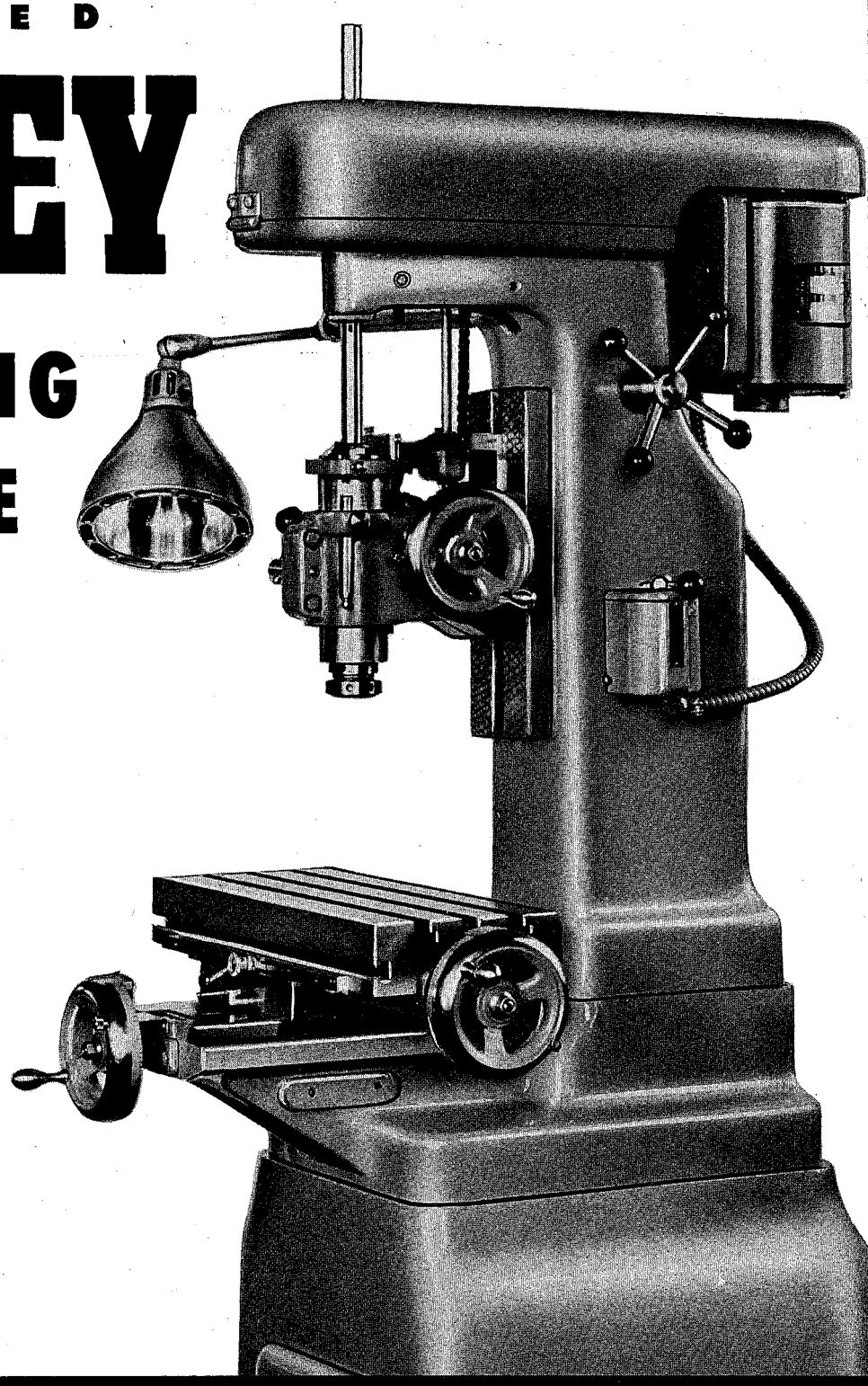
IMPROVED

LINLEY

JIG BORING MACHINE



FLEXIBILITY

SIMPLICITY

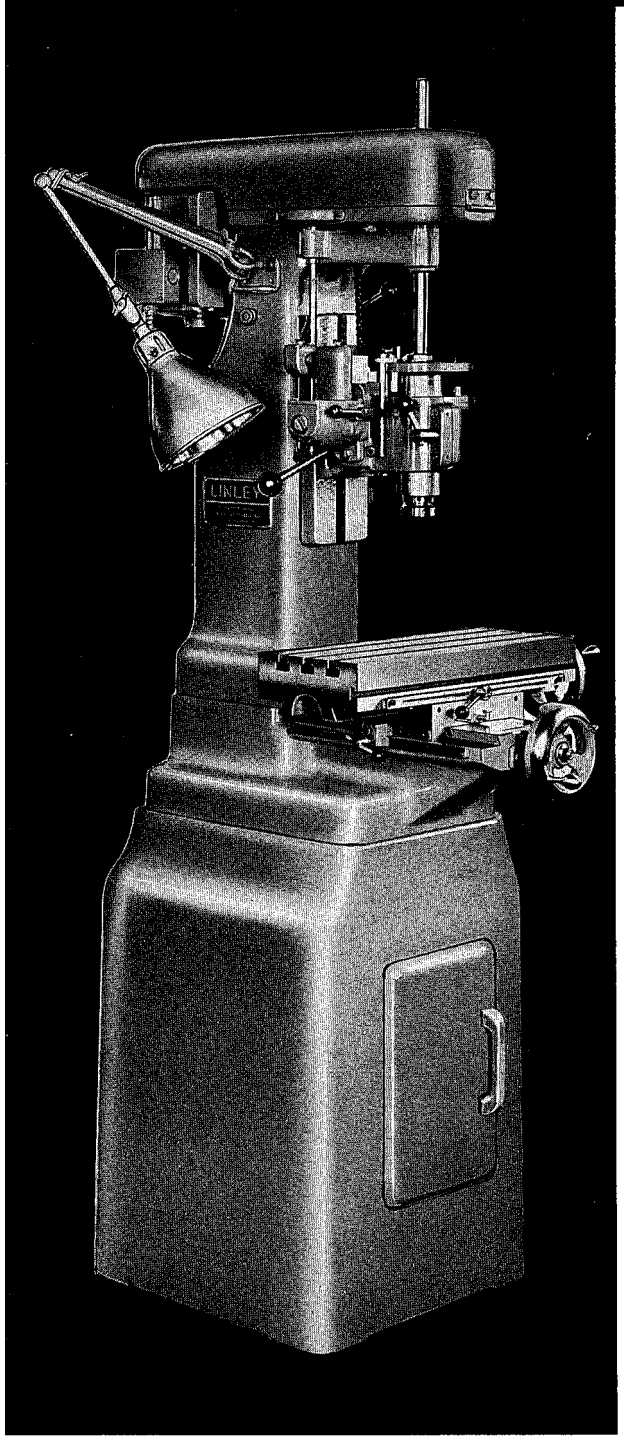
VERSATILITY

Plus

TOOL-ROOM PRECISION

1. New collet and tool holder design.
2. New ribbon type locks on both table and saddle for no-shift locking.
3. New tiller type wheel speeds sliding head adjustments.
4. Larger diameter, heat treated, table and saddle feed screws, for longer life.
5. New pin type lock on spindle for faster, easier tool changing.
6. New, focused, adjustable work light.
7. Wider, more rigid, saddle ways for greater accuracy.

LINLEY JIG BORERS AND ACCESSORIES SPEED PRECISION WORK



The Linley Jig Boring Machine presents new opportunities for handling a wide variety of small die work, jig and fixture making, model making, drilling, reaming and precision boring . . . quickly, accurately and economically.

Compact in design, simple in operation and set up, yet a precision tool in the fullest sense, the Linley is practically indispensable for the types of work that confront busy tool rooms. It is especially valuable in releasing the larger machines for work better suited to their capacities and it has the versatility essential to rapid changeover from one type of job to another.

This is not an elaborate machine, such as jig borers priced upwards of four times as much. Elaborations are purposely avoided to permit the production of a machine at a low price, yet with accuracies necessary for doing all types of small jig boring work. Therefore emphasis is made on simple design, precision scraping and fitting for accuracy where it is most needed to produce a machine suitable for the general run of this type of work as done in nearly all tool rooms and laboratories.

LEAD SCREWS AND VERNIER DIALS

One of the outstanding features of this machine is the speed and ease with which locations can be made. One of the fastest known methods of making locations for boring holes is by the use of screws and vernier dials reading in tenths.

Table and saddle feed screws are 7/8″ diameter, heat treated and precision ground with 10 Acme threads per inch. Experience over many years and close observation of wear characteristics of machine lead screws in respect to accuracy has shown the clear superiority of the Acme thread over other types.

