Diestock, 1 Tap Wrench.....	\$ 9.00
Set B, $\frac{1}{4}$ , $\frac{5}{16}$ , $\frac{3}{8}$ , $\frac{7}{16}$ , $\frac{1}{2}$ , $\frac{5}{8}$ , 6 Taps, 6 Dies, 6 Guides, 1 Diestock, 1 Die Case, 1 Tap Wrench.....	13.75
Set C, $\frac{1}{4}$ , $\frac{5}{16}$ , $\frac{3}{8}$ , $\frac{7}{16}$ , $\frac{1}{2}$ , $\frac{5}{8}$ , $\frac{3}{4}$ , 7 Taps, 7 Dies, 7 Guides, 1 Diestock, 1 Die Case, 1 Tap Wrench..	16.00
Set D, $\frac{1}{2}$ , $\frac{5}{8}$ , $\frac{3}{4}$ , 3 Taps, 3 Dies, 3 Guides, 1 Diestock, 1 Tap Wrench.....	10.60
*Set E, $\frac{3}{4}$ , $\frac{7}{8}$ , 1", 3 Taps, 3 Dies, 3 Guides, 1 Diestock.....	15.30
*Set F, $\frac{7}{8}$ , 1, $1\frac{1}{4}$ , $1\frac{1}{2}$ , 4 Taps, 4 Dies, 4 Guides, 1 Diestock.....	27.00
*Set G, $1\frac{1}{8}$ , $1\frac{1}{4}$ , $1\frac{3}{8}$ , $1\frac{1}{2}$ , 4 Taps, 4 Dies, 4 Guides, 1 Diestock.....	36.00

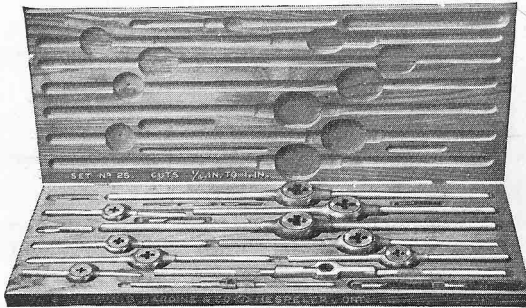
For prices of Taps, Dies, Guides, Diestocks, see page 29.

\* These Sets Taps and Dies are not regularly supplied with Tap Wrenches. For price of Tap Wrenches see pages 26 and 30.



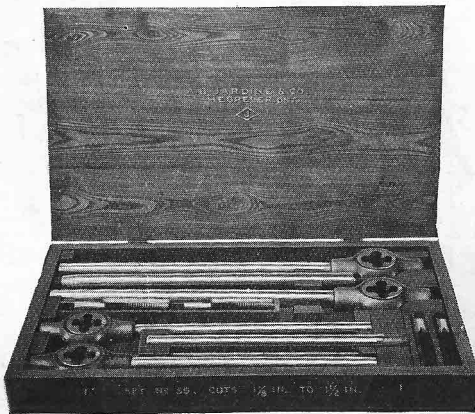


LIGHTNING ADJUSTABLE DIES—FULL STOCKED



Unless otherwise ordered all sets of Taps and Dies are furnished United States Standard. V Thread oversize furnished at same price. Regular oversize 1/64 inch for 1/4" and 5/16", all larger sizes 1/32 inch oversize.

Each die is in a separate stock; all the dies in a set may be in use at one time; dies always ready, no changing dies in stock. Dies have clearance on the face and as there is no plate or projection on the face, dies can be used to cut right up to a shoulder if required, without alteration or adjustment.



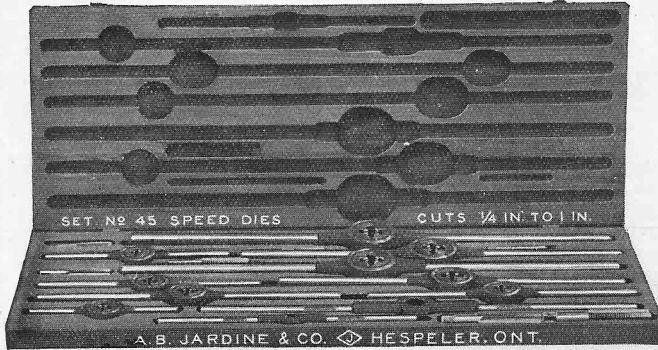
PLEASE NOTE:—Dies 1 inch and larger are usually made with contracted dirt holes causing the die to work hard. Our dies in these sizes are made in extra large blocks, allowing large round dirt holes, and making a free working die. This is worth remembering.

Each set contains the following Taps, Dies and Diestocks:—	Price
Set No. 15, 1/4, 5/16, 3/8, 7/16, 1/2 and one Tap Wrench.....	\$18.90
Set No. 20, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, and one Tap Wrench.....	29.70
Set No. 22, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1", and one Tap Wrench .....	43.20
Set No. 25, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8, 1", and two Tap Wrenches .....	48.60
Set No. 30, 7/8, 1, 1 1/8, 1 1/4, Tap Wrench extra.....	47.70
Set No. 35, 1 1/8, 1 1/4, 1 3/8, 1 1/2, Tap Wrench extra.....	70.20

For prices of repairs see page 30.



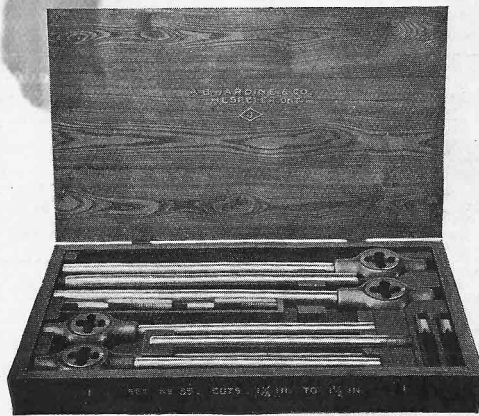
## “SPEED” ADJUSTABLE DIES—FULL STOCKED



Unless otherwise ordered all sets of Taps and Dies are furnished United States standard, V Thread oversize furnished at same price. Regular oversize  $\frac{1}{64}$  in. for  $\frac{1}{4}$ " and  $\frac{5}{16}$ ", all larger sizes  $\frac{1}{32}$  inch oversize.

Each die is in a separate stock; all the dies in a set may be in use at one time; dies always ready, no changing dies in stock. Dies have clearance on the face and as there is no plate or projection on the face dies can be used to cut right up to a shoulder if required, without alteration or adjustment.

PLEASE NOTE:—Dies 1 inch and larger are usually made with contracted dirt holes, causing the die to work hard. Our dies in these sizes are made in extra large blocks, allowing large round dirt holes, and making a free working die. **This is worth remembering.**



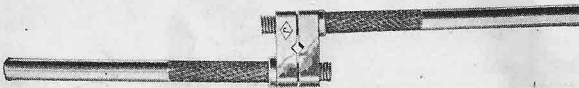
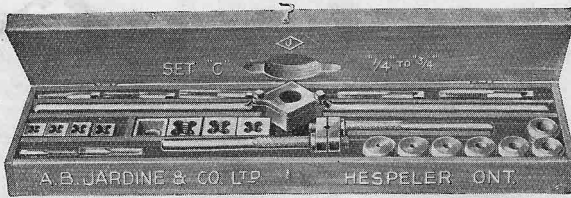
Each set contains the following Taps, Dies and Diestocks:—

	Price
Set No. 40, $\frac{1}{4}$ , $\frac{5}{16}$ , $\frac{3}{8}$ , $\frac{7}{16}$ , $\frac{1}{2}$ and one Tap Wrench.....	\$18.90
Set No. 42, $\frac{1}{4}$ , $\frac{5}{16}$ , $\frac{3}{8}$ , $\frac{7}{16}$ , $\frac{1}{2}$ , $\frac{5}{8}$ , $\frac{3}{4}$ , and one Tap Wrench.....	29.70
Set No. 44, $\frac{3}{8}$ , $\frac{7}{16}$ , $\frac{1}{2}$ , $\frac{5}{8}$ , $\frac{3}{4}$ , $\frac{7}{8}$ , 1" and one Tap Wrench .....	43.20
Set No. 45, $\frac{1}{4}$ , $\frac{5}{16}$ , $\frac{3}{8}$ , $\frac{7}{16}$ , $\frac{1}{2}$ , $\frac{5}{8}$ , $\frac{3}{4}$ , $\frac{7}{8}$ , 1" and two Tap Wrenches.....	48.60
Set No. 50, $\frac{7}{8}$ , 1, $1\frac{1}{8}$ , $1\frac{1}{4}$ , Tap Wrench extra.....	47.70
Set No. 55, $1\frac{1}{8}$ , $1\frac{1}{4}$ , $1\frac{3}{8}$ , $1\frac{1}{2}$ , Tap Wrench extra.....	70.20

For prices of repairs see page 30.



## AUTOMOBILE SETS, TAPS AND DIES—SOLID SQUARE DIES



No. 12 Tap Wrench,  $\frac{1}{4}$ " to  $\frac{3}{4}$ ", length 15". Price \$1.50

The S.A.E. Standard adopted by the Society of Automobile Engineers, is used universally by manufacturers of automobiles in Canada and the United States for all threads required finer than U. S. Standard.

### S.A.E. STANDARD SETS

Set No.	Price	
A.E.	\$11 00	$\frac{1}{4}$ -28, $\frac{5}{16}$ -24, $\frac{3}{8}$ -24, $\frac{7}{16}$ -20, $\frac{1}{2}$ -20, 5 Taps, 5 Dies, 5 Guides, 1 Stock, 1 Tap Wrench.
B.E.	13 75	$\frac{1}{4}$ -28, $\frac{5}{16}$ -24, $\frac{3}{8}$ -24, $\frac{7}{16}$ -20, $\frac{1}{2}$ -20, $\frac{5}{8}$ -18, 6 Taps, 6 Dies, 6 Guides, 1 Die Case, 1 Stock, 1 Tap Wrench.
C.E.	16 00	$\frac{1}{4}$ -28, $\frac{5}{16}$ -24, $\frac{3}{8}$ -24, $\frac{7}{16}$ -20, $\frac{1}{2}$ -20, $\frac{5}{8}$ -18, $\frac{3}{4}$ -16, 7 Taps, 7 Dies, 7 Guides, 1 Die Case, 1 Stock, 1 Tap Wrench.

