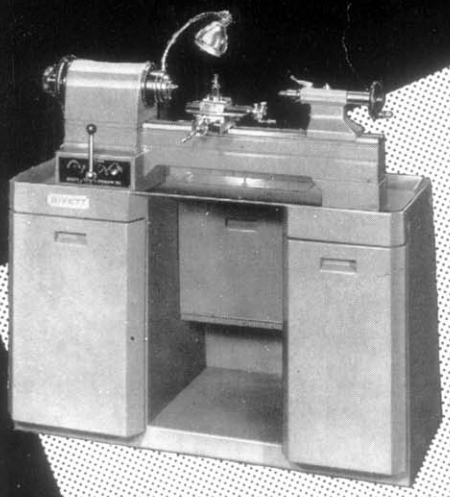
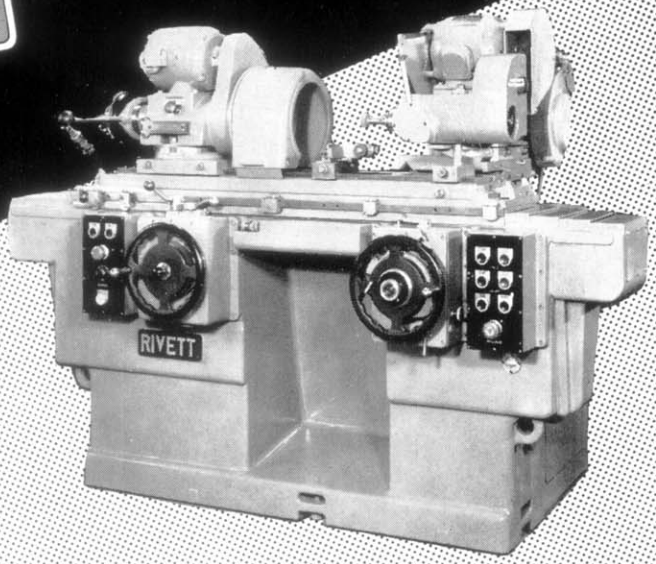
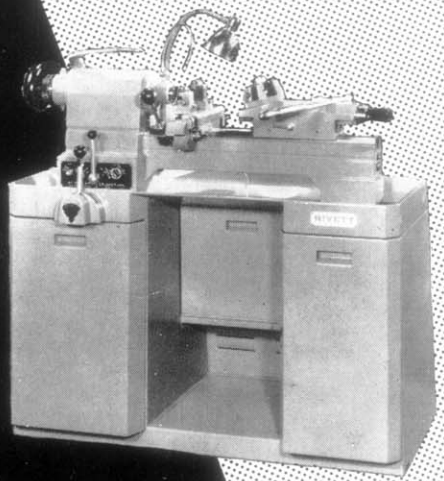
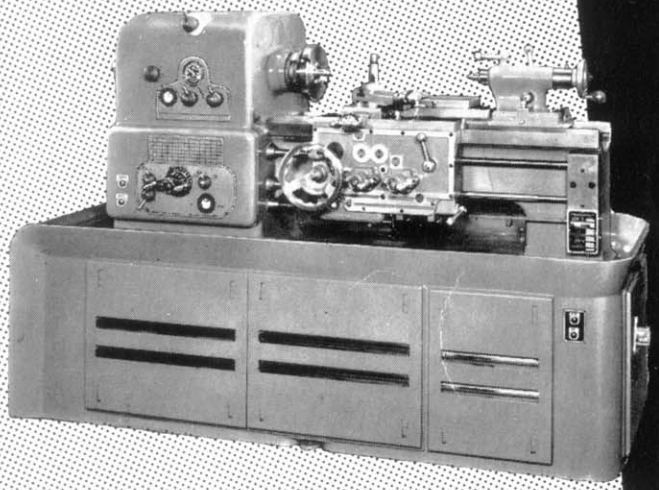
RIVETT





FOR TOOLROOM AND PRODUCTION





BULLETIN 500E

RIVETT LATHE & GRINDER, INC.

BRIGHTON, BOSTON, MASS.

RIVETT has pioneered in the development of precision lathes and small hole and universal grinders. The first Rivett machine tools were made in 1884, and through the intervening years every Rivett machine has been designed and built to perform to the highest precision standards of its time.

Today Rivett toolroom lathes, cabinet lathes, turret lathes and grinders are recognized throughout the world for their enduring precision accuracy. These machines are in use in toolroom, die shop and laboratory where the highest obtainable accuracy is demanded.

For more than sixty years Rivett has sustained its pledge to "More Precision Work," increased production within closer limits.

DISTRIBUTORS

Atlanta, Ga. . . . . Chandler Machinery Co.
Baltimore, Md. . . . . W. E. Shipley Machinery Co.
Birmingham, Ala. . . . . W. C. Gibbs & Co.
Boston, Mass. . . . . Rivett Lathe & Grinder Inc.
Buffalo, N. Y. . . . . George Keller Machinery Co.
Chicago, Ill. . . . . The E. L. Essley Machinery Co.
Cincinnati, Ohio . . . . . The E. A. Kinsey Co.
Cleveland, Ohio . . . . . William K. Stamets Co.
Columbus, Ohio . . . . . The E. A. Kinsey Co.
Dallas, Texas . . . . . Hamilton-Huster Machinery Co.
Dayton, Ohio . . . . . The E. A. Kinsey Co.
Detroit, Mich. . . . . The Chas. A. Strelinger Co.
Grand Rapids, Mich. . . . . The E. L. Essley Machinery Co.
Greensboro, N. C. . . . . Smith-Courtney Co.
Hartford, Conn. . . . . The Chellis Co.
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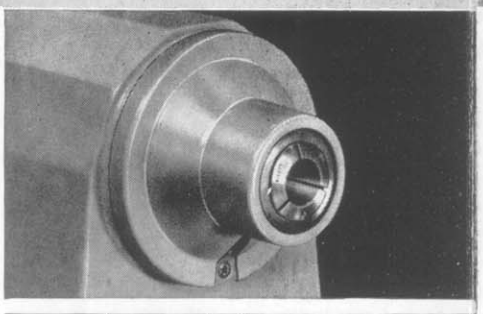
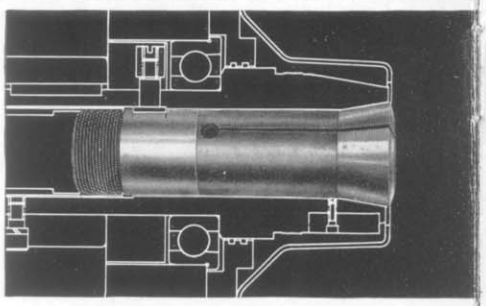
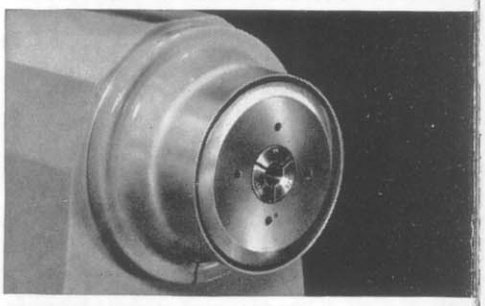
Indianapolis, Ind. . . . . The E. A. Kinsey Co.
Kansas City, Mo. . . . . Blackman & Nuetzel Machinery Co.
Los Angeles, Calif. . . . . Machinery Sales Co.
Milwaukee, Wis. . . . . The E. L. Essley Machinery Co.
New Haven, Conn. . . . . The Chellis Co.
New Orleans, La. . . . . Glenn D. Swander Machine Tools
New York, N. Y. . . . . Wm. Halpern & Co.
Philadelphia, Pa. . . . . W. E. Shipley Machinery Co.
Pittsburgh, Pa. . . . . William K. Stamets Co.
Providence, R. I. . . . . Reynolds Machinery Co.
Richmond, Va. . . . . Smith-Courtney Co.
Rochester, N. Y. . . . . Ogden R. Adams Inc.
Rockford, Ill. . . . . The E. L. Essley Machinery Co.
Rock Island, Ill. . . . . The E. L. Essley Machinery Co.
St. Louis, Mo. . . . . Blackman & Nuetzel Machinery Co.
San Francisco, Calif. . . . . Machinery Sales Co.
Syracuse, N. Y. . . . . J. F. Owens Machinery Co.
Tulsa, Okla. . . . . Machine Tool & Supply Co.

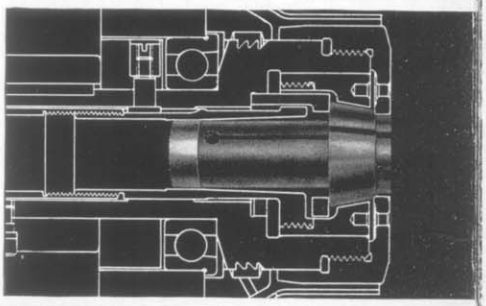
DRAW-IN COLLET— mounts directly in spindle mouth and offers most efficient and accurate method for chucking individual parts. The long jaws reduce force required to grip work. The wide spacing of front and rear bearings reduces runout error on undersize and oversize stock. Capacity up to 1⅛" round.

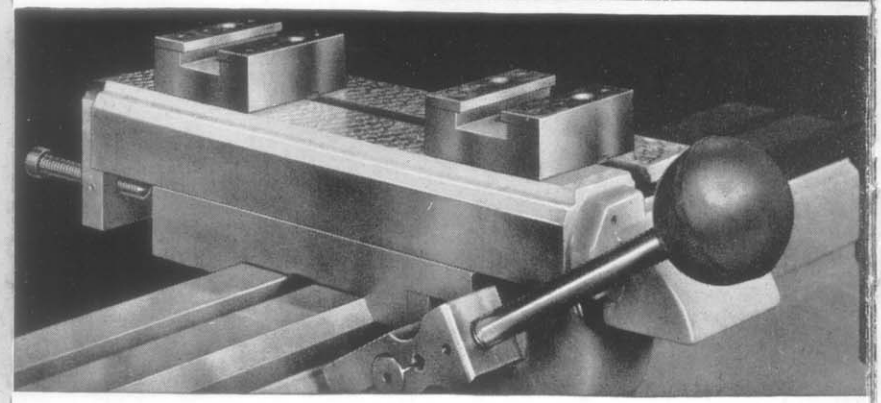




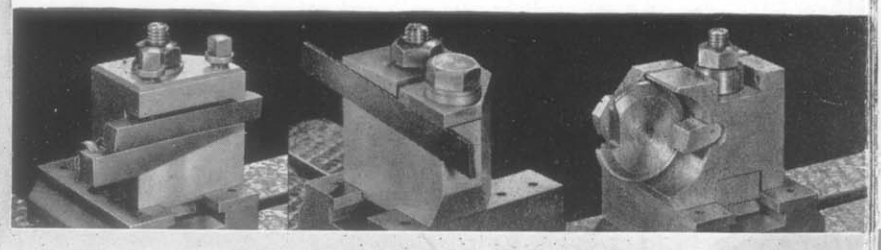
STATIONARY COLLET— has no "in" or "out" motion when closing on work. Lengths can be held; varying diameters have no effect on chucking. This collet has been developed for bar stock or chucked parts on which lengths must be accurately maintained. Capacity up to ⅞" round.