The table and saddle feed screws on the Linley Machine are equipped with 5″ diameter vernier dials which allows a space of .157″ between each of the one hundred graduation lines on the master dials. This makes for easy precision reading of the tenths on the verniers used in connection with these dials.

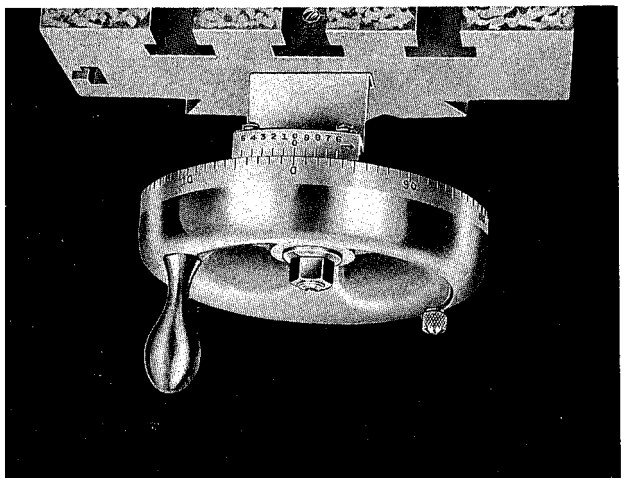
The dials and verniers have the new non-glare satin chrome finish which is another important feature for easy reading and therefore quick setting. (see cut)

COUNTER BALANCE TO REMOVE BACKLASH

The sliding head is counter-balanced by connection to a weight of the correct size through a heavy roller chain running over sprockets. The quill is counter-balanced by the same weight through a compound lever, so designed as to remove backlash. A tiller type wheel raises and lowers the sliding head which is especially helpful in making final adjustments of this unit.

COMPOUND TABLE ASSEMBLY

All flat working surfaces of this entire assembly are carefully hand scraped to surface plates, straight edges and gages which are frequently checked to masters for extreme accuracy and the ways are securely gibbed for rigidity. The table and saddle are equipped with ribbon type locks, which positively eliminate the possibility of any movement in these units when they are locked in position. These take the place of the conventional gib type locks, which have a tendency to cause shift in locations when they are tightened. Three standard 1/2″ T-slots run the full length of the table for clamping tools, work, etc.



SIMPLE AND DIRECT MICROMETER SETTING TO TENTHS REDUCES ERRORS — SPEEDS HOLE LOCATION

TOP PERFORMER FOR SMALL WORK ON JIGS, DIES, FIXTURES, EXPERIMENTALS

SPINDLE ASSEMBLY

The spindle is double heat treated, ground all over, lapped on bearing surfaces, and runs in two pairs of ABEC-7 rating, selected high precision bearings, each having a pre-load of fifty pounds, making a total of two-hundred pounds of pre-load on the spindle for precision rigidity. Bearings need no adjustment. The spindle pulley runs on two separate ball bearings so that there is no belt strain on the spindle.

The quill is ground while mounted on its own bearings for perfect concentricity and closely fitted to the sliding head. A pin type lock on the spindle requires the use of only one spanner wrench for the insertion and removal of tools.

COMPOUND DRIVE

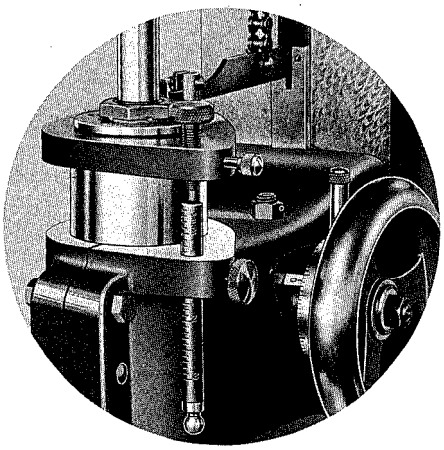
Vee belts are used on a compound drive that provides eight spindle speeds as shown in the specifications. The spindle pulley is of semi-steel while the compound and motor pulleys are of high grade aluminum. All pulleys are machined all over and balanced. Spindle pulley and compound pulley run on grease sealed ball bearings. The compound pulley is mounted on an adjustable bracket and the motor bracket is also adjustable for belt take-up.

MATERIALS AND WORKMANSHIP

Selection of the best materials for each purpose has been given careful study, and workmanship throughout is of the very highest order. Great care is exercised in finish; all machines being thoroughly tested and inspected for accuracy both during and after assembly.