### COMBINATION U.S. STANDARD AND S.A.E. STANDARD SETS

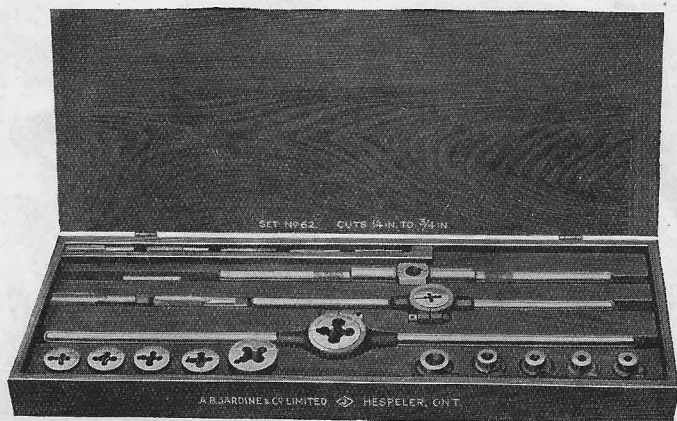
A.E.C.	17 00	$\frac{1}{4}$ -28, $\frac{5}{16}$ -24, $\frac{3}{8}$ -24, $\frac{7}{16}$ -20, $\frac{1}{2}$ -20, S.A.E. $\frac{1}{4}$ -20, $\frac{5}{16}$ -18, $\frac{3}{8}$ -16, $\frac{7}{16}$ -14, U.S.S. 9 Taps, 9 Dies, 5 Guides, 1 Stock, 1 Tap Wrench.
B.E.C.	22 30	$\frac{1}{4}$ -28, $\frac{5}{16}$ -24, $\frac{3}{8}$ -24, $\frac{7}{16}$ -20, $\frac{1}{2}$ -20, $\frac{5}{8}$ -18, S.A.E. $\frac{1}{4}$ -20, $\frac{5}{16}$ -18, $\frac{3}{8}$ -16, $\frac{7}{16}$ -14, $\frac{1}{2}$ -13, $\frac{5}{8}$ -11, U.S.S. 12 Taps, 12 Dies, 6 Guides, 1 Die Case, 1 Stock, 1 Tap Wr'ch.
C.E.C.	26 80	$\frac{1}{4}$ -28, $\frac{5}{16}$ -24, $\frac{3}{8}$ -24, $\frac{7}{16}$ -20, $\frac{1}{2}$ -20, $\frac{5}{8}$ -18, $\frac{3}{4}$ -16, S.A.E. $\frac{1}{4}$ -20, $\frac{5}{16}$ -18, $\frac{3}{8}$ -16, $\frac{7}{16}$ -14, $\frac{1}{2}$ -13, $\frac{5}{8}$ -11, $\frac{3}{4}$ -10, U.S.S. 14 Taps, 14 Dies, 7 Guides, 1 Die Case, 1 Stock, 1 Tap Wrench.
A.E. FORD	13 50	$\frac{1}{4}$ -28, $\frac{5}{16}$ -24, $\frac{3}{8}$ -24, $\frac{13}{32}$ -16, $\frac{7}{16}$ -20, $\frac{7}{16}$ -14, $\frac{1}{2}$ -20. 7 Taps, 7 Dies, 5 Guides, 1 Stock, 1 Tap Wrench.

A. B. JARDINE &amp; CO., LIMITED



HESPELER, ONTARIO, CANADA

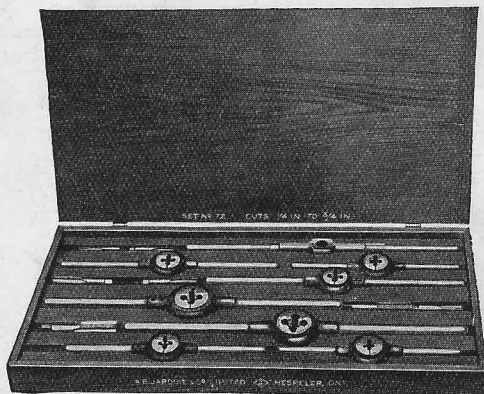
## AUTO SETS—TAPS AND DIES



### S. A. E. STANDARD

The S.A.E. Standard adopted by the Society of Automobile Engineers, is used universally by manufacturers of automobiles in Canada and the United States for threads required finer than U. S. Standard

Set No.	Price	
60	\$12 80	$\frac{1}{4}$ -28, $\frac{5}{16}$ -24, $\frac{3}{8}$ -24, $\frac{7}{16}$ -20, $\frac{1}{2}$ -20. 5 Taps, 5 Dies, 5 Guides, 1 Stock, 1 Tap Wrench.
62	22 25	$\frac{1}{4}$ -28, $\frac{5}{16}$ -24, $\frac{3}{8}$ -24, $\frac{7}{16}$ -20, $\frac{1}{2}$ -20, $\frac{5}{8}$ -18, $\frac{3}{4}$ -16. 7 Taps, 7 Dies, 7 Guides, 2 Stocks, 1 Tap Wrench.
64	35 00	$\frac{1}{4}$ -28, $\frac{5}{16}$ -24, $\frac{3}{8}$ -24, $\frac{7}{16}$ -20, $\frac{1}{2}$ -20, $\frac{5}{8}$ -18, $\frac{3}{4}$ -16, $\frac{7}{8}$ -14, $1''$ -14. 9 Taps, 9 Dies, 9 Guides, 2 Stocks, 2 Tap Wrenches.
60F	14 60	$\frac{1}{4}$ -28, $\frac{5}{16}$ -24, $\frac{3}{8}$ -24, $\frac{13}{32}$ -16, $\frac{7}{16}$ -20, $\frac{7}{16}$ -14, $\frac{1}{2}$ -20. 7 Taps, 7 Dies, 5 Guides, 1 Stock, 1 Tap Wrench.



### FULL STOCKED S. A. E. STANDARD

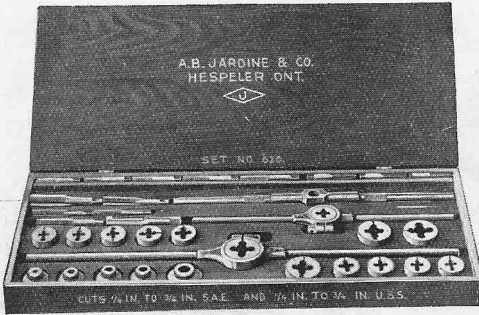
Each die is in a separate stock, all the dies in a set may be in use at one time. Dies can be used to cut right up to a shoulder without alteration as the face of the die is flush with the face of the stock.

70	\$15 95	$\frac{1}{4}$ -28, $\frac{5}{16}$ -24, $\frac{3}{8}$ -24, $\frac{7}{16}$ -20, $\frac{1}{2}$ -20. 5 Taps, 5 Dies, 5 Stocks, 1 Tap Wrench.
72	26 00	$\frac{1}{4}$ -28, $\frac{5}{16}$ -24, $\frac{3}{8}$ -24, $\frac{7}{16}$ -20, $\frac{1}{2}$ -20, $\frac{5}{8}$ -18, $\frac{3}{4}$ -16. 7 Taps, 7 Dies, 7 Stocks, 1 Tap Wrench.
74	42 30	$\frac{1}{4}$ -28, $\frac{5}{16}$ -24, $\frac{3}{8}$ -24, $\frac{7}{16}$ -20, $\frac{1}{2}$ -20, $\frac{5}{8}$ -18, $\frac{3}{4}$ -16, $\frac{7}{8}$ -14, $1''$ -14. 9 Taps, 9 Dies, 9 Stocks, 2 Tap Wrenches.

For list of repair parts see page 28.



**AUTO SETS—TAPS AND DIES**



**Combination S.A.E. and U. S. Standard.**

Combination Sets are regularly supplied with S.A.E. Plug Taps and U.S.S. Taper Taps. U.S.S. Plug Taps substituted for U.S.S. Taper Taps, if required.

Set No.	Price	
600	\$20 70	1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, S.A.E. 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, U.S.S. 10 Taps, 10 Dies, 5 Guides, 1 Stock, 1 Tap Wrench.
620	36 00	1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 5/8-18, 3/4-16, S.A.E. 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 5/8-11, 3/4-10, U.S.S. 14 Taps, 14 Dies, 7 Guides, 2 Stocks, 1 Tap Wrench.
640	56 70	1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 5/8-18, 3/4-16, 7/8-14, 1"-14, S.A.E. 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 5/8-11, 3/4-10, 7/8-9, 1"-8, U.S.S. 18 Taps, 18 Dies, 9 Guides, 2 Stocks, 2 Tap Wrenches.

**REPAIR PARTS FOR AUTO SETS—TAPS AND DIES**

Taps and Dies supplied S.A.E. STANDARD unless otherwise ordered.

