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# • EDLUND •

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## Nos. 2B and 3B Drilling AND Tapping Machines

LIKE all EDLUND Drilling Machines, Nos. 2B 8", 3B 12" and 3B 15"  $\frac{3}{4}$ " High Speed Ball Bearing Sensitive Machines—ranging from one to eight spindles—are modern in design, fast and efficient in operation, economical in upkeep. They are available with Semi-Automatic Power Feed; with Reversing Motor (for Tapping); with Pump, Tank, and Piping (for Drill Coolant); and with Belt, Vertical Motor, Vee Belt, Silent Chain, or with Belted Motor Drive.

Because EDLUND Machines incorporate the latest and best principles of construction, and because they are designed to meet the current demand for fast production at low cost—

HOLES BY EDLUND ARE LOW COST HOLES

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EDLUND MACHINERY CO., INC., CORTLAND, N.Y., U.S.A.

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## EDLUND No. 10 Semi-Auto- matic Power Feed

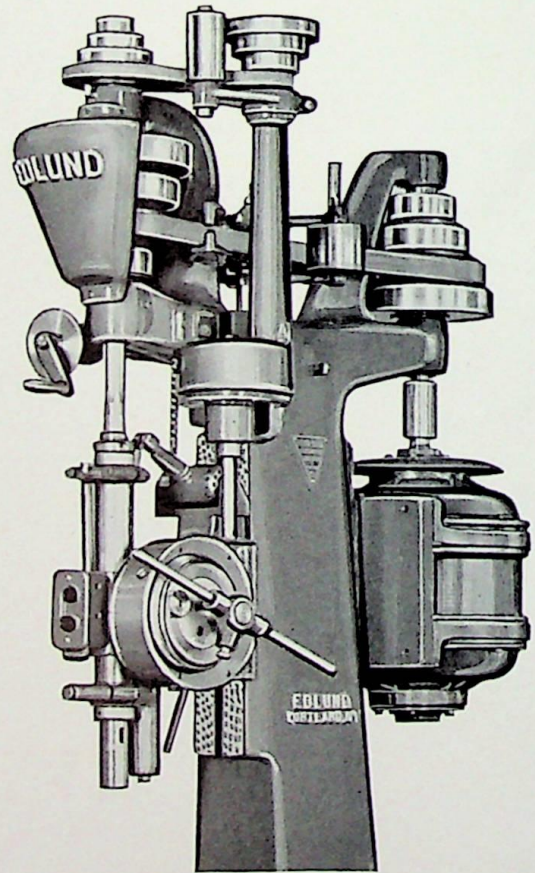
THE No. 10 Semi-Automatic Power Feed, illustrated below, may be applied to any EDLUND No. 0, 1B, 2B and 3B machine. The feed automatically engages as the drill touches the work and may be disengaged at any time by raising the feed lever. The drill may be advanced ahead of the feed (without disengaging the feed) by advancing the feed lever. A dial may be set to the depth of drill desired and the feed will automatically release at the predetermined depth and return to the top position. A spring plunger is provided to absorb the shock of the spindle return.

The feed lever assembly is adjustable to three positions and is held in place by means of a spring plunger.

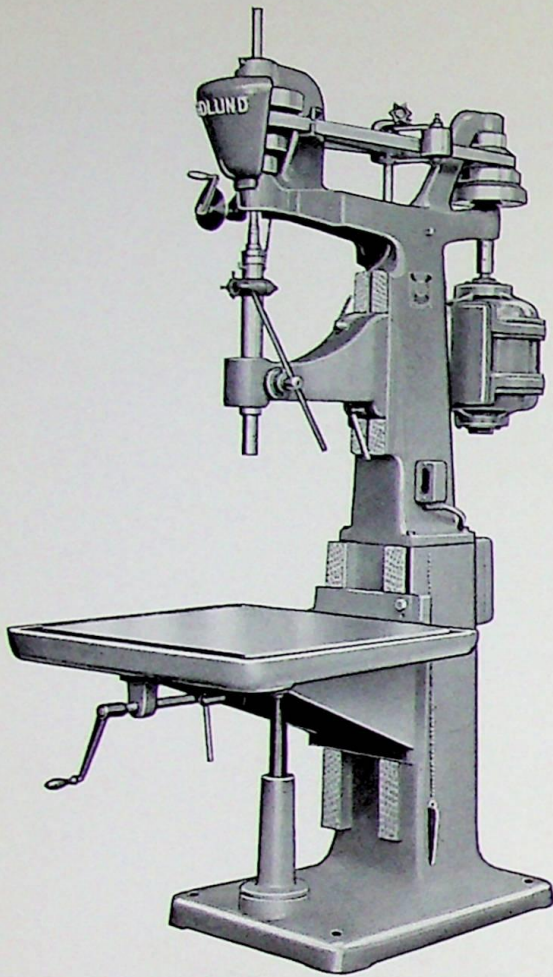
A large bronze worm gear (with a hardened and ground steel ratchet ring attached to it) rotates while the machine is running, and a hardened steel dog engages the ratchet ring when the feed is engaged. The dog is controlled from a cam sleeve on the feed lever assembly.