SPECIAL FEATURES

DIRECT READING MICROMETER DEPTH GAUGE



Eliminates Pencil Figuring, Errors.

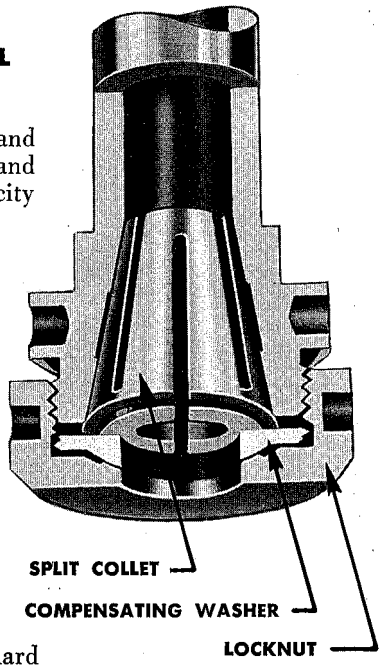
Example: To machine to a depth of 1.167". Bring cutting tool in contact with the work. Set depth stop gauge to an even line, bring compensator screw down to it and lock. Set the dial at zero. Lower depth stop gauge 11 lines and lock. Feed cutting tool down until stopped by compensator screw. Release depth stop and feed the remaining .067" using the dial. No other calculations needed.

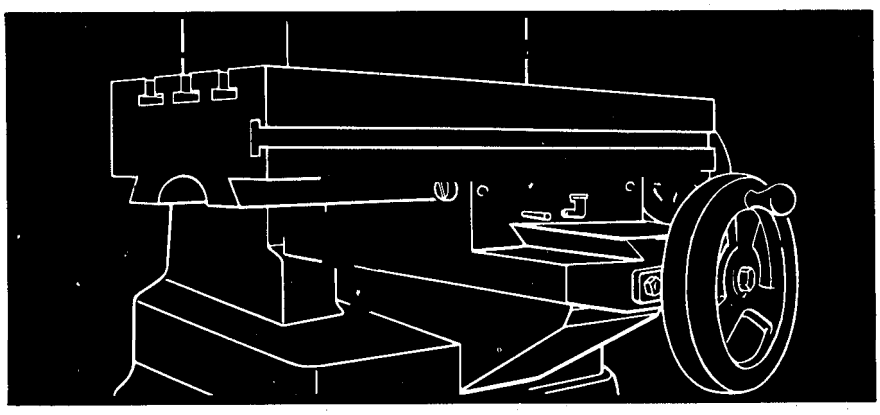
IMPROVED COLLET AND TOOL HOLDER

Designed for rapid tool changing and accuracy of operation this new collet and tool holder assures extreme concentricity with imperceptible, if any, run-out.

This new design embodies a tapered spindle bore with long bearing surface, a tapered collet or tool holder, a compensating washer and locking nut. The compensating washer rides freely between the flat surface of the end of the collet and the radius in the nose of the locknut. This eliminates possible inaccuracies between the locknut thread and the clamping surface and assures very close concentricity between tools and spindle.

Tools will run true through years of hard service as the concentricity of the collet is not influenced by the collet locking device, the usual cause of tool point run-out and often subject to uneven wear.





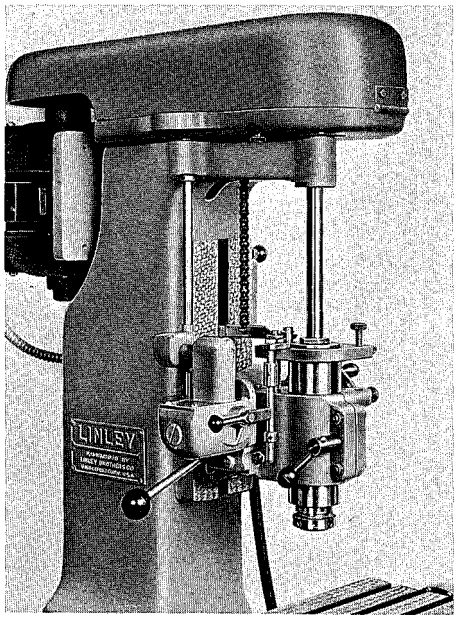
RIBBON-TYPE LOCKS

This type of lock eliminates the possibility of movement when the table and saddle are being locked in position. They are used in place of the conventional gib type locks and are fast to set and easy to release.

