

“Buffalo”

No. 15 DRILL

HEAVY DUTY

Manufacturing

TAPPER

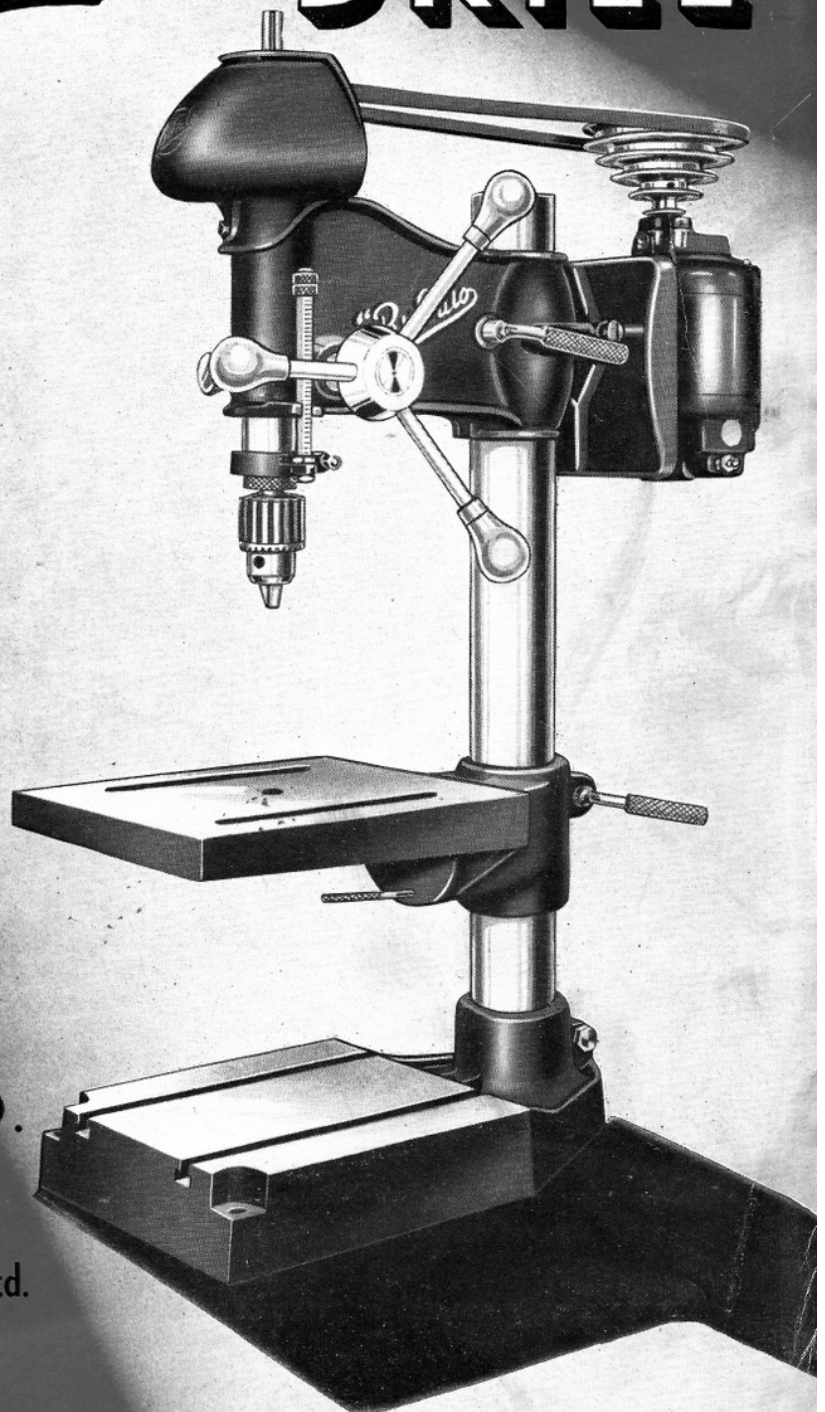
and

ACCESSORIES



BUFFALO FORGE CO.
Buffalo, N. Y.

CANADIAN BLOWER & FORGE Co., Ltd.
Kitchener, Ont.



Bulletin No. 2963-D

"Buffalo"

No. 15

Heavy-Duty Production

DRILL

HERE is a production tool designed to give long life, accurate, speedy operation and maximum facility in operating. As a metal-working tool, it is entirely competent to do real manufacturing—it is not a makeshift or an adaptation.

For smaller diameter drills, sensitivity and convenience make high productivity and low drill cost. For larger diameters—full weight and rigidity, assure clean, quick holes. No. 1 Morse taper spindle available in place of standard at no extra cost.