The upper assembly is very rigid and is driven

through a flat belt and four-step cone pulleys, giving feeds of .0015, .003, .005 and .009 per revolution. Other feeds are available on special order.



*Edlund No. 10 Semi-Automatic Power Feed*



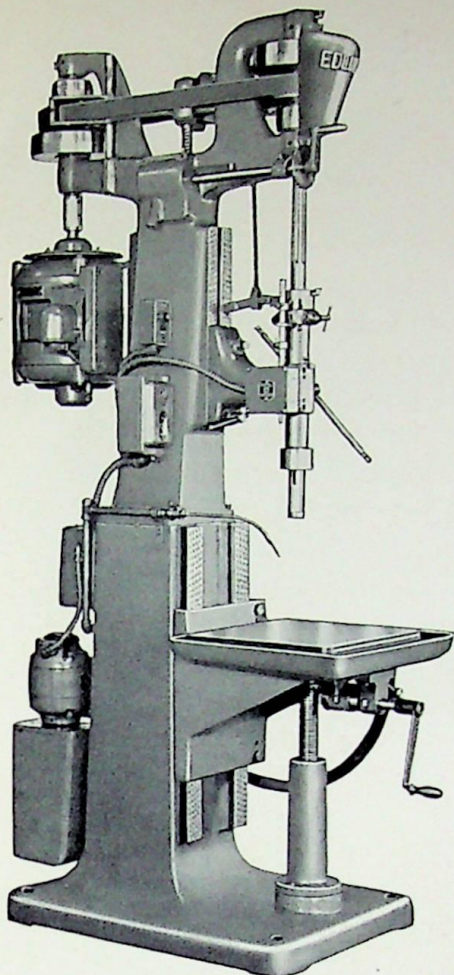
*Edlund No. 3B One-Spindle Drilling  
Machine with Vertical Motor Drive*

## EDLUND No. 2B Reversing Motor Tapping Machine

SEVERAL years of actual use have proven the EDLUND Reversing Motor Tapper (shown on opposite page) equally versatile and satisfactory in large production or in small shops.

The machine is capable of tapping as high as thirty holes per minute and will reverse at the same depth within  $\frac{1}{4}$  turn of the tap, which is essential in bottoming tapping.

The elastic effect of the belt in starting and stopping



*Edlund Vertical Reversing Motor  
for tapping and drilling*

be used indefinitely for drilling without damage to the motor or machine. Change from drilling to tapping may be made in a few seconds. Capacity:  $\frac{1}{2}$ " , 13 in steel;  $\frac{5}{8}$ " , 11 in cast iron.

### Pump, Tank and Piping for Vertical Motor Drive

For the Pump, Tank and Piping supplied on Vertical Motor Driven Machines (illustrated at the right), the motor may be either single or polyphase of the voltage available and may be operated from light or power circuit. The Tank is provided with a partition for separating chips from the cutting coolant, and is so constructed that the chips may be easily removed. Machine above shows Gusher Type Pump, furnished on special order.