TAPS			STOCKS FOR SETS Nos. 70, 72 and 74			DIES			
Size	Threads per in.		Price	Size	Length in inch	Price	Outside Diameter	Price	Size
	S.A.E.	U.S.S.							
1/4	28	20	\$ 45	1/4	10	\$ 80	1 7/16	\$1 25	1/4
5/16	24	18	50	5/16	10	80	1 7/8	1 25	5/16
3/8	24	16	55	3/8	11	1 00	1 7/16	1 25	3/8
7/16	20	14	60	7/16	13	1 20	1 7/8	1 25	7/16
1/2	20	13	70	1/2	15	1 40	1 7/16	1 30	1/2
9/16	18	12	80	9/16	15	1 55	1 7/8	1 40	9/16
5/8	18	11	90	5/8	17	1 70	1 11/16	1 80	5/8
11/16	16	11	1 05	11/16	17	1 75	1 1 1/2	2 00	11/16
3/4	16	10	1 20	3/4	19	1 75	1 1 1/2	2 00	3/4
7/8	14	9	1 60	7/8	21	1 85	1 1 1/2	2 30	7/8
1	14	8	2 00	1	24	2 20	1 1 1/2	2 80	1

**Stocks and Bolt Guides for Sets Nos. 60, 62, 64, 600, 620, and 640.**

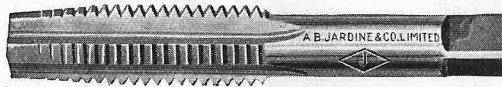
Stock 15" long for dies 1-7/16" outside diameter.....	\$1.75
Stocks 24" long for dies 1-11/16" outside diameter.....	2.65
Bolt Guides 1/4 to 9/16 each.....	.25
Bolt Guides 5/8 to 1" each.....	.30
Brace Stock for dies 1-1/16" outside diameter.....	2.50



PARTS FOR SETS TAPS AND DIES—SOLID DIES

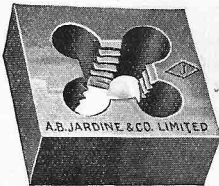
	Price
Brace Stock for Dies 1" square.....	\$2.50
Distock for Set A, 1" square.....	2.50
Distock for Set, B, C or D, 1½" square.....	3.00
Distock for Set E, 2" square.....	5.00
Distock for Set F, 2½" square.....	7.00
Distock for Set G, 3" square.....	9.00
Guides for Set A, each.....	.25
Guides for Set B, C or D, each.....	.25
Guides for Set E, each.....	.50
Guides for Set F or G, each.....	.75
Dies Case to fit 1" Square Dies in 1½" stock.....	.25

TAPS AND SOLID SQUARE DIES



United States Standard furnished unless otherwise specified.

V Thread furnished in oversize only.



Regular oversize 1/64" for ¼" and 5/16", all larger sizes 1/32" oversize. When ordering specify the style of thread, also give size of dieblock.

All sizes and threads not listed are special.

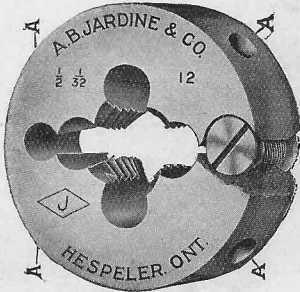
Left Hand Taps or Dies are special.

Bolt Size	Threads per in.			DIES			TAPS	DIES			TAPS			
	V Thr'd Ov'r size	U.S. St'd	S.A.E. St'd	Size Square	Thick ness	Price	Price	Thr'ds per in.			Price			
								V Thr'd Ovr'size	U. S. St'd	Size Square		Thick ness	Price	
¼	20	20	28	1	3/8	\$0 90	\$0 45	7/8	9	9	2	1	\$3 00	\$ 1 60
5/16	18	18	24	1	3/8	90	50	1	8	8	2	1	3 20	2 00
3/8	16	16	24	1	3/8	90	55	7/8	9	9	2½	1	4 25	
7/16	14	14	20	1	3/8	1 00	60	1	8	8	2½	1	4 50	
1/2	.....	.....	20	1	3/8	1 10	.....	1½	7	7	2½	1¼	6 00	2 25
7/16	14	14	.....	1½	5/8	1 35	.....	1¼	7	7	2½	1¼	6 60	2 60
1/2	12	13	20	1½	5/8	1 35	70	1½	7	7	3	1¼	8 40	
9/16	12	12	18	1½	5/8	1 35	80	1¼	7	7	3	1¼	9 00	
5/8	11	11	18	1½	5/8	1 35	90	1¾	6	6	3	1½	9 75	3 00
¾	10	10	16	1½	5/8	1 35	1 20	1½	6	6	3	1½	10 50	3 50
¾	10	10	.....	2	3/4	2 85	.....							

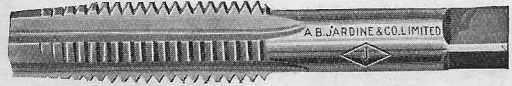




PRICES OF PARTS FOR "SPEED" AND "LIGHTNING" SETS OF TAPS AND DIES



"Speed" Dies



Tap Furnished with these Sets



Lightning Dies, Hand or Machine

United States Standard Threads furnished unless otherwise specified.

In ordering state whether dies are wanted for hand stock or machine. Also in ordering dies 1" or larger, please give outside diameter of die, as we now make these dies in larger block than formerly. We will also furnish at regular prices, Taps or Dies, 1/4" and 5/16", 1/64" oversize, and from 3/8" to 1 1/2" inclusive, 1/32" oversize, V form only.

All sizes and threads not listed are special.  
Left hand Taps and Dies are special.

Bolt Size	No. of Threads		TAPS	DIES	Outside Diameter of Dies	Diestocks	Bolt Size
	V Thread Oversize	U.S. Standard					
1/4	20	20	\$0 45	\$1 25	1 7/16	\$1 25	1/4
5/16	18	18	50	1 25	1 7/16	1 25	5/16
3/8	16	16	55	1 25	1 7/16	1 50	3/8
7/16	14	14	60	1 50	1 11/16	1 75	7/16
1/2	12	13	70	1 50	1 11/16	2 00	1/2
9/16	12	12	80	1 90	1 15/16	2 50	9/16
5/8	11	11	90	1 90	1 15/16	2 50	5/8
3/4	10	10	1 20	2 35	2 1/16	2 80	3/4
7/8	9	9	1 60	3 00	2 1/16	3 75	7/8
1	8	8	2 00	3 75	2 9/16	4 50	1
1 1/8	7	7	2 25	6 60	3 1/16	6 00	1 1/8
1 1/4	7	7	2 60	7 20	3 3/16	6 00	1 1/4
1 3/8	6	6	3 00	8 40	3 7/16	7 75	1 3/8
1 1/2	6	6	3 50	9 20	3 7/16	7 75	1 1/2

Brace Stock for 1/4", 5/16" or 3/8" dies.....\$2.50  
 Brace Stock for 7/16" or 1/2" dies..... 2.50

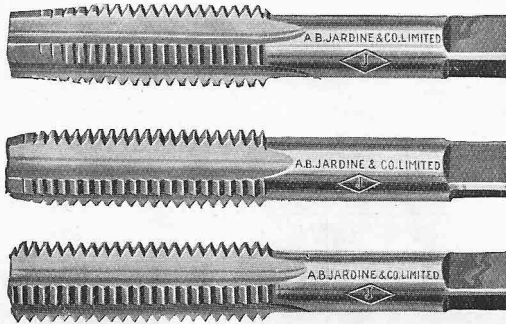
ADJUSTABLE TAP WRENCHES



No. 1—Holds Taps 1/4" to 1/2", length 14".....\$2.00  
 No. 2—Holds Taps 1/4" to 3/4", length 17"..... 2.50  
 No. 3—Holds Taps 3/8" to 1", length 24"..... 3.50  
 No. 4—Holds Taps 7/8" to 1 1/2", length 34".....10.00



## MACHINIST'S HAND TAPS



All orders filled with United States standard unless otherwise specified.

Hand taps  $\frac{3}{8}$ " and smaller are regularly furnished with shanks the full size of the thread. Taps  $\frac{7}{16}$ " and larger are furnished with shanks size of bottom of thread.

Left hand taps are special.

All sizes, lengths and threads not listed are special.

Size	Price	No. of Threads to Inch			Length Overall
		V Standard	U.S. Standard	S.A.E. Standard	
$\frac{1}{4}$	\$0 45	20	20	28	$2\frac{1}{2}$
$\frac{5}{16}$	50	18	18	24	$2\frac{3}{4}$
$\frac{3}{8}$	55	16	16	24	$2\frac{7}{8}$
Discount	changes	here			
$\frac{7}{16}$	60	14	14	20	$3\frac{1}{4}$
$\frac{1}{2}$	70	12	13	20	$3\frac{1}{2}$
$\frac{9}{16}$	80	12	12	18	$3\frac{5}{8}$
$\frac{5}{8}$	90	11	11	18	$3\frac{7}{8}$
Discount	changes	here			
$\frac{11}{16}$	1 05	.....	11	16	$3\frac{7}{8}$
$\frac{3}{4}$	1 20	10	10	16	$4\frac{1}{4}$
$\frac{13}{16}$	1 40	.....	10	.....	$4\frac{1}{4}$
$\frac{7}{8}$	1 60	9	9	14, 18	$4\frac{1}{2}$
$\frac{15}{16}$	1 80	.....	9	.....	$4\frac{1}{2}$
1	2 00	8	8	14	$5\frac{1}{8}$
Discount	changes	here			
$\frac{11}{8}$	2 25	.....	7	.....	$5\frac{1}{2}$
$\frac{11}{4}$	2 60	.....	7	.....	$5\frac{1}{2}$
$\frac{13}{8}$	3 00	.....	6	.....	$6\frac{1}{4}$
$1\frac{1}{2}$	3 50	.....	6	.....	$6\frac{3}{8}$
$\frac{15}{8}$	4 20	.....	$5\frac{1}{2}$	.....	$6\frac{3}{4}$
$1\frac{3}{4}$	5 00	.....	5	.....	7
$1\frac{7}{8}$	5 80	.....	5	.....	$7\frac{3}{8}$
2	6 70	.....	$4\frac{1}{2}$	.....	$7\frac{1}{2}$
Discount	changes	here			
$\frac{21}{8}$	8 00	.....	$4\frac{1}{2}$	.....	8
$\frac{21}{4}$	9 20	.....	$4\frac{1}{2}$	.....	$8\frac{1}{4}$
$\frac{23}{8}$	10 50	.....	4	.....	$8\frac{1}{2}$
$\frac{21}{2}$	11 50	.....	4	.....	$8\frac{3}{4}$



MACHINE OR NUT TAPS



All orders filled with United States Standard unless otherwise specified.  
 Left Hand Taps are special. Sizes, lengths and threads not listed are special.