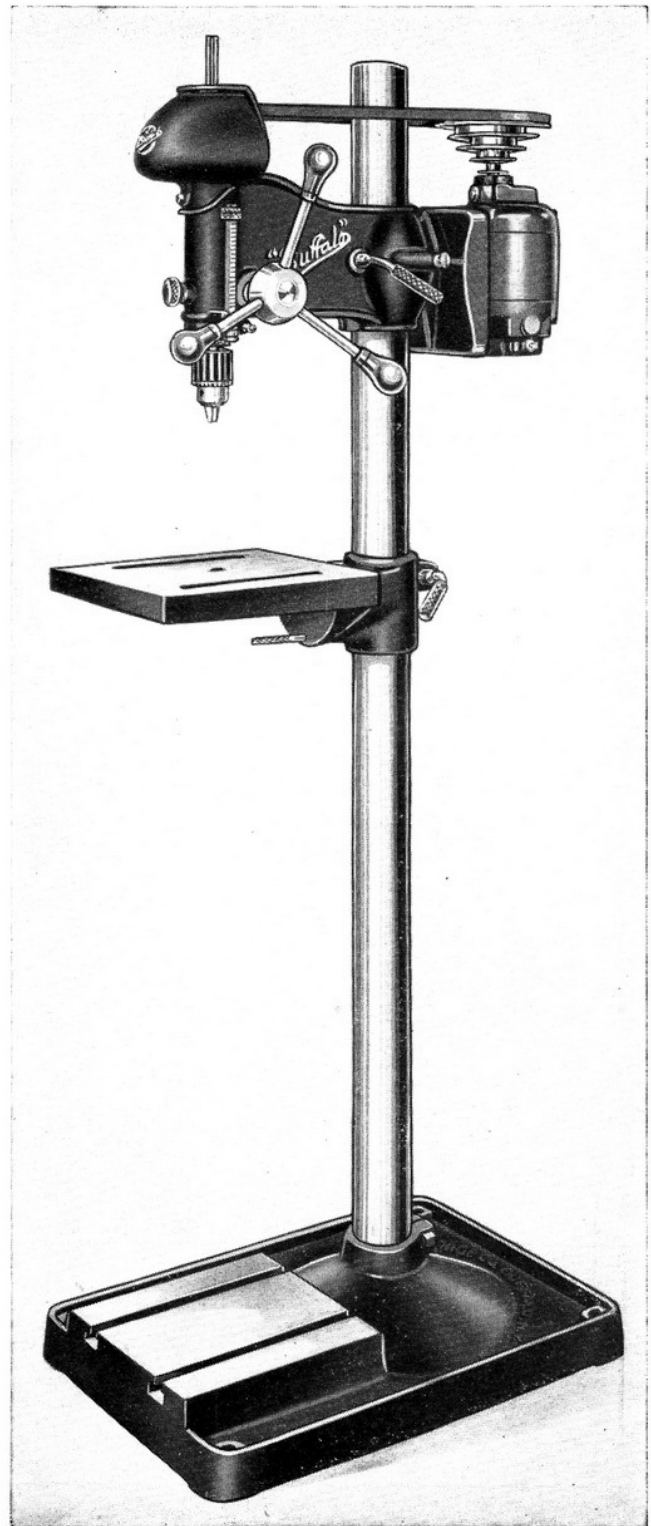
Full range and quick adjustment for changing setups which are so necessary for short run work, where piece prices are down in cents per hundred. Setup cost is no longer out of proportion to the productive cost.

Because buyers of drills are interested in all the details which contribute to smooth operation, accuracy, speed and long life,—we list them briefly below:

Both floor and bench models have 5 speeds, which meet the average shop's requirements for both high and low speed drilling, thus embodying in one machine what is usually obtainable only in two machines. When motor bracket is properly set, the belt can be quickly run over from one pair of steps to the next, simply using one hand and without changing bracket adjustment. These pulleys, designed with the correct angles, will carry the full overload of the 1/3 h.p. motor with the belt at this convenient tension.

The spindle is held rigidly against end play and vibration, running true in two precision ball-bearings.

The pulley is carried on a long driving sleeve which runs in TWO SEALED BEARINGS spac-



● No. 15 Standard Heavy-Duty Drill, Floor Type.

ed apart for greater rigidity. This inner sleeve has a standard 6-SPLINE DRIVE which affords maximum driving power and an almost frictionless sliding action under drilling feed.

Three-spoke feed wheel with comfortable hand knobs provides easy feeding—no back hand feeding or pushing up on feed lever. Automatic quick-return of spindle.

Table tilts to any angle and has accurately bored holes to locate 0 degrees. Full section table arm and table bearings are rigid under load, making permanent accuracy possible. Belt drive is long-life full standard section V-belt.