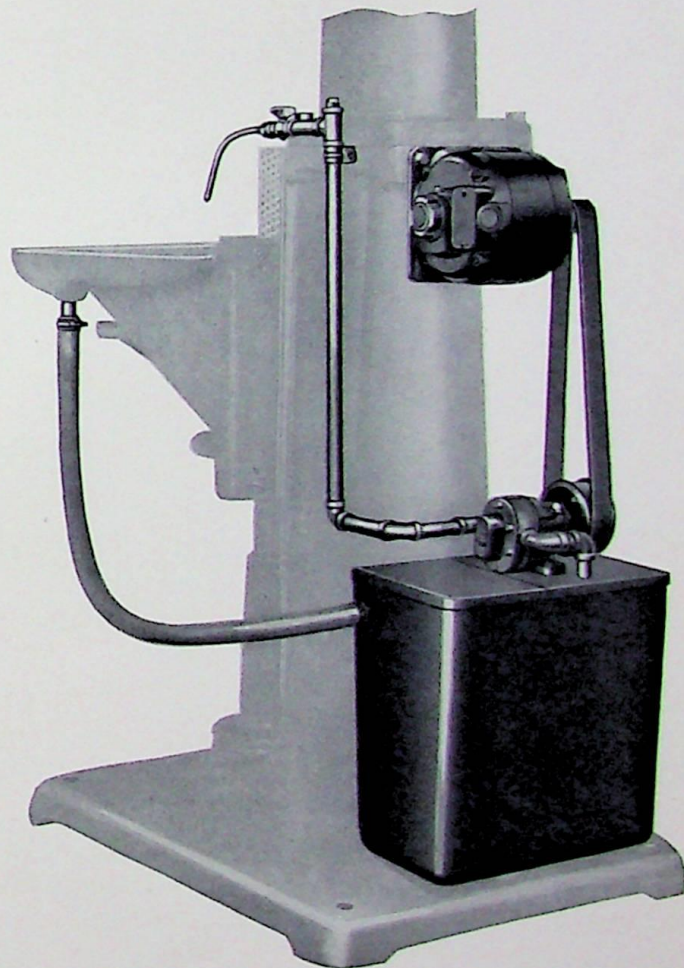
the tap is especially beneficial in reducing tap breakage in tough materials.

The direction of rotation in the spindle is controlled by a double-acting limit switch, which carries a small fraction of the current used, and a rod with two stop collars which determine the depth of tap and point of forward reversal at the top of the stroke.

### Economical Operation and Long Life

The reversing contactor (mounted directly under the motor) has silver contact and is of the mechanical and electrical interlocking type. It will operate for years without attention. A maintained contact snap switch is provided for starting and stopping the motor. The Reversing Motor Tapper may be provided on multiple spindle machines, even though a belt or any other type of motor drive is used for the balance of the spindles.

This machine, considered the finest of its type available, may



*Pump, Tank and Piping used on Vertical Motor Drive Machines*

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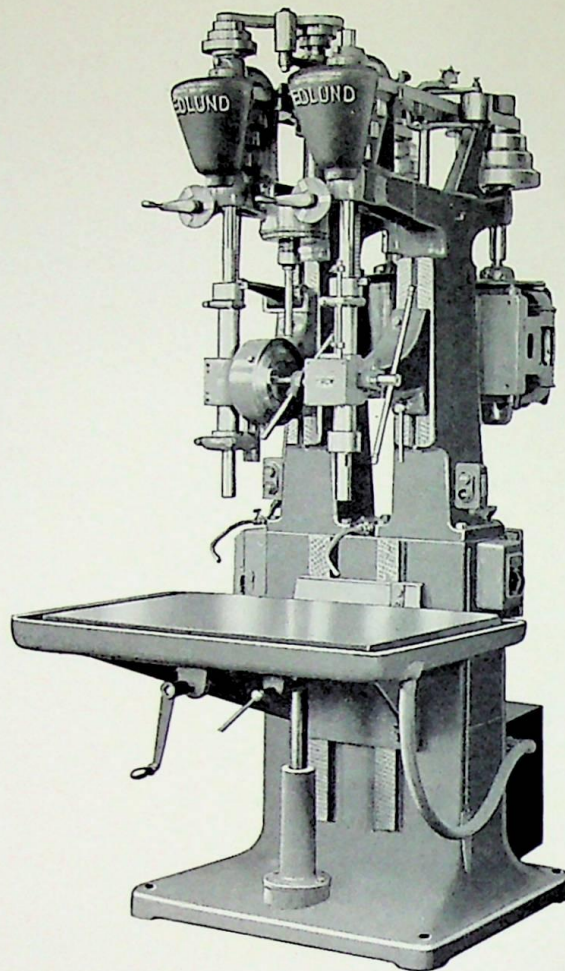
## EDLUND No. 2B Two-Spindle with Vertical Motor Drive

ON this page is illustrated the No. 2B Two-Spindle with Vertical Motor Drive. The upper frames of all EDLUND Drilling Machines are composed of a heavy one-piece casting with a support above and below each cone pulley.