Size	Length Overall	Price	No. of Threads to inch			Size	Length Overall	Price	No. of Threads to inch		
			V Thr'd Overs'e	U.S. Stand'd	S.A.E. Stand'd				V Thr'd Overs'e	U.S. Stand'd	
1/4	5	\$ 0 60		20	28	DISCOUNT CHANGES HERE					
17/64	5	60	20			1 1/8	11 1/2	\$ 3 70		7	
5/16	5 1/2	70		18	24	1-5/32	11 1/2	3 70	7		
21/64	5 1/2	70	18			1 1/4	12	4 50		7	
3/8	6	80		16	24	1-9/32	12	4 50	7		
13/32	6	80	16			1 3/8	12 1/2	5 50		6	
7/16	6 1/2	90		14	20	1 13/32	12 1/2	5 50	6		
15/32	6 1/2	90	14			1 1/2	13	6 75		6	
1/2	7	1 00		13	20	1 1/2	13	6 75	6		
17/32	7	1 00	12			1 13/32	13	6 75	6		
9/16	7 1/2	1 15		12	18	1 5/8	13 1/2	8 00		5 1/2	
19/32	7 1/2	1 15	12			1 3/4	14	9 25		5	
5/8	8	1 35		11	18	1 7/8	14 1/2	10 75		5	
21/32	8	1 35	11			2	15	12 25		4 1/2	
3/4	9	1 85		10	16	DISCOUNT CHANGES HERE					
25/32	9	1 85	10			2 1/8	15 1/2	14 00		4 1/2	
7/8	10	2 45		9	14, 18	2 1/4	16	15 75		4 1/2	
29/32	10	2 45	9			2 3/8	16 1/2	17 75		4	
1	11	3 15		8	14	2 1/2	17	20 00		4	
1 1/32	11	3 15	8								

HAND TAPS

Under 1/4 in.

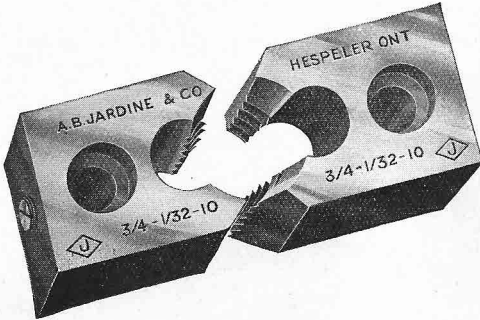


United States Standard furnished unless otherwise specified.  
 Sizes and threads not listed are special. Left Hand Taps are special.

Size	U.S. Standard	U.S.F. Threads Also Furnish'd	Price		Size	U.S. Standard	U.S.F. Threads Also Furnish'd	Price	
			Each	Per Set				Each	Per Set
1/16	64	72	\$0 50	\$1 50	5/32	36	32	\$0 35	\$1 05
5/64	60	72	45	1 35	11/64	32		35	1 05
3/32	50	48	40	1 20	3/16	24	32	40	1 20
7/64	48		40	1 20	13/64	24		40	1 20
1/8	40	32	35	1 05	7/32	24	32	45	1 35
9/64	40		35	1 05	15/64	24		45	1 35



DIES FOR OPENING DIE HEADS



United States Standard Furnished unless otherwise specified

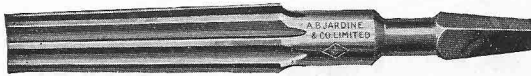
V Thread furnished in oversize only. Regular oversize 1/64" for 1/4" and 5/16", all larger sizes 1/32" oversize.

All sizes and threads not listed are special.

Left hand dies are special.

Bolt Size	No. of Threads		Price	Bolt Size	No. of Threads		Price	Bolt Size	No. of Threads		Price
	V Thread Oversize	U.S. Standard			V Thread Oversize	U.S. Standard			V Thread Oversize	U.S. Standard	
1/4	20	20	\$3 90	1/2	12	13	\$4 85	3/4	10	10	\$4 85
5/16	18	18	3 90	9/16	12	12	4 85	7/8	9	9	5 90
3/8	16	16	3 90	5/8	11	11	4 85	1	8	8	5 90
7/16	14	14	3 90	....	....	....	.....	....	....	....	.....

BIT BRACE REAMERS



These Reamers are so arranged that the large end is somewhat larger than the point of the next larger size. They work well either on hard wood or iron.

Set of 5 sizes, 1/4 to 1/2 in., in case.....\$3.75  
 Set of 9 sizes, 1/4 to 3/4 in., in case..... 8.25

Sizes 1/4 5/16 3/8 7/16 1/2 9/16 5/8  
 Prices 60c, 60c. 65c. 70c. 75c. 80c. 95c.

Sizes 1/16 3/4 13/16 7/8 15/16 1  
 Prices \$1.10 \$1.25 \$1.50 \$1.75 \$2.00 \$2.25



## REPAIR PARTS FOR Nos. 22, 23, 11, 12, BOLT THREADERS

	Nos. 22 and 23	Nos. 11 and 12
BT- 1 Bed.....	\$36.75	\$36.75
BT- 2 Spindle, for Nos. 22 and 23 only.....	5.40	
BT- 3 Cone Stud Bracket, for Nos. 22 and 23 only.....	6.60	
BT- 4 Cone Stud, for Nos. 22 and 23 only.....	6.90	
BT- 5 Cone Pulley, for Nos. 22 and 23 only.....	18.00	
BT- 6 Cone Pinion, for Nos. 22 and 23 only.....	7.30	
BT- 7 Large Gear, for Nos. 22 and 23, only.....		
BT- 8 Gear Guard, for Nos. 22 and 23 only.....	.80	
BT- 9 Vise Carriage.....	10.60	10.60
BT-10 Vise Jaws, per pair.....	12.70	12.70
BT-11 Vise Jaw Steel Faces, per pair.....	3.00	3.00
BT-12 Vise Screw.....	2.90	2.90
BT-13 Vise Screw Sleeve.....	.60	.60
BT-14 Capstan, each.....	1.00	1.00
BT-15 Upright Feed Shaft.....	.50	.50
BT-16 Feed Shaft Bracket.....	2.10	2.10
BT-17 Feed Shaft Collar.....	.50	.50
BT-18 Rack Pinion.....	.60	.60
BT-19 Rack.....	1.00	1.00
BT-20 Spindle Clamping Wedge.....	.60	.60
BT-21 Spindle Clamping Nut.....	.20	.20
BT-23 Legs, for Nos. 22 and 23 only, each.....	8.70	
Cast Iron Bracket for Opening Die Head.....	.60	.60
Wrot Iron Bracket for Opening Die Head.....	.40	.40
Collets for Lightning Dies, each.....	3.50	3.50
Collets for Solid Dies, 1", 1½", or 2" square, each.....	7.60	7.60
BT-30 Fly Wheel, for Nos. 11 and 12 only.....		6.70
BT-31 Bevel Pinion, for Nos. 11 and 12 only.....		5.20
BT-32 Bevel Pinion Stud, for Nos. 11 and 12 only.....		2.50
BT-33 Spindle, for Nos. 11 and 12 only.....		10.30
BT-34 Crank, for Nos. 11 and 12 only.....		1.10

## REPAIR PARTS FOR OPENING DIE HEAD

OD- 1 Body.....	\$13.60
OD- 2 Sleeve.....	6.50
OD- 3 Jaws, per pair.....	22.00
OD- 4 Yoke Ring.....	1.25
OD- 5 Yoke.....	1.75
OD- 6 Lever.....	.85
OD- 7 Lever Links (2).....	1.05
OD- 8 Closing Pins, each.....	1.40
OD- 9 Gibs for Body, each.....	1.10
OD-10 Screw for Yoke, each.....	.15
OD-11 Jam Nut for Yoke Screw, each.....	.15
OD-12 Spring, each.....	.45
OD-13 Raising Blocks, ½", each.....	.70
OD-14 Raising Blocks, ¼", each.....	.45



## REPAIR PARTS FOR No. 4 BOLT THREADERS

BT4- 1	Bed.....	\$44. 00
BT4- 2	Head.....	44. 00
BT4- 3	Spindle.....	13. 60
BT4- 4	Spindle Bushing.....	2. 35
BT4- 5	Large Spindle Gear.....	22. 00
BT4- 6	Small Spindle Gear.....	17. 50
BT4- 7	Double Gear.....	9. 20
BT4- 8	Vise Carriage.....	33. 00
BT4- 9	Vise Jaws, per pair.....	17. 50
BT4-10	Vise Jaw Steel Faces, per pair.....	2. 00
BT4-11	Vise Screw.....	8. 40
BT4-12	Vise Screw Sleeve.....	. 75
BT4-13	Capstan Hub, without handles, each.....	2. 35
BT4-14	Capstan Handles, each.....	. 50
BT4-15	Driving Shaft.....	5. 60
BT4-16	Eccentric Bearings for Driving Shaft, per pair.....	7. 20
BT4-17	Cone Pulley.....	17. 60
BT4-18	Gear Changing Stop.....	
BT4-19	Legs, each.....	8. 70
BT4-20	Racks, each.....	1. 50
BT4-21	Rack Pinions, each.....	1. 00
BT4-22	Rack Pinion Shaft.....	. 70
BT4-23	Rack Pinion Shaft Bracket.....	1. 90
BT4-24	Gear Guards.....	1. 50
BT4-25	Spindle Clamping Wedge.....	. 60
	Spindle Clamping Nut.....	. 20
	Cast Iron Bracket for Opening Die Head.....	. 60
	Wrot Iron Bracket for Opening Die Head.....	. 40
	Collets for Lightning Dies $\frac{3}{8}$ " to 1".....	3. 50
	Collets for Lightning Dies $1\frac{1}{8}$ " to $1\frac{1}{2}$ ".....	5. 00