The Buffalo No. 15 drill head is the finest development of small drilling machines because of the wide range of speeds, the long accurate life built in by advanced design, and the unequalled convenience features.



● No. 15 Two-Spindle Drill, Bench Type, on new special "Buffalo" Bench Mounting.

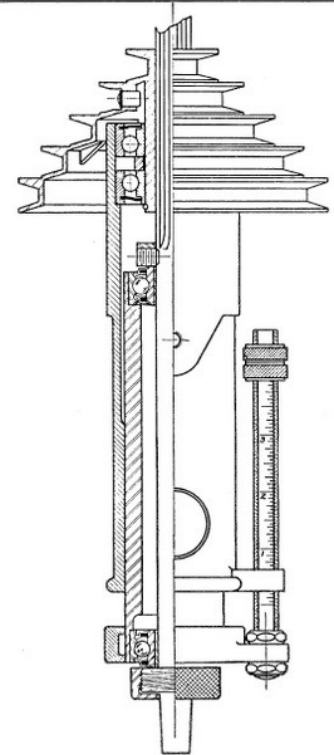
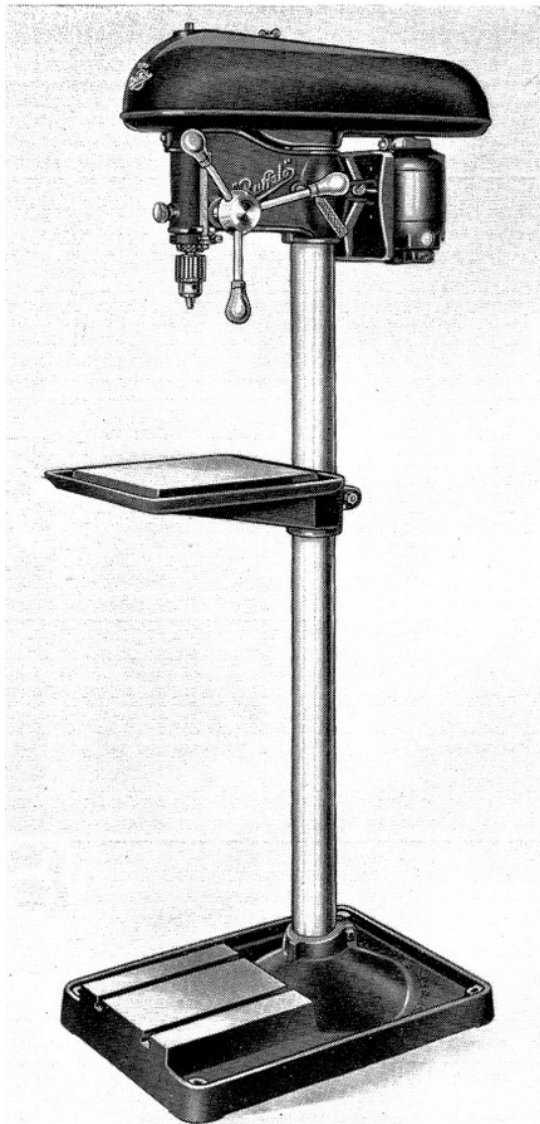
Bench-Mounted Drill Heads —

The regular, precision-built No. 15 Drill Heads mounted on the new, rigid, Heavy-Duty "Buffalo" Bench. (See illustration at upper right of page).

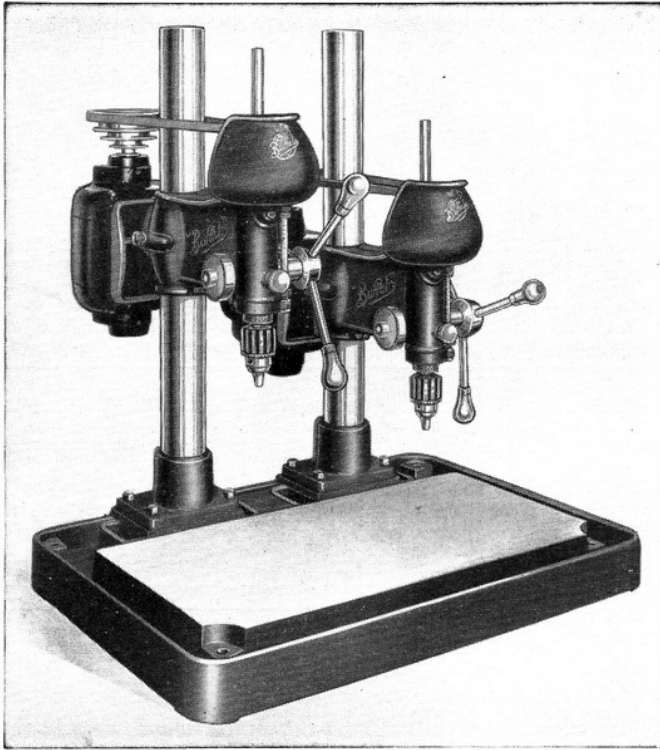
Rugged, cast-iron legs, securely braced, are bolted to a machined cast iron bench top to give a smooth, true working surface.