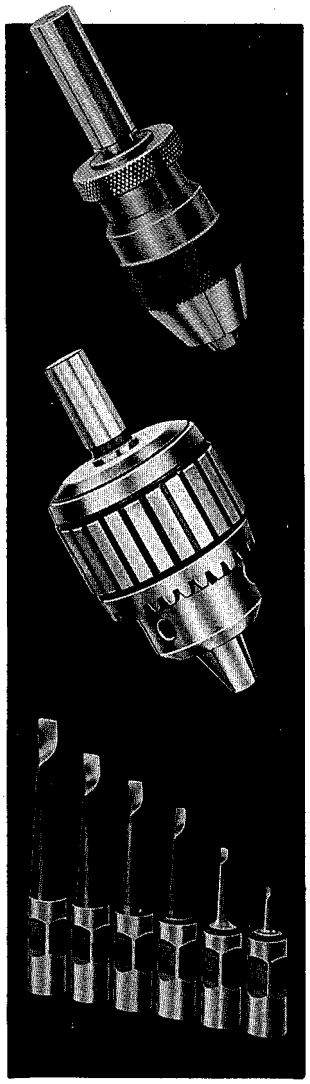
ACCESSORIES

LINLEY POWER QUILL FEED

Even more versatility is made possible on the Linley Jig Boring Machine, increasing its production and usefulness, by adding the Linley Power Quill Feed. This Power Feed is belt-driven from the main spindle and co-ordinated with it to feed slightly more than .001″ per revolution of the spindle. For reasons of accuracy and practicability, feeding is downward only, with an automatic trip adjustment that can be set to trip in any location of the quill travel. All gears and the tripping mechanism are enclosed and run in a light grease or oil bath.



TIME SAVING TOOL HOLDER ACCESSORIES



All boring operations can be simplified and speeded up by using these accessories with the improved collet and tool holder design featured in the improved Linley Jig Borer.

DRILL CHUCKS

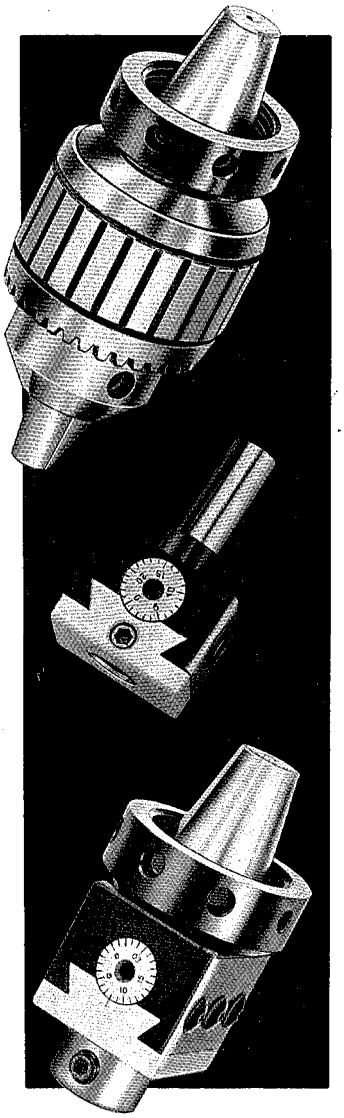
The 3/16″ and 3/8″ chucks shown at the left with 1/2″ straight shanks are ideal for all spotting and small hole drilling operations. They may be interchanged with other straight shank tools such as small boring heads or boring end reamers without removing the collet locknut. With the improved Linley collet design, concentricity of all tools is assured. For larger drilling operations the chuck at right with tapered shank and 1/2″ capacity is recommended.

MICROMETER BORING HEADS

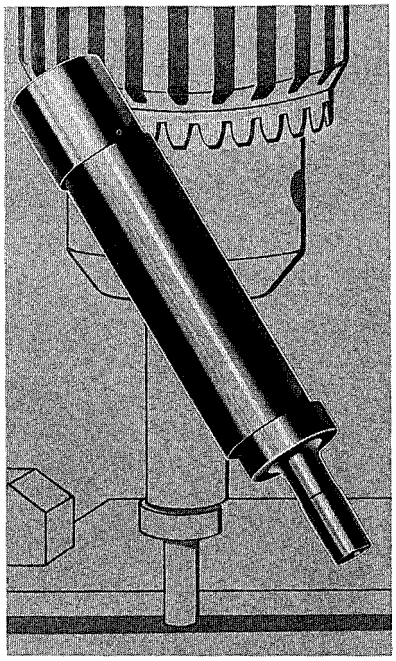
The stubby boring head at the right has a 1/2″ straight shank for high accuracy in boring operations for holes up to 1″ in diameter. The larger boring head shown underneath with the tapered shank is recommended for heavier work. Both heads take 1/2″ boring bars and will offset 5/8″.