## REPAIR PARTS FOR TAP CHUCK

K-1	Body.....	\$ 9. 50
K-2	Cover Plate.....	1. 00
K-3	Jaws, per pair.....	15. 00
K-4	Right and Left Hand Screw.....	1. 00
K-5	Wrench.....	. 80





## REPAIR PARTS FOR Nos. 5 and 6 UPSETTERS

	No.5	No. 6
5U- 1 Bed.....	\$13.60	\$13.60
5U- 2 Sliding Head.....	9.30	9.30
5U- 3 Legs, each.....	4.00	4.00
5U- 4 Gripping Eccentric, right hand.....	2.60	2.60
5U- 5 Gripping Eccentric, left hand.....	2.60	2.60
5U- 6 Lever Socket, for No. 5 only.....	3.70	
5U- 7 Round Steel Plate, right hand, for 5U-4.....	2.25	2.25
5U- 8 Round Steel Plate, left hand, for 5U-5.....	2.25	2.25
5U- 9 Flat Steel Plate, right hand, for 5U-2.....	1.75	1.75
5U-10 Flat Steel Plate, left hand, for 5U-1.....	1.75	1.75
5U-11 Pulling Strap, each.....	.70	.70
5U-12 Equalizing Straps, per set of three.....	.80	.80
5U-13 Gripping Lever.....	1.00	1.00
5U-14 Pin, $\frac{13}{16}$ " x $10\frac{1}{4}$ " long.....	.40	.40
5U-15 Pin, $\frac{13}{16}$ " x 8" long.....	.30	.30
5U-16 Pulling Lever, for No. 5 only.....	1.10	
5U-18 Pin, $1\frac{7}{16}$ " x $7\frac{1}{4}$ " long.....	.75	.75
6U- 6 Lever Socket, for No. 6 only.....		5.00
6U-17 Pinion, for No. 6 only.....		2.40
6U-19 Pin, $1\frac{7}{16}$ " x $14\frac{1}{4}$ " long, for No. 6 only.....		1.00
6U-20 Gear Segment, for No. 6 only.....		2.70
6U-21 Pulling Lever, for No. 6 only.....		1.50
6U-22 Pipe Collar, for No. 6 only.....		.20

## REPAIR PARTS FOR No. 2 UPSETTER

2U- 1 Left of Stationary Side.....	\$8.00
2U- 2 Right or Swinging Side.....	5.90
2U- 3 Gripping Eccentric, right hand.....	1.40
2U- 4 Gripping Eccentric, left hand.....	1.40
2U- 5 Lever Socket.....	1.40
2U- 6 Foot Lever.....	.70
2U- 7 Equalizing Link.....	.60
2U- 8 Supporting Clip for Eccentric Pin.....	.20
2U- 9 Round Steel Plate, right hand.....	1.40
2U-10 Round Steel Plate, left hand.....	1.40
2U-11 Flat Steel Plate, right hand.....	1.40
2U-12 Flat Steel Plate, left hand.....	1.40
2U-13 Pulling Strap.....	1.80
2U-14 Equalizing Straps, each.....	.30
2U-15 Foot Lever Screw.....	.30
2U-16 Filister Head Screw for Steel Plates, each.....	.15



### REPAIR PARTS FOR No. 4 and No. 40 TIRE BENDER

	No. 40	No. 4
TB4- 1 Frame, Gear Side.....	\$ 6.00	\$ 6.00
TB4- 2 Frame, Plain Side.....	6.00	6.00
TB4- 3 Base.....	2.30	2.30
TB4- 4 Centre Roller.....	3.10	3.10
TB4- 5 Outside Rollers, each.....	2.80	2.80
TB4- 6 Round Bearing for Centre Roller.....	.80	.80
TB4- 7 Hand Wheel for elevating screw.....	1.40	1.40
TB4- 8 Elevating Nut.....	1.65	1.65
TB4- 9 Elevating Screw.....	.85	.85
TB4-10 Driving Shaft, for No.-4 only.....		1.20
TB4-11 Small Spur Gear or Pinion.....	.90	.90
TB4-12 Large Spur Gear.....	4.10	4.10
TB4-13 Roller Gears, $1\frac{3}{16}$ " hole, each.....	1.60	1.60
TB4-14 Roller Gear, $1\frac{5}{16}$ " Hole.....	1.60	1.60
TB4-15 Round Bearing Pin.....	.20	.20
TB4-16 Sliding Bearings, per pair.....	.40	.40
TB4-17 Collars for Driving Shaft, each.....	.30	.30
TB4-18 Crank, for No. 4 only.....		1.20
TB4-19 Cross Bolts, each.....	.15	.15
TB4-20 Spacing Pipe, each.....	.20	.20
TB4-30 Tight Pulley, for No. 40 only.....	6.65	
TB4-31 Loose Pulley, for No. 40 only.....	6.65	
TB4-32 Driving Shaft, for No. 40 only.....	1.20	

### REPAIR PARTS FOR No. 2 BENDER

TB2- 1 Frame, Side for Fork.....	\$ 4.10
TB2- 2 Frame, Gear Side.....	4.10
TB2- 3 Geared Roller.....	4.40
TB2- 4 Centre Roller.....	2.70
TB2- 5 Bearing for Centre Roller, Fork Side.....	.50
TB2- 6 Fork for Centre Roller Bearing.....	.20
TB2- 7 Bearing for Centre Roller, plain.....	.50
TB2- 8 Pinion.....	1.70
TB2- 9 Crank.....	1.20
TB2-10 Adjusting Screws, each.....	.70
TB2-11 Cross Bolts, each.....	.40
TB2-12 Pipes, each.....	.30



## REPAIR PARTS FOR No. 7 and No. 70 TIRE BENDERS

	No. 70	No. 7
TB7- 1 Frame, complete with bearing caps.....	\$79.80	\$79.80
TB7- 2 Pulley Bracket, No. 70 only.....	15.00	
TB7- 3 Plain End Roller, with gear.....	14.00	14.00
TB7- 4 Gudgeon End Roller, with gear.....	15.30	15.30
TB7- 5 Centre Roller, with gear.....	15.50	15.50
TB7- 6 Large Gear and Quill.....	26.50	26.50
TB7- 7 Pinion, 18 teeth, 1½" face, for end of quill.....	6.50	6.50
TB7- 8 Pinion, 12 teeth, 1½" face, for gear box.....	3.30	3.30
TB7- 9 Pinion, 12 teeth, 3" face, for gear box.....	4.75	4.75
TB7-10 Driving Pinion, 16 teeth, 1⅜" face.....	3.00	3.00
TB7-11 Double Gear, for back shaft.....	9.60	9.60
TB7-12 Back Shaft Bearings, each.....	2.00	2.00
TB7-13 Gear Box.....	15.90	15.90
TB7-14 Bearing for Gear End of Centre Roller 3½".....	10.50	10.50
TB7-15 Bearing for point of Centre Roller, 3".....	5.20	5.20
TB7-16 Fork.....	.90	.90
TB7-17 Link between Gear Box and Centre Roller.....	3.60	3.60
TB7-18 Legs, short, for No. 70 only, each.....	3.90	
TB7-19 Driving Shaft, No. 70 only.....	13.00	
TB7-20 Back Gear Shaft.....	2.00	2.00
TB7-21 Adjusting Screws, each.....	4.90	4.90
TB7-22 Shaft, 1⅜" x 6¼" long, for gear box, each.....	1.00	1.00
TB7-23 Gear Guard.....	3.50	3.50
TB7-24 Collars, 1⅜", each.....	.40	.40
TB7-25 Crank, for No. 7 only.....		1.20
TB7-26 Legs, long, each, for No. 7 only.....		5.00
TB7-27 Driving Shaft, for No. 7 only.....		2.00

## REPAIR PARTS FOR HAND SHEAR

HS- 1 Bed.....	\$11.00
HS- 2 Shear Beam.....	6.50
HS- 3 Cast Iron Lever.....	2.50
HS- 4 Gauge.....	.45
HS- 5 Bar for Gauge.....	.50
HS- 6 Pressure Bar.....	.70
HS- 7 Pulling Lever.....	4.25
HS- 8 Wing Nut.....	.20
HS- 9 Straps, 1½" x ½" x 16" long, per pair.....	2.00
HS-10 Straps, 1½" x ½" x 12½" long, per pair.....	1.60
HS-11 Pressure Bar Bolt.....	.30
HS-12 ⅝" Bolt for lower Shear Blade.....	.40
HS-13 Bolt, ⅝" x 3" long.....	.30
HS-14 Pin, 1" x 5" long, for Shear Beam.....	.50
HS-15 Pin, ¾" x 4¾" long.....	.30
HS-16 Pin, ¾" x 3" long.....	.20
HS- Shear Blades, each.....	1.85