Units up to and including 4 spindles have four sets of legs; 5 and 6-spindle units have a third set of legs used as a center support.

● Left: No. 15 Heavy-Duty Drill, Floor Type, Deluxe Model.



Spindle Assembly: Note two ball bearings in drive pulley; also two sets of ball bearings in spindle proper.



● This drill is also available in three or four spindle models. Specifications on page 8.

No. 15-M Drill →

The Manufacturing Type Drill presents all the advantages of the rugged, low-cost No. 15 Drill plus features to give quicker change of set-up, correct take-up for wear, and adequate room for handling jigs and work pieces. This means a machine which is in all ways the most convenient for the operator and requires the least non-productive time. The pulley and spindle, broached and hobbed with six splines, naturally gives greater power with least wear.

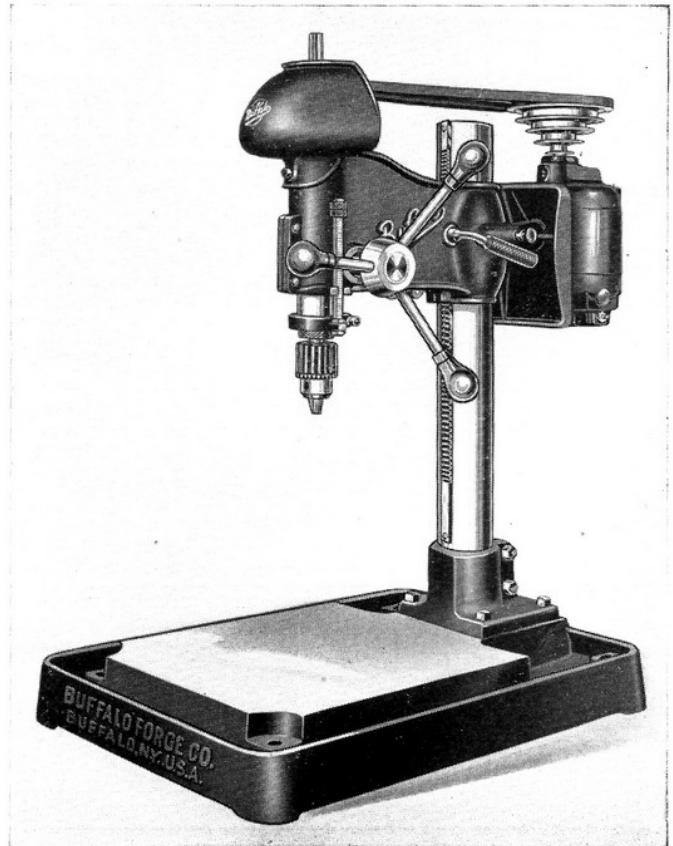
Five speeds cover a wide range with pulleys which are designed to carry the full capacity of standard section V-belts. Both pulleys are dynamically balanced.

● No. 15-M can be had in 1, 2, 3, or 4 Spindle Units.

← No. 15 "Twin"

You know the economy of operating multi-spindle drills on production jobs — and you know that the first cost of multi-spindle drills has been pretty high. This two-spindle, two-motor bench drill is priced to make it popular. It is identical with the Buffalo No. 15 Drill—except that it's twins! You get five speeds on each drill—full ball bearing spindles, three spoke feed wheels for quick feeding, graduated quick-set stop-bars for feeding to required depth in repeat work and V-belt drive.

If you have any job where you do two operations, the Twin 15 will pay for itself. Particularly useful for tapping in the second operation — we can furnish special rigidly mounted type of standard tapping attachment for holes up to $\frac{1}{4}$ ".



The spindle feed quill moves in a long full bearing. Moreover, this bearing is split and adjustable, according to the best machine tool practice, with take-up screws and set screw, so that a precision fit can be made even after years of wear. No need for the spindle to be sloppy or to have a single point bearing.

The table base is 18" x 22" with 14" x 14" true plane working surface. Single base alone weighs over 100 pounds and furnishes a real foundation and large space for handling jigs.