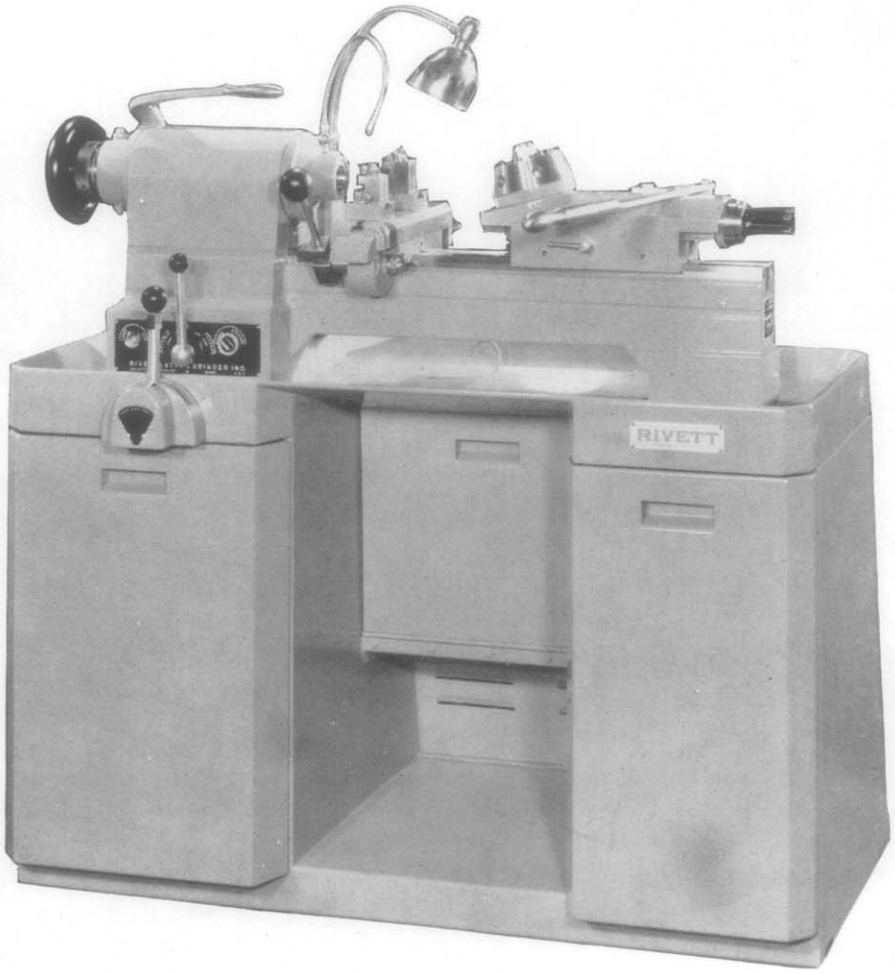




DOUBLE TOOL CROSS SLIDE and TOOLING — side tool blocks, cutting-off tool block, or circular forming tool block as illustrated below or universal turning slide on page 3 can be used with the double tool cross slide.



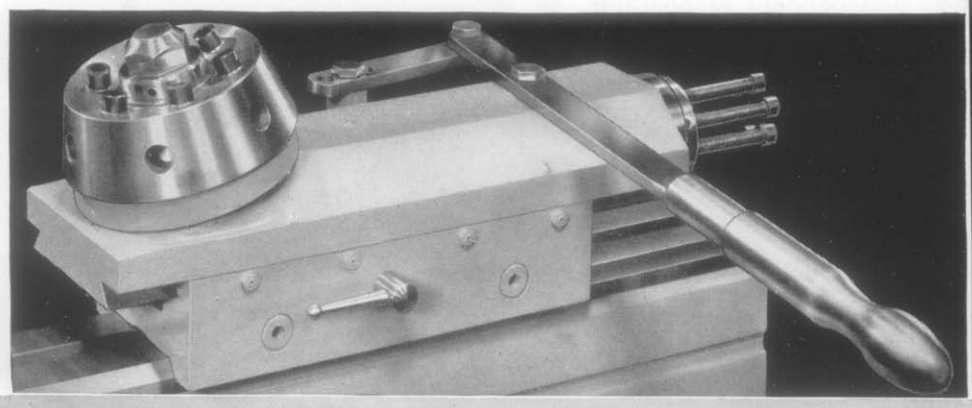
RIVETT "918 STEELWAY" CABINET TURRET LATHE

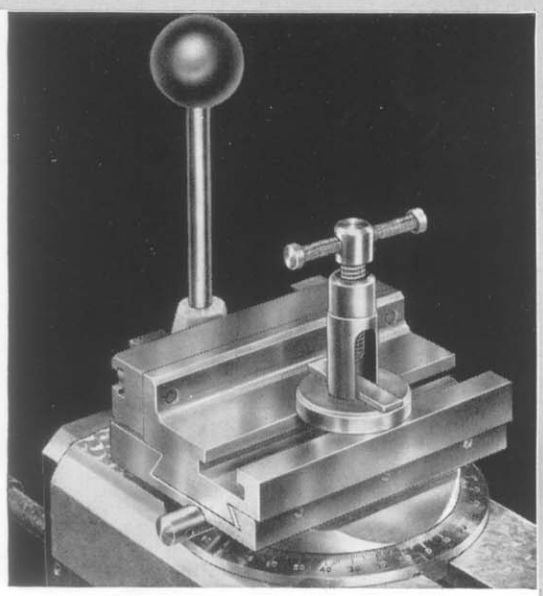


The "918 Steelway" cabinet turret lathe incorporates precision, experienced design and operating features to make it an efficient producer on small duplicate parts. Eight successive machining operations can be done at one chucking.

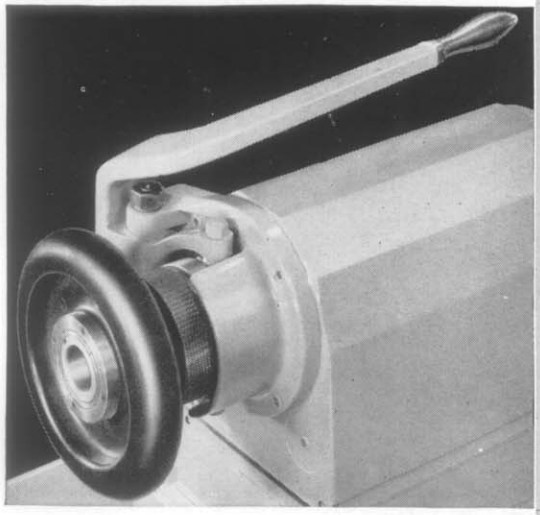
Bed with hardened and precision-ground double-bevel ways protects the initial precision. Variable drive affords any spindle speed from 90 to 3750 r.p.m. Collet correct for the work may be selected; see draw-in collet and stationary collet on page 2. Lever chuck closer handle within easy reach of operator, standing or sitting, quickly actuates collet or step chuck. Headstock spindle runs on two super-precision ball bearings widely spaced to reduce preload and temperature rise. Patented design permits replacement of endless vee belt without disassembly of spindle.

For Complete Information See Bulletin 918-ST





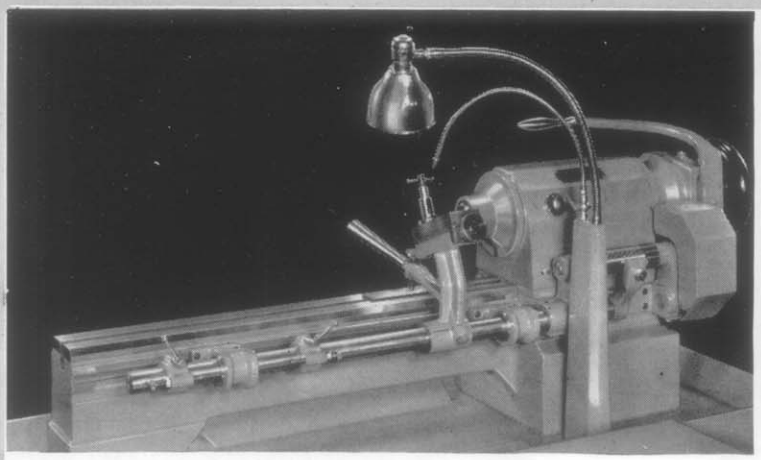
UNIVERSAL TURNING SLIDE — mounts on front or rear of double tool cross slide and is used for straight or taper turning, boring, recessing and grooving.

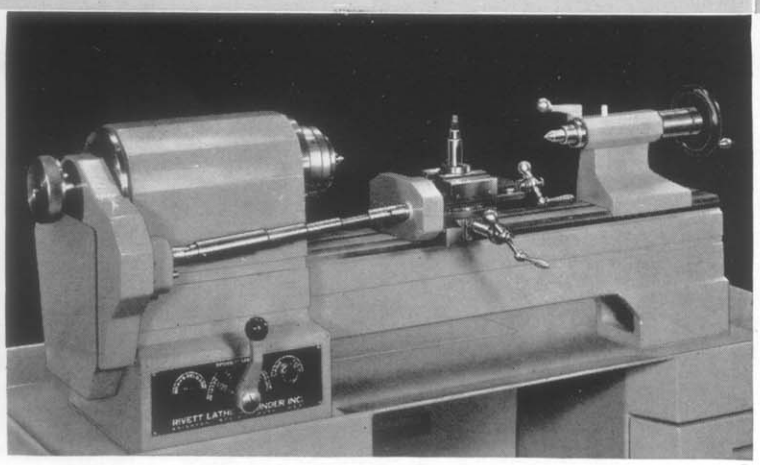


LEVER CHUCK CLOSER — may be equipped with micro-switch to control spindle drive and brake properly timed with the closing and opening of collet.

SPECIFICATIONS

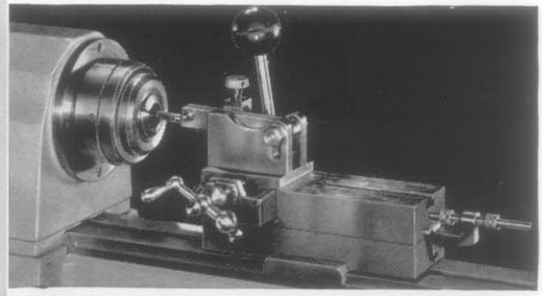
Swing over bed, dia.	9″
Distance between collet and face of turret after indexing, max.	20″
Collet capacity:	
Draw-in collet, dia.	1⅛″
Stationary collet, dia.	⅞″
Step chuck capacity, dia.	6″
Jaw chuck capacity, dia.	6″
Hole through spindle, dia.	1¼″
Turret slide travel, after indexing	4¼″
Turret tool holes, six	¾″ dia. x 1″
Double tool slide cross travel	3⅞″
Swing over double tool slide, dia.	4⅛″
Universal turning slide travel	2″
Spindle speeds, variable speed drive: Infinite, with two speed motor	90 to 3750 r.p.m.
Weight, net	1100 lbs.