BORING TOOLS

A set of six High Speed Steel boring tools, from 1/8″ to 1/2″ is offered for use with the micrometer boring heads. Shanks are 1/2″, with milled flats. The cutting heads are correctly angled for fast, accurate sharpening and clean cutting.



ACCESSORIES

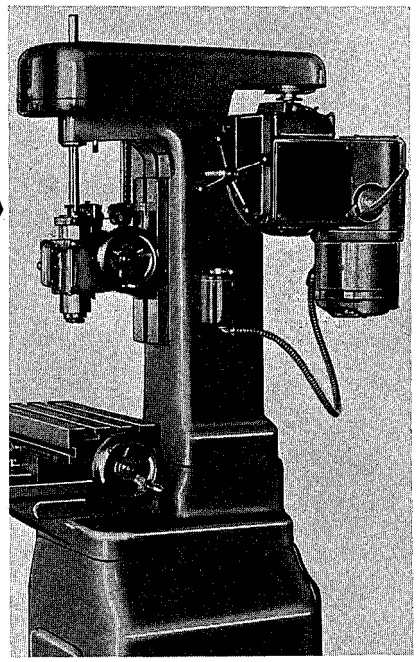


VARIABLE SPEED DRIVE

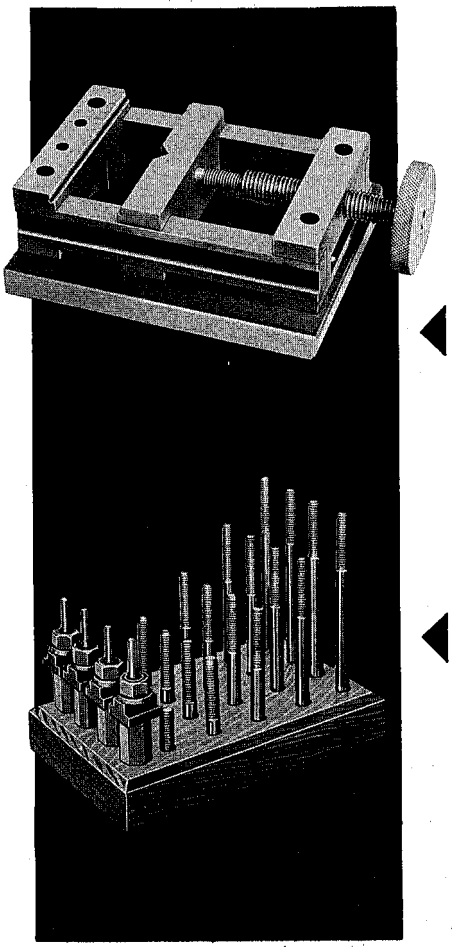
The Variable Speed Drive with two step spindle pulley and single belt provides infinite spindle speeds of 110 to 1100 and 300 to 3000 RPM. The compound pulley assembly is also eliminated and speed changes in the above ranges are made instantly by turning a single lever, thereby adding greatly to the efficiency of the machine.

BROWN & SHARPE EDGE FINDER

An inexpensive precision tool for quickly and easily locating work edges or surfaces on dies, jigs, tools, machined castings, etc. Either end of Finder may be secured in any standard ½" collet or chuck. Edge finding head of tool jumps sideways about 1/32" when surface is touched, indicating center of tool is exactly .100" or .250" from edge of work, depending on which end is used. Accurate within .0005". Saves time, money and helps prevent work spoilage.



INCREASE PRODUCTION WITH THESE TABLE ACCESSORIES



TROYKE ROTARY TABLE

For performing a variety of operations such as circular layout, boring, etc. Sufficiently accurate for the largest majority of jobs in toolrooms and laboratories. Worm gear disengages for fast rotation and positioning. Diameter 9", height 3 9/16", weight 48 lbs.