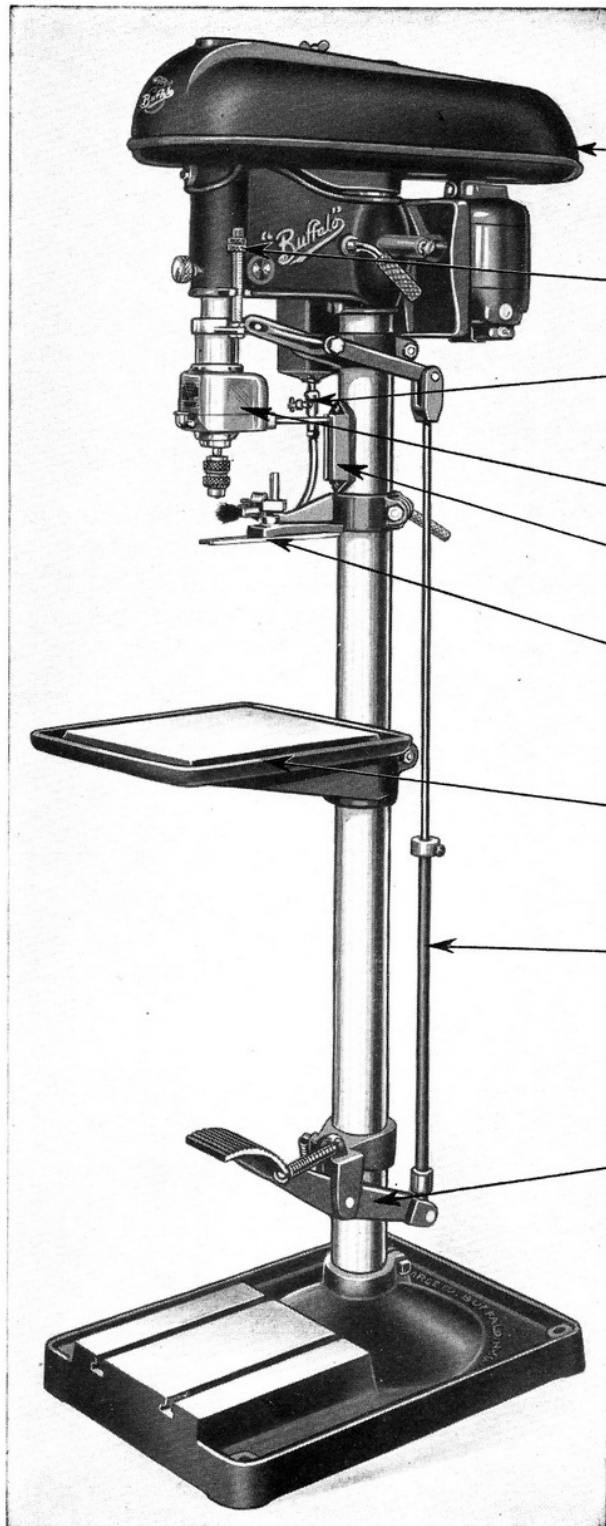
The working surface is at a constant height convenient to the operator and the head is quickly adjustable to give the desired height, table to drill point. Rack pinion is operated by a crank at the side of the head.

No. T-15 Tapping Machine

Buffalo offers a tapping machine which assures high speed production tapping at minimum cost. Its ability has been thoroughly tested and demonstrated.

The design of this tapping machine includes all the time-tested sturdiness and accuracy of the Buffalo No. 15 Drill; with ball bearing spindle pulley, and sturdy column and frame. In addition, a rigid, one-piece oil trough table has been added. Accuracy of tapping depends on a rigid spindle. Speed of tapping depends on automatic lubrication of the tap. To meet these requirements, we have added a sight feed, automatic tap lubricating device. Spindle feed is through a sensitive foot treadle which is adjustable to give correct pedal pressure and comfort to the operator. All wearing parts are either bronze-bushed or hardened steel. A stripper or work hold-down device allows the operator free use of both hands for rapid shifting of the work. Table, stripper and lubricator are readily adjusted to meet most all requirements.

(Continued on page 6)



Complete belt enclosure.

Depth stop for bottom tapping.

Sight feed oil supply to tap.

Full ball bearing taper, rigidly locked to spindle.

Tail rod guide.

Adjustable stripper.

Oil trough table.

Foot feed rod—adjustable for height.

Sensitive, easy acting foot treader—adjustable for return pressure.

● Note: Complete belt enclosure shown above is not standard equipment but can be furnished as an extra.

No. T-15 Tapping Machine - - Cont'd

Table—

One piece construction with oil trough. Easily adjusted to any height.

Foot Feed—

Readily adjustable to give proper pedal pressure and convenience to operator. A close coupled spring return makes sensitive quick action, eliminates inertia and overtravel of counterweight.