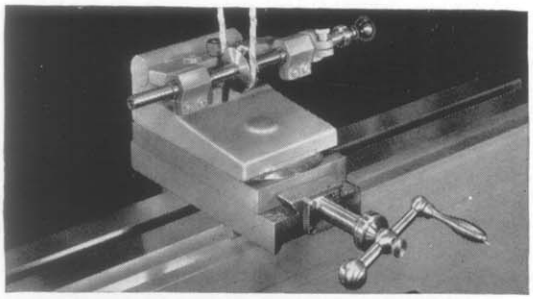
CHASING BAR ATTACHMENT — a production tool for threading brass and soft metals. Thread capacity internal or external up to 3″ dia. x 3″ length.

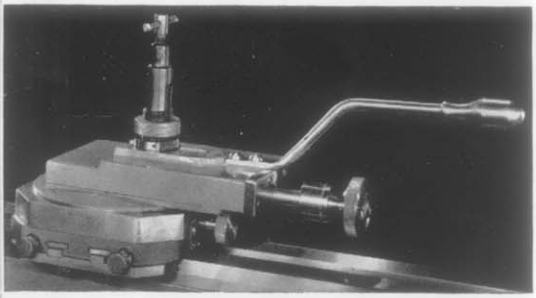
THREAD CUTTING ATTACHMENT — increases versatility of lathe by providing power feed to slide rest. Threads of desired pitch up to 5¼″ length can be cut.



SLOTTING ATTACHMENT — used for cutting keyways, slots and odd contours.

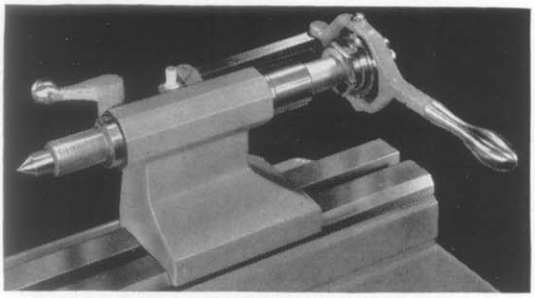
GRINDING ATTACHMENT — universal, for sensitive grinding and lapping.

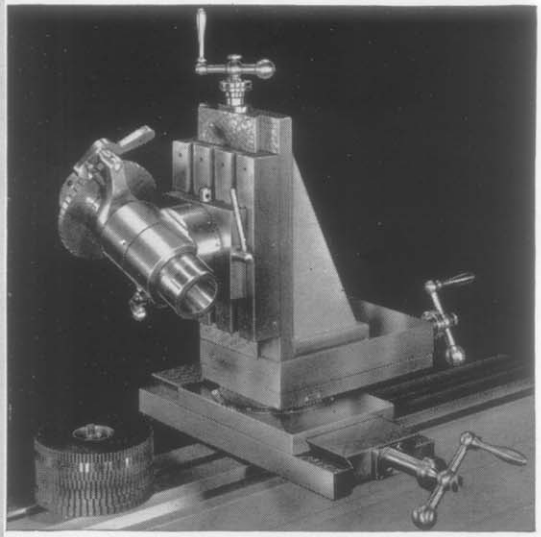




BALL TURNING REST — for machining spherical surfaces, concave and convex.

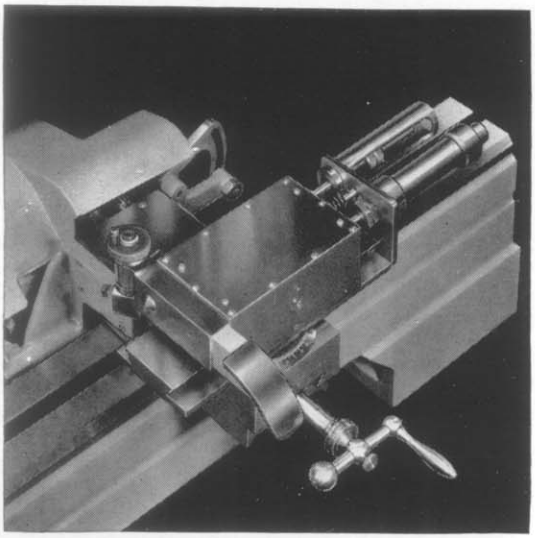
LEVER TAILSTOCK — for drilling, lapping, reaming or using tailstock turret.





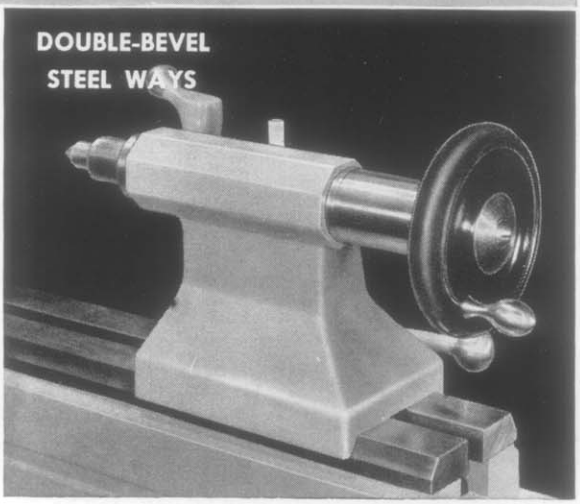
MILLING ATTACHMENT — wide adjustment of all three slides and the horizontal and vertical swivels make practical many milling operations. Cutter driven by headstock spindle.

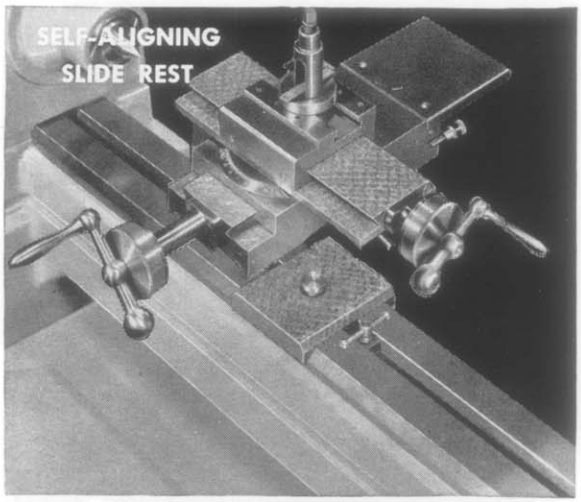
AUTOMATIC SLIDE REST — for turning straight or taper on small duplicate parts in production. Automatic tool feed, independent of operator, assures uniformity of finish.

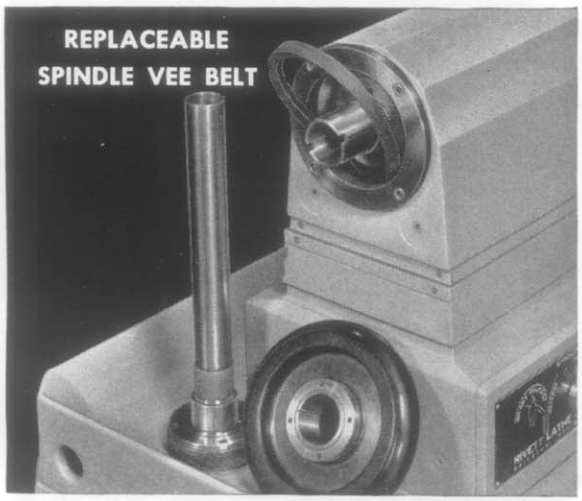


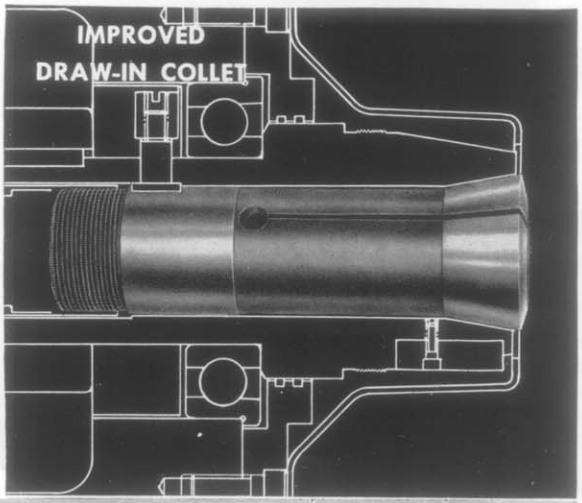
SPECIFICATIONS

Swing over bed, dia.	9″
Distance between centers	18″
Collet capacity:	
Draw-in collet, dia.	1⅛″
Stationary collet, dia.	⅞″
Step chuck capacity, dia.	6″
Jaw chuck capacity, dia.	6″
Hole through spindle, dia.	1¼″
Slide rest, travel of lower and upper slides	5¼″
Tailstock spindle travel	3½″
Spindle speeds, variable speed drive:	
Constant speed motor, infinite	120–2800 r.p.m. or 180–3750 r.p.m.
Two speed motor, infinite	90–3750 r.p.m.
Spindle speeds, motor jackshaft drive:	
Eight forward and reverse	150–2500 r.p.m. or 225–3750 r.p.m.
Weight, net	1050 lbs.