### REPAIR PARTS FOR LIGHT BENCH PUNCH

LB- 1	Bed.....	\$ 8.00
LB- 2	Punch Beam.....	1.60
LB- 3	Fork.....	1.90
LB- 4	Lever Socket.....	1.00
LB- 5	Stripper.....	1.00
LB- 6	Die Clip.....	1.00
LB- 7	Gauge.....	.60
LB- 8	Spindle or Ram.....	1.40
LB- 9	Pulling Lever.....	1.40
LB-10	Side Straps, per pair.....	2.00
LB-11	Pin, $\frac{3}{4}$ " x 5", each.....	.50
LB-12	Pin, $\frac{5}{8}$ " x $3\frac{1}{4}$ ", each.....	.30
LB-13	Pin, $\frac{1}{2}$ " x $3\frac{1}{4}$ ", each.....	.25
LB-14	Pin, $\frac{1}{2}$ " x 2", each.....	.20
LB-15	Saw Gumming Die Stop.....	.40
	Round Punches, each.....	.75
	Round Dies, each.....	1.25
	Square Punches, each.....	2.00
	Square Dies, each.....	2.00
	Saw Gumming Punches, each.....	3.00
	Saw Gumming Dies, each.....	3.00
	Shear Attachment, to shear up to $1\frac{1}{2}$ " x $\frac{1}{4}$ ".....	17.25

### REPAIR PARTS FOR FLEWELLING TUYERE

FT-1	Plain Side.....	\$ 3.25
FT-2	Spout Side.....	3.50
FT-3	Fire Plate.....	3.75
FT-4	Jaw Slide.....	.40
FT-5R	Jaw, right hand thread.....	1.15
FT-5L	Jaw, left hand thread.....	1.15
FT-6	Clean Out Cover.....	.25
FT-7	Right and Left Screw.....	1.15

### REPAIR PARTS FOR CENTRE BLAST TUYERE

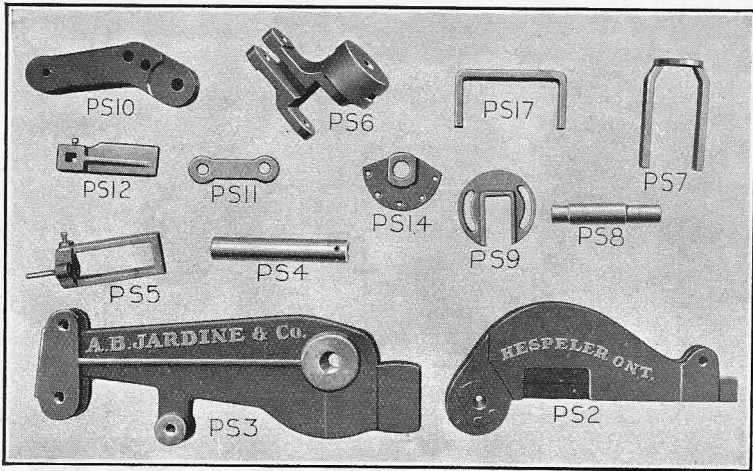
CT-1	Fire Pot.....	\$ 4.50
CT-2	Spout or Wind Box.....	1.10
CT-3	Nest.....	.45
CT-4	Clean Out Cover.....	.15
CT-5	Nest Rod.....	.25
CT-6	Ball.....	.35

### REPAIR PARTS FOR SIDE BLAST TUYERE

ST-1	Breast.....	\$ 2.40
ST-2	Tube.....	2.20



REPAIR PARTS FOR PUNCH AND SHEAR



PS- 1	Bed, N.S.	\$24.00
PS- 2	Shear Beam	6.50
PS- 3	Punch Beam	8.50
PS- 4	Ram or Spindle	1.00
PS- 5	Stirrup for Spindle	1.65
PS- 6	Lever Socket	2.50
PS- 7	Stripper	1.00
PS- 8	Eccentric Pin	.70
PS- 9	Die Clip	.70
PS-10	Adjusting Lever	1.80
PS-11	Connecting Link (cast iron)	.45
PS-12	Gauge or Stop	.45
PS-13	Bar for Gauge $\frac{3}{8}$ " sq., N.S.	.50
PS-14	Adjusting Quadrant	.80
PS-15	Heavy Side Straps per pair, N.S.	3.30
PS-16	Lower Pin for Side Strap, N.S.	.45
PS-17	Pressure Bar	.60
PS-18	Long Side Straps, per pair, N.S.	2.20
PS-19	Pins for No. 18, each, N.S.	.25
PS-20	Other Small Pins, each, N.S.	.25
PS-21	Bolt for Side Strap, $\frac{3}{4}$ " x 6", N.S.	.25
PS-22	Pulling Lever, N.S.	3.75
PS-23	Screw for Die Clip, N.S.	.20
PS-24	$\frac{5}{16}$ " Bolt for Lower Shear Blade, N.S.	.40
PS-25	Spindle Key for Punch, N.S.	.25
PS-26	Lever Socket Link, wrought iron, N.S.	.75
PS-27	Pin for Shear Beam, N.S.	.45
PS-28	Wing Nut, N.S.	.20
	Bolt for Pressure Bar $\frac{1}{2}$ " x $7\frac{1}{2}$ ", N.S.	.20
	Shear Blades, each, N.S.	1.85
	Round Punches, each, N.S.	.75
	Round Dies, each, N.S.	1.50
	Square Punches, each, N.S.	2.00
	Square Dies, each, N.S.	2.25
	Saw Gumming Punches, each, N.S.	3.00
	Saw Gumming Dies, each, N.S.	3.40
	Shears for Angle Iron to $1\frac{1}{2}$ " x $\frac{1}{4}$ ", N.S.	

NOTE—N. S. means "Not Shown".



### REPAIR PARTS FOR No. 2 FOOT VISE

2V- 1	Pillar.....	\$10.40
2V- 2	Swinging Jaw.....	3.00
2V- 3	Foot Lever.....	.90
2V- 4	Cast Iron Vise Jaw.....	.60
2V- 5	Steel Vise Jaw.....	1.40
2V- 6	Spring.....	.40
2V- 7	Bolt, $\frac{1}{4}$ " x $4\frac{1}{4}$ " long.....	.10
2V- 8	Bolt, $\frac{5}{8}$ " x $4\frac{1}{2}$ " long.....	.20
2V- 9	Bolt, $\frac{1}{2}$ " x $2\frac{1}{2}$ " long.....	.15
2V-10	Screw for Steel Jaw.....	.10
2V-11	Screw for Spring.....	.10
	Steel Casting Jaw (Old style with dovetail).....	3.75

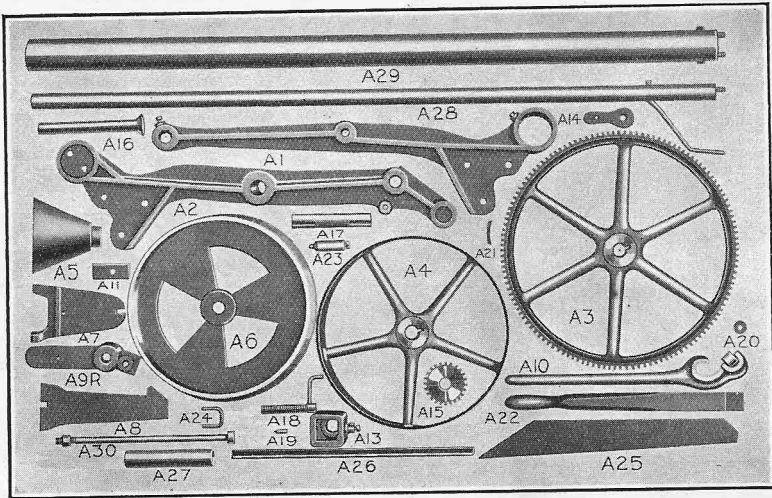
### REPAIR PARTS FOR No. 3 FOOT VISE AND BOLT HEADER

3V- 1	Pillar.....	\$17.60
3V- 2	Swinging Jaw.....	6.40
3V- 3	Foot Lever.....	2.75
3V- 4	Cast Iron Vise Jaw.....	.80
3V- 5	Steel Vise Jaw.....	2.75
3V- 6	Bolt Header Stop.....	1.10
3V- 7	Clamp Nut for Stop.....	.50
3V- 8	Clamp Screw for Stop.....	.75
3V- 9	Bolt Header Blocks, each.....	1.20
3V-10	Calking Block.....	1.75
3V-11	Screw for Cast Iron Vise Jaw.....	.10
3V-12	Screw for Steel Vise Jaw, each.....	.10
3V-13	Bolt, $\frac{3}{4}$ " x $5\frac{1}{2}$ " long.....	.25





REPAIR PARTS FOR DISC SHARPENER

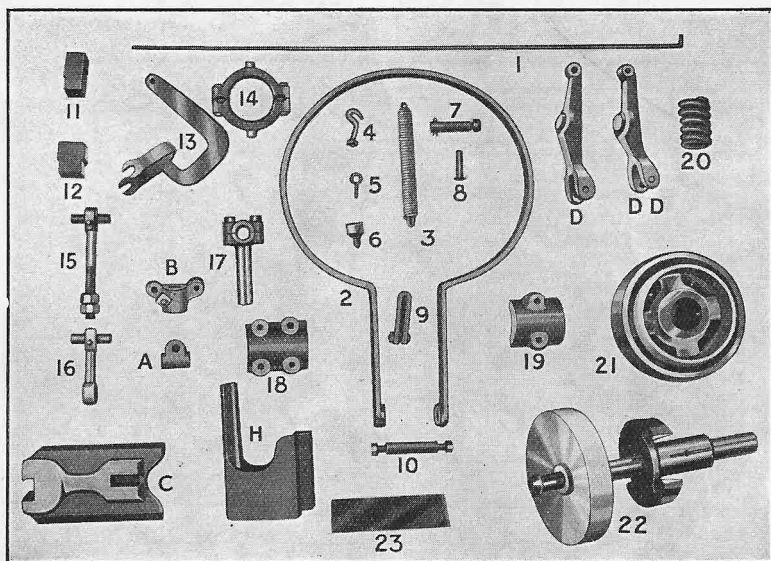


A- 1	Frame, right hand.....	\$ 4. 20
A- 2	Frame, left hand.....	5. 70
A- 3	Large Gear.....	8. 00
A- 4	Pulley.....	5. 75
A- 5	Cones, each.....	1. 15
A- 6	Discs, each.....	4. 30
A- 7	Tool Holder Rest, lower part.....	. 85
A- 8	Tool Holder Rest, upper part.....	1. 20
A- 9R	Tool Holder, right hand.....	1. 05
A- 9L	Tool Holder, left hand, N.S.....	1. 05
A-10	Pressure Lever.....	. 75
A-11	Clip Washer.....	. 20
A-13	Driver.....	1. 50
A-14	Tail Spindle Jam Nut.....	. 80
A-15	Pinion.....	1. 70
A-16	Pulley Stud.....	1. 10
A-17	Driver Stud.....	. 80
A-18	Tail Stock Spindle (with handle).....	1. 25
A-19	Tail Stock Centre.....	. 30
A-20	Truck for Pressure Lever.....	. 30
A-21	High Speed Tool.....	. 90
A-22	Tool Holder Handle.....	. 85
A-23	Tool Holder Stud.....	. 35
A-24	Reducer, each.....	. 20
A-25	Legs, per set of four.....	1. 75
A-26	Angle Iron Braces for Legs, per set.....	1. 00
A-27	Pipe Washer.....	. 20
A-28	Upper Pipe 1 1/4".....	3. 05
A-29	Lower Pipe 2 1/2".....	5. 20
A-30	Bolt. 3/4" x 1 1/4".....	. 80