Speed—

The speed at which any tapping head may run is dependent on many variables: type and condition of tap, size of tap drilled hole, efficiency of lubricant, and experience of the operator. The tap will have its own characteristic entrance feed into the hole and any effort to speed it or retard it will result in slipping clutches, with resultant wear and early replacement of frictions. These heads have been thoroughly tested and adequate speeds are provided for the range of tap size. The heads are full ball bearing and run in light oil. Positive double grip Jacobs chucks hold the tap true and rigid.

Tap Lubrication—

Lubrication is applied directly to tap by a brush. It is fed from a container through a sight feed valve and flexible tube.

Spindle—

Accurate, rigid ball bearing spindle and quill are the same as used in the No. 15 drill. Insures accurate tapped holes with minimum adjustment or wear.

Operation—

Adjust table and stripper as close to work as possible. Set depth stop to required tapping depth. Adjust foot pedal bracket convenient to operator and adjust pedal and return pressure by lengthening or shortening connecting rod.

Lubricant—

Three-fourths of all tapping jobs are best lubricated by lard oil. Machine oil is seldom the best lubricant. Several high grade commercial oils are available.

Selection of Taps—

The accuracy and speed of successful machine tapping warrants the use of the best taps available. Use only high speed taps of a good make. We recommend the use of two or three flute "gun taps" or "chip driver taps."

Capacities—

No. 0 tapper—0 to 3/16".

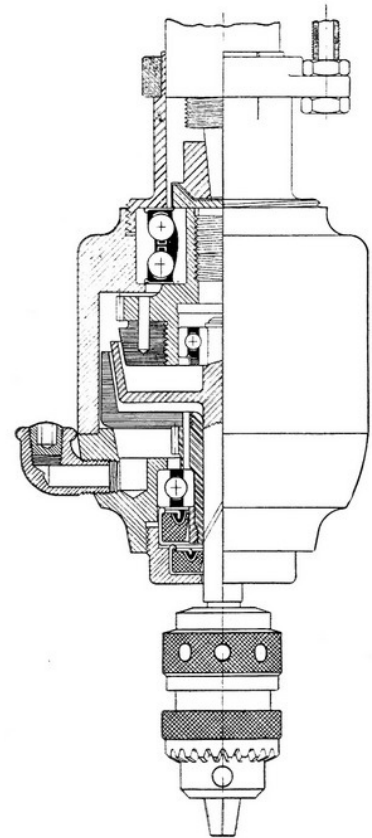
No. 1 tapper—3/16" to 5/16".

Capacities are based on average conditions and the use of ample motor power, and are intended simply as a guide in selection because the factors of length and form of thread, style of tap, material cut, and lubricant, make for wider variations than in most machining operations.

Motors—

No. 0 tapper—1/3 h.p., 1750 r.p.m., preferably the repulsion-induction type.

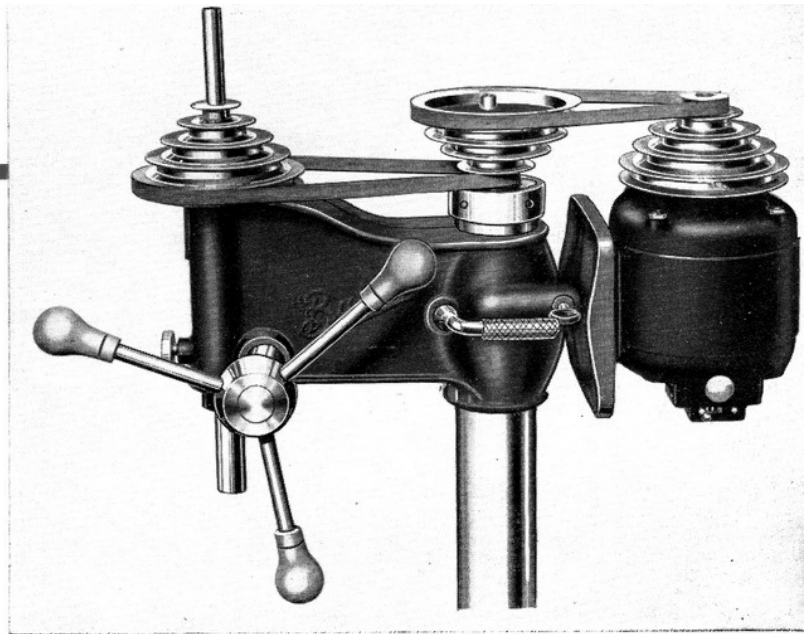
No. 1 tapper—1/2 h.p., 1140 r.p.m.



Accessories

Slow Speed Attachment—

To secure still further speed reduction for certain special jobs, such as very hard cast iron or tool steel, we can furnish an extra attachment as shown at the right of this paragraph which will give 3 additional low speeds of 112-210-380 r.p.m.