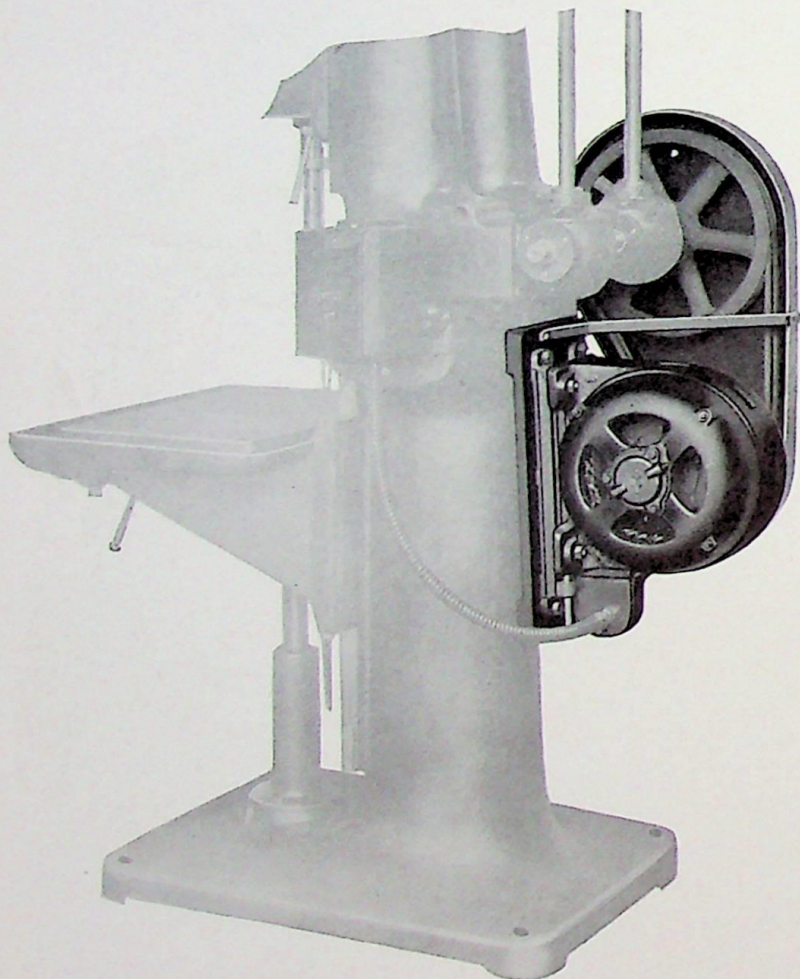
High-grade ball bearings are provided at both ends of the cone pulleys so that the belt tension will not bind either the spindle or the rear drive shaft.

A flat endless belt, operating in one plane only, and an adjustable idler, are provided.

The base is a heavy casting with accurately planed and scraped ways for the table bearing.



*Ball Bearing Spindles—speed-changing belt-shifter working from front of machine, first spindle having power feed; second spindle, reversing motor taper.*



*Vee Belt Motor Drive with part of guard removed to show drive*

### Vee Belt Motor Drive

THE Vee Belt Motor Drive, pictured on this page, is recommended for machines of three spindles or more, or in cases where especially low spindle speeds are required.

