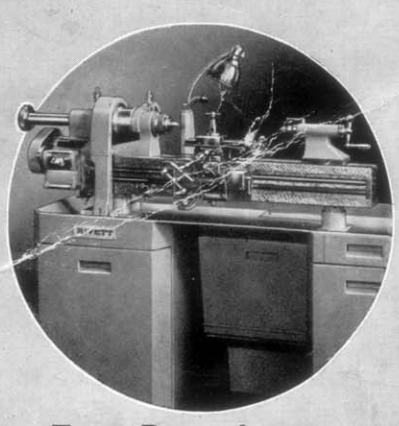
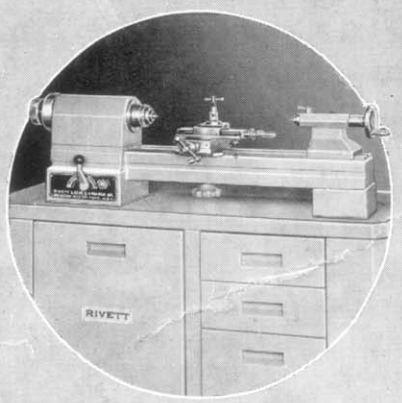
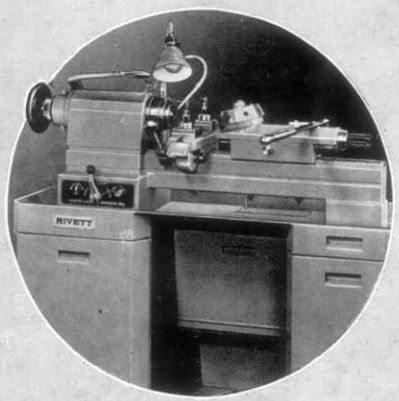
1946-47



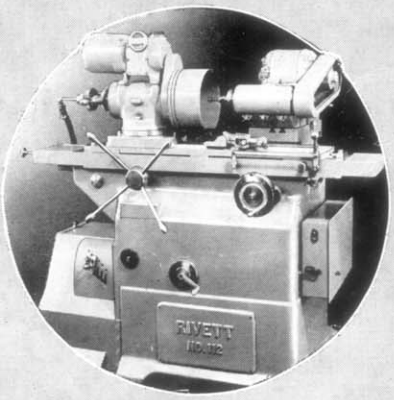
TOOL-ROOM LATHES



PLAIN CABINET LATHES



PLAIN TURRET LATHES



INTERNAL GRINDERS

RIVETT

GENERAL BULLETIN

RIVETT LATHE & GRINDER INC.

BRIGHTON, BOSTON, MASS., U.S.A.

BULLETIN 500 D

RIVETT

FINE PRECISION TOOLS SINCE 1884

Rivett Has Pioneered in the Development of Precision Lathes and Small Hole and Universal Internal Grinders

THE RIVETT LINE

RIVETT products have design and workmanship supported by many invaluable years of experience. The first Rivett machine tools were made in 1884, and through the intervening years the builders have sought to perfect their every feature in pace with the progress of the times. Designing has been guided by wide and constant study of usage in the field, and engineering has availed itself of new production methods and materials. Inspection has equipped itself with latest thought in gages and testing instruments. Quality of workmanship has been protected by a group of skilled machinists and assemblers having lifelong practice in the making and assembling of Rivett machines.

Today Rivett tool-room lathes, plain cabinet lathes, plain turret lathes and grinders are recognized throughout the world for their enduring precision. These machines are in use in laboratory, tool room and die shop where the highest obtainable accuracy is demanded. They are also used extensively for fine manufacturing of small duplicate parts.

RECENT INSTALLATIONS

Laboratory
- Aberdeen Proving Ground
- Biochemical Research Foundation
- E. I. DuPont De Nemours & Co.
- General Motors Corp.
- Mass. Institute of Technology
- U. S. Naval Observatory
- Naval Research Laboratory
- National Bureau of Standards

Tool-Room
- Bethlehem Steel Co.
- Douglas Aircraft Co. Inc.
- Fairchild Aviation Corp.
- Ford Motor Co.
- John Inglis Co. Ltd.
- Pan American Airways, Inc.
- Remington Arms Co. Inc.
- Wright Aeronautical Corp.

Manufacturing
- AC Spark Plug Division
- Allis-Chalmers Manufacturing Co.
- Bausch & Lomb Optical Co.
- Bendix Aviation Corp.
- Chrysler Corp.
- The Cleveland Twist Drill Co.
- Doehler Die Casting Co.
- Eastman Kodak Co.
- Ex-Cell-O Corp.
- General Electric Co.
- Holley Carburetor Co.
- International Business Machines Corp.
- Mergenthaler Linotype Co.
- Minneapolis-Honeywell Regulator Co.
- North American Aviation, Inc.
- Pratt & Whitney
- Ranco Inc.
- Springfield Armory

RIVETT LATHE & GRINDER INC.
BRIGHTON, BOSTON, MASS.

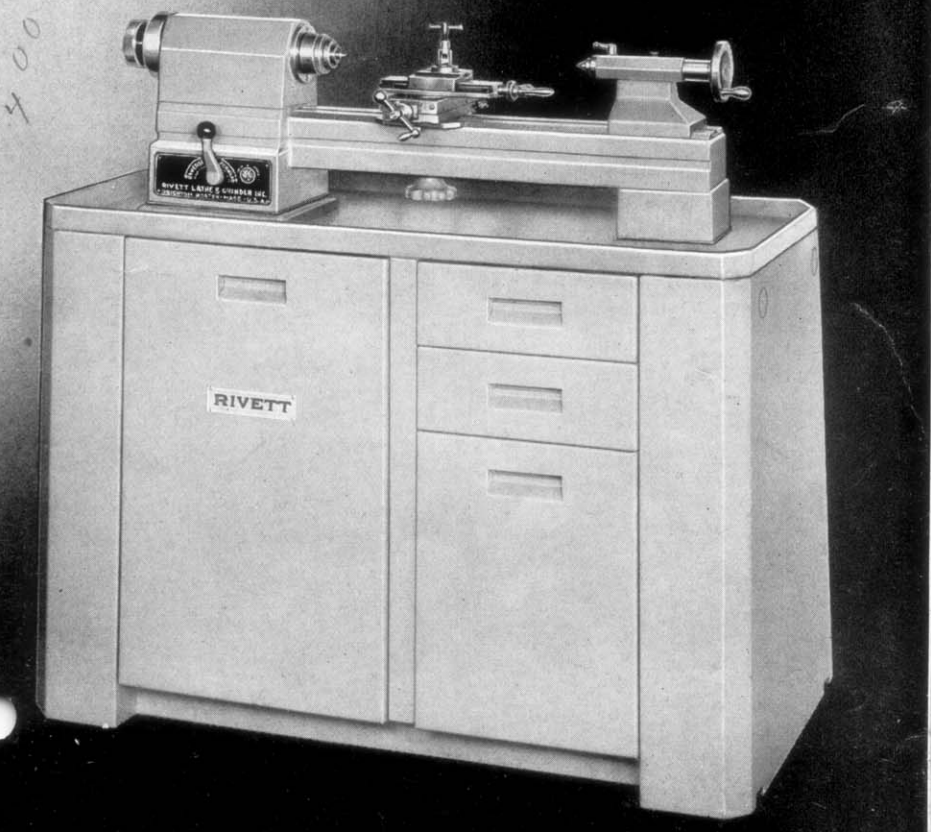
RIVETT

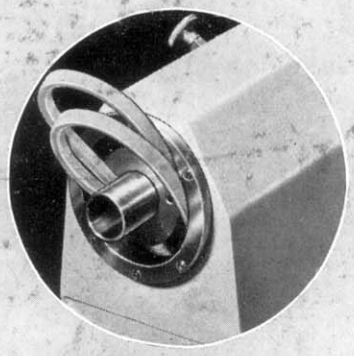
715 PLAIN CABINET LATHE

Power and Speed Range Are Combined with Precision for Greater Earning Capacity

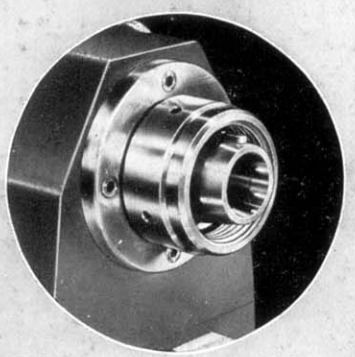
The Rivett No. 715 Plain Lathe fulfills two distinct functions: the production of small duplicate parts requiring extreme accuracy, and the finishing and fitting of fine elements in assembly, maintenance, tool room and laboratory. Various attachments extend its usefulness, and each employs the inherent truth of the preloaded ball bearing spindle. The attachments include, besides compound slide rest and tailstocks, universal grinding attachment and milling attachment. The unit motor drive provides eight selective spindle speeds and may be used with either steel cabinet or bench mounting.