Straight Shank Adapter—

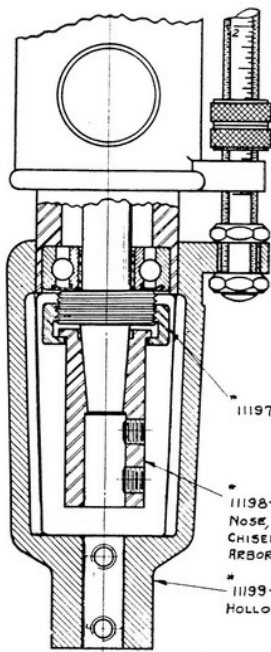
For shaping and routing a spindle-adapter is set on a spindle nose and locked by the chuck collar against any possible loosening. This adapter has 1/2" straight bore to carry router, dovetail bits, or shaper arbors secured by two set screws.

Mortising Attachment—

This includes straight shank adapter to hold desired bit with 1/2" bushing to suit. The yoke as shown is clamped on spindle sleeve in place of usual depth stop collar and is bored 5/8" to receive standard hollow chisels.

With this arrangement, special appliances may be added to table for the various setups in wood-working. Special attachments may be purchased of most hardware dealers.

For shaping, the head may be placed inverted on the column with the table above, and the shaper arbor extending thru table. Use 1/2" straight shank arbor purchased with your cutters.



Mortising Attachment:

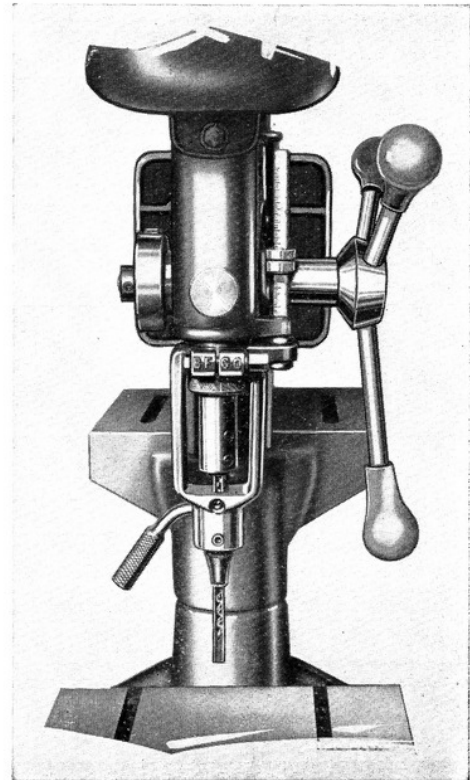
Illustrated at right is the mortising attachment, using straight shank spindle nose holding bushing and bit, yoke holding square hollow chisel.

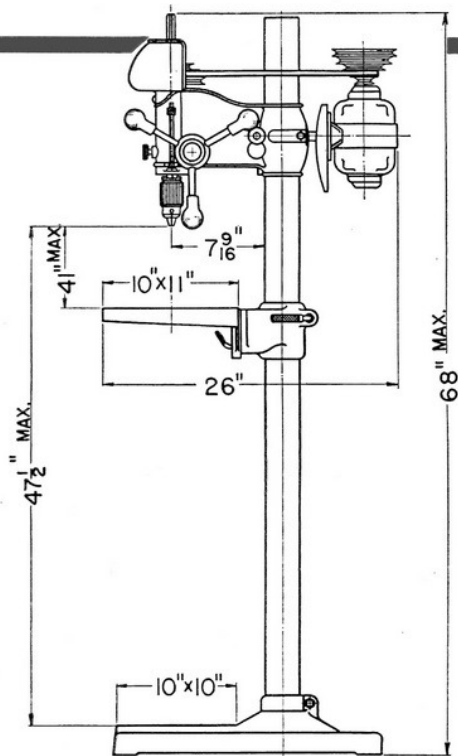
Detail of this Mortising Attachment and Adapter is illustrated at the left.

11197-COLLAR.

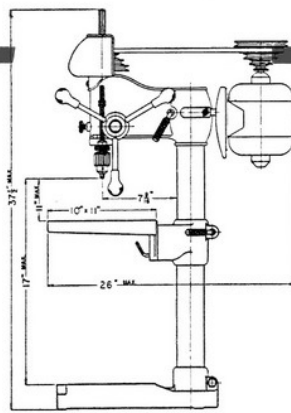
11198-STRAIGHT SHANK NOSE, HOLDS ROUTER, CHISEL BIT, SHAPER ARBOR.

11199-YOKE, HOLDS HOLLOW CHISEL.