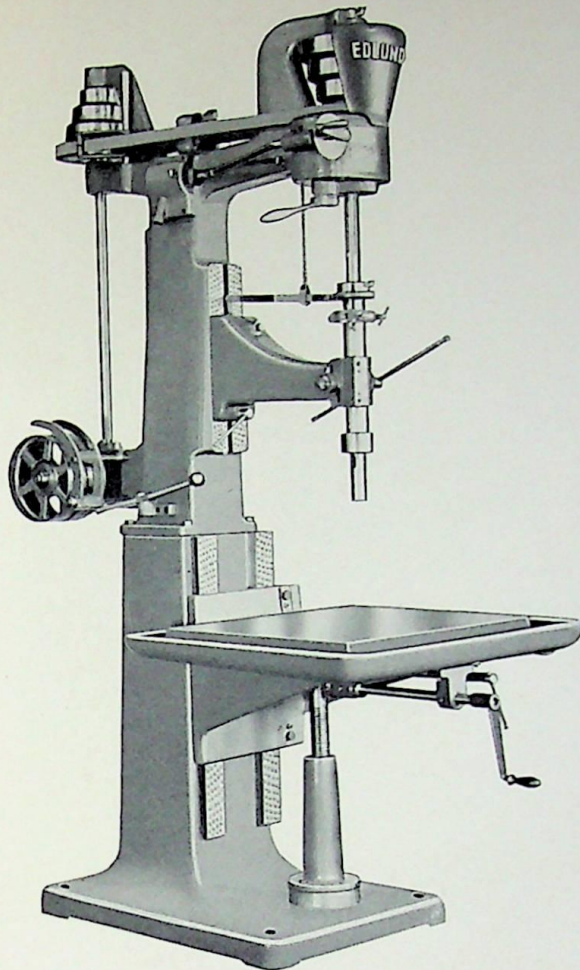
A slide rail is provided for adjusting the tension of the belt.

Silent chain drive is also satisfactory for the same purposes, and is optional.

### Spring Top Oilers

Spring Top Oilers are provided at all oiling points on EDLUND No. 2B Drilling and Tapping Machines.

# EDLUND 3B 15-inch with Belt Drive and Back Gearing



3B 15" Belt Drive with Back Gearing.  
Ball Bearing Spindle

THE loose pulley and horizontal drive shaft, on all belt driven machines, are carried in ball bearings, and the gears in the rear gear case are hardened spiral bevel with planed teeth. The gears are ordinarily made with a ratio of 33 to 17, but miter gears (ratio 1 to 1) providing a speed range of approximately 50% of the standard range will be furnished on one or more spindles on request. They are recommended where a large spot facing or reaming operation is to be combined with ordinary drilling operations.

A speed-changing belt-shifter is provided which may be operated from the natural working position. This change can be made almost instantly.