4 ½" PRECISION VISE

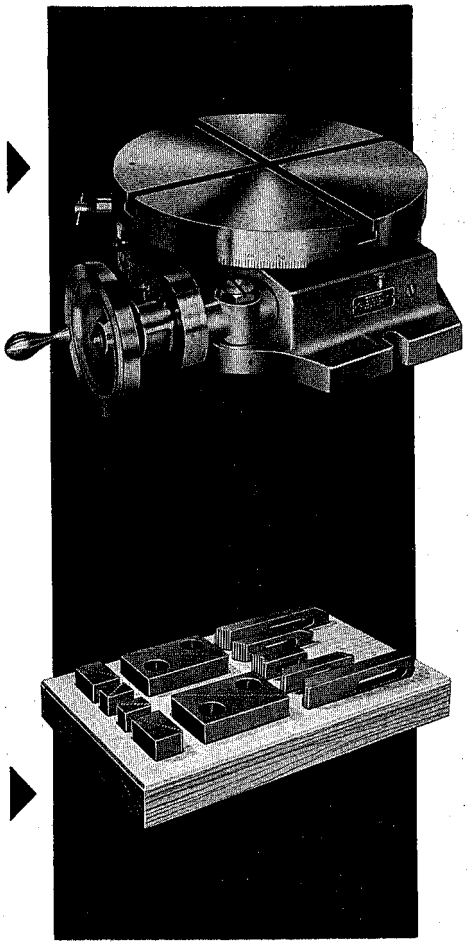
A precision vise for holding small work pieces. Made with stepped jaws eliminating the need for parallels. A vertical "V" groove in the sliding jaw securely holds round work. All steel, hardened and ground with Mechanite base for easy clamping. Capacity 4¼" x 4½", with a base dimension of ⅝" x 5¾" x 7¼". Weight approximately 20 lbs.

T-NUT AND STUD SET

Set of ⅜" T-Nuts and studs made of high tensile steel, heat treated for long life and hard use. Set consists of 4 each of 2", 3", 4", 5" and 6" studs; 4 T-Nuts, 4 Flanged Nuts and 4 coupling nuts, in wood holder.

STEP BLOCK AND CLAMP SET

Straps and blocks 1" wide, made of high tensile steel, heat treated to prevent bending. Set consists of two each of 2½", 4" and 6" straps and two each of 1⅛", 1¾" and 3⅞" step blocks, adjustable from ¾" to 6", in wood block holder.



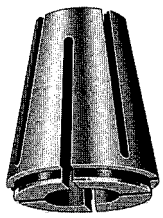
SPECIFICATIONS

Table Size	7 in. x 17½ in.
Number of Tee-Slots	3
Width of Tee-Slots	Std. ½ in. (9/16 in. actual)
Longitudinal Travel of Table	10 in.
Crosswise Travel of Table	6½ in.
Top of Table to Spindle End	11½ in.
Movement of Sliding Head	8 in.
Quill Travel	3 in.
Spindle Center to Column Ways	5¾ in.
Spindle Center to Column Below Ways	6¾ in.
Spindle Speeds	275 - 430 - 550 - 860 - 1250 2125 - 2500 - 4250 R.P.M.
Collet Capacity	½ in.
Height from Floor to Table Top	36 in.
Height Over Belt Guard	64 in.
Motor Horse Power	½
Floor Space	18½ in. wide, 20 in. deep
Shipping Weight (Crated)	950 lbs.

STANDARD EQUIPMENT

Standard equipment includes a ½ HP, AC, Ball Bearing Motor in single phase, 50 or 60 cycle, 110 or 220 volt, capacitor start, induction run, or in three phase, 50 or 60 cycle, 220 or 440 volt, wired to starting switch; two belts; one collet of any specified size up to ½" capacity; necessary wrenches and an adjustable light.

COLLETS



Split collets can be furnished in any size from ⅛" up to and including ½" capacity, in increments of 1/32".

GUARANTEED ACCURACIES

The table and saddle screws are accurate within one-tenth per inch and not more than a total of three-tenths in a distance of ten inches. The table top is square with the spindle in all planes within two-tenths in a seven inch circle. The spindle is parallel with the column ways within three-tenths over the entire length of the column ways. The back edge of the table is parallel with the table ways within three-tenths for its full length. The table ways are square with the lower saddle or base ways within two-tenths in its six inches of transverse movement. The table top is parallel with its ways (thickness) within three-tenths in its entire length and the saddle ways are parallel to each other (thickness) within two-tenths for their entire length and width.

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