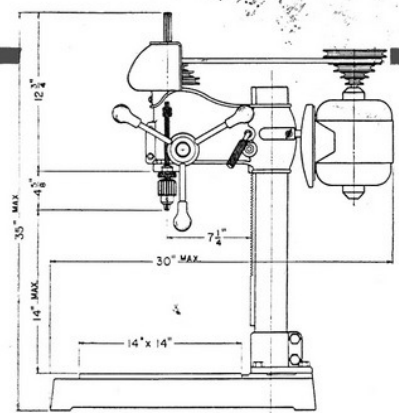




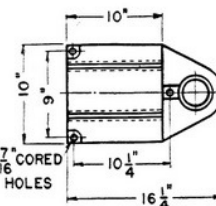
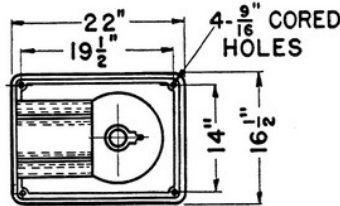
No. 15 H.D.—Floor Type—Overall and Base Dimensions.



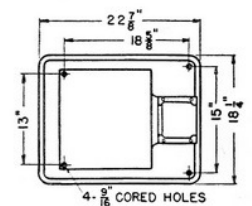
No. 15 H.D.—Bench Type



No. 15 Manufacturing



No. 15 H.D. Bench Base Dimensions



No. 15 Manufacturing Base Dimensions

GENERAL SPECIFICATIONS

No. 15 H. D. Drills

Multiple Spindle Bench Drills

	Floor	Bench	2-Spindle	3-Spindle	4-Spindle				
Center Distance Between Spindles .....	.....	.....	12"	12"	12"		
Working Surface of Base	10" x 10"	10" x 10"	14" x 26"	14" x 38 1/2"	14" x 50 1/2"				
Working Surface of Table	10" x 11"	10" x 11"	.....	.....	.....	
Spindle—Least Diameter	5/8"	5/8"	5/8"	5/8"	5/8"				
Column Diameter	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"				
Height—Spindle Raised	68"	37 1/2"	38"	38"	38"				
Max. Distance Chuck Nose to Table	41"	11"	.....	.....	.....	
Max. Distance Chuck Nose to Base	47 1/2"	17"	17"	17"	17"				
Feed Travel	4"	4"	4"	4"	4"				
Capacity, in Cast Iron	1/2"	1/2"	1/2"	1/2"	1/2"				
Motor H.P. Recommended	1/8	1/8	1/8	1/8	1/8				
Spindle Speeds { 3450 R.P.M. Motor	920	—	1840	—	3450	—	6800	—	12500
1750 R.P.M. Motor	460	—	920	—	1725	—	3400	—	6300
1450 R.P.M. Motor	380	—	760	—	1450	—	2850	—	5300
1140 R.P.M. Motor	295	—	600	—	1140	—	2200	—	4200
Net Weight, lbs.	133	96	249	376	458				
Crated Weight, lbs.	175	118	308	447	546				

No. 15 Manufacturing Drills

No. 15 Tapper

	1-Spindle	2-Spindle	3-Spindle	4-Spindle	No. 0	No. 1			
Center Distance Between Spindles .....	.....	12"	12"	12"	.....	.....	
Working Surface of Base	14" x 14"	14" x 26"	14" x 38"	14" x 50"	10" x 10"	10" x 10"			
Working Surface of Table .....	.....	.....	.....	.....	10" x 11"	10" x 11"
Spindle—Least Diameter	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"			
Column Diameter	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"			
Height—Spindle Raised	35"	35"	35"	35"	68"	68"			
Max. Distance Chuck Nose to Table .....	.....	.....	.....	.....	37"	35 1/2"
Max. Distance Chuck Nose to Base	14"	14"	14"	14"	43 1/2"	42"			
Feed Travel	4"	4"	4"	4"	4"	.....		
Capacity, in Cast Iron	1/2"	1/2"	1/2"	1/2"	3/8"	5/16"			
Motor H.P. Recommended	1/8	1/8	1/8	1/8	1/8	1/2			
Spindle Speeds { 3450 R.P.M. Motor	920	—	1840	—	3400	—	6800	—	12500
1750 R.P.M. Motor	460	—	920	—	1725	—	3400	—	6300
1450 R.P.M. Motor	380	—	760	—	1450	—	2850	—	5300
1140 R.P.M. Motor	295	—	600	—	1140	—	2200	—	4200
Net Weight, lbs.	182	333	502	626	155	162			
Crated Weight, lbs.	220	392	573	714	195	212			

(Weight of 1/8 H.P. Motor, Approximately 30 lbs. additional.)