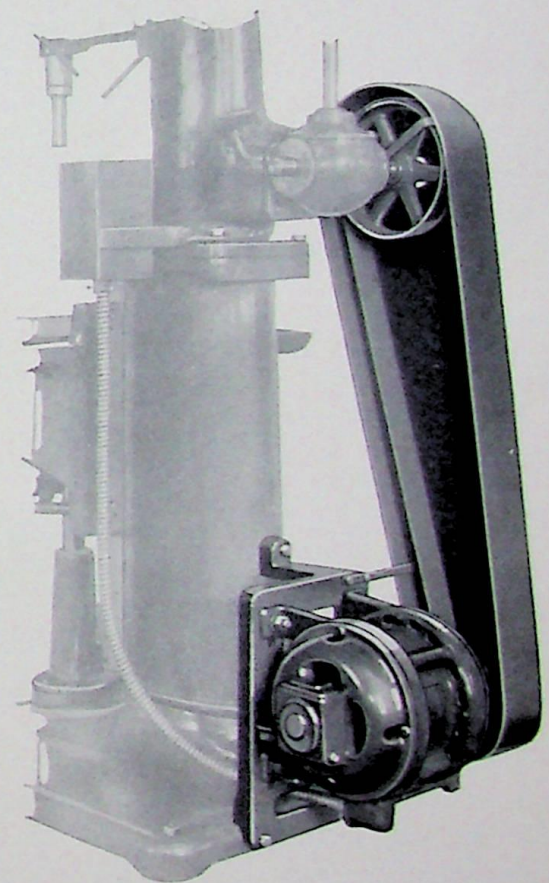
## MOTOR DATA

| No. of Sps. | Silent Chain or Vee Belt Motor Drive | Belted Motor Drive               | Vertical Motor Drive                              |
|-------------|--------------------------------------|----------------------------------|---|
| 1           | 1 HP, 1200 with slide rails          | 1 HP, 1200 without slide rails   | 1 HP, 900 RPM Ball Bearing Without Base or Pulley |
| 2           | 1½ HP, 1200 with slide rails         | 1½ HP, 1200 without slide rails  |   |
| 3           | 2 HP, 1200 with slide rails          | 2 HP, 1200 without slide rails   |   |
| 4           | 3 HP, 1200 with slide rails          | 3 HP, 1200 without slide rails   |   |
| 5           | 2-2 HP, 1200 with slide rails        | 2-2 HP, 1200 without slide rails |   |
| 6           | 2-2 HP, 1200 with slide rails        | 2-2 HP, 1200 without slide rails |   |
| 7           | 2-3 HP, 1200 with slide rails        | 2-3 HP, 1200 without slide rails |   |
| 8           | 2-3 HP, 1200 with slide rails        | 2-3 HP, 1200 without slide rails |   |

## SPINDLE SPEEDS

| Drive Pulley Speed RPM | Vertical Motor Speed RPM | Four Step Cone Pulley   | Three Step Cone Pulley |
|------------------------|--------------------------|-------------------------|------------------------|
| 600                    | 1200                     | 565, 925, 1435 and 2400 | 565, 1160 and 2400     |
| *450                   | *900                     | 425, 695, 1075 and 1780 | 425, 870 and 1780      |
| 360                    | 720                      | 305, 495, 770 and 1270  | 305, 620 and 1270      |
| 300                    | 600                      | 240, 400, 620 and 1000  | 240, 500 and 1000      |

\*These are the speeds recommended for general purpose work.



Belted Motor Drive with part of guard removed to show belt and pulleys

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## EDLUND 2B Four-Spindle with Vertical Motor Drive

ALL EDLUND Vertical Motor Drive Machines make use of a standard ball bearing motor which may be readily replaced in case repairs to the motor are necessary.

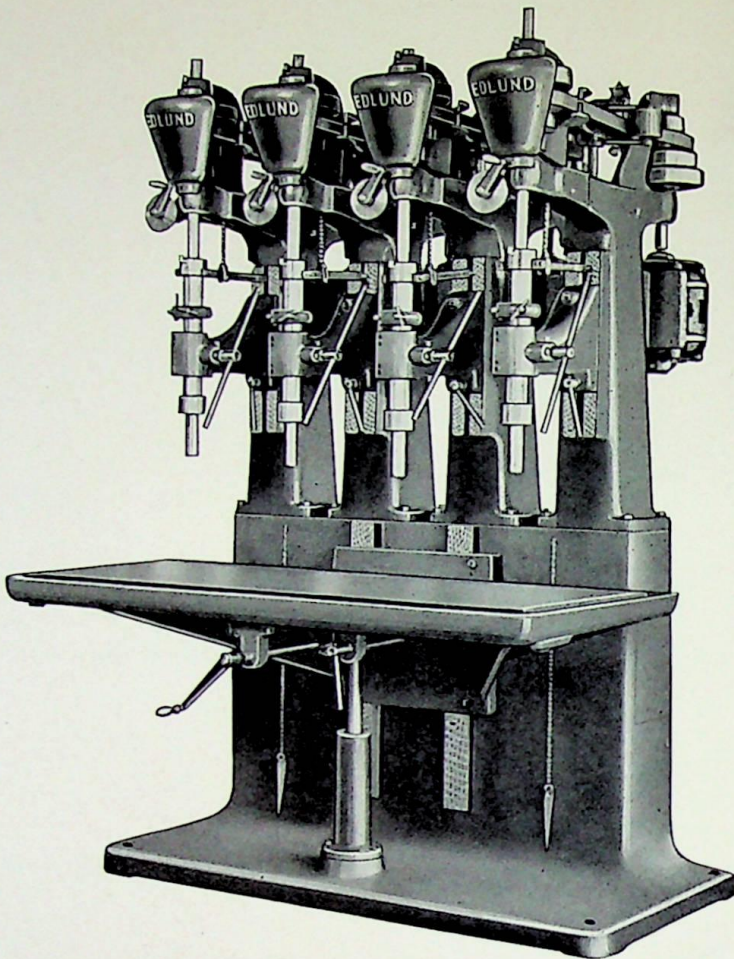
A 1 H. P. 900 R. P. M. motor is generally used, giving a speed range from 425 to 1780 R. P. M.