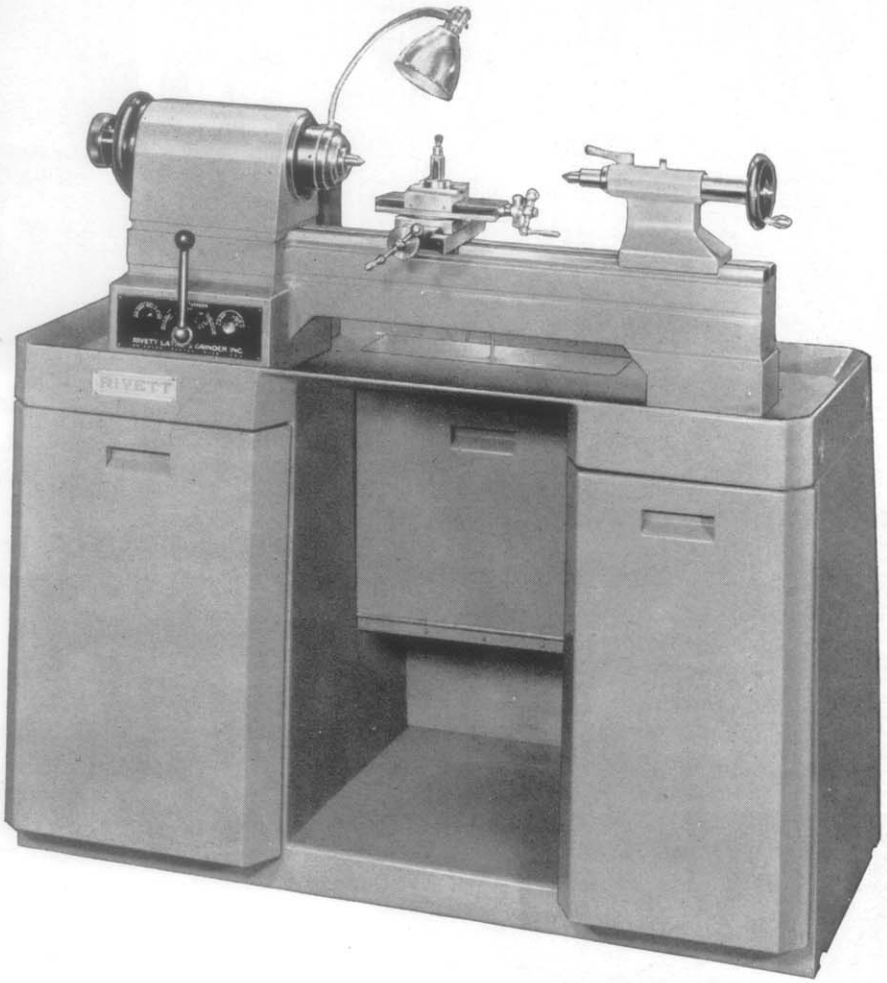








RIVETT "918 STEELWAY" CABINET LATHE

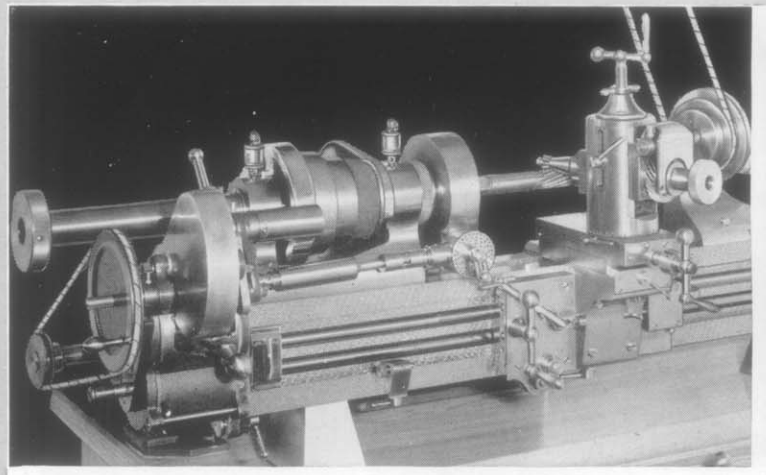


The "918 Steelway" precision cabinet lathe is the modern concept of the plain precision bench lathe and reflects years of Rivett pioneering. Modern in size, power and speed, it produces a precision part in a fraction of the time required to set up a more cumbersome, costly machine. In addition to the normal lathe functions of turning, boring and drilling, efficient attachments for milling, grinding, slotting, thread chasing and multiple operations are available.

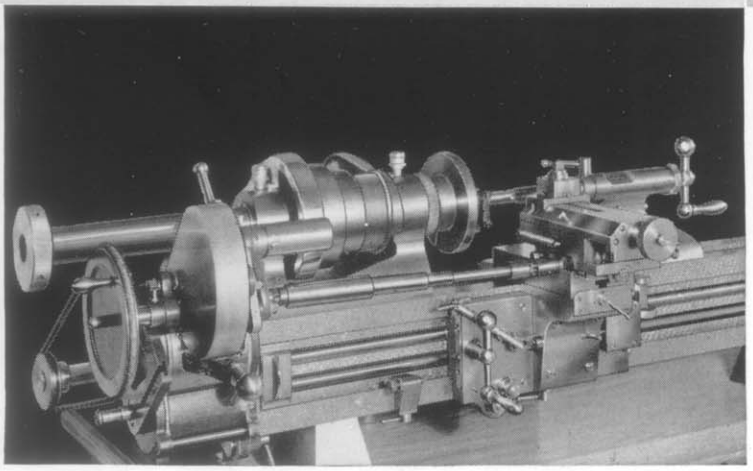
High spindle speeds, efficient work-holding methods and tool rigidity have been combined for finer finish and productivity without loss of inherent precision. Spindle drives with infinitely variable speeds or with eight set speeds up to 3750 r.p.m. are offered. Work can be quickly gripped in collet, step chuck or jaw chuck or mounted on centers or face plate.

Features contributing to the "918 Steelway" leadership include hardened, precision ground steel ways with double-bevel alignment and maximum bearing area; compound slide rest with shoe mounting for perfect self-alignment; patented design permitting replacement of endless vee driving belt without disturbing headstock spindle; draw-in collet with greater capacity and truth; long taper key-drive spindle nose.

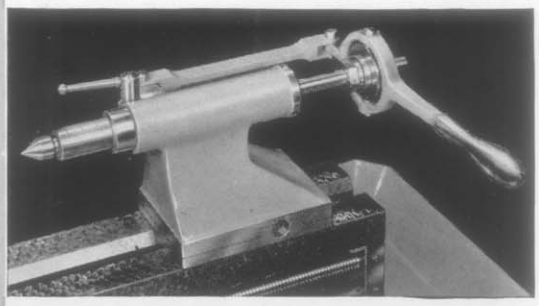
For Complete Information See Bulletin 918-SL



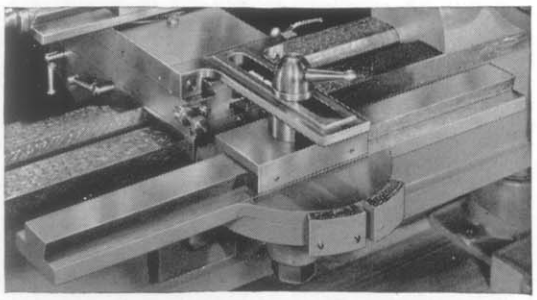
SPIRAL ATTACHMENT — used with traverse miller for cutting flutes, spiral grooves and slots. Dividing head with adjustable crank indexes spindle to 12 min.



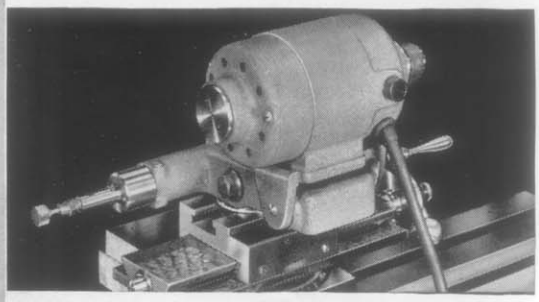
RELIEVING ATTACHMENT — used to relieve, or back-off, right or left-hand taps, milling cutters and similar tools having up to 30 straight or spiral flutes.



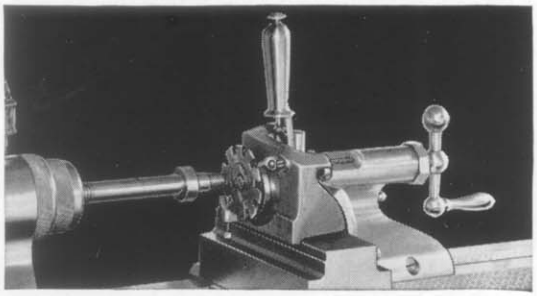
LEVER TAILSTOCK — lever replaces ball handle for quick traversing of spindle.



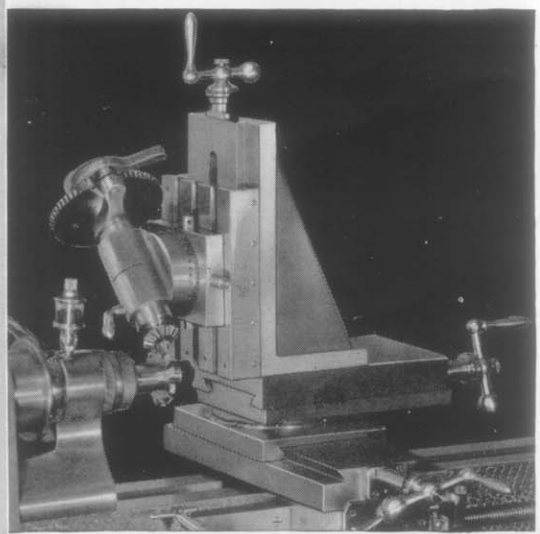
TAPER ATTACHMENT — may be set to any angle up to 10° or 4″ per foot taper.



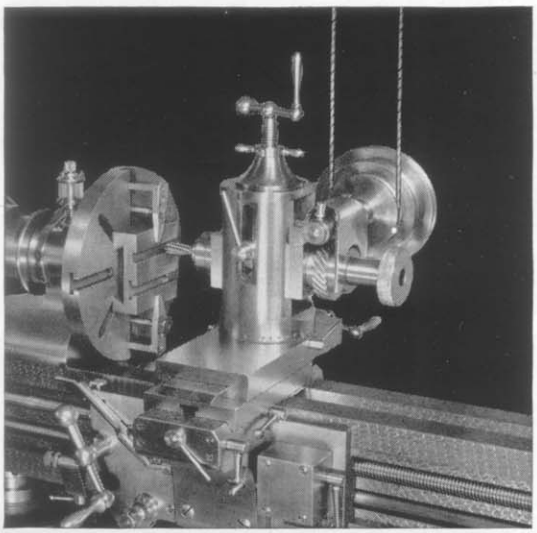
GRINDING ATTACHMENT — motor driven, can mount internal and external wheels.



THREAD TOOL — indexes a cutter to form perfect thread in ten equal cuts.



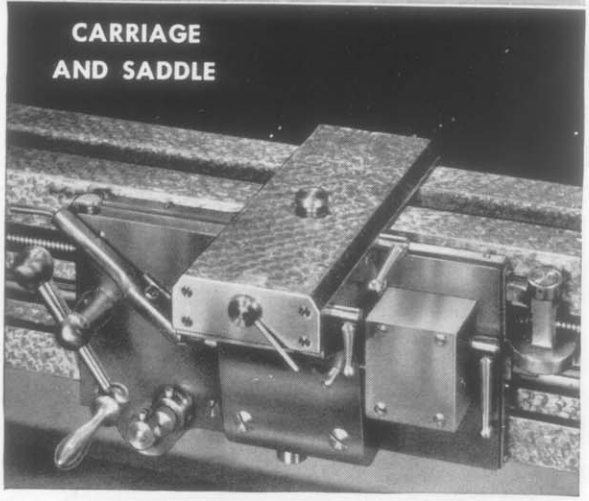
MILLING ATTACHMENT — mounts on carriage saddle and obtains power longitudinal and cross feed from carriage. Has universal adjustments and various work holding methods.