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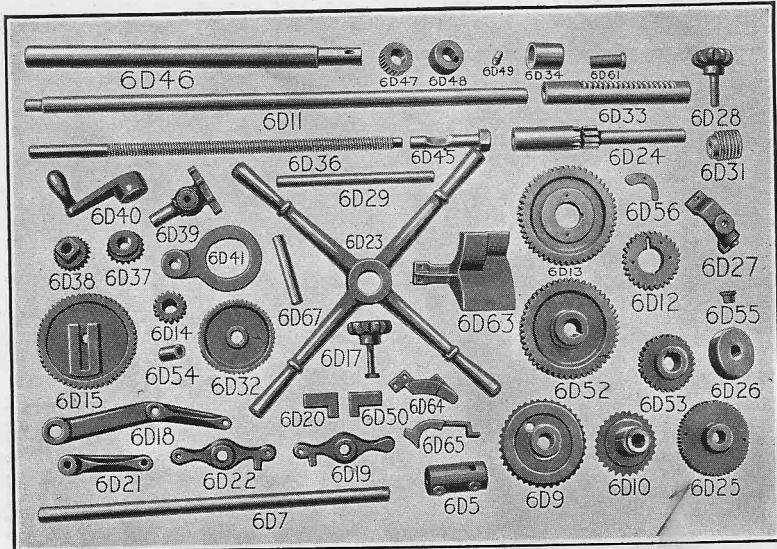
## REPAIR PARTS FOR HAMMERS



	No. 25	No. 50
1 Treadle Connecting Rod.....	\$1.25	\$ 1.25
2 Treadle.....	4.50	5.25
3 Treadle Spring.....	.70	.70
4 Upper Hook, for Treadle Spring.....	.30	.30
5 Lower Hook for Treadle Spring.....	.30	.30
6 Grease Cup.....	.30	.30
7 Stud for Friction Clutch Fork.....	.55	.70
8 Pivot Pin in Crosshead.....	.50	.60
9 Link for Treadle Connecting Rod.....	.80	.80
10 Pivot Pin for Treadle.....	.90	1.00
11 Hammer Die.....	2.50	8.50
12 Anvil Die.....	6.50	12.00
13 Friction Clutch Fork.....	3.75	4.00
14 Friction Clutch Yoke Ring.....	1.20	1.75
15 Long Connecting Bolt for Ram.....	1.50	2.00
16 Short Connecting Bolt for Ram.....	1.50	2.00
17 Pitman.....	6.00	12.00
18 Front Bearing Cover (not babbited).....	1.00	1.20
19 Back Bearing Cover (not babbited).....	.90	1.10
20 Spring for Ram and Pitman.....	1.50	2.25
21 Pulley.....	10.00	16.00
22 Shaft, Crank Disc, Friction Sleeve and Crank.....	18.00	30.00
23 Friction Clutch Pad.....	.40	.60
A Connection for Lower End of D-D.....	1.00	1.70
B Crosshead.....	2.00	4.00
C Ram.....	10.00	24.00
D Pitman Connecting Rod, left hand.....	2.50	4.00
D-D Pitman Connecting Rod, right hand.....	2.50	4.00
H Slide Cover for Ram.....	5.00	10.00
Pivot Pin for lower end of Pitman Connecting Rod.....	.60	.70



REPAIR PARTS FOR No. 6 DRILLING MACHINE



6D- 1 Frame, N.S.....	\$29.00	6D-34 Connecting Nut.....	\$ .90
6D- 2 Pillar, N.S.....	4.20	6D-36 Elevating Screw.....	1.10
6D- 3 Table Bracket, N.S.....	6.00	6D-37 Mitre Gear, for Screw.....	.50
6D- 4 Table, N.S.....	3.50	6D-38 Mitre Gear, for Crank.....	.50
6D- 5 Crank Socket.....	.90	6D-39 Elevating Screw Bracket..	1.00
6D- 6 Driving Crank, N.S.....	.50	6D-40 Elevating Crank.....	.35
6D- 7 Cross Shaft.....	.80	6D-41 Elevating Nut.....	.75
6D- 8 Fly Wheel, N.S.....	6.50	6D-42 Thumb Nut for Table, N.S.....	.15
6D- 9 Large Bevel Gear.....	3.90	6D-43 Table Clip, N.S.....	.20
6D-10 Small Bevel Gear.....	4.00	6D-45 Clamping Stud and Nut for Table Bracket.....	.90
6D-11 Upright Shaft.....	1.40	6D-46 Spindle.....	2.50
6D-12 Small Spur Gear (Plain)..	1.40	6D-47 Nut for Sure Grip Chuck..	.50
6D-13 Large Spur Gear (Plain)..	2.20	6D-48 Collar for Sure Grip Chuck	.50
6D-14 Feed Pinion.....	1.00	6D-49 Dog for Sure Grip Chuck..	.20
6D-15 Feed Gear.....	2.30	6D-50 Feed Pawl, left hand.....	.20
6D-17 Feed Lever Adjusting Bolt and Nut.....	.85	6D-52 Large Spindle Spur Gear	3.00
6D-18 Feed Lever, (long).....	.80	6D-53 Small Spindle Spur Gear....	2.00
6D-19 Pawl Holder, left hand.....	.60	6D-54 Feed Lever Bushing.....	.30
6D-20 Feed Pawl, right hand.....	.20	6D-55 Thrust Plug.....	.35
6D-21 Feed Lever, (Short).....	.60	6D-56 Bronze Dog for Gear Change.....	.20
6D-22 Pawl Holder, right hand..	.60	6D-58 Ball Races, each, N.S.....	.25
6D-50 Feed Pawl, left hand.....	.20	6D-59 Tight Pulley, N.S.....	2.90
6D-23 Capstan.....	2.00	6D-60 Loose Pulley, N.S.....	2.90
6D-24 Rack Pinion.....	2.90	6D-61 Spindle Thrust Stud.....	.50
6D-25 Worm Wheel.....	3.50	6D-62 Steel Balls, 1/4", each, N.S.	.05
6D-26 Friction Cone.....	.90	6D-63 Gear Guard.....	.50
6D-27 Friction Feed Bracket.....	.60	6D-64 Gear Guard.....	.30
6D-28 Friction Feed Screw and Handle.....	1.50	6D-65 Gear Guard.....	.30
6D-29 Feed Shaft.....	.40	6D-66 Shoulder Screw for Feed Lever, N.S.....	.30
6D-31 Feed Worm.....	1.50	6D-67 Feed Gear Stud.....	.20
6D-32 Feed Wheel.....	1.20	Collar, 1 1/8", N.S.....	.30
6D-33 Feed Rack.....	3.80		

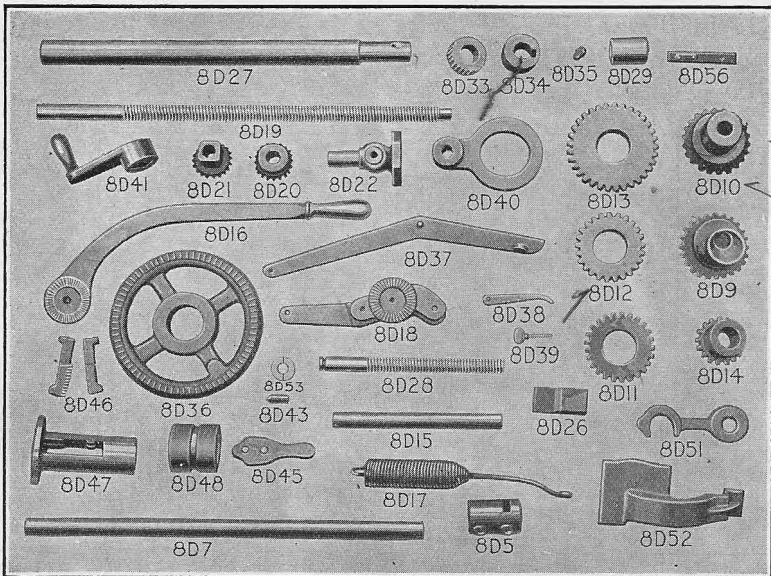
NOTE—N. S. means "Not Shown".