For higher speeds, a 1200 R. P. M. motor gives a speed range from 565 to 2400 R. P. M. For lower speeds, a 720 R. P. M. motor gives a speed range from 305 to 1270 R. P. M., or a 600 R. P. M. motor gives a speed range from 240 to 1000 R. P. M.

Notice especially the long bearing of the table on the base, and of the upper column on the base, as well as the extra long bearing of the sliding arm on the upper frame (a severe strain point). The bearing between the sliding arm and spindle sleeve is also extra long. These extra length bearings insure a very rigid construction.

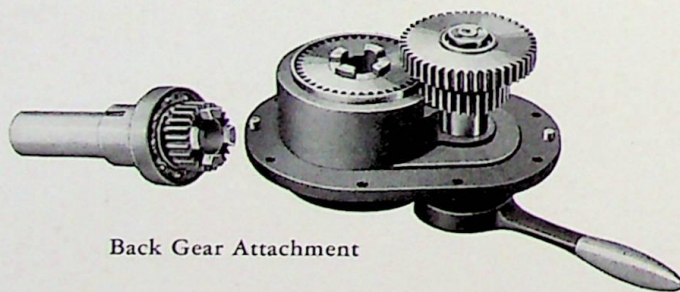
The table is raised or lowered by a crank at the front of the table, which operates a pair of bevel gears and screw.

On machines of five and more spindles, auxiliary table supports are provided at each end of table.



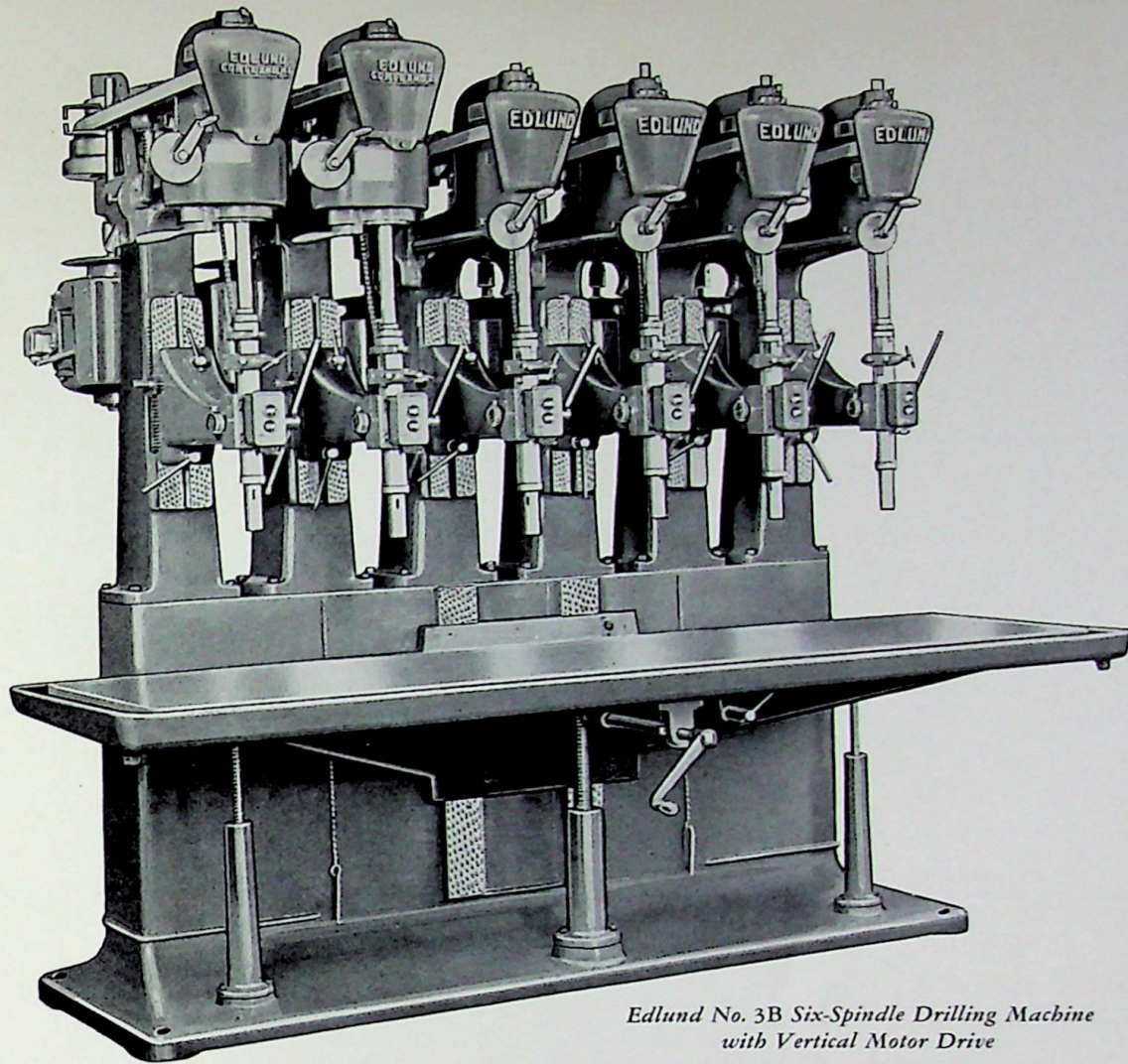
*Edlund No. 2B Four-Spindle Drilling Machine with Vertical Motor Drive*