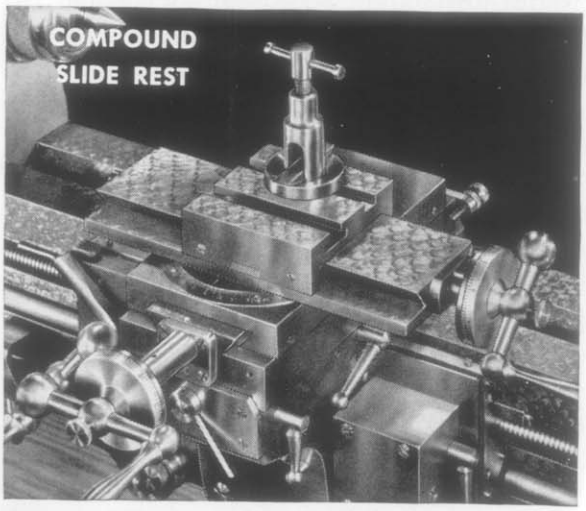


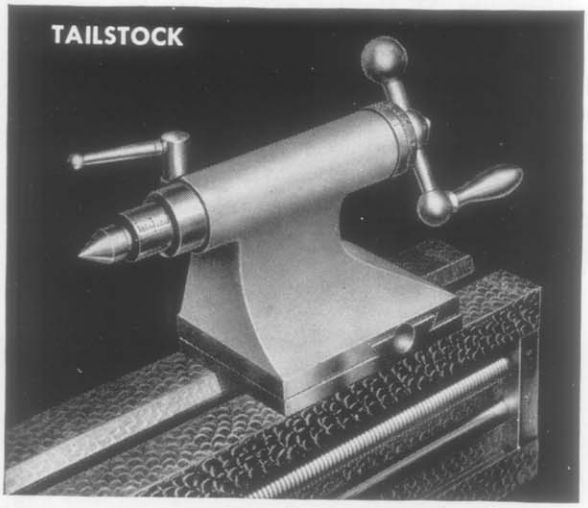
TRAVERSE MILLER — mounts on carriage with power longitudinal feed. Work held on face plate or between centers. Cutter spindle belt driven from auxiliary motor.

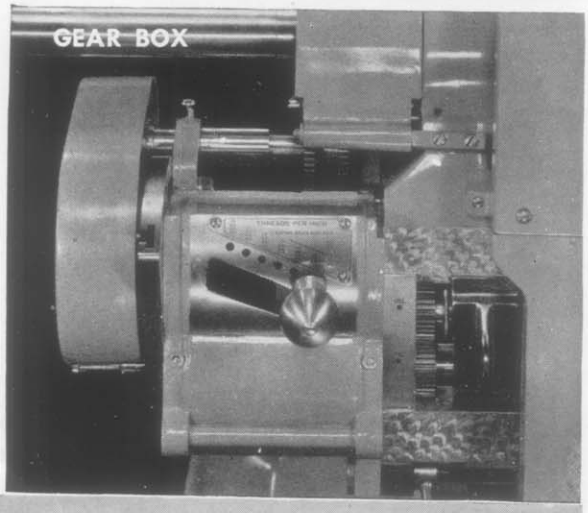
SPECIFICATIONS

Swing over bed, dia.	8½″
Distance between centers	18¼″
Collet capacity, dia.	1″
Step chuck capacity, dia.	6″
Jaw chuck capacity, dia.	6″
Hole through spindle, dia.	1⅛″
Slide rest, travel of top slide	5¼″
Slide rest, travel of cross slide	4¼″
Feed range, through gear box	.0015″ to .0220″
Thread range, through gear box	10 to 144
Tailstock spindle travel	3¼″
Spindle speeds, variable speed drive:	
Infinite, back geared	15 to 225 r.p.m.
Infinite, open belt	95 to 1500 r.p.m.
Spindle speeds, motor jackshaft drive:	
Six, back geared	25 to 245 r.p.m.
Six, open belt	150 to 1500 r.p.m.
Weight, net	1100 lbs.

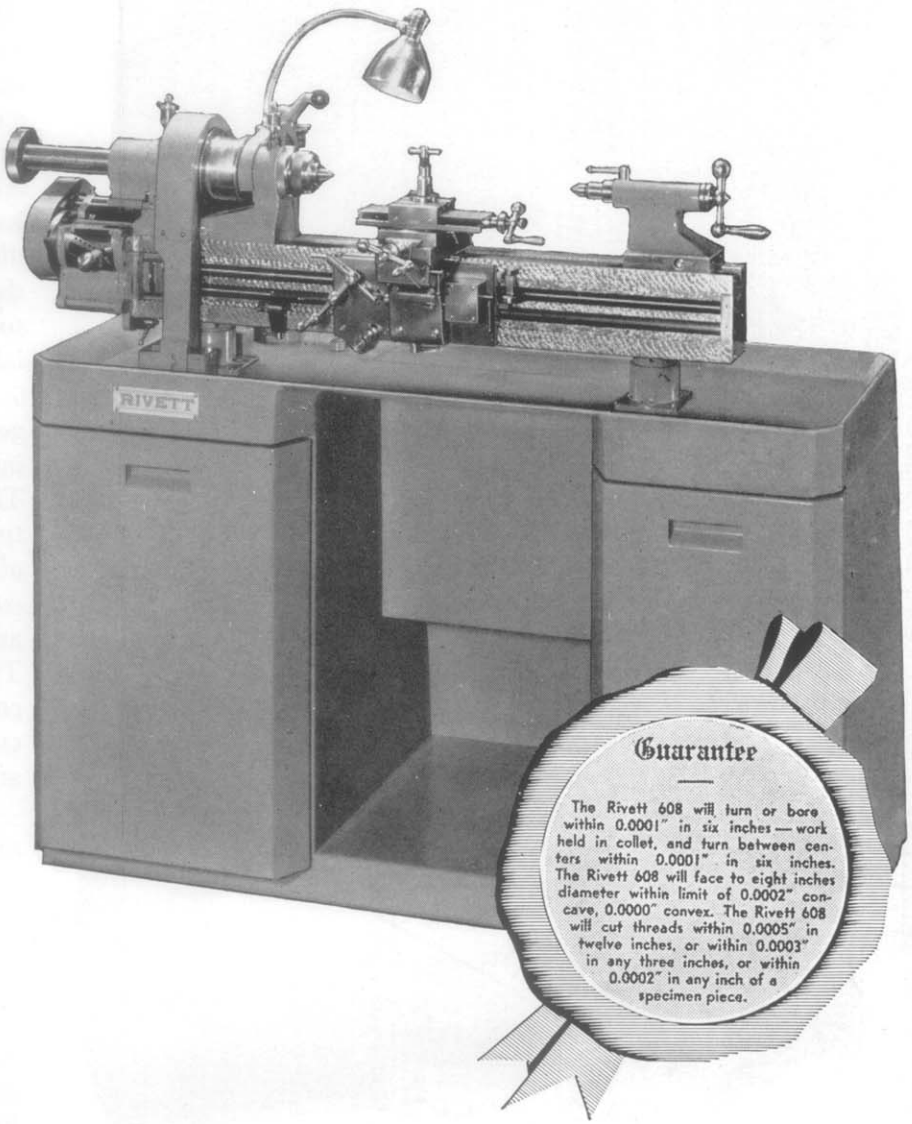








RIVETT "608" SCREW CUTTING LATHE



The "608" is a super-precision, screw-cutting lathe designed for fine production, repair and experimental work. In tool-making and instrument shops it will handle a great variety of parts in minimum time and maximum accuracy.

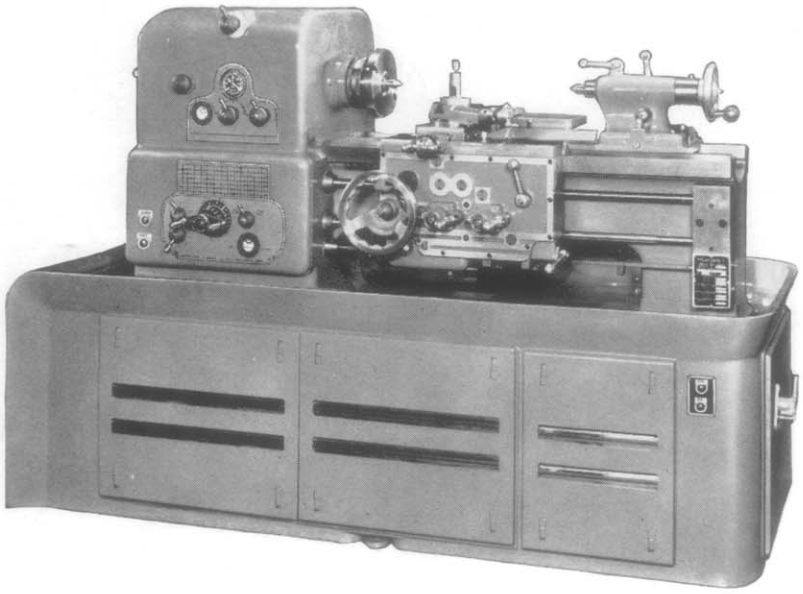
Basically, the "608" is a small but exceedingly powerful engine lathe. As such it is peculiar in having slide areas equal to those of other lathes twice its size. Its bronze-bearing spindle runs smoothly and with extreme truth, and is capable of heavy or light cuts and severe end thrusts. Finely made attachments for milling, spiral cutting, slotting, relieving, taper-turning, spherical turning, grinding, forming and multiple operations enable the user of a fully equipped "608" to finish his work completely without recourse to other machines.

Performance within the guaranteed limits is attained and safeguarded by three point bed mounting; double-bevel alignment for head and tail; carriage bearing of 76 square inches on bedways; separate lead screw for thread cutting; double-taper, self-aligning spindle bearings, and heat-treated, precision ground feed screws.

For Complete Information See Bulletin 608

SPECIFICATIONS

Swing over bed, dia.	12½"
Swing over carriage, dia.	6⅝"
Distance between centers	24"
Spindle nose, long taper key-drive	No. LO
Collet capacity, dia.	1⅛"
Step chuck capacity, dia.	6"
Jaw chuck capacity, dia.	8"
Hole through spindle, dia.	1¼"
Carriage travel	20"
Cross slide travel	7¼"
Feed range, through gear box	.001" to .060"
Thread range, through gear box	2 to 120
Number of thread and feed changes	72
Tailstock spindle, dia.	1⅝"
Tailstock spindle travel	3½"
Tailstock spindle taper, Morse	No. 3
Spindle speeds, variable speed drive:	
Infinite, back geared	25 to 270 r.p.m.
Infinite, open belt	270 to 2500 r.p.m.
Weight, net	4000 lbs.