A. B. JARDINE &amp; CO., LIMITED



HESPELER, ONTARIO, CANADA

## REPAIR PARTS FOR No. 8 DRILLING MACHINE

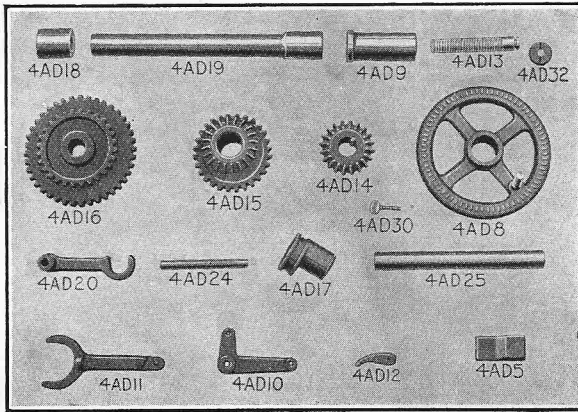


8D-1	Frame, N.S.	\$16.50	8D-29	Connecting Nut	\$.90
8D-2	Pillar, N. S.	6.00	8D-31	Ball Races, each, N.S.	.25
8D-3	Table Bracket, N.S.	4.30	8D-32	Steel Balls, 1/4", each, N.S.	.05
8D-4	Table, N.S.	2.60	8D-33	Nut for Sure Grip Chuck	.50
8D-5	Crank Socket	.70	8D-34	Collar for Sure Grip Chuck	.50
8D-6	Driving Crank, N.S.	.50	8D-35	Dog for Sure Grip Chuck	.20
8D-7	Driving Shaft	.70	8D-36	Feed Wheel	1.50
8D-8	Fly Wheel, N.S.	6.00	8D-37	Feed Lever	.75
8D-9	Mitre Gear, driving gear	2.60	8D-38	Feed Pawl	.20
8D-10	Mitre Gear, for triple gear	2.60	8D-39	Thumb Screw for Feed Lever	.10
8D-11	Spur Gear, 25 teeth for Spindle	1.10	8D-40	Elevating Nut	.75
8D-12	Spur Gear, 25 teeth for Triple Gear	1.10	8D-41	Elevating Crank	.35
8D-13	Spur Gear, 33 teeth, for Triple Gear	1.40	8D-42	Plunger Spring, Not Shown	.20
8D-14	Spur Pinion, 17 teeth, for Spindle	1.75	8D-43	Plunger	.15
8D-15	Upright Back Shaft	.40	8D-44	Shoulder Screw for Feed Lever, N.S.	.30
8D-16	Hand Feed Lever	.70	8D-45	Lever for Opening Nut	.40
8D-17	Hand Feed Lever Spring	.90	8D-46	Jaws for Opening Nut, per pair	1.20
8D-18	Spring Lever	1.00	8D-47	Body for Opening Nut	2.20
8D-19	Elevating Screw	1.10	8D-48	Sleeve for Opening Nut	1.00
8D-20	Mitre Gear for Elevating Screw	.50	8D-49	Tight Pulley, N.S.	2.90
8D-21	Mitre Gear for Crank	.50	8D-50	Loose Pulley, N.S.	2.90
8D-22	Elevating Screw Bracket	.80	8D-51	Gear Change Link	.60
8D-23	Thumb Nut for Table, N.S.	.15	8D-52	Gear Guard	.40
8D-24	Table Clip, N.S.	.20	8D-53	Split Washer for Feed Screw	.20
8D-26	Table Bracket Wedge	.30	8D-54	Screw for Table Bracket Wedge, N.S.	.20
8D-27	Spindle	2.70	8D-55	Collar, N.S.	.30
8D-28	Feed Screw	1.20	8D-56	Spindle Gear Stop	

NOTE—N. S. means "Not Shown".



REPAIR PARTS FOR No. 4A DRILLING MACHINE

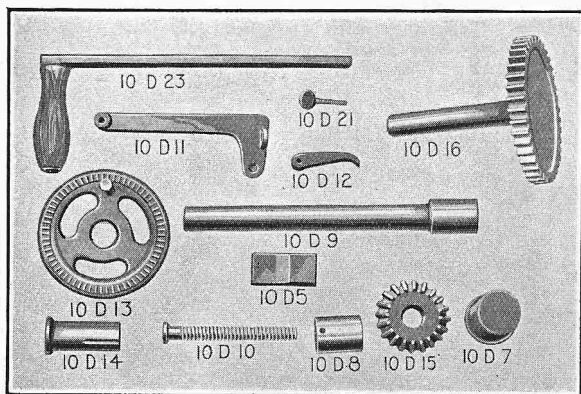


4AD- 1	Frame, N.S.	\$ 8. 90
4AD- 2	Pillar, N.S.	3. 75
4AD- 3	Table Bracket, N.S.	2. 70
4AD- 4	Table, N.S.	3. 30
4AD- 5	Table Bracket Wedge	. 30
4AD- 6	Fly Wheel, N.S.	4. 50
4AD- 7	Screw for Table Bracket Wedge, N.S.	. 20
4AD- 8	Feed Wheel and Handle	1. 60
4AD- 9	Feed Nut	1. 00
4AD-10	Short Feed Lever	. 30
4AD-11	Long Feed Lever	. 40
4AD-12	Feed Pawl	. 10
4AD-13	Feed Screw	. 60
4AD-14	Spindle Mitre Gear	1. 00
4AD-15	Triple Gear	2. 60
4AD-16	Double Gear	1. 70
4AD-17	Crank Socket	. 70
4AD-18	Connecting Nut	. 95
4AD-19	Spindle	2. 50
4AD-20	Change Gear Link	. 35
4AD-21	Collar, $1\frac{1}{16}$ " , N.S.	. 30
4AD-22	Collar, $1\frac{7}{16}$ " , N.S.	. 35
4AD-23	Table Clip, N.S.	. 20
4AD-24	Gear Link Stud	. 20
4AD-25	Cross Shaft	. 70
4AD-26	Thumb Nut, N.S.	. 15
4AD-27	Ball Races, each, N.S.	. 25
4AD-28	Steel Balls, $\frac{1}{4}$ " , each, N.S.	. 05
4AD-29	Crank, N.S.	. 50
4AD-30	Thumb Screw for Feed	. 10
4AD-31	Shoulder Screw for Feed Lever, N.S.	. 30
4AD-32	Split Washer for Feed Screw	. 20

NOTE—N. S. means "Not Shown".



## REPAIR PARTS FOR No. 10 DRILLING MACHINE



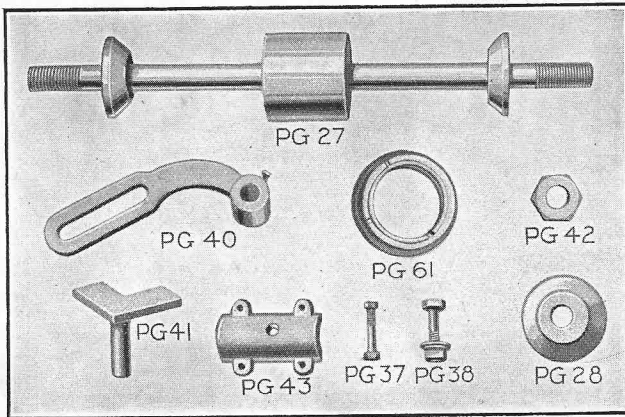
10D- 1	Frame, N.S.	\$ 6.70
10D- 2	Pillar, N.S.	1.35
10D- 3	Table Bracket, N.S.	2.00
10D- 4	Table, N.S.	1.90
10D- 5	Table Bracket Wedge	.30
10D- 6	Fly Wheel and Double Gear (1 piece) N.S.	4.75
10D- 7	Crank Socket	.70
10D- 8	Connecting Nut	.60
10D- 9	Spindle	2.40
10D-10	Feed Screw	1.10
10D-11	Feed Lever	.50
10D-12	Feed Lever Pawl	.15
10D-13	Feed Wheel and Handle	1.10
10D-14	Feed Nut	.60
10D-15	Mitre Gear for Spindle	.90
10D-16	Gudgeon Gear	1.20
10D-17	Collar, N.S.	.30
10D-18	Thumb Nut for Table, N.S.	.15
10D-19	Table Clip, N.S.	.20
10D-20	Screw for Table Bracket Wedge, N.S.	.20
10D-21	Thumb Screw for Feed Lever	.15
10D-22	Shoulder Screw for Feed Lever, N.S.	.30
10D-23	Driving Crank	.50
10D-24	Ball Races, each, N.S.	.25
10D-25	Steel Balls, 1/4", each, N.S.	.05
10D-26	Wrench, N.S.	.15

NOTE—N. S. means "Not Shown".





REPAIR PARTS FOR PEDESTAL GRINDER



*PG-15A	Base.....	\$ 3.00
*PG-16A	Pillar.....	4.00
*PG-26	Head, babbited, complete with bearing caps and bolts.....	11.00
PG-27	Spindle, with pulley and two flanges.....	10.25
PG-28	Flanges, each.....	.90
*PG-29	Pulley.....	3.00
PG-37	Bearing Cap Bolt, each.....	.20
PG-38	Bolt for Work Rest Bracket, each.....	.20
PG-40	Work Rest Bracket, each.....	.90
PG-41	Work Rest, each.....	.30
PG-42R	Nut for Spindle, right hand.....	.50
PG-42L	Nut for Spindle, left hand.....	.50
PG-43	Bearing Caps, not babbited, each.....	.60
*PG-44	Grease Cups, each.....	.30
BG-61	Collar for Stand for Bench Grinder.....	.30

\* Not Illustrated.

# *We Also Manufacture*

Boiler Tube Expanders  
Stay Bolt Taps  
Boiler Taps  
Patch Bolt Taps  
Machine Screw Taps  
Stove Bolt Taps  
Pulley Taps  
Tapper Taps  
Long Hob Master Taps  
Short Hob Master Taps  
Pipe Taps  
Pipe Reamers  
"Toledo" and "Jardine" Pipe Tools  
"Toledo" Power Drive  
"Jardine" Pipe Machines  
Garage Wrecking Cranes  
Garage Floor Cranes  
Garage Presses  
Garage Engine Stands  
Garage Tire Changer



If interested in any of these we will be pleased to send you  
a catalogue.