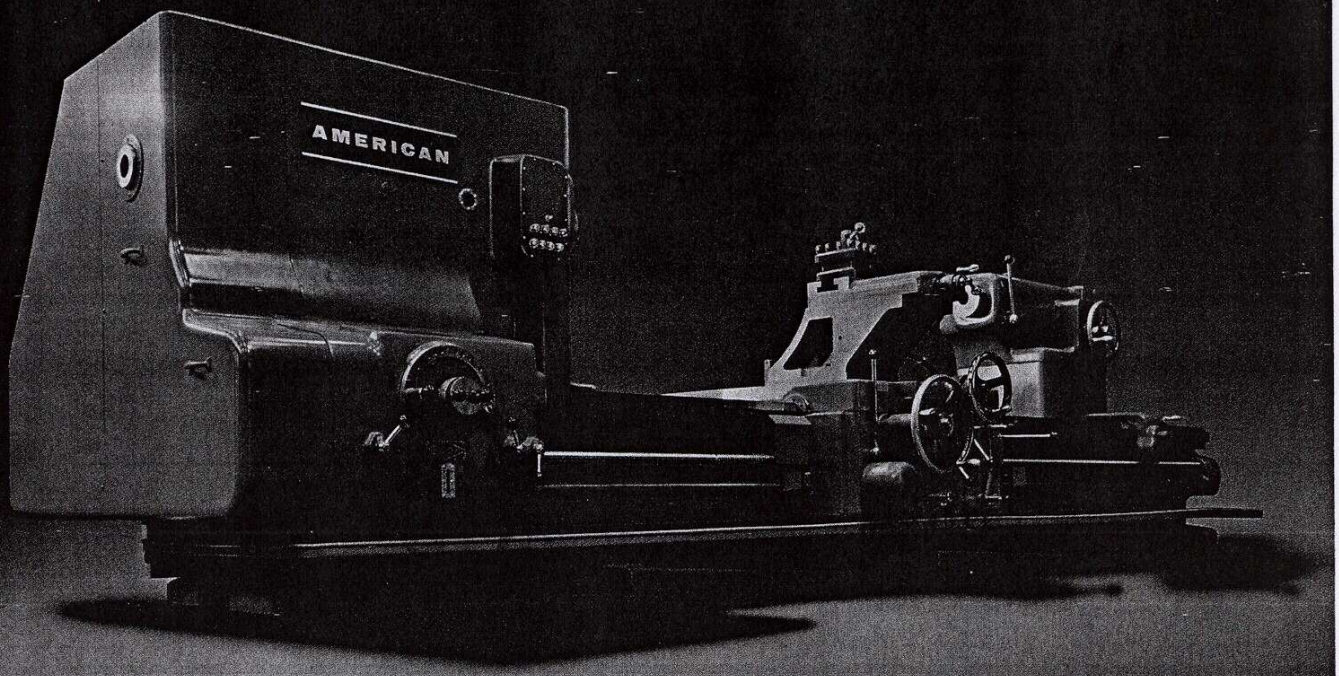
BULLETIN 3220



AMERICAN
ENGINE LATHES

25" STYLE G (3220)

32" STYLE H (3220-26)

32" STYLE H-3 (3220-29)

32" STYLE H-6 (3220-32)

The American Tool Works Company
Pearl Street at Eggleston Avenue • Cincinnati, Ohio 45202

INDEX

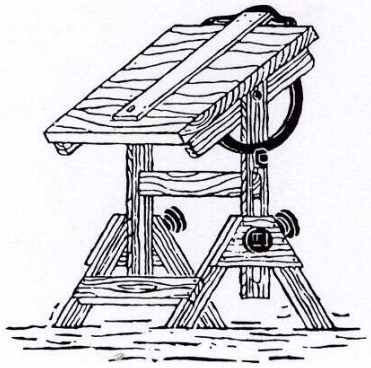
One moment, please

As a pioneer producer of machine tools, The American Tool Works Company offers an unusual insight into the metalworking industry's needs. For ninety years our company has met each challenge with new and improved equipment. ■

In recent years we've come to realize a far greater responsibility: that of helping our customers meet the challenge for greatly increased production . . . reduced operating costs . . . lower maintenance costs. In short, of building better, more productive, more accurate machine tools for industry. ■

The lathe described in this bulletin . . . the standard American engine lathe . . . can be your answer to this challenge. This lathe is rugged. It's powerful. And it's built from the ground up to give you higher production . . . and accuracies that a few years ago, had they been possible, would have been classified "ultra-precision." ■

DESIGN FEATURES



Constant research and development at The American Tool Works Company have led to these outstanding design features. Features that protect the operator from injury. Features that add extra years to the accurate life of your American engine lathe.

✦ Disc clutches of the traverse mechanism give immediate protection if the carriage or cross slide meet an obstruction. Clutches automatically disengage when levers are released.

✦ Safety clutches provide automatic overload protection for both the longitudinal and cross feed mechanisms.

✦ Automatic de-clutching keeps the longitudinal traverse handwheel stationary when the power traverse is in operation.

✦ Dial-In Spindle Speed Pre-Select at the Apron makes shifting easy, encourages operator to use correct cutting speeds for better tool life and increased production.

✦ Automatic filtered cascade lubrication of the head transmission and feed box gives longer machine tool life.

✦ Thorough filtered lubrication of the tailstock spindle and ways eliminates pick-up or scoring and reduces wear.

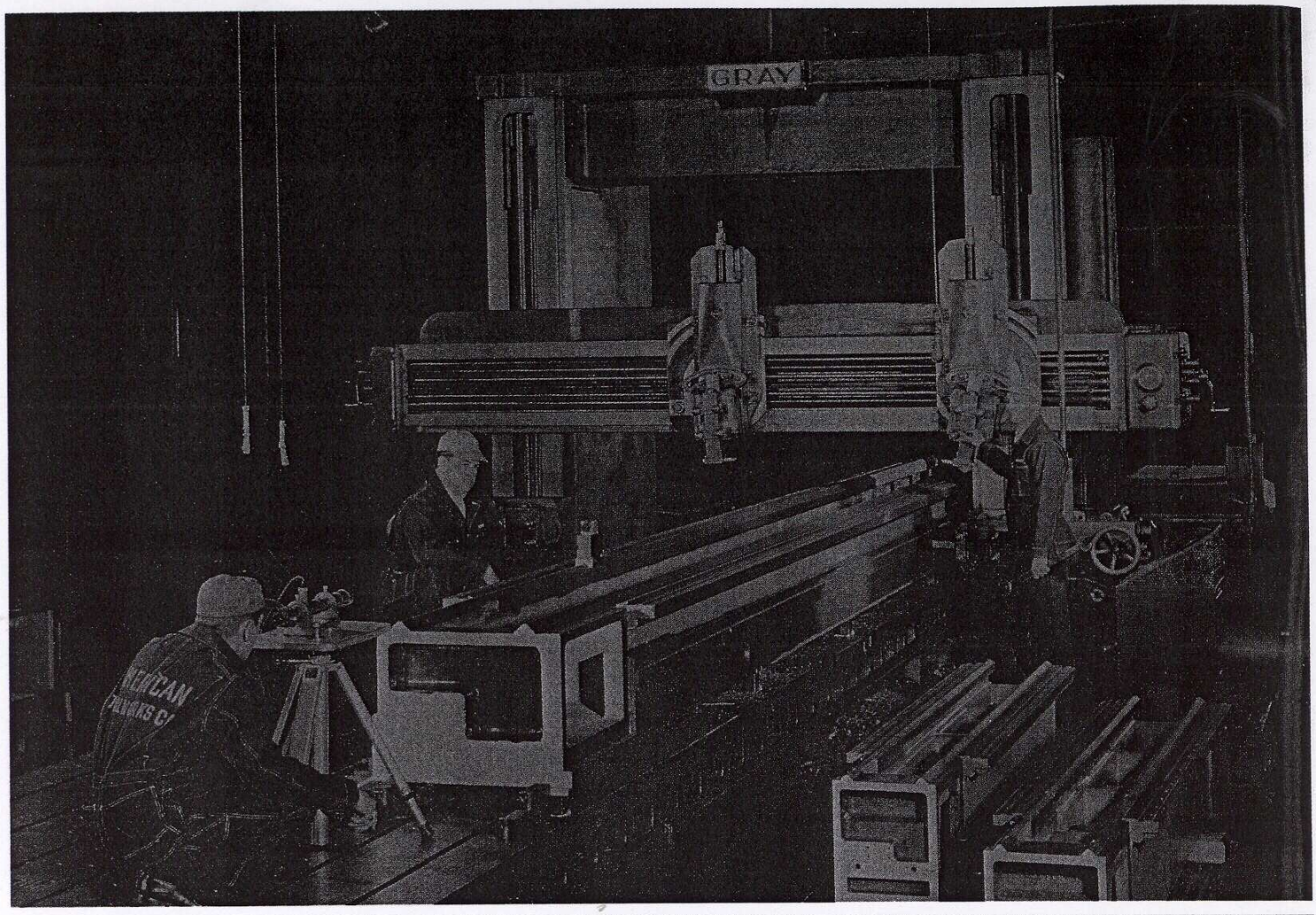
✦ Interlocks prevent simultaneous engagement of the feeds and traverses and the longitudinal feed and half nuts.

✦ Clean way surfaces for the carriage vees, compound rest bottom slide and the tailstock are assured by built-in compression wipers.

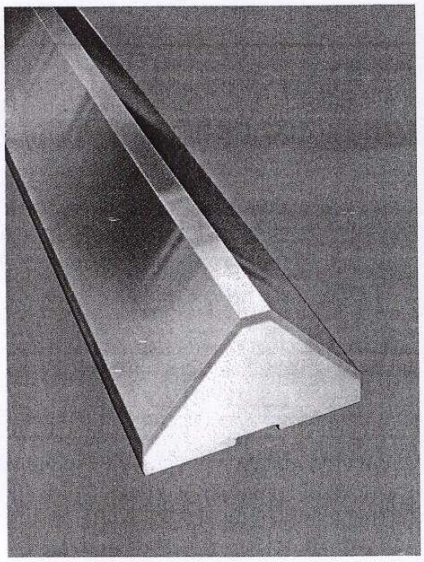
✦ External adjustment of the front and center Timken Zero Precision spindle bearings assures easy maintenance.

✦ Automatic filtered lubrication protects the apron, the carriage, the cross slide and the cross feed nuts.

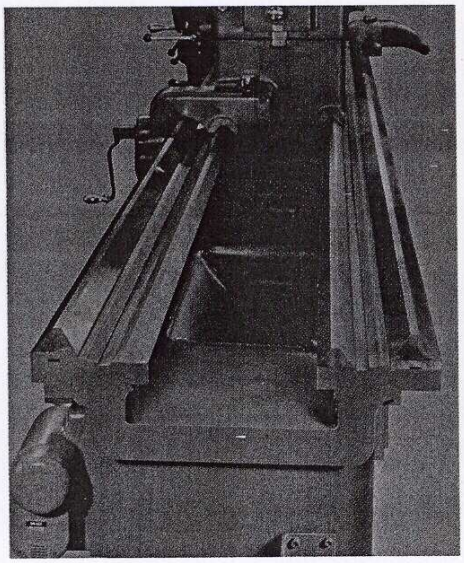
✦ Direct drive of the spindle by the main drive motor means there is no headstock driving clutch to wear and get out of adjustment. The spindle and gear train are stopped by an electric disk brake.



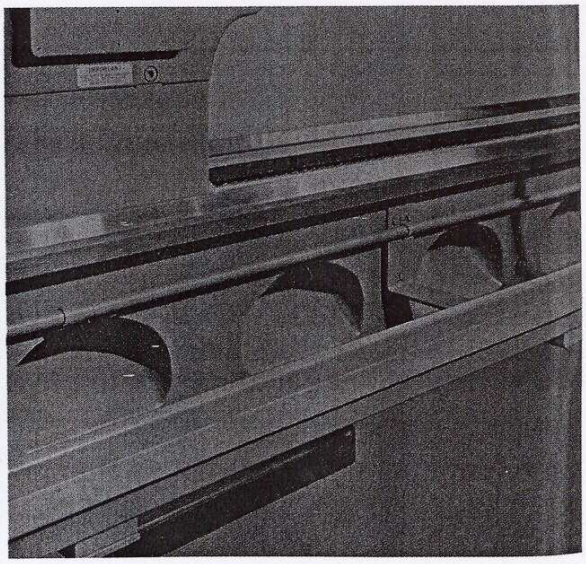
On one of nine modern G. A. Gray planers, American Quality Control men check straightness of lathe bed with super-accurate auto-collimator during planing operation. Continuous checking of each component throughout production assures accurate performance of American Tool Works machine tools.



Pyramidal shape of vee-ways gives large bearing surface for carriage, resists heaviest lateral thrusts.

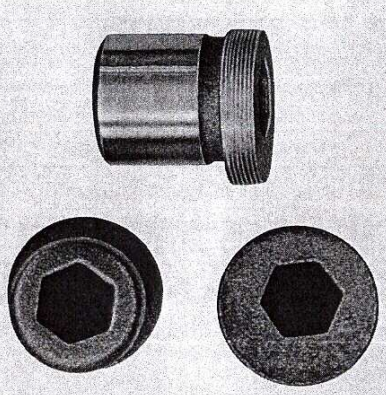


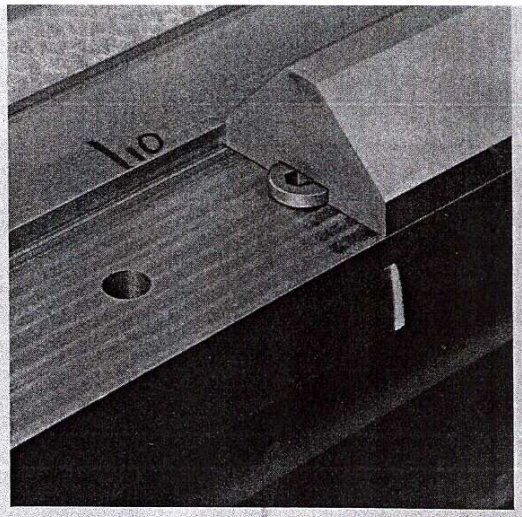
Inner vee-ways dropped below level of outer vee-ways form inverted pyramid . . . give extra big swing.



Semi-steel bed has cast-in chutes which carry chips to rear, away from tool and workpiece. Heavy webbing between chutes adds to rigidity.

Absolute straightness of bed vee ways is assured by adjustment process, using hardened eccentrics.

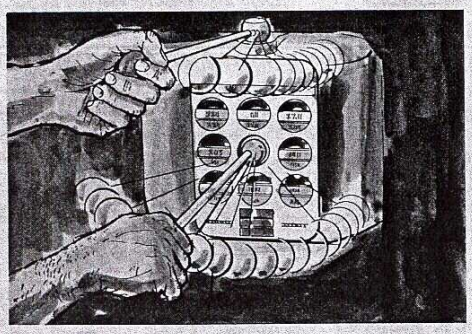




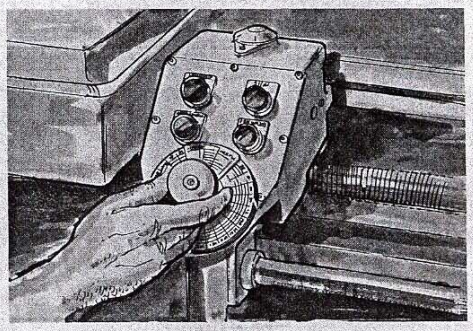
Bed

American's 4-vee-way bed design is based on one of the strongest design principles known to engineering . . . the pyramid. Four vee-shaped ways eliminate carriage or tailstock twist under thrust of the heaviest cuts. The inner vees are dropped below the level of the outer vees, forming an inverted pyramid . . . giving added swing and extra rigidity. ■ Replaceable outer vee-ways are of hardened tool steel (61-63 Rockwell C), ground to gauge tolerances. Built-in compression wipers keep all four vee-ways clean. Safety-designed chutes carry chips and coolant to the rear, away from the workpiece and the operator. ■

To assure absolute straightness of the bed and vee-ways, American's quality control men check straightness and parallelism with an auto-collimator throughout production, while the basic bed with integral inner vee-ways is being planed, and after the outer hardened vee-ways are added. ■ A unique arrangement of eccentrics, set along the outer vee-ways, assures straightness and parallelism throughout the long life of the lathe. ■



You don't do this . . .



You do this!

Headstock

With Hydraulically Powered, Dial-In, Spindle Speed Pre-Select at the Apron

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This American Tool Works Lathe boasts a heavy duty headstock. Alloy steel, hardened, Maag-ground gears are built to transmit the full overload of a 60 h. p. driving motor. Sliding gears *only* are employed in the speed change transmission. There are no jaw or friction clutches. The teeth of all sliding gears are machine rounded for smooth meshing, and the gears slide on heat treated multiple splined shafts . . . there are no keys to wear or shear off. ■

When you're turning parts that have several different diameters, you'll find that American's hydraulically powered Dial-In Spindle Speed Pre-Select encourages the operator to use the correct cutting speed for each diameter change. ■

That's because Dial-In Pre-Select makes spindle speed shifting so easy for the operator. All he has to do is turn the graduated dial to the required spindle speed, or align the dials to the diameter and the required cutting speed in feet-per-minute. The correct r.p.m. is automatically calculated. ■

The operator doesn't have to leave his position at the cutting tool, because he preselects, or selects, the proper speed by the dials, and initiates the shift by push-button, right from the apron. ■

And Dial-In Pre-Select is standard equipment on your new American 3220 lathe. ■

With this American lathe, you have your choice of non-reversing electrical equipment, giving you start and stop; or reversing electrical equipment, providing start, stop and reverse of the spindle. In either case, an adjustable electric brake stops the spindle, and all electrical equipment is heavy duty, fully automatic and thoroughly protected against overload. ■

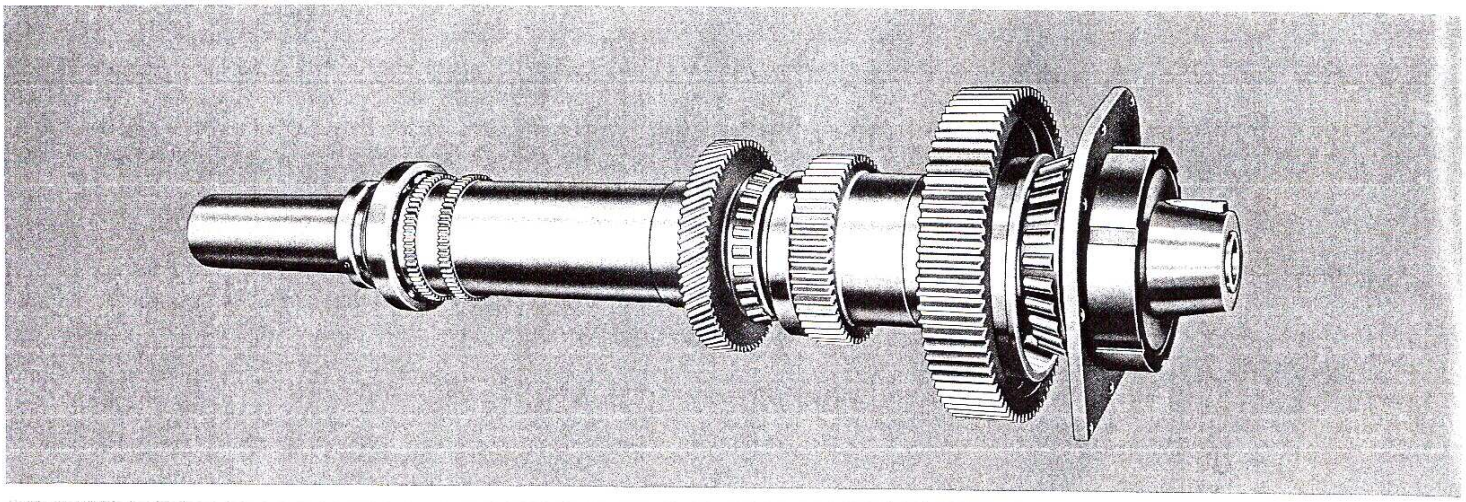
Three spindle gears divide the 27 speeds into 3 equal ranges. These ranges permit the use of gear ratios free from excessive tooth pressures and periphal velocities. ■

Probably the single most critical requirement in assuring accuracy of a lathe is a completely rigid headstock spindle. For this reason, *three* bearings support the husky spindle on your American. Zero Precision taper roller bearings are at the front and at the center, while a floating ball bearing at the rear provides for expansion. ■ Still, bearing manufacturers are quick to admit that regardless of their manufacture, and regardless of the skill with which they are mounted in the headstock, these spindle bearings will get out of adjustment due to wear. There will necessarily be an initial re-adjustment after the first several months of use, and to maintain optimum machine performance, these spindle bearings must be adjusted at least once a year for the life of the lathe. ■ For this reason, your American lathe features a simple method of adjusting the front and center bearings *simultaneously, with one motion, from outside the headstock.* This is done in seconds, rather than the 8 to 12 hours normally required for such an adjustment. ■

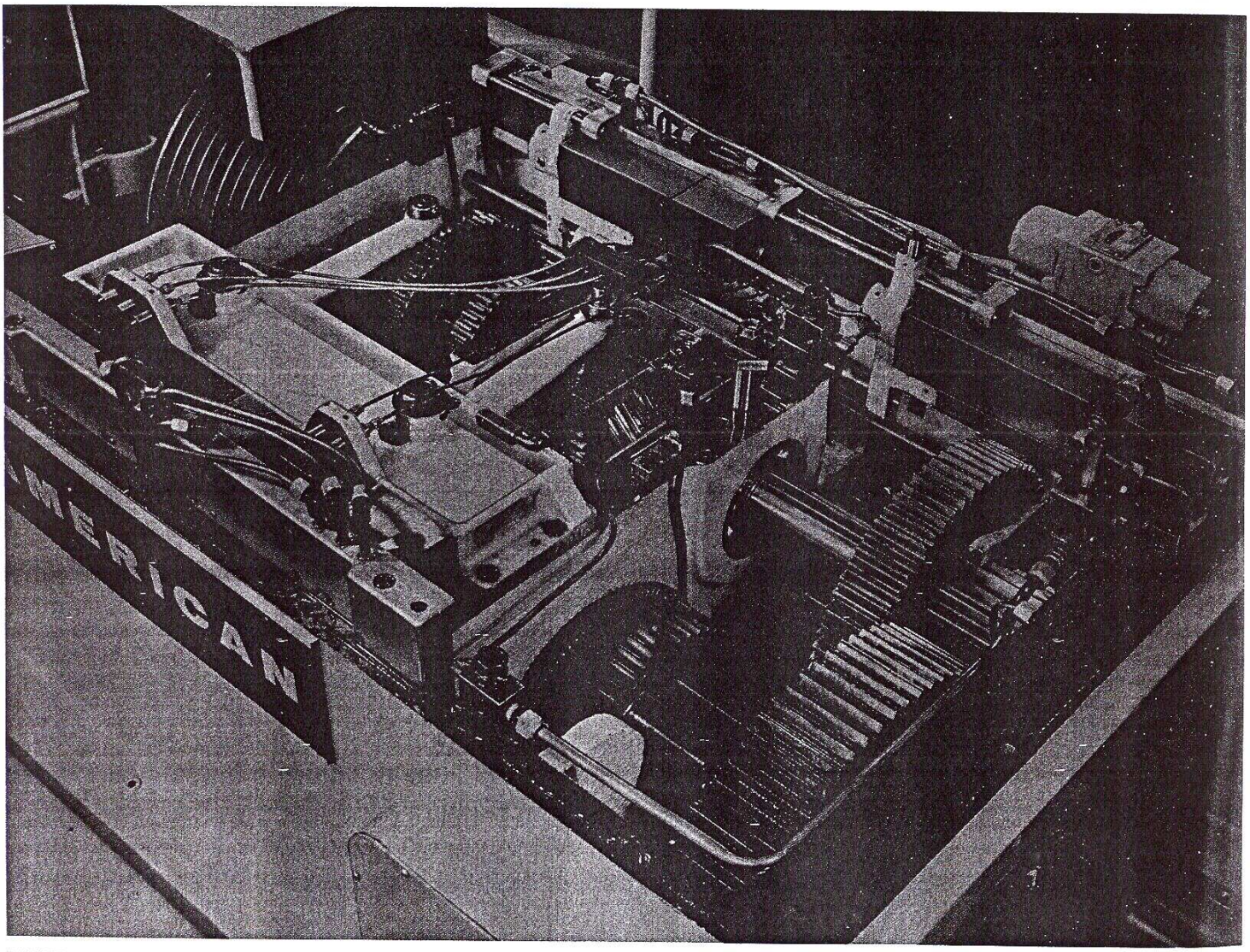
The user who takes advantage of this important feature can continuously get new-machine accuracy and fine finish year after year, with no bearing-adjustment down-time. ■ *No other lathe has this unique feature!* ■

The head is 100% anti-friction mounted and is automatically filter lubricated. Old fashioned "splash" oiling systems are obsolete, compared with this exclusive American innovation. Cascade oiling really floods the gears and bearings . . . protects them from overheating . . . expansion . . . whine and clash. The reservoir, located in the bed far away from the head, keeps the oil cooler and has a larger capacity. ■ Proper tension of the multiple vee driving belts which connect the motor and the initial drive shaft is provided by an adjustable motor mount. Located at the rear of the head, the motor is easily accessible for oiling and cleaning. ■

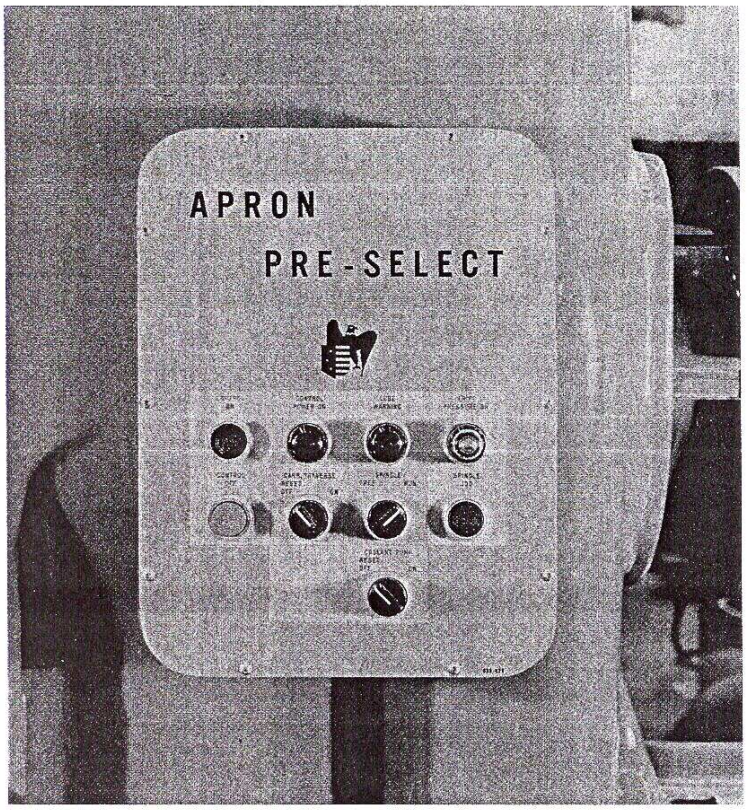
An L-3 key drive tapered spindle nose is standard equipment, while your optional choice is a standard D1-11 camlock spindle nose. ■



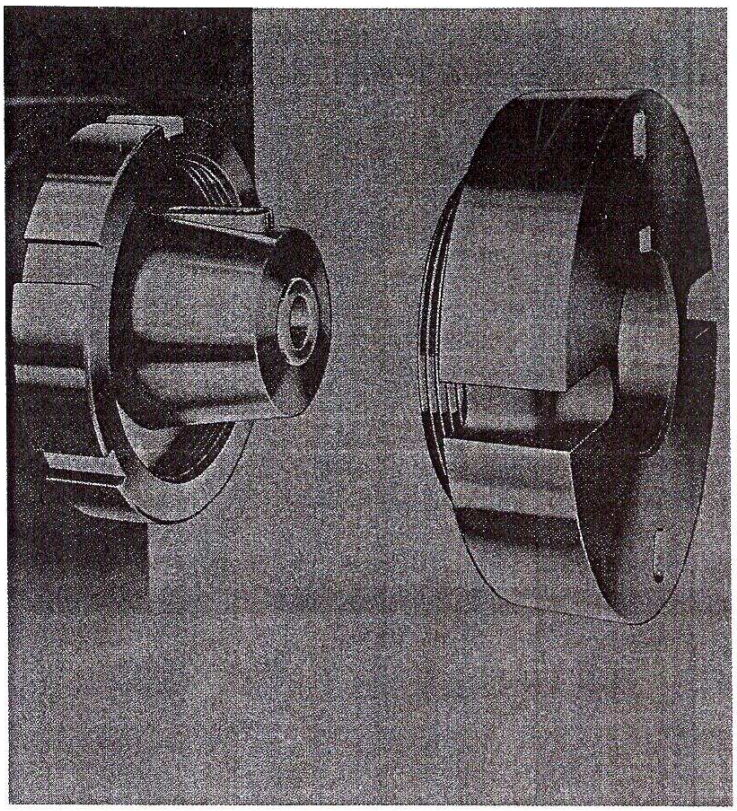
Triple geared spindle has 27 speeds. All gears are alloy steel, hardened and Maag-ground. Note Zero Precision Taper Roller bearings at front and center, which are adjusted simultaneously, with one motion, from outside the headstock. Floating precision ball bearing is at rear.



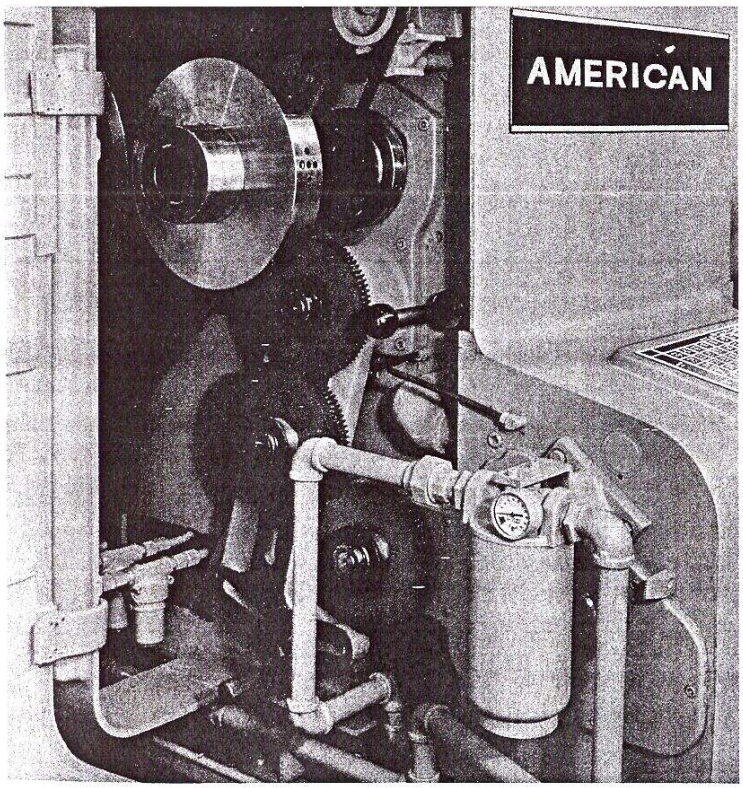
Compact design concept of head adds to precision. Note heavy ribbing, especially for center spindle bearing. Multiple-splinded shafts are hardened and ground. Tubing is for hydraulically activated spindle speed pre-select, dialed-in at the Apron.



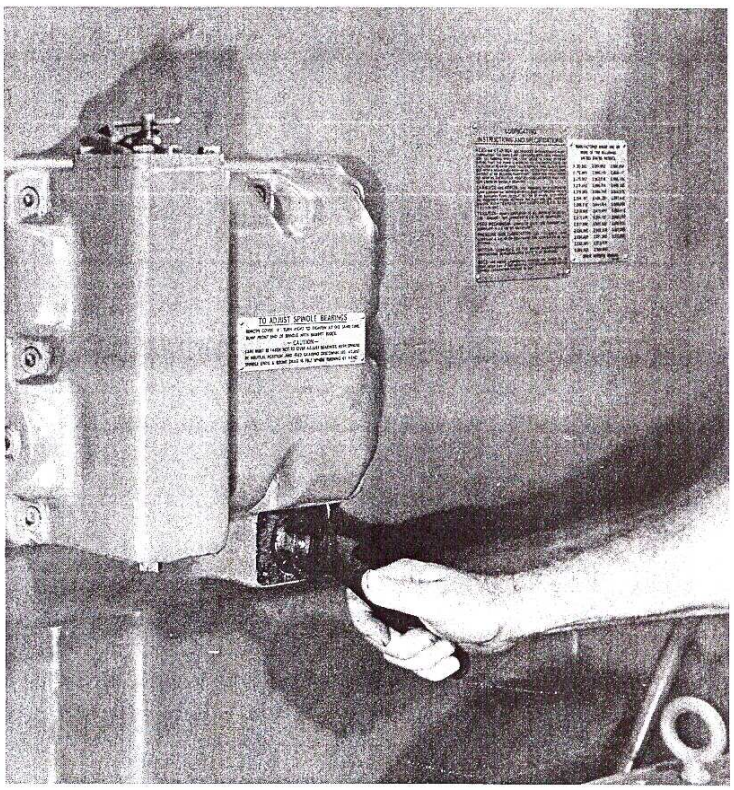
Replacing 3 shift levers and selector plate, panel now has push buttons for Control On, Control Off, Carriage Traverse Reset, Spindle Free/Run, Spindle Jog and Coolant On/Off. Shift is by Apron-located Pre-Select Dial.



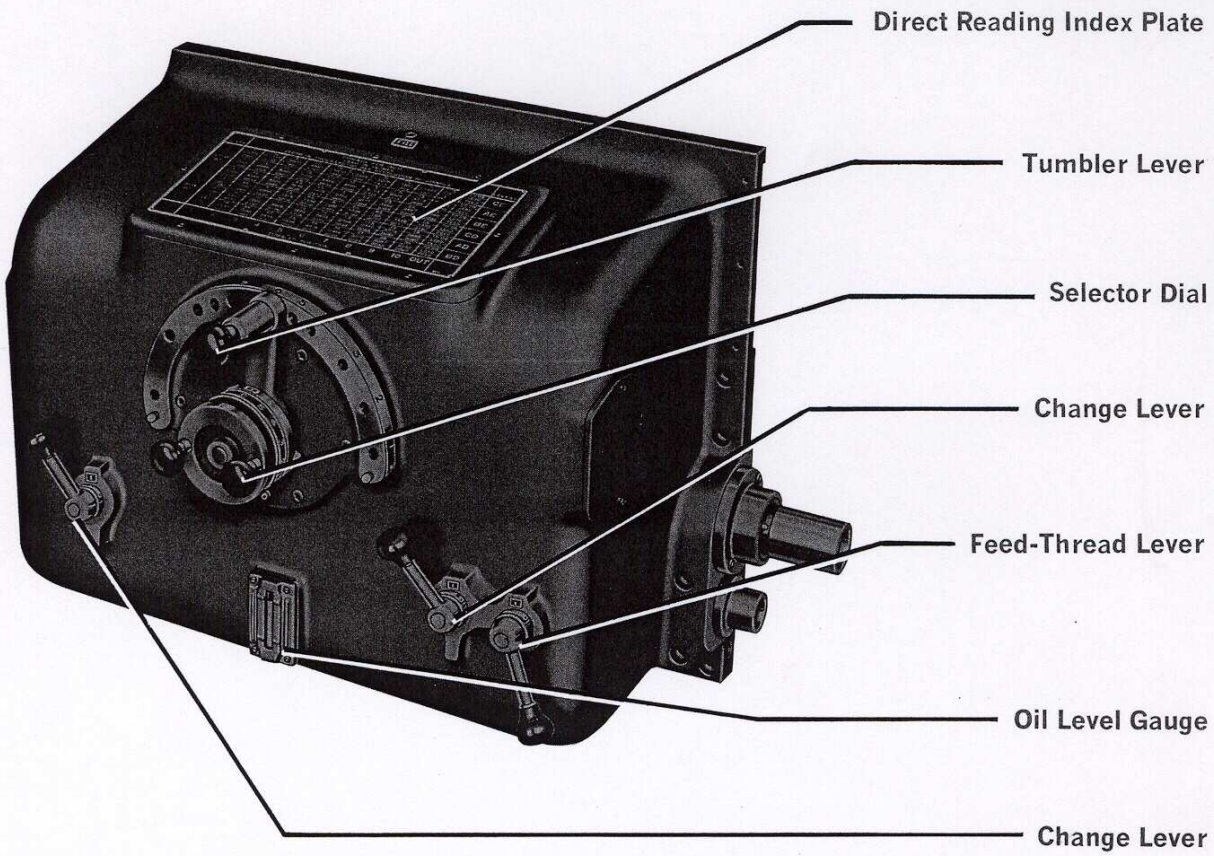
American's standard key drive taper spindle nose is simple, accurate. Attaching and removing chucks and face plates is extra safe because fixtures can't fall when collar is released.

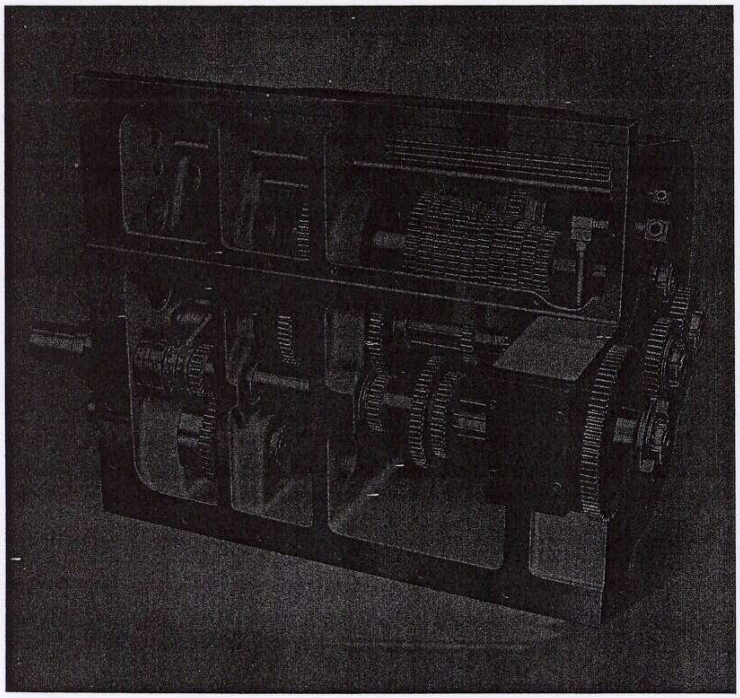


With headstock door open, Spindle Speed Pre-Select pump and control equipment are easily accessible. All gears in gear-train are hardened and antifriction mounted.

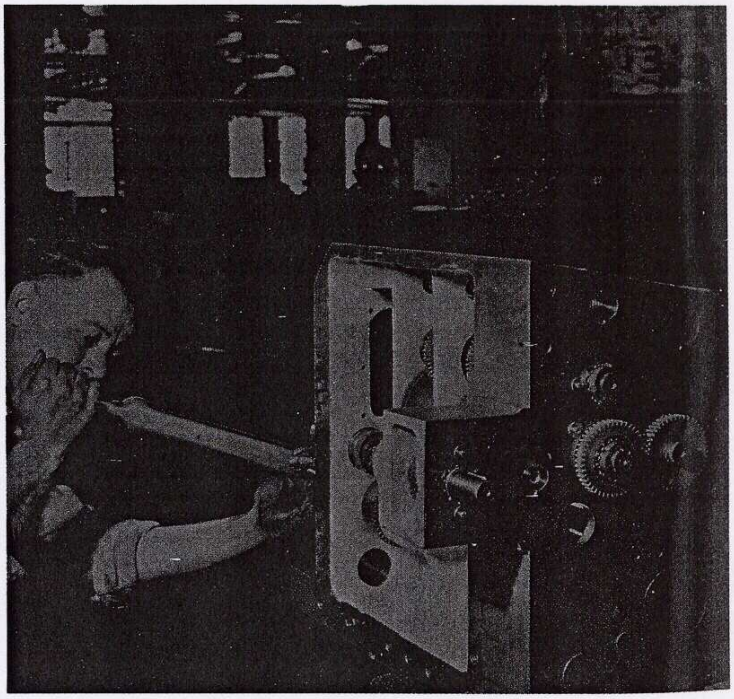


American's outside spindle bearing adjustment takes minutes, saves 8 to 12 hours downtime every few months. This feature is an American exclusive.





Interior view shows rugged casting. Heavy ribbing prevents deflection. Close sliding fit, precision gears, give smooth, silent performance.



Torque of feed safety clutch is accurately measured for setting at optimum safety level. Maintenance-free clutch is self-adjusting and automatically re-engaging.

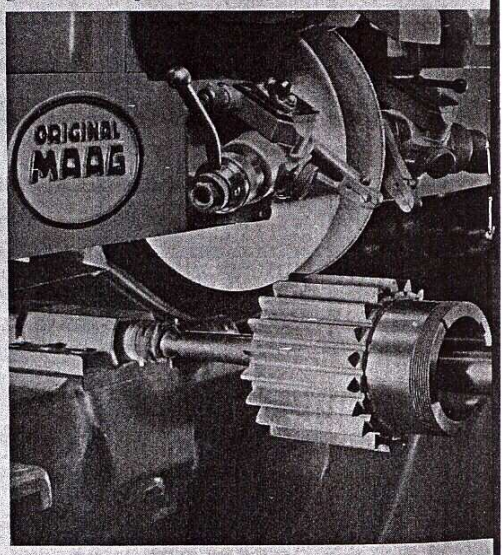
Quick Change Gear Box

This totally enclosed mechanism has all hardened steel gears and heat treated anti-friction mounted shafts, and is automatically pump filter lubricated. A self-adjusting, automatically re-engaging feed safety clutch protects the transmission from shock and overload. Threads and feeds are selected with outstanding simplicity. ■ The hefty leadscrew is ball thrust bearing mounted at both ends, placing the screw in tension when chasing in either direction. These bearings are easily adjusted for the proper tension. Anti-friction mounted at both ends, the feed rod has fixed stop collars that automatically stop the feed at each end. ■

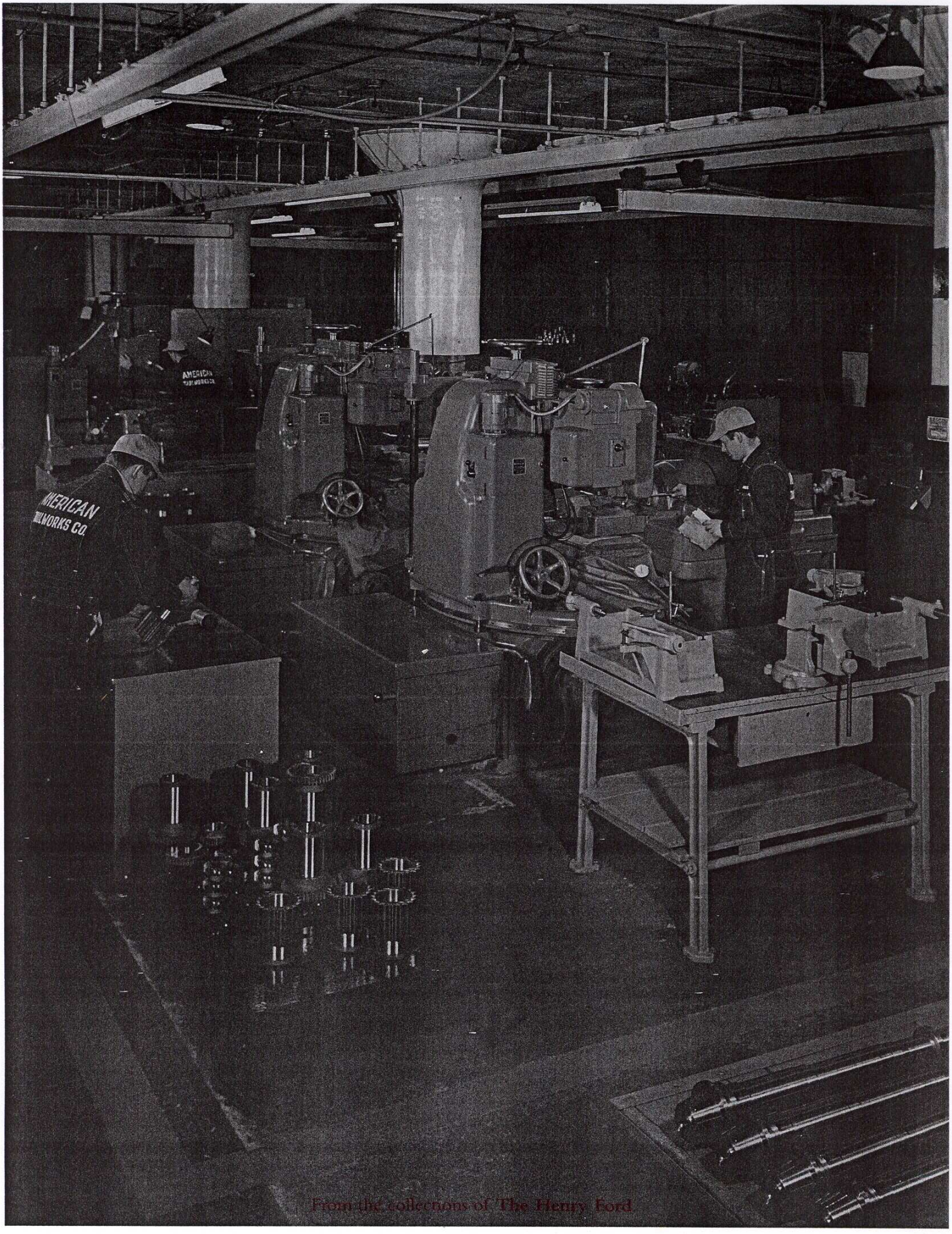
Cutting every standard thread without transposing or adding gears, this universal mechanism converts to metric with the substitution of a few gears. Adding a few gives you diametral and module pitches . . . and you get your choice of standard or coarse range for the same price. ■ Lathes with standard range provide from ½ thread per inch to 30 threads per inch. Feeds are from 0.004″ to 0.240″ per revolution. Coarse ranges provide from ¼ thread per inch to 7½ threads per inch. Feeds are from 0.016″ per revolution to 0.480″ per revolution. Much used threads of 7, 7½, 11½, 13 and 27 per inch are American standard . . . cost extra on many makes. ■

Maag-ground Gears

Precision grinding wheels finish hardened alloy steel gear to total composite error of 0.001″ or less. Pitch diameter runout is 0.0005″ maximum. American gears are ground off tapered bushings.

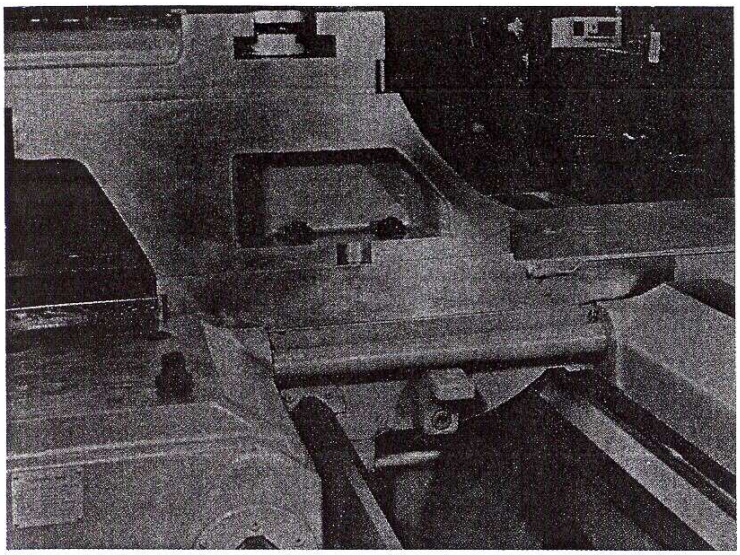


Fine equipment and tight quality control result in a better product. In American's gear department, specially trained "Maag-men" operate a battery of precision Maag Gear Grinders that produce the super-accurate gears that go into American Engine Lathes. ■ These hardened alloy steel gears are finished to a total composite error of 0.001″ or less. Pitch diameter runout never exceeds 0.0005″. ■ Gear checkers chart accuracies of each gear to: involute, 0.0002″ or better; lead, 0.0001″ per inch of face width; tooth spacing, 0.0002″ or better. ■ All these super-precision American gears are ground off tapered bushings. ■

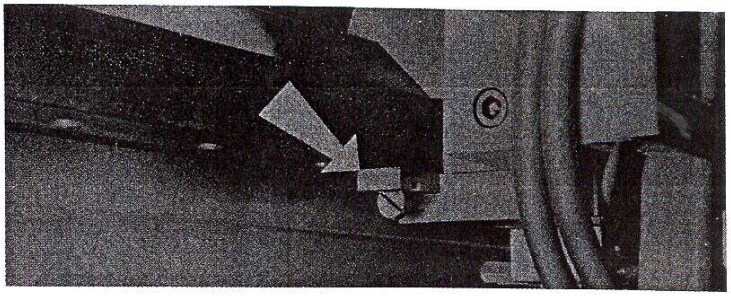


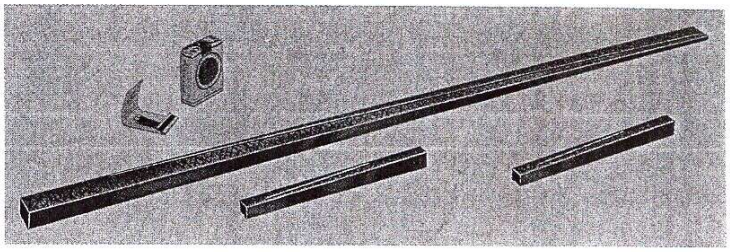
Carriage

American's deepened carriage bridge is extra strong. A rigid rectangular tool rest gets the tool support closer to the workpiece, giving the whole unit more stamina. ■ Tapered gibs under the front and rear outer vee-ways adjust for long-time accuracy. A special gib under the front vee-way clamps the carriage to the bed for facing operations. Compression wipers on the carriage wings eliminate vee scoring. The ease of carriage movement is the result of clean, pressure lubricated bed ways. ■ Ball thrust bearings and an automatically oiled hard bronze compensating cross-feed nut, in conjunction with the hardened cross-feed screw, give and keep the greatest possible accuracy. The 3-piece cross-feed nut is adjustable to eliminate backlash. ■ Travel of the carriage is read on a large micrometer dial (on the Apron handwheel), graduated in .005". Each complete revolution of the handwheel gives 1" of carriage travel. ■ An important and exclusive feature of the American carriage is that it rides on *three* vee-ways, completely eliminating any tendency to fish-tail. ■

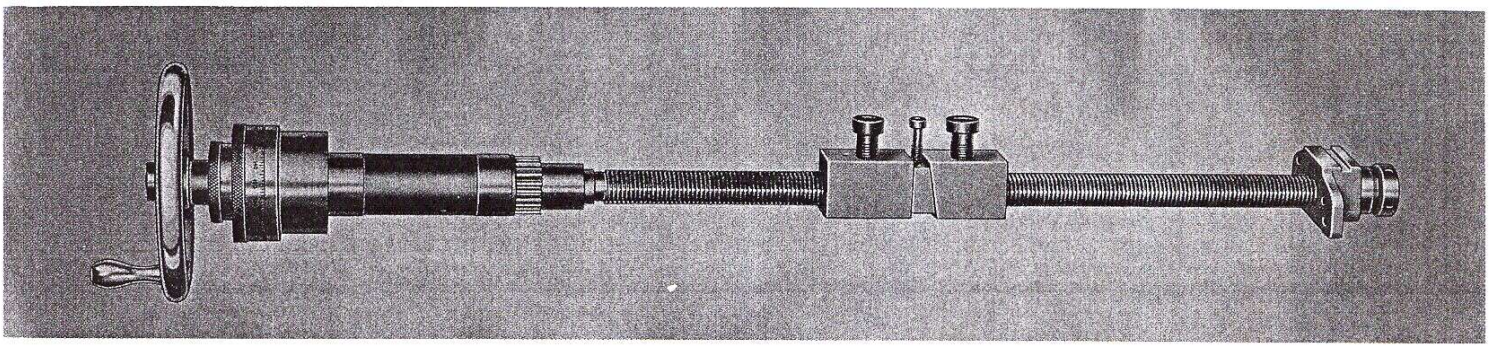


New carriage design is deeper, stronger, prevents vibration. Sturdy tool rest keeps tool support closer to work-piece, is extra rigid. Tool rest is full carriage bridge width for maximum tool support.



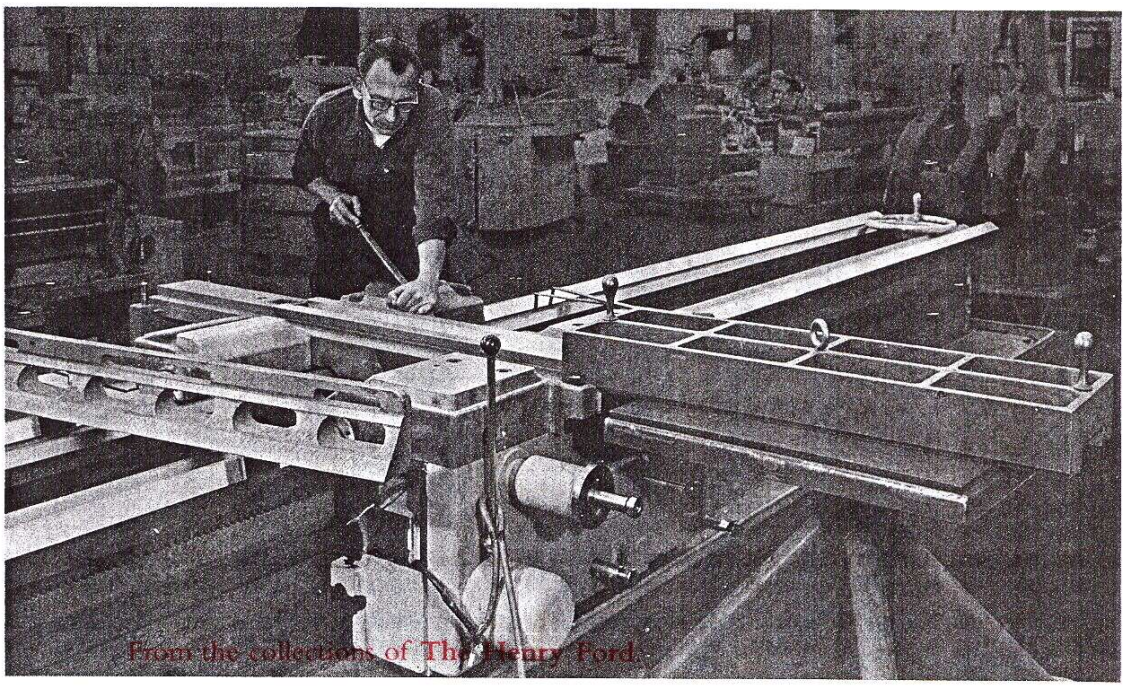


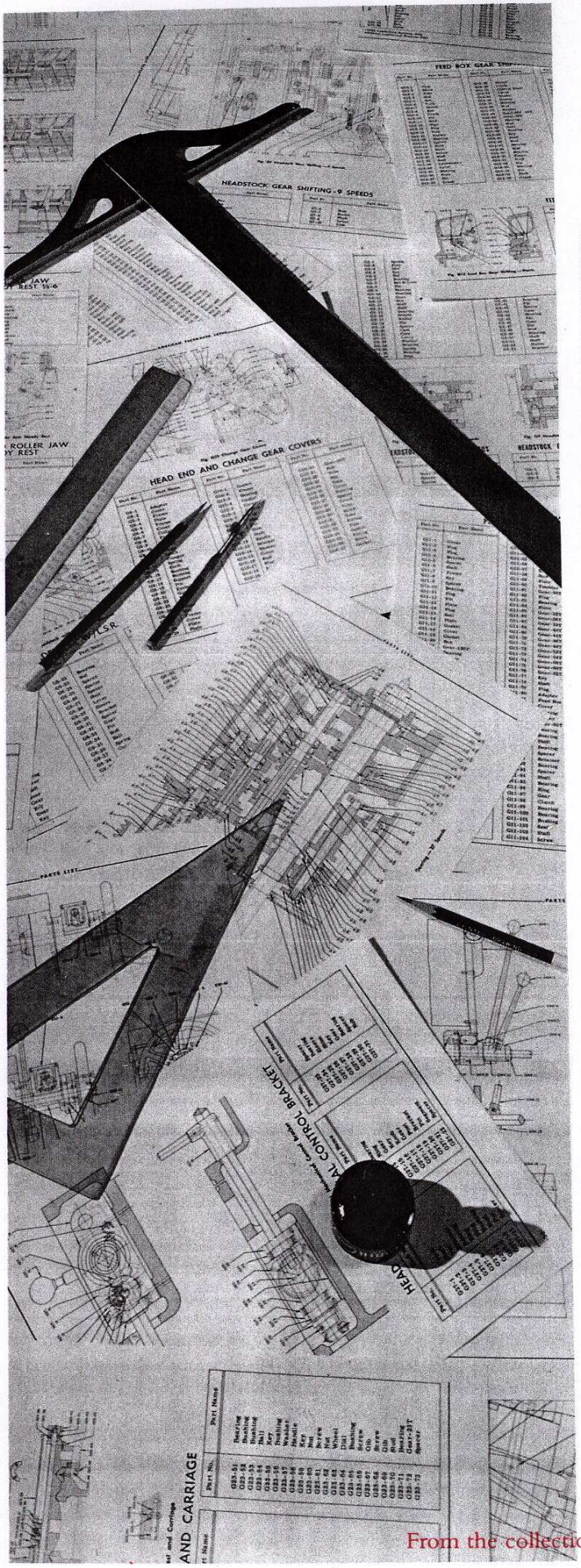
Precision adjustment of carriage to bed is assured by tapered gibs both front and rear. Top photo, rear gib in place. Note screw for easy adjustment. Bottom photo, long rear gib, upper, and two front gibs, lower.



Hardened cross-feed screw is automatically oiled. Note standard direct reading micrometer dial at left, bronze compensating nut, right. See optional dual dial accumulators, photo below, left.

Scraper hand scrapes flat of carriage bridge. Note scraping fixture, right. Paralleling fixture resting on bed ways at left assures dovetail edge parallelism.



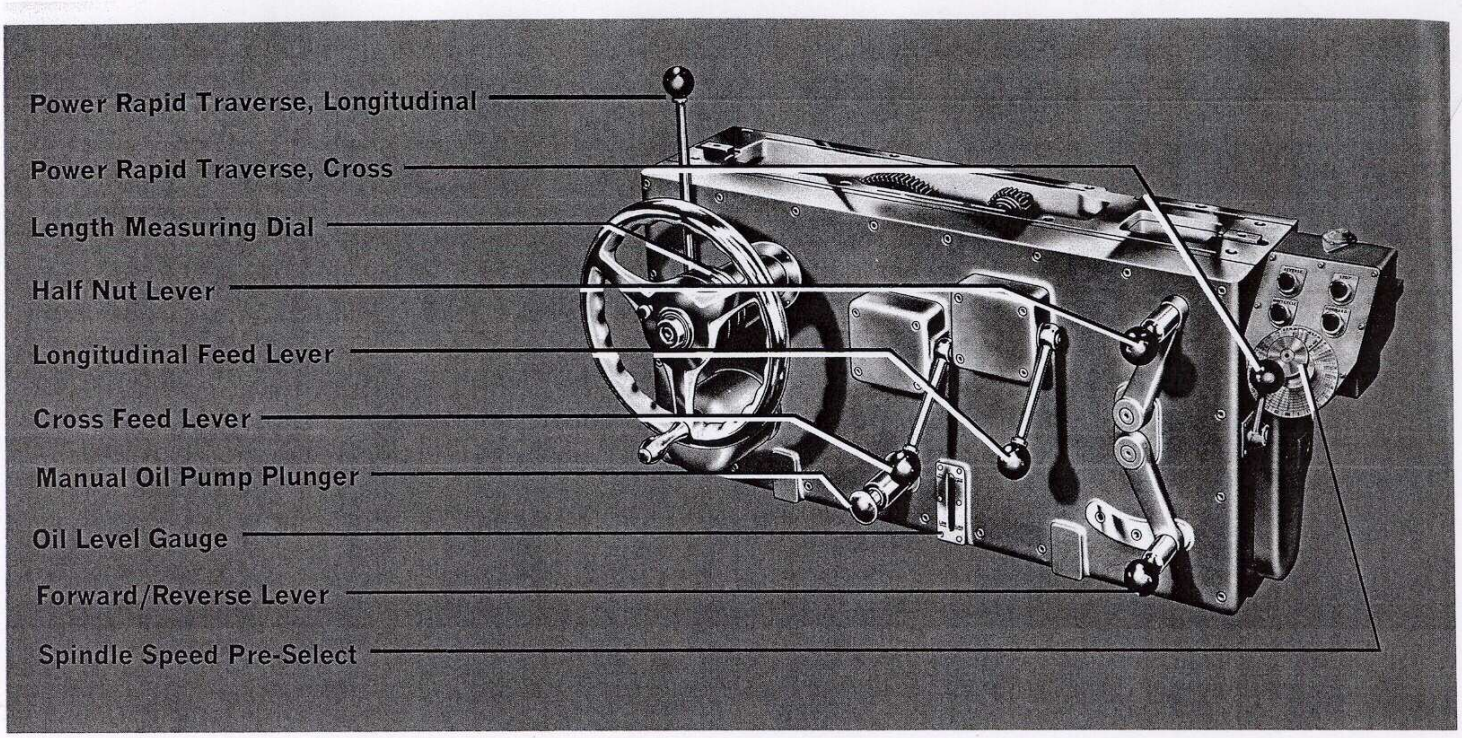


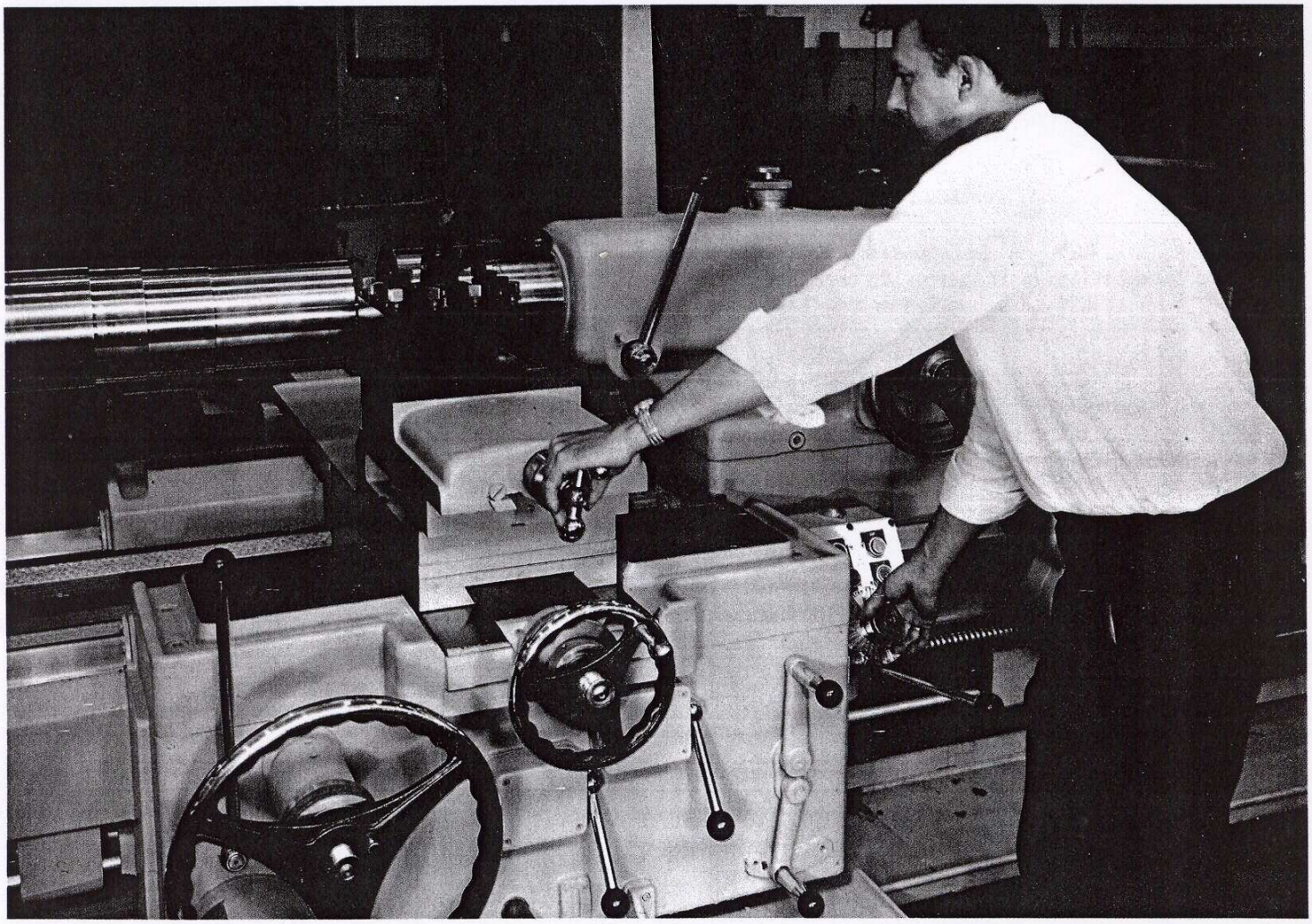
Specifications

Swing Over Bed	
Swing Over Carriage Wings	
Swing Over Cross Slide	
Base Length—Domestic Shipping Weight, including Motor and Average Accessories, approximately	
Extra 2 Feet of Bed	
Base Length—Boxed Weight, including Motor and Average Accessories, approximately	
Extra 2 Feet of Bed, Boxed	
Maximum size motor recommended	
HEADSTOCK	
Length on Bed	
Radial Load Capacity—Front Bearing at 100 R.P.M.	
Thrust Load Capacity at 100 R.P.M.	
Radial Load Capacity—Center Bearing at 100 R.P.M.	
Diameter of hole in Spindle to clear bar	
Taper of Center	
Large Face Plate Diameter	
Small Face Plate Diameter	
BED	
Width—Depth	
CARRIAGE	
Length of Carriage on Bed	
Square inches of Carriage Bearing on Bed	
Width of Carriage Bridge	
QUICK CHANGE GEAR BOX	
Number of Threads Can be Cut	
Range of Threads Can be Cut Per Inch	
Number of Feeds Can be Cut	
Range of Feeds in Thousandths Per Revolution	
Diameter of Leadscrew	
Pitch of Leadscrew	
COMPOUND REST	
Travel of Top Slide	
Round Tool Holder (Size of Tool)	
Tool Holder Size	
High Duty Tool Holder (Size of Tool)	
4-Way Tool Block (Size of Tool)	
TAILSTOCK	
Length on Bed	
Diameter of Tailstock Spindle	
Length of Tailstock Spindle	
Set Over of Tailstock, on Side	
Spindle Travel	
Taper of Center—Morse	

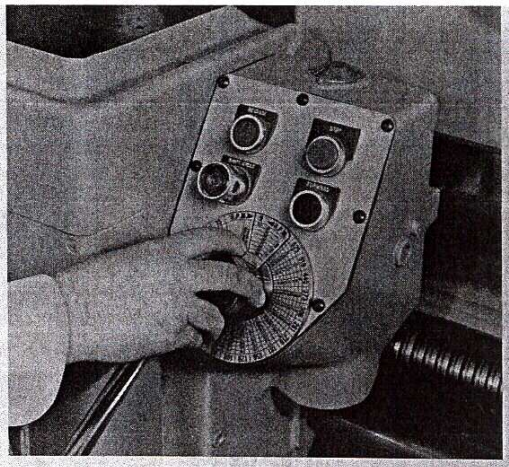
*60 H.P. WITH 9-900 R.P.M. SPINDLE SPEED RANGE. OTHERWISE 50 H.P.

25″ STYLE G (3220)	32″ STYLE H (3220-26)	32″ STYLE H-3 (3220-29)	32″ STYLE H-6 (3220-32)
36″	39¾″	43″	46″
33½″	36½″	39½″	42½″
22½″	26″	29½″	32½″
20,820 lbs.	21,240 lbs.	21,660 lbs.	22,080 lbs.
950 lbs.	950 lbs.	950 lbs.	950 lbs.
26,000 lbs.	26,900 lbs.	27,800 lbs.	28,700 lbs.
1,500 lbs.	1,500 lbs.	1,500 lbs.	1,500 lbs.
60 H.P.*	60 H.P.*	60 H.P.*	60 H.P.*
49½″	49½″	49½″	49½″
53,300 lbs.	53,300 lbs.	53,300 lbs.	53,300 lbs.
47,700 lbs.	47,700 lbs.	47,700 lbs.	47,700 lbs.
26,400 lbs.	26,400 lbs.	26,400 lbs.	26,400 lbs.
2⅞″	2⅞″	2⅞″	2⅞″
No. 6	No. 6	No. 6	No. 6
29″	35″	35″	35″
17″	17″	17″	17″
25″—20¾″	25″—20¾″	25″—20¾″	25″—20¾″
42″	42″	42″	42″
231″	231″	231″	231″
12″	12″	12″	12″
60	60	60	60
½ to 30	½ to 30	½ to 30	½ to 30
60	60	60	60
.004 to .240	.004 to .240	.004 to .240	.004 to .240
2½″	2½″	2½″	2½″
½ Pitch	½ Pitch	½ Pitch	½ Pitch
6″	6″	6″	6″
1″ x 2″	1″ x 2″	1″ x 2″	1″ x 2″
No. 5	No. 5	No. 5	No. 5
1″ x 2″	1″ x 2″	1″ x 2″	1″ x 2″
1½″ x 1½″	1½″ x 1½″	1½″ x 1½″	1½″ x 1½″
25¾″	25¾″	25¾″	25¾″
6″	6″	6″	6″
36¾″	36¾″	36¾″	36¾″
⅛″	⅛″	⅛″	⅛″
15″	15″	15″	15″
No. 6	No. 6	No. 6	No. 6





With American's Dial-In Spindle Speed Pre-Select, the operator never has to leave the Apron to shift spindle speeds. Note the close, convenient grouping of other controls. The entire lathe is human-engineered for ease of operation, reducing operator fatigue.



Dial-In Spindle Speed Pre-Select located on the Apron encourages operator to use correct cutting speed every time.

Apron

Controls are located on the rigid, box type apron, within easy reach of the operator. Power to the longitudinal and cross feeds is through positive, hardened tooth, jaw clutches. All moving parts are anti-friction mounted. ■ Power rapid traverse . . . 4 ways at the touch of two separate directional levers, independently or simultaneously. For gear protection, interlocks prevent engaging the longitudinal feed and traverse and the cross-feed and traverse at the same time. ■ A self-adjusting, automatically re-engaging feed safety clutch automatically disengages under overload or accident while longitudinal or cross feeding, protecting the apron and carriage. The longitudinal feed and half nuts are interlocked to prevent simultaneous engagement. ■ Dual automatic lubricating pumps supply the apron, vee-ways, cross slide, bottom slide and gibs, the bronze compensating cross-feed nut and the center of the half nuts with filtered oil. These pumps operate automatically whether feeding, chasing or power or hand traversing. A manual pump lubricates all the necessary areas for "Monday morning" starting. ■

Tailstock

These heavy duty tailstocks have rugged 6″ diameter spindles (you have your choice of three styles) that extend their entire length of travel without exposing the key-way . . . cannot carry