## EDLUND Ball Bearing Back Gear



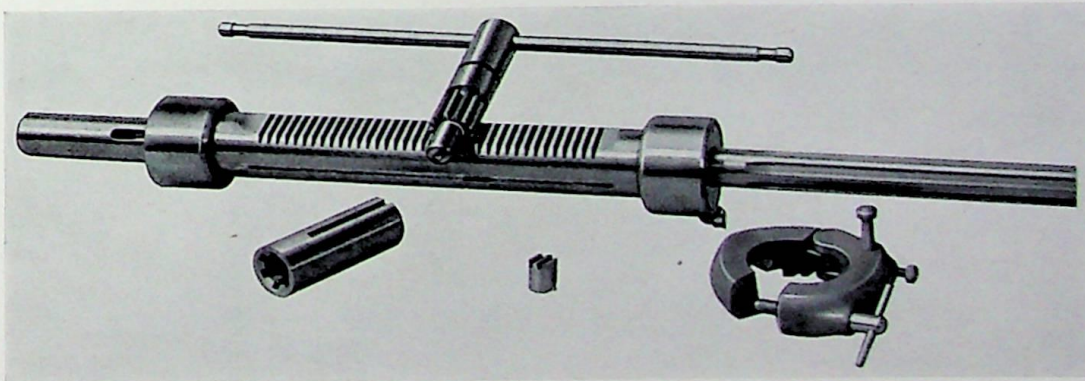
Back Gear Attachment

THE back gear can be applied to machines with vertical motor, Vee belt or line shaft drive and can be supplied on the same machine with any of the regular extras such as power feed or reversing motor tapper. Hardened steel gears mounted on ball bearings insure long life and quiet operation. No gears are in mesh when operating on open belt speeds. Movement of one lever disengages the gears and engages the tooth clutch. Leather oil seals effectively prevent oil leakage. No. 2B or 3B Machines with back gears have a capacity of  $1\frac{1}{4}$ " in cast iron.



*Edlund No. 3B Six-Spindle Drilling Machine  
with Vertical Motor Drive*

ON EDLUND No. 2B Six-Spindle, and all EDLUND machines of five and more spindles, two drive pulleys are provided to reduce the torque in the drive shaft.



*General Spindle Construction, showing broached driving quill and depth gauge with positive stop*

THE SPINDLES are made of high grade alloy spindle steel and accurately ground, and are carried in precision ball bearings. The lower bearing is a double row radial thrust type and carries the thrust in both directions. This method of construction eliminates any possibility of end play in the spindle due to expansion or contraction of the spindle or sleeve. The bearing at the upper end of the sleeve is a radial type only and is floating on the spindle. The sleeve is made of special steel, with a flat milled at the back and rack teeth cut into the flat. The spindle driving quill has six keys broached from the solid, eliminating troublesome loose keys. The depth gauge is provided with a positive stop feature that may be used on production, and removed for work requiring frequent changes in the set-up.

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