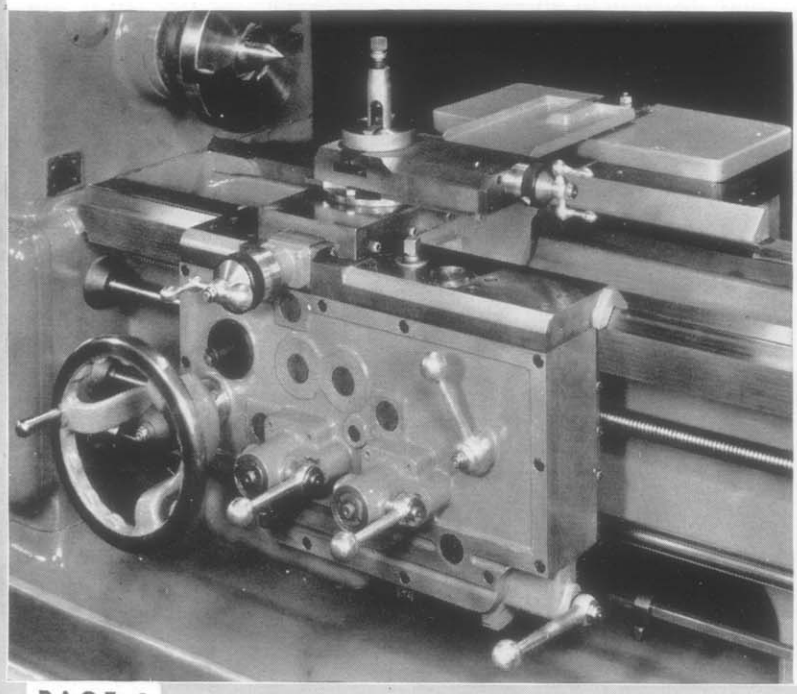
RIVETT "1020R" TOOLROOM LATHE

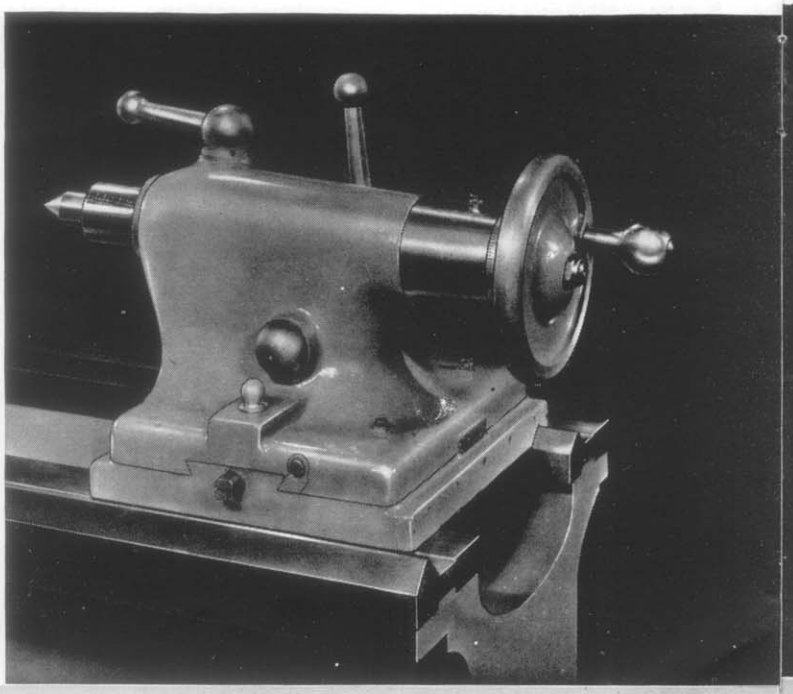
The "1020R" meets all specifications of a standard 10" toolroom lathe. It bridges the gap between the world-famous Rivett "608" and the conventional toolroom engine lathe. Although the "1020R" weighs 4000 pounds, has 12½" swing over bed and 24" center distance, it responds to the sensitive touch of the operator and qualifies for the finest metal turning in any toolroom, experimental shop or laboratory.

Powerful low spindle speeds through back gearing or high spindle speeds by direct belting are available to fit the job and tooling. The lathe's ruggedness encourages high speed turning with carbide tools; the 12¾" width of the bedways distributes and absorbs the cutting load. Attachments for taper turning and milling extend the range of operations. The lathe may be equipped with follower controls for reproducing shafts and shapes of odd contour. Seventy-two feeds or threads are available through the gear box.

Lasting quality has governed the design and selection of material. Gears throughout are heat treated, ground or shaved. Every bearing is anti-friction. All sliding gears move on six tooth involute splined shafting. Steel bedways are hardened and precision ground. The headstock, gear box, carriage, cross slide and bedways are automatically lubricated. Headstock, gear box, carriage and drive are self-contained for easy service and repair.

For Complete Information See Bulletin 1020R





RIVETT "1024" TOOLROOM GRINDER

The "1024" will handle all internal and external grinding encountered in the average toolroom. General work range includes hole grinding from ⅛" to 9" diameter up to 6" depth and cylindrical grinding to 10" diameter up to 18" length. Straight, taper, two-angle, face and shoulder can be ground.

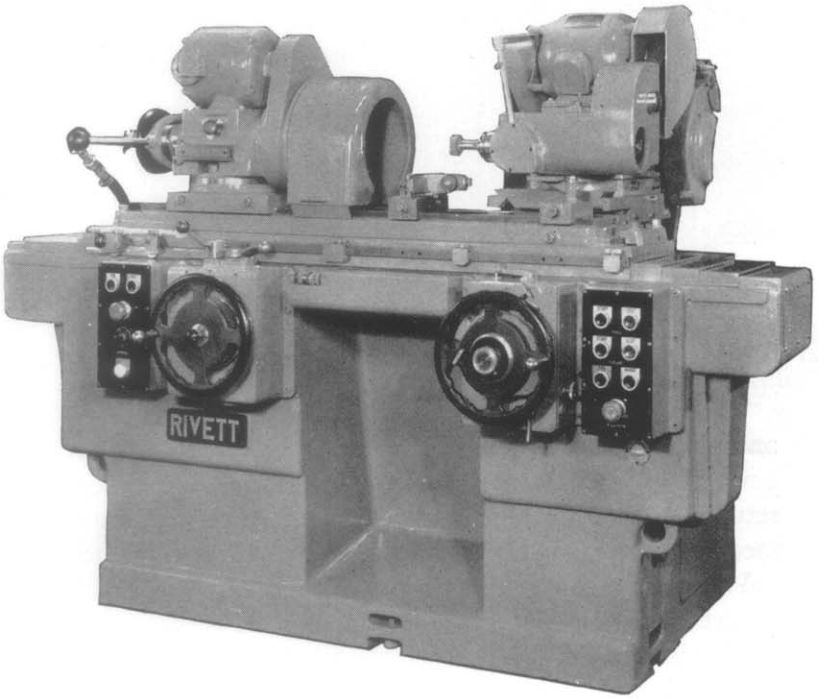
Set-up time, the largest cost item in toolroom and small-lot grinding, is reduced to the barest minimum. Wheelhead is double-ended, carries both internal and external spindles and may be swiveled 180° to present either spindle to the work. Variable motor drives workhead spindle or dead-center drive at selected r.p.m. Hydraulic table reciprocation is infinitely adjustable for length and speed and may be set to dwell at either or both ends of stroke. Standard 5" sine bar on workhead measures adjustment of swivel.

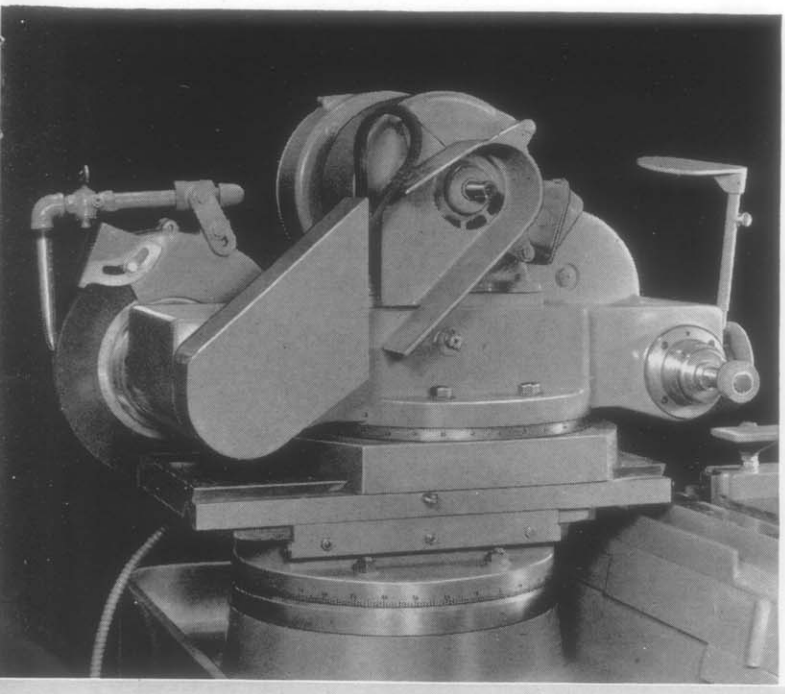
Range of grinding operations is greatly extended by exclusive design features. Double slides and swivels on cross slide increase possible set-ups including double angles at one grind. External wheel can be mounted on either end of spindle to permit face and shoulder grinding using periphery of wheel. Positive table stop with micrometer adjustment positions work. Internal grinding spindle is available with correct speed and wheel mounting for any hole within capacity. Spindles are flange mounted to prevent distortion and grease sealed to protect the bearings.

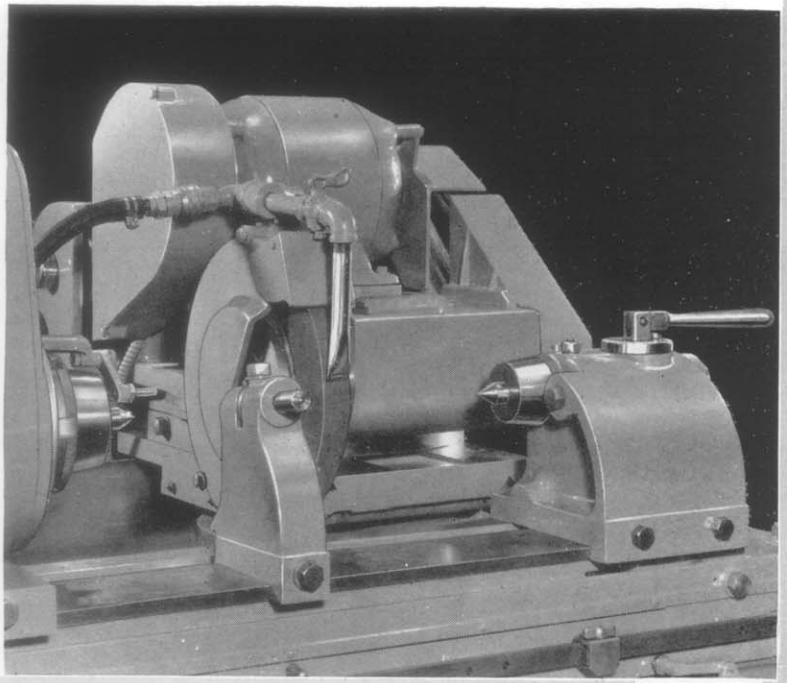
For Complete Information See Bulletin 1024

SPECIFICATIONS

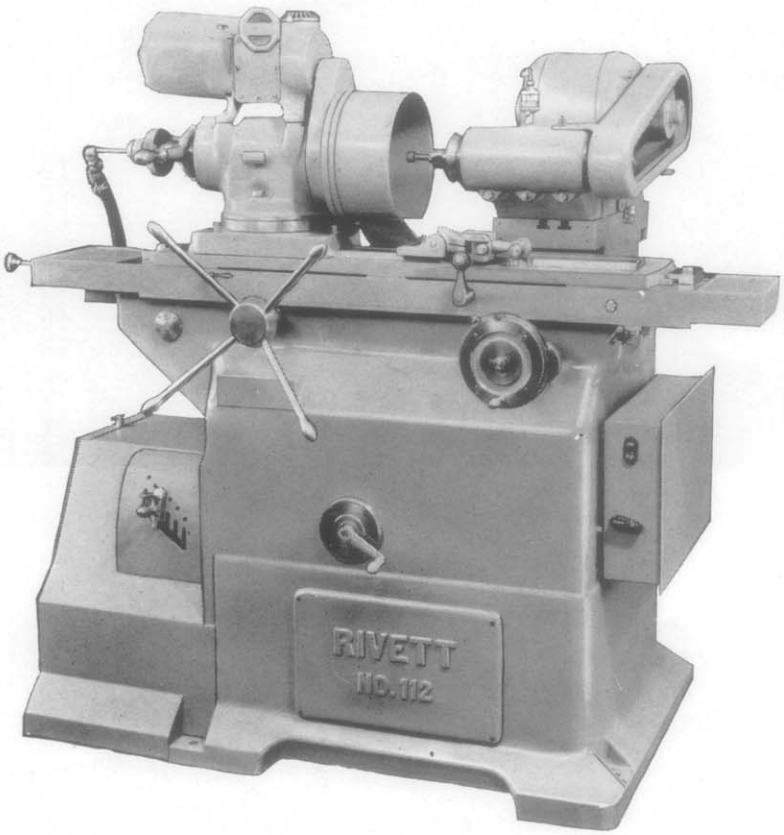
Range of internal grinding, dia.	approx. ⅛" to 9"
Range of external grinding, dia.	up to 10"
Swing over table, dia.	12"
Center distance using tailstock flush	22"
Table travel, hydraulic	⅜" to 24"
Table reciprocation speeds	infinite
Table reciprocation feeds	3" to 400" per min.
Dwell adjustment at each end of stroke	0 to 5 sec.
Table hand feed: Coarse, one revolution of handwheel	1"
Fine, one revolution of handwheel	0.1"
Cross feed graduations	coarse infeed, .00025"; fine infeed, .00005"
Cross slide swivel each side of center	90°
Workhead spindle and dead-center drive speeds	infinite 100 to 600 r.p.m.
Workhead swivel each side of center	90°
Collet capacity, dia.	1⅛"
Step chuck capacity, dia.	6"
Internal spindles, speed range	6000 to 35,000 r.p.m.
External spindle speeds	2200 and 2700 r.p.m.
Maximum external wheel	12" dia. x 1½" face x 5" hole
Weight, net	5800 lbs.







RIVETT "112" UNIVERSAL GRINDER



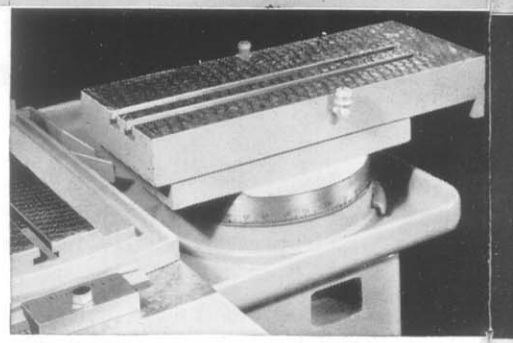
The "112" is primarily offered for diversified internal and external production and for toolroom use on straight, bevel, two-angle or straight and bevel grinding at one setting. The rigid construction, large slide areas and mechanical movements assure trouble-proof performance.

Work may be held in collet, step chuck, jaw chuck, fixture or on centers and driven at desired speed; workhead spindle has infinitely variable speeds. When equipped with both its low-speed and high-speed internal spindles, the "112" is capable of grinding bores from ¼" to approximately 8" diameter. With the external spindle, outside diameters to approximately 8" can be ground. A shoulder can be touched when reciprocating the table under power by setting a micrometer screw stop. Workhead, table and cross slide are swiveled individually or in combination for taper and bevel grinding.

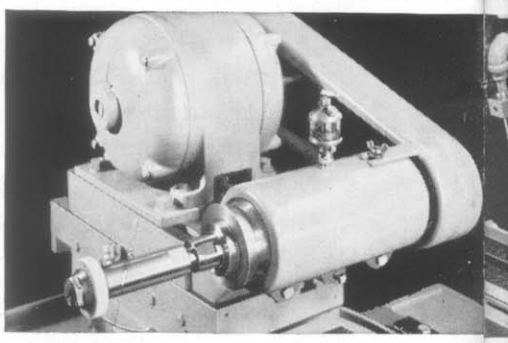
For Complete Information See Bulletin 112

SPECIFICATIONS

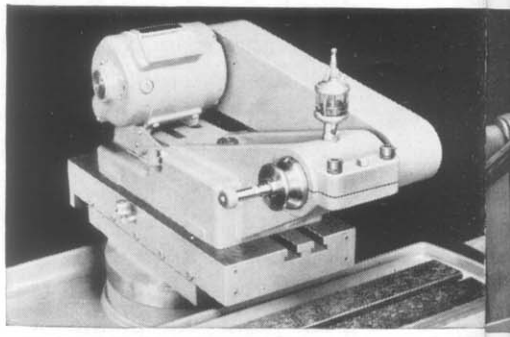
Grinding cap., hole dia. ..... ¼" to 8"
Grinding cap., outside dia. ..... up to 8"
Swing over table, dia. ..... 14"
Center distance, tailstock flush ..... 12"
Table travel, mechanical ..... ½" to 8"
Table travel, hand ..... 16"
Table reciprocation speeds 18
Table reciprocation passes per min. .. 10 to 86
Table swivel, each side ..... 5°
Cross feed graduations ..... .0005"
Cross slide swivel each side ..... 90°
Cross slide travel ..... 3½"
Workhead speeds infinite:
Spindle ..... 150 to 450 r.p.m.
Dead center drive ..... 100 to 300 r.p.m.
Workhead swivel each side ..... 90°
Collet capacity, dia. ..... 1"
Step chuck capacity, dia. ..... 6"
Jaw chuck capacity, dia. ..... 8"
Grinding spindle speeds:
Low-speed internal 5000 to 12000 r.p.m.
High-speed internal 16000 to 25000 r.p.m.
External ..... 3100 r.p.m.
Max. external wheel 8 5/16 dia. x ¾" face x 1¼" hole
Automatic oil lubrication
Weight, net ..... 4000 lbs.



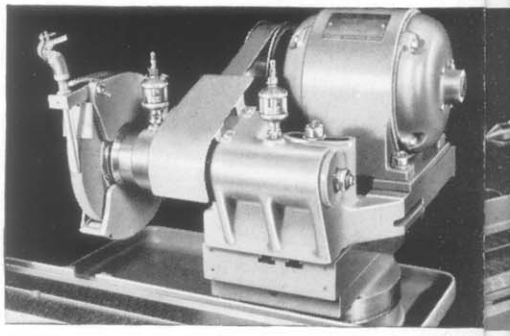
CROSS SLIDE—carried on swivel graduated to move 90° each way. Mounts spindle brackets.



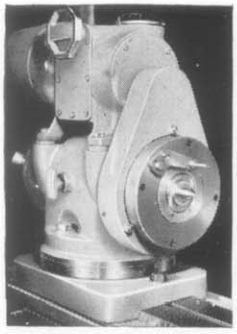
LOW-SPEED internal grinding spindle bracket with 112-4A spindle and removable arbor.



HIGH-SPEED internal grinding spindle bracket with 104-4MA spindle and removable arbor.



EXTERNAL grinding spindle bracket with 8" dia. x ¾" face wheel.



DRIVE FOR DEAD CENTER GRINDING.

SPRING-LEVER TAILSTOCK.

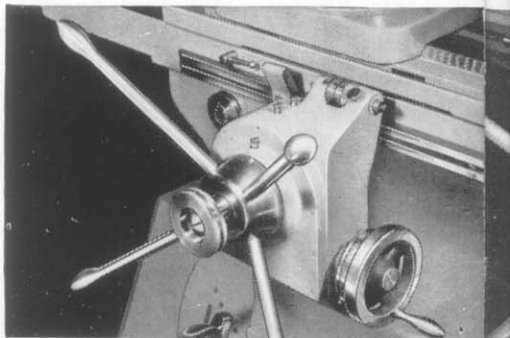
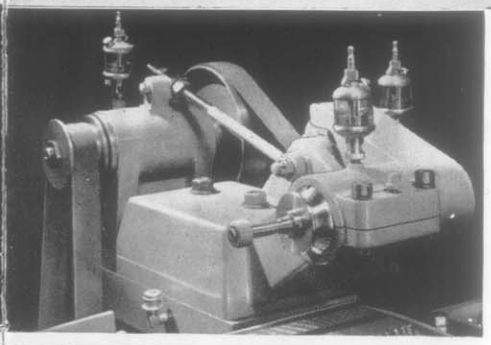
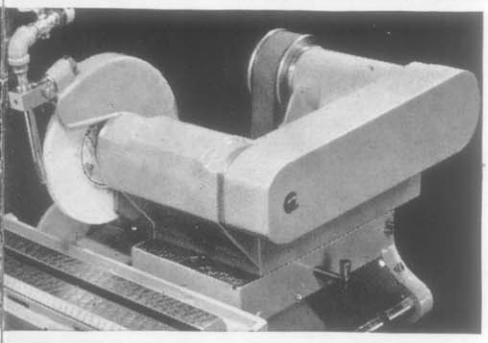


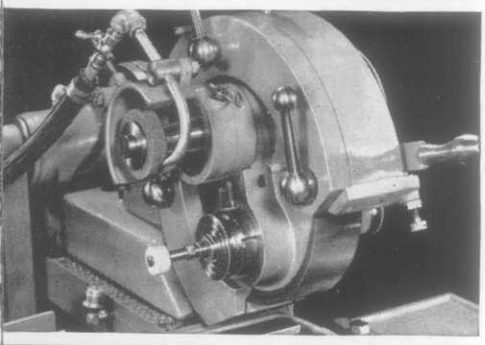
TABLE FEED, fine with micrometer screw stop and stop block.



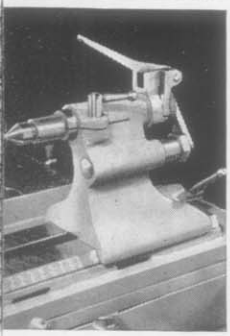
INTERNAL grinding spindle bracket with 104-4MA spindle and removable arbor.



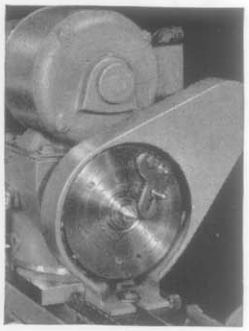
EXTERNAL grinding spindle bracket with 7" dia. x ½" face wheel.



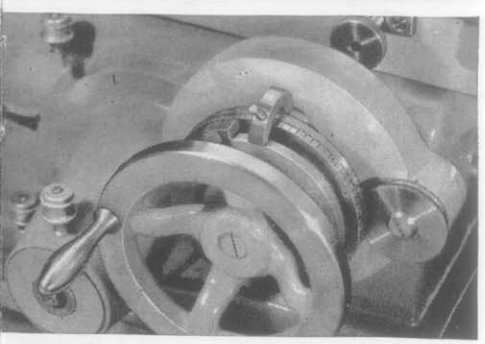
TURRET with spindles for grinding internal and external surfaces at one chucking of work.



SPRING-LEVER TAILSTOCK.



DRIVE FOR DEAD CENTER GRINDING.



CROSS FEED with handwheel dial graduated to .0005" and fine finger wheel graduated to .0001".

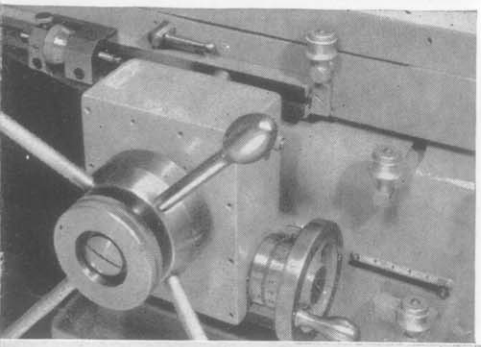
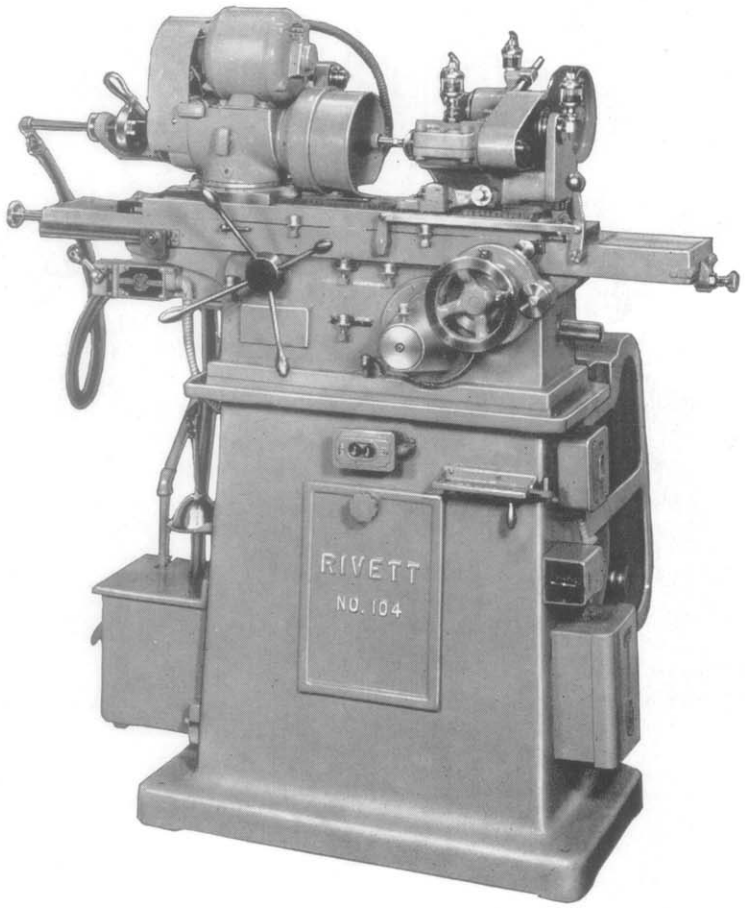


TABLE FEED, fine with micrometer screw stop and stop block.

RIVETT "104" INT.-EXT. GRINDER



The "104" is a simple, accurate grinder suitable for toolmaking and precision manufacturing. Its ease of set-up and operation and selective spindles make it efficient for either small internal or external work. The internal, external and turret brackets are selectively mounted on the cross slide. The turret is specifically for internal-external concentric grinding on chucked parts.

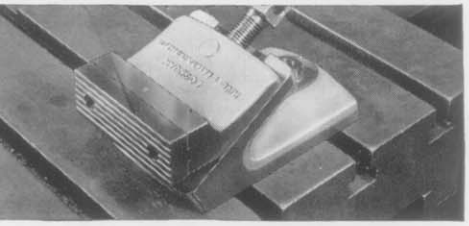
Work may be held in collet, step chuck, jaw chuck, fixture or on centers. Range of hole grinding is from the very smallest to approximately 3" diameter by 4" length. The correct spindle may be selected for the hole, with speed up to 40,000 r.p.m. and with solid shaft or arbor wheel mounting. External work up to 3" diameter.

For Complete Information See Bulletin 104

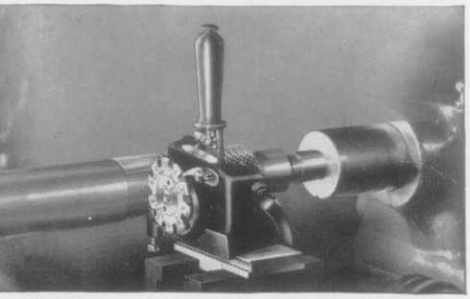
SPECIFICATIONS

Grinding cap., hole dia.	up to 3"
Grinding cap., outside dia.	up to 3"
Swing over table, dia.	8"
Center distance, tailstock flush	8½"
Table travel, mechanical:	
Standard	¼" to 2"
Special	½" to 4"
Table travel, hand	11"
Table reciprocation speeds	3
Table reciprocation passes per min.	54 to 126
Table swivel, each side	5°
Cross feed graduations:	
Coarse	.0005"
Fine	.0001"
Cross slide travel	1¾"
Workhead speeds:	
Spindle	225, 400, 640 r.p.m.
Dead center drive	150, 270, 450 r.p.m.
Workhead swivel each side	90°
Collet capacity, dia.	⅜"
Step chuck capacity, dia.	6"
Jaw chuck capacity, dia.	6"
Grinding spindle speeds:	
Internal	6000 to 40000 r.p.m.
External	3800 r.p.m.
Max. external wheel	7" dia. x ½" face x 1¼" hole
Floor space	66" x 42"
Weight, net	1700 lbs.

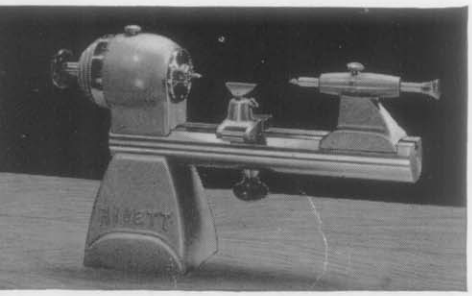
DRAW-IN COLLETS—are made in many standard and special styles for lathes, millers, grinders, etc., carried in stock.
Write for Bulletin 100



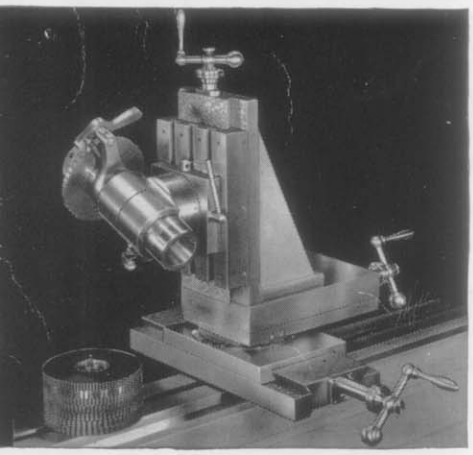
LOCKJAW—all purpose work clamps furnished in several sizes for planers, shapers, millers, etc. Eliminates expensive clamping and bolting.
Write for Bulletin 140



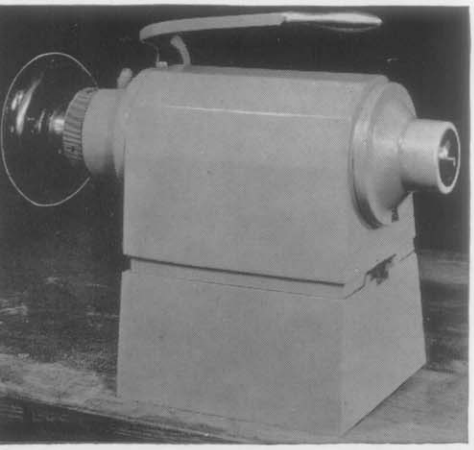
THREAD TOOL—used on any screw-cutting lathe, and takes the place of single point threading tools. Ten teeth of a cutter are progressively indexed to form a perfect finished thread.
Write for Bulletin 110



1R WATCHMAKERS' LATHE—coordinates efficiency and precision with appearance. Lathe has 12″ bed, 3.94″ swing, 5″ between centers and No. 50 metric (.1969″) maximum collet.
Write for Bulletin 1R



UNIV. MILLING ATTACHMENT—designed for Rivett plain and screw cutting lathes, can be adapted to any similar machine. It substantially adds to the operations which can be performed thereon. Universal movements and various methods of mounting work make possible many milling operations, including small jig boring.
Write for Bulletin 130



POLISHING HEAD—mounts work in collet or step chuck operated by lever closer. Spindle runs in ball bearings and has precision of cabinet lathe. Motor drives with single, multiple or infinitely variable speeds up to 6000 r.p.m. Movement of the lever chuck closer handle can be employed to start and stop spindle drive and operate brake.

RIVETT

RIVETT LATHE & GRINDER, Inc.
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