The original accuracy built into the No. 715 is protected for years of normal use. The enclosed headstock provides rigid, vibrationless mounting for the super-precision ball bearings. All revolving parts are dynamically balanced. The self-centering design of the long taper key-drive spindle nose guarantees true running chucks and face plates. Steel top slide and full depth Acme feed screws make for an enduring compound slide rest. All vee belts are replaceable without disturbing lathe or drive assembly or removing spindle from its bearings.

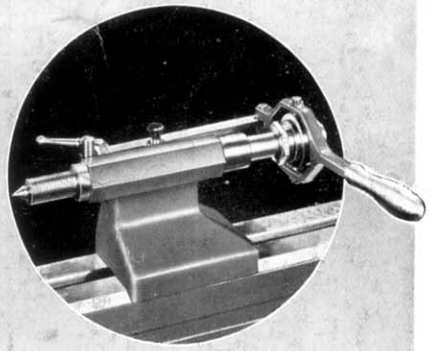




Replaceable Spindle Belts



Long Taper Key-Drive Nose



Lever Operated Tailstock

SPECIFICATIONS

Swing over bed, dia.	7"
Distance between centers	15"
Collet capacity, max. dia.	¾"
Step chuck capacity, max. dia.	5"
Jaw chuck capacity, max. dia.	4"
Spindle capacity, max. dia.	55/64"
Slide rest, travel of tool post slide	4¼"
Slide rest, travel of cross slide	5"
Tailstock spindle travel	3"
Spindle speeds:	
Eight forward and reverse	185 to 3500 r.p.m.
Weight of lathe, mounting and drive, net	625 lbs.

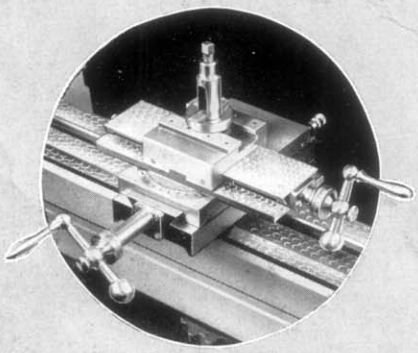
For Further Description
Write for Bulletin 715

RIVETT

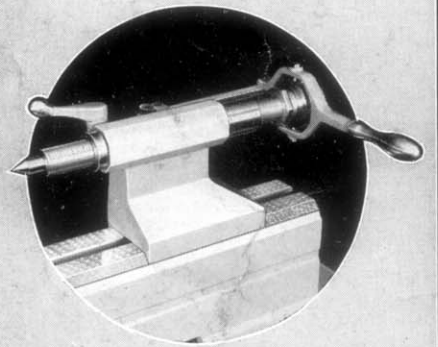
918 PLAIN CABINET LATHE

Adds Versatility, Precision and Efficiency to Tool Room Production or Assembly

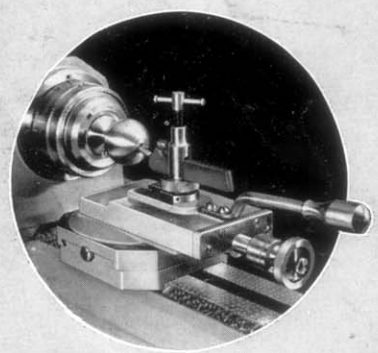
Control Panel



Compound Slide Rest



Lever Operated Tailstock



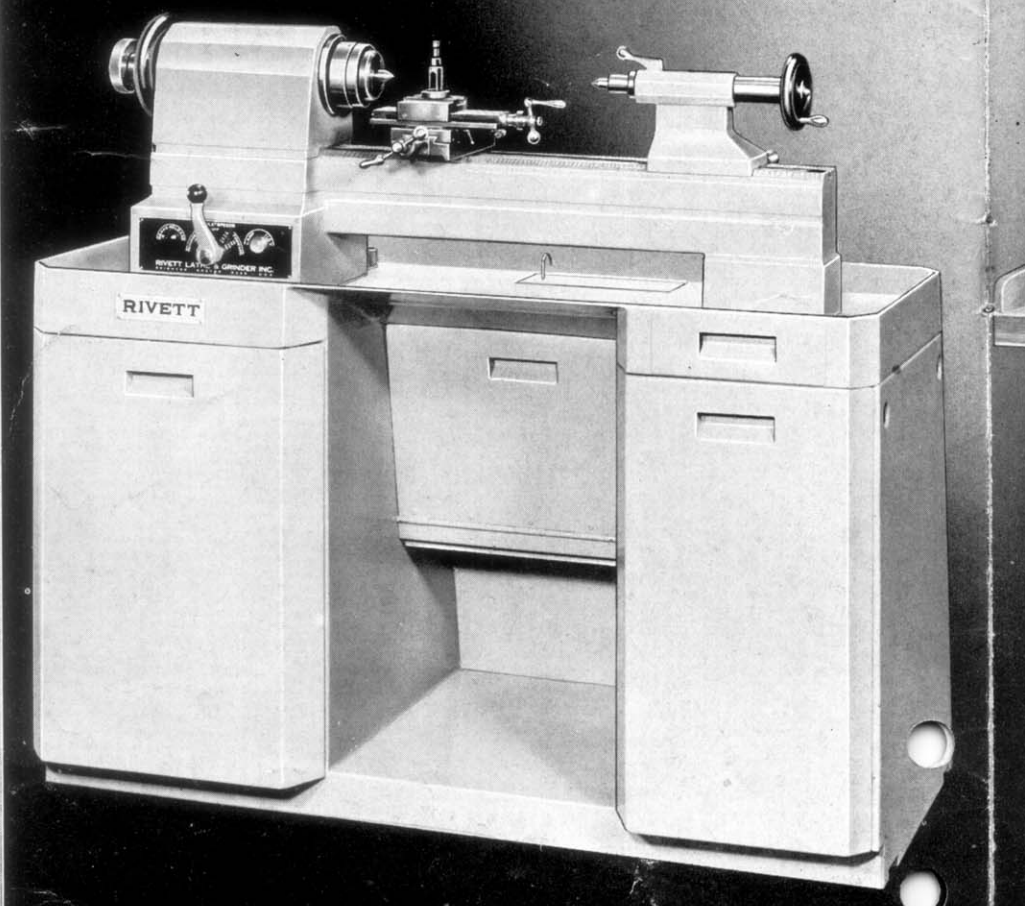
Ball Turning Rest

For Further Description
Write for Bulletin 918L

The Rivett No. 918 Plain Cabinet Lathe is capable of many jobs. It responds to the ability of the skilled machinist with such ease that efficiency is assured. In addition to the normal lathe functions of turning, facing, boring and drilling, the lathe can be equipped for milling, grinding, slotting, thread chasing and multiple operations.

Work can be quickly gripped in collet, step chuck or jaw chuck or mounted on centers or face plate. Tool mounting is rigid and capable of fine measured adjustment. The 918 produces precision parts in a fraction of the time required to set up a more cumbersome lathe or will efficiently manufacture an endless variety of duplicate parts in small or large lots to interchangeable limits.

The lathe is furnished with bench or steel cabinet mounting and compact eight speed drive.



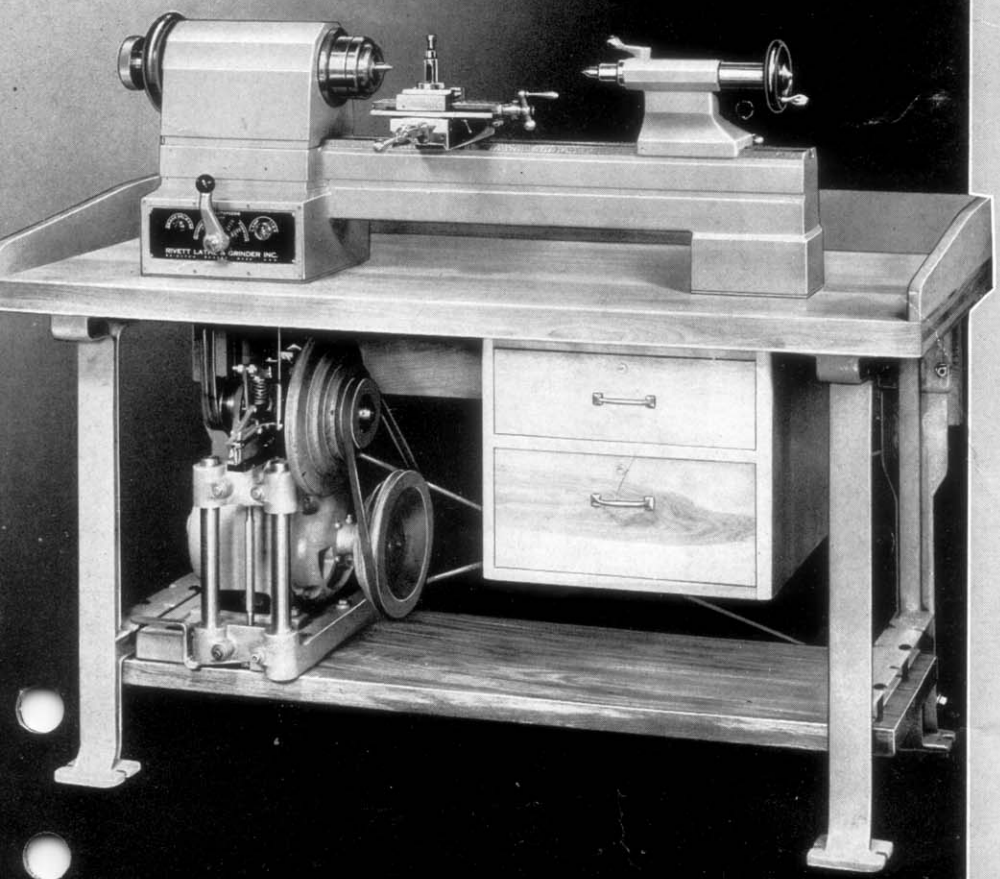
RIVETT

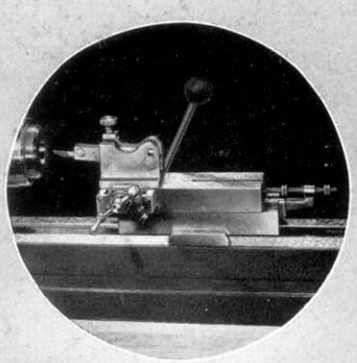
918 PLAIN CABINET LATHE

Modern in Size, Power and Speed - Revolutionizes Concept of Bench Lathe

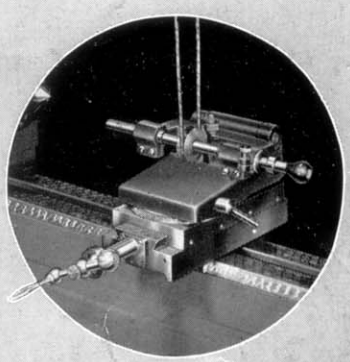
The Rivett No. 918 is the modern concept of the plain precision bench lathe and reflects years of Rivett pioneering. High spindle speeds have been combined with tool rigidity for finer finish and productivity without loss of inherent precision.

Operating convenience and long-life precision are assured. Ball bearing spindle is mounted in rugged headstock enclosure supported by heavy box sectioned bed. Long taper key-drive spindle nose provides true running and positive drive for chucking attachments. Shoe mounting automatically squares compound slide rest with line of centers. Hardened and ground steel bedways further protect precision life. Convenient speed lever controls spindle through magnetic starter and simultaneously operates mechanical brake. All driving vee belts are adjustable and may quickly be replaced without disturbing the lathe spindle or drive assembly.

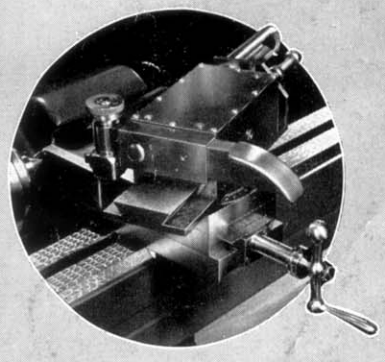




Slotting Attachment



Universal Grinding Attachment



Automatic Slide Rest

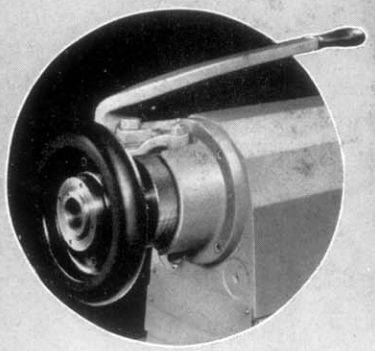
SPECIFICATIONS

Swing over bed, dia.	9"
Distance between centers	18"
Collet capacity, max. dia.	1⅛"
Step chuck capacity, max. dia.	6"
Jaw chuck capacity, max. dia.	6"
Spindle capacity, max. dia.	1¼"
Slide rest, travel of tool post slide	5¼"
Slide rest, travel of cross slide	5¼"
Tailstock spindle travel	3½"
Spindle speeds, eight forward and reverse.	
Low range	150-2500 r.p.m.
High range	225-3750 r.p.m.
Weight of lathe, mounting and drive, net	900 lbs.

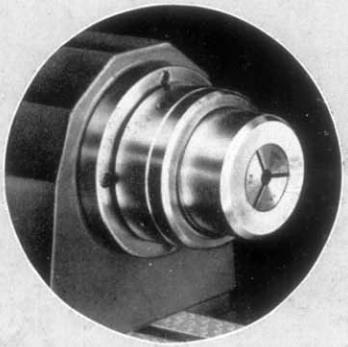
RIVETT

918 PLAIN TURRET LATHE

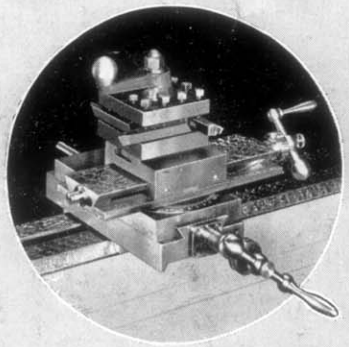
Capable of Thousands of Jobs Now Produced on Heavy, Costly Machines



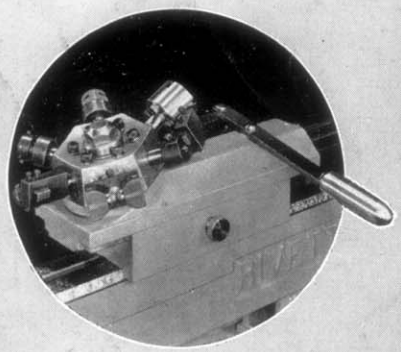
Lever Chuck Closer



Push-Out Collet Adaptor



Slide Rest Turret Post

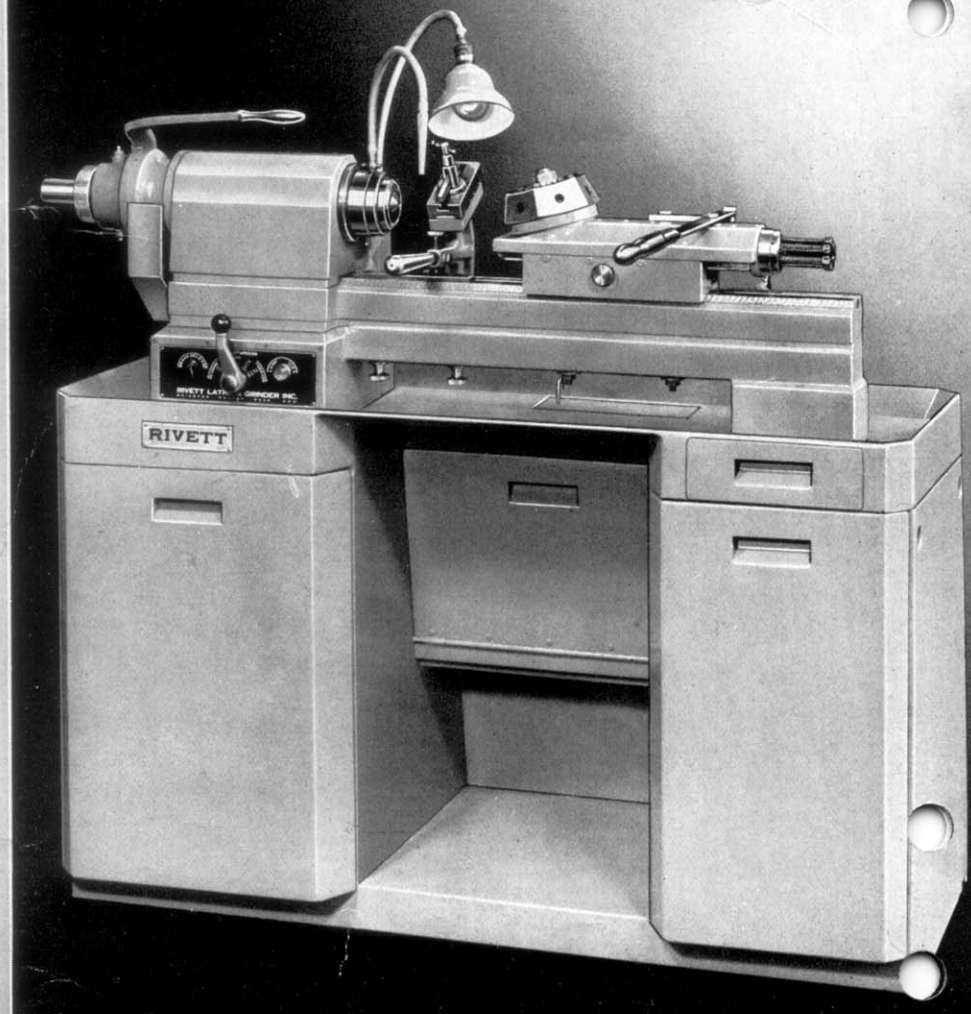


Six Station Turret

For Further Description
Write for Bulletin 918T

The Rivett No. 918 Plain Turret Lathe incorporates precision, balanced design and operating features to make it an efficient producer on small duplicate parts. The machine is free from vibration at all spindle speeds as it is properly proportioned and dynamically balanced throughout. Single lever controls motor drive and automatic brake for quick starting and stopping of ball bearing spindle. Heavy cross ribbed construction invites heavy cuts and protects the initial precision. All vee belts are adjustable and may be replaced without disturbing the lathe or drive assembly or removing the spindle from its bearings.

Parts requiring up to eight successive operations can be finish-machined at one chucking. Bar stock passed through spindle may be held in push-out collet, while work individually chucked may be held in draw-in collet, step chuck or jaw chuck. In combination with six turret operations, double tool slide may be set up for straight or taper turning, forming or cutting-off.



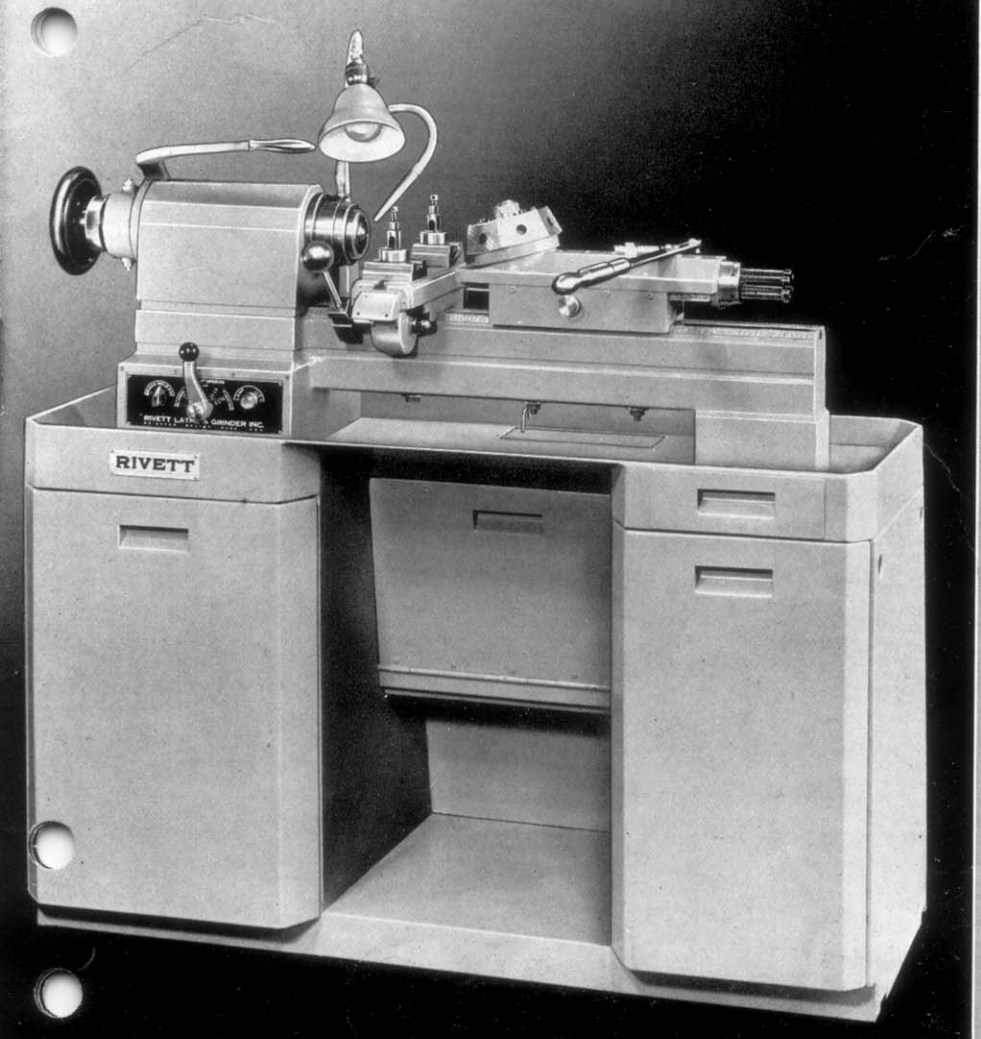
RIVETT

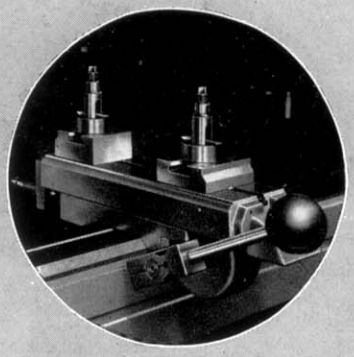
918 PLAIN TURRET LATHE

For Bar or Individually Chucked Work Requiring up to Eight Successive Operations

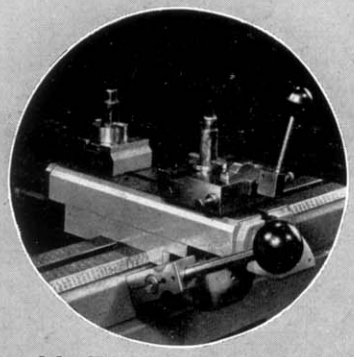
The Rivett No. 918 Plain Turret Lathe assembly consists of box sectioned bed, enclosed ball bearing headstock, lever chuck closer, double tool slide and six station turret. Other combinations are available using chasing bar for internal or external threading, illustrated on page 6, or compound slide rest with turret tool post. Steel cabinet mounting has rimmed top and removable sump with gusher pump for cutting oil.

The ball bearing spindle has long taper key-drive nose for mounting and driving jaw chucks and plates. Draw-in or push-out collets, as specified, are opened and closed by positive acting lever chuck closer. Double tool slide may be set up with universal turning slide or with tool holders illustrated in inserts at right. Self-locking tilted turret head operates on anti-friction bearings and automatically indexes with slide movement or, when released by pull-out stop, may be hand-indexed to right or left without operating slide. Feed of each turret station is controlled by automatic stop.

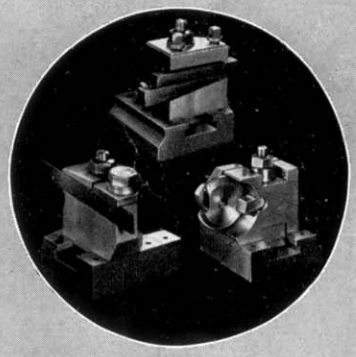




Double Tool Cross Slide



Double Tool Cross Slide with Universal Turning Slide



Tool Holders

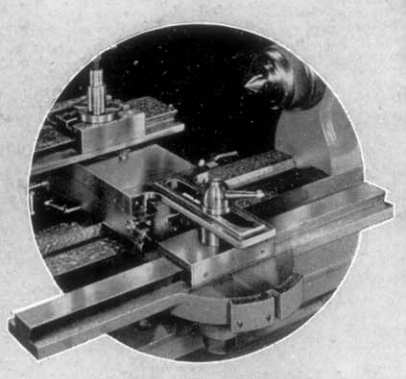
SPECIFICATIONS

Swing over bed, dia.	9"
Distance between spindle mouth and face of turret	
With draw-in collet	12½"
With push-out collet	11¼"
Collet capacity:	
Draw-in type, max. dia.	1⅛"
Push-out type, max. dia.	⅞"
Step chuck capacity, max. dia.	6"
Jaw chuck capacity, max. dia.	6"
Spindle capacity, max. dia.	1¼"
Travel of turret slide, max.	4½"
Number of tool holes in turret	6
Dia. and depth of tool holes	¾" x 1"
Swing over double tool slide	2 1/16"
Cross travel of double tool slide	3⅞"
Travel of universal turning slide	2¼"
Spindle speeds, eight forward and reverse:	
Low range	150 to 2500 r.p.m.
High range	225 to 3750 r.p.m.
Weight of hand screw machine, mounting and drive, net 950 lbs.	

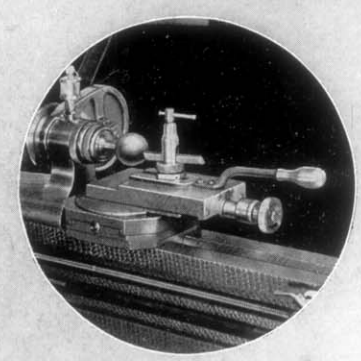
RIVETT

608 WITH FLAT BELT DRIVE

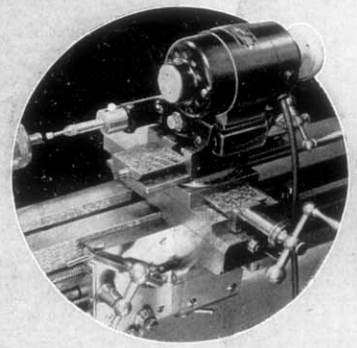
For Fine Production, Repair and Experimental Work within Guaranteed Precision Limits



Taper Turning



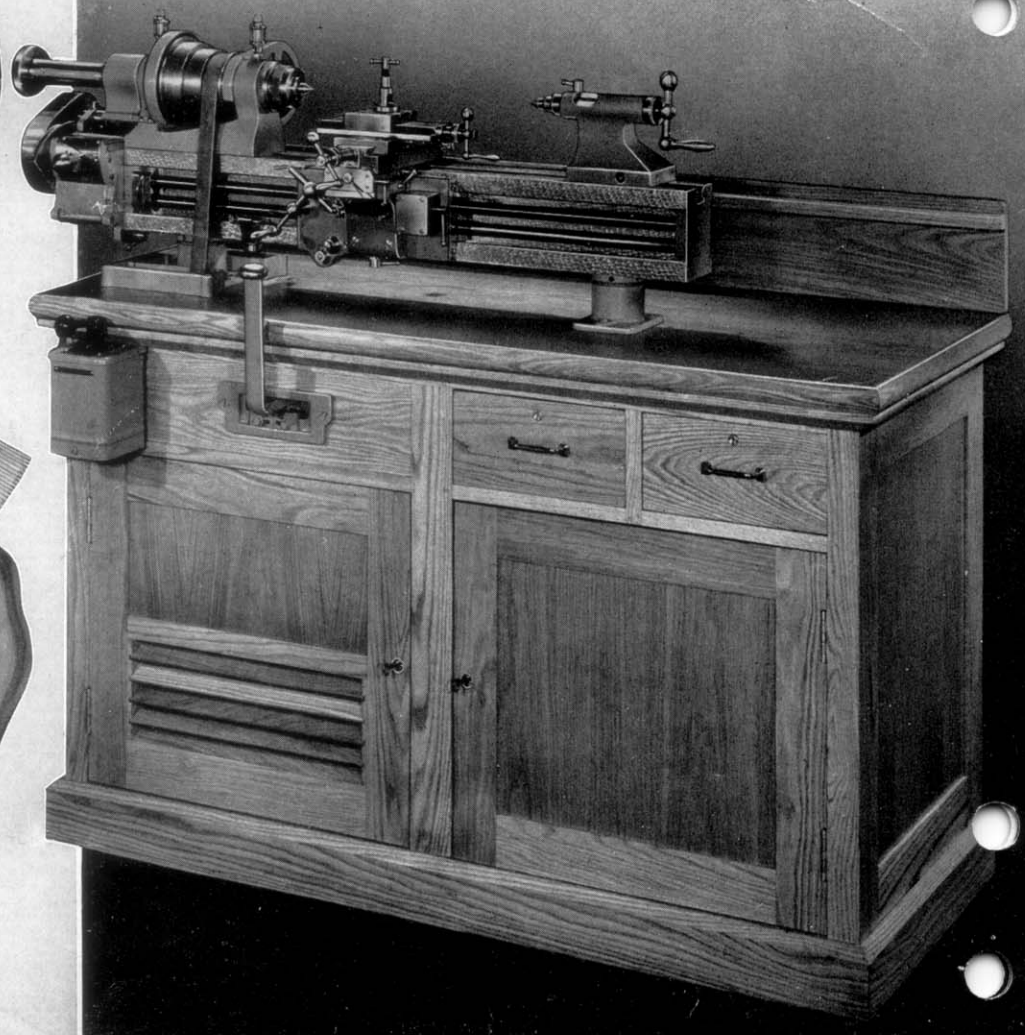
Spherical Turning



Grinding

The Rivett No. 608 is a super-precision, back-geared screw-cutting bench lathe designed for fine manufacturing, repair and experimental work. In tool-making and instrument shops it will handle a great variety of parts within the closest precision limits. Technical instructors of machine shop practice find the No. 608 the finest demonstrator for teaching the construction, working principles and functions of lathes. The super-finish of the lathe is not for appearance only, but to inspire the high order of maintenance which it deserves.

The No. 608 with flat belt drive may be mounted on bench, oak cabinet or oil pan and may be driven by one of several drive assemblies, selection depending upon attachments required. The No. 608 with vee belt drive may be mounted on bench or steel cabinet with two-speed motor jack shaft drive. With mounting, drive and selected attachments, the No. 608 is self sufficient and capable of many machining operations.



Guarantee

The Rivett 608 will turn or bore within 0.0001" in six inches — work held in collet, and turn between centers within 0.0001" in six inches. The Rivett 608 will face to eight inches diameter within limit of 0.0002" concave, 0.0000" convex. The Rivett 608 will cut threads within 0.0005" in twelve inches, or within 0.0003" in any three inches, or within 0.0002" in any inch of a specimen piece.

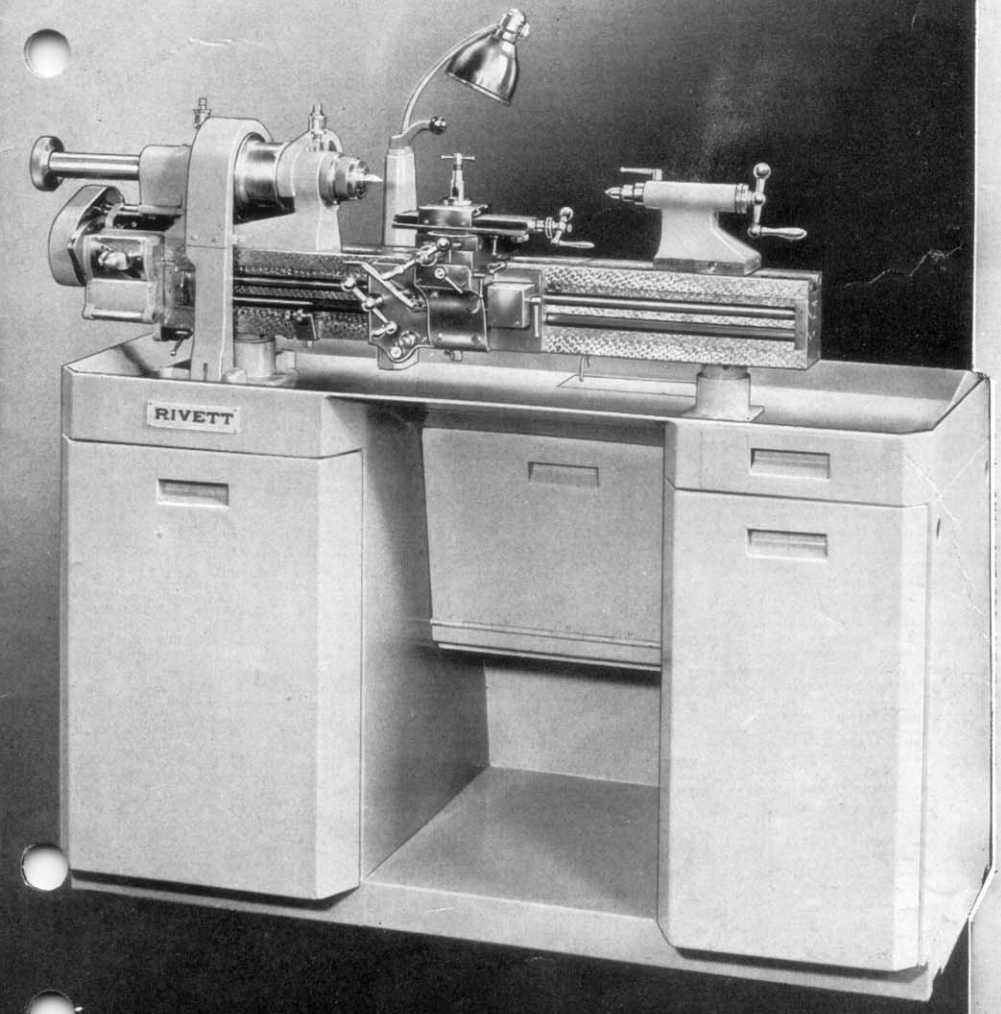
RIVETT

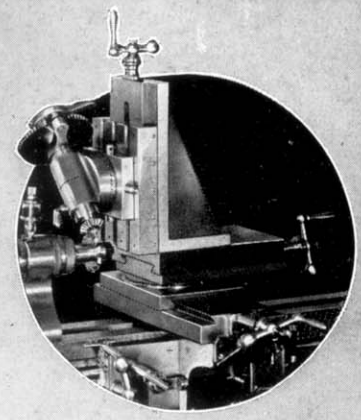
608 WITH VEE BELT DRIVE

In Tool-Making and Instrument Shops It Will Handle Great Variety of Jobs in Minimum Time

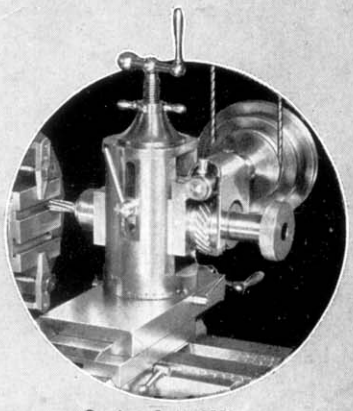
Basically, the Rivett No. 608 is a small but exceedingly powerful engine lathe. As such it is peculiar in having slide areas equal to those of lathes twice its size. Its bronze-bearing spindle runs smoothly and with extreme truth, and is capable of heavy or light cuts and severe end thrusts. Finely made attachments for milling, spiral cutting, slotting, relieving, taper turning, ball turning, grinding, forming and multiple operations enable the user of a fully equipped No. 608 to finish his work completely without recourse to other machines, and throughout his entire series of operations to utilize the inherent precision of the lathe itself.

Safety interlock protects the carriage from accidental engagement of both power feed and lead screw at one time. Lead screw and feed rod are guarded from injury by deeply inset mounting in bed. Carriage wipers sweep dirt and chips from the bearing surfaces of the bed. Three-point pedestal supports assure against distortion imparted from lathe mount.





Universal Milling



Spiral Milling

SPECIFICATIONS

With Flat or Vee Belt Drive

Swing over bed, dia.	8½"
Length of bed	40"
Distance between centers	18¼"
Collet capacity, max. dia.	1"
Step chuck capacity, max. dia.	6"
Jaw chuck capacity, max. dia.	6"
Spindle capacity, max. dia.	1⅛"
Slide rest, travel of top slide	5¼"
Slide rest, travel of cross slide	4½"
Feed range, through gear box	.0015" to .0220"
Thread range, through gear box	10 to 144
Tailstock spindle travel	3¼"
Spindle speeds:	
Flat belt drive—12 speeds	39 to 1295 r.p.m.
Vee belt drive—12 speeds	25 to 1500 r.p.m.
Weight of lathe, mounting and drive:	
Flat belt drive, net	900 lbs.
Vee belt drive, net	1050 lbs.

For Further Description Write for Bulletin 608

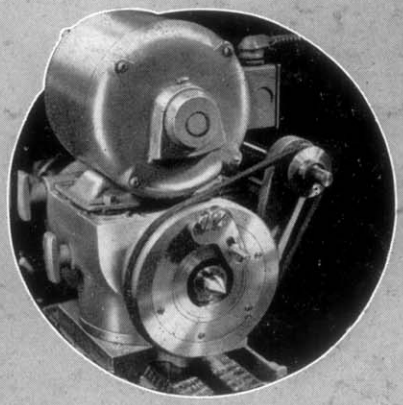
RIVETT

104 INT.-EXT. GRINDER

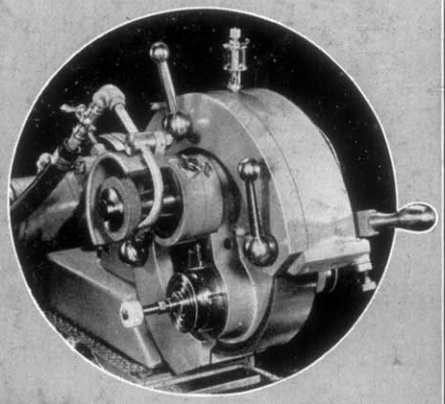
For Small Hole, Cylindrical and Concentric Grinding

The Rivett No. 104 is a simple, accurate grinder suitable for die and tool making as well as precision manufacturing. Its ease of set-up and operation and its selective spindles make it an efficient machine for internal and external grinding. The internal or external grinding spindle bracket may be selectively mounted on cross slide as desired. For special work requiring concentric grinding of internal and external surfaces at one chucking, turret carrying both internal and external spindles may be used.

Work may be held in collet, step chuck, jaw chuck or fixture or on centers when using external spindle with tailstock. Power table reciprocation has three speeds from 54 to 126 passes per minute. Length of table travel is infinitely adjustable between ¼" and 2" or ½" and 4" depending on range selected.



Dead Center Drive

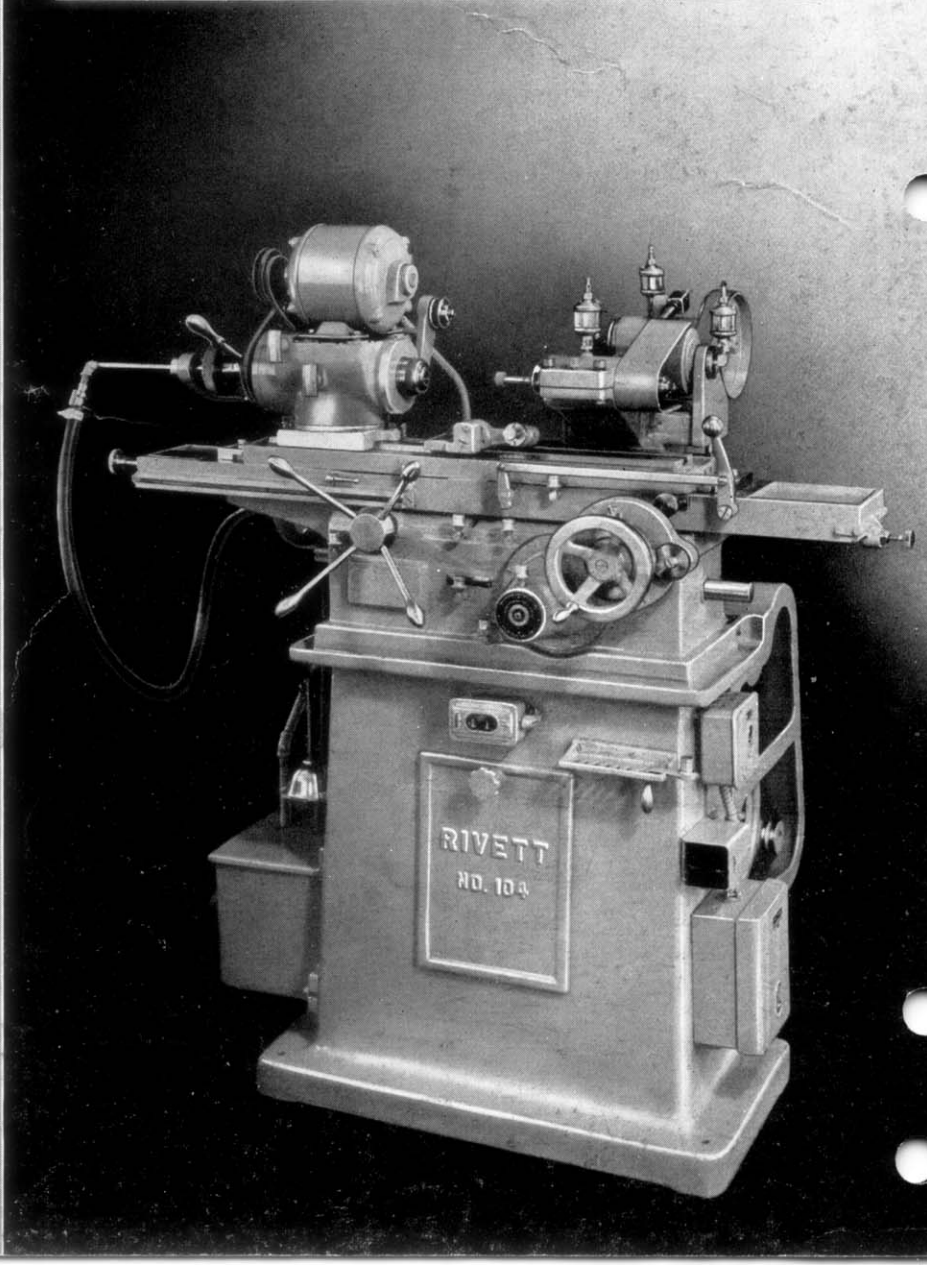


Internal and External Spindles in Turret

SPECIFICATIONS

Grinding cap., hole dia.	up to 3"
Grinding cap., outside dia.	up to 3"
Automatic table travel:	
Standard	¼" to 2"
Special	½" to 4"
Hand table travel	11"
Swing over table	8"
Center distance	8"
Workhead swivel	90°
Table swivel	5°
Cross feed graduations:	
Coarse	.0005"
Fine	.0001"
Travel of cross slide	1¾"
Collet capacity	⅞"
Step chuck capacity	6"
Jaw chuck capacity	6"
Workhead speeds:	
Spindle	225, 400, 640 r.p.m.
Dead center	150, 270, 450 r.p.m.
Grinding spindle speeds:	
Standard int.	21000 and 25000 r.p.m.
External	3800 r.p.m.
Net weight with motors	1750 lbs.

For Further Description Write for Bulletin 104



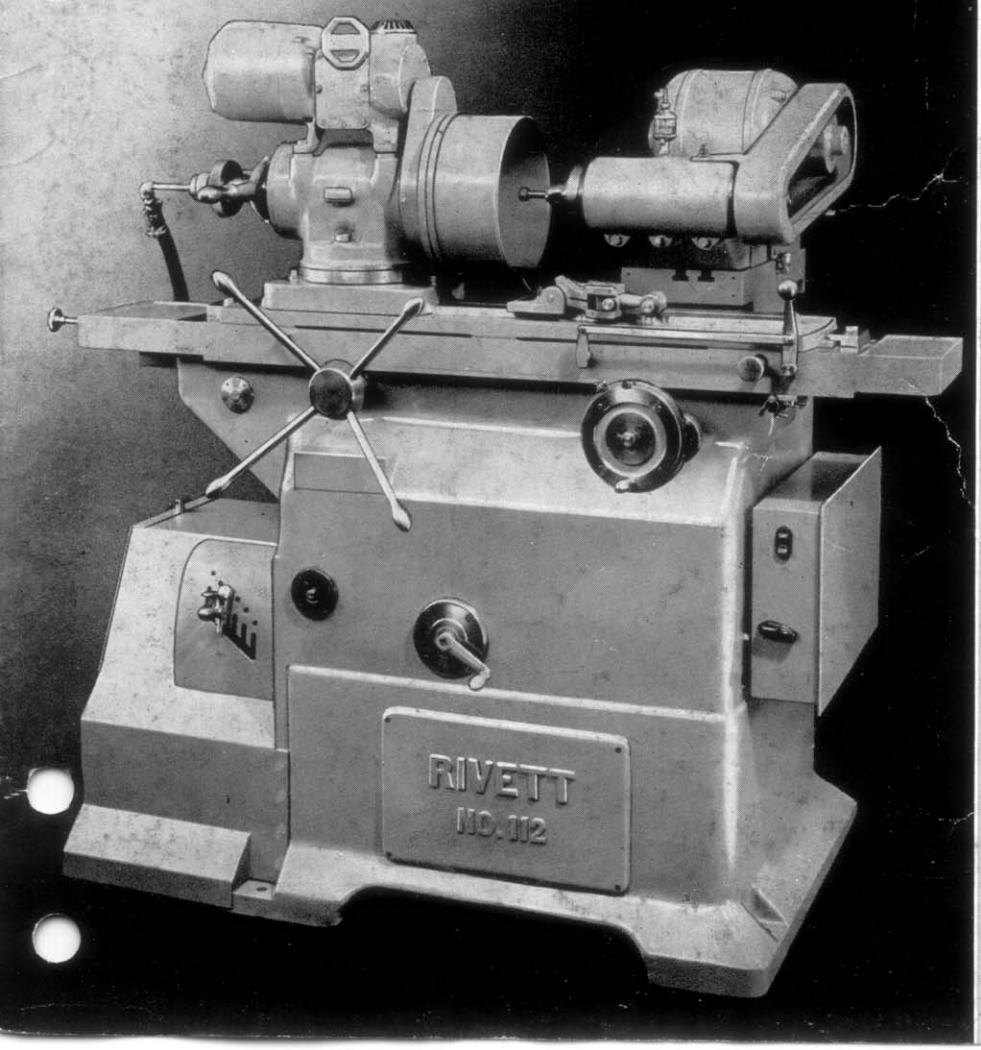
RIVETT

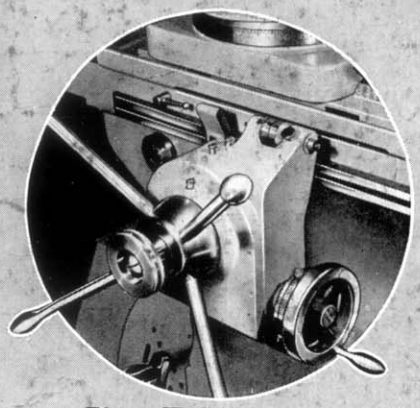
112 UNIVERSAL GRINDER

For Straight, Taper, Bevel or Straight and Bevel Grinding

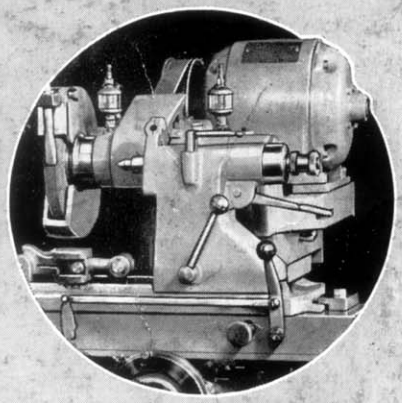
The Rivett No. 112 Universal Precision Grinder is primarily for tool-room work. Available internal and external spindles in combination with many adjustments make possible a great variety of grinding operctions. Extreme simplicity of design enables any mechanic familiar with grinding to operate the machine.

Work may be held in collet, step chuck, jaw chuck or fixture and driven at required speed. Power table reciprocation may be set at one of eighteen selective speeds, from 10 to 86 passes per minute. Length of table travel is infinitely adjustable between ½" and 8". High or low speed internal bracket or external spindle bracket, all as illustrated, may interchangeably be mounted as required on cross slide. Workhead, table and cross slide are swivelled individually or in combination for taper and bevel grinding.





Fine Table Feed and Micrometer Stop



External Spindle

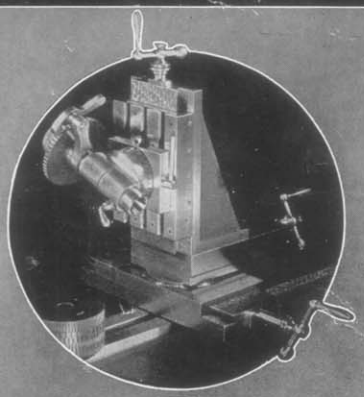
SPECIFICATIONS

Grinding cap., hole dia.	⅛" to 8"
Grinding cap., outside dia.	up to 8"
Automatic table travel	½" to 8"
Table speeds	18 selective
Hand table travel	16"
Swing over table	14"
Workhead swivel	90°
Table swivel	5°
Cross slide swivel	90°
Cross feed graduations	.0005"
Travel of cross slide	3½"
Collet capacity	1"
Step chuck capacity	8"
Jaw chuck capacity	8"
Workhead speeds:	
Spindle	150-450 r.p.m.
Dead Center	100-300 r.p.m.
Grinding spindle speeds:	
Standard int.	5000-12000 r.p.m.
High speed int.	16000-25000 r.p.m.
External	3300 r.p.m.
Automatic Oil Lubrication	
Net weight with motors	3700 lbs.

For Further Description Write for Bulletin 112

PRODUCTION ACCESSORIES

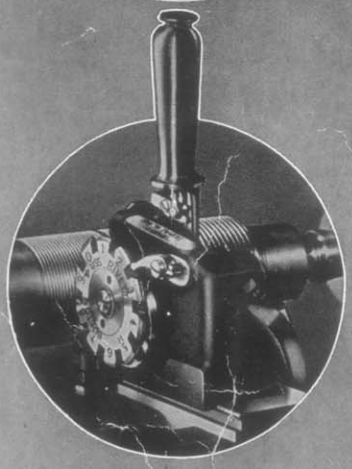
MILLING ATT



The Rivett Universal Milling Attachment, designed for Rivett precision bench lathes, can be adapted to plain precision bench and screw-cutting lathes of other makes. It employs the accuracy of the lathe and substantially adds to the operations which can be performed thereon. Universal movements in three directions and the various methods of mounting work make possible any milling operation within the capacity of the attachment, including small jig boring.

Write for Bulletin 130

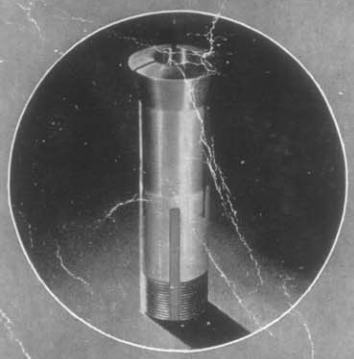
THREAD TOOL



The Rivett Thread Tool is an attachment for any screw-cutting lathe, and takes the place of single point threading tools commonly used. The tool is a holder for a ten tooth cutter with means for indexing the cutter to present each of the ten teeth progressively to the work. The first nine teeth rough out the thread in nine heavy, measured cuts; the tenth tooth finishes. The responsibility of the operator is reduced to indexing the cutter when reversing the lathe.

Write for Bulletin 110

COLLETS



Rivett Draw-In Collets are identified by the Rivett name, style and size stamped on the nose of each. Made from selected alloy steel and scientifically heat-treated, "Rivett Mark" collets retain their spring forever. Many machine tool builders and hundreds of other manufacturers order Rivett collets for immediate shipment from stock. Lathes, milling machines and other tools can be readily equipped with adaptor and draw-bar to use draw-in collets for convenient and accurate chucking of work.

Write for Bulletin 100

LOCK JAW

Lock Jaw, new all purpose work clamp, eliminates expensive clamping and bolting operations on planers, radial drills, shapers, milling machines, surface grinders and boring mills. Lock Jaw provides positive, powerful two-way locking, sure grip pressure downwards and sideways to stop work buckling, sliding or heaving. Lock Jaw is made in several sizes to fit the machine table and to clamp varying forms of work. Set-up time is reduced and faulty clamping methods abolished.

Write for Bulletin 14(

RIVETT LATHE & GRINDER INC.
BRIGHTON, BOSTON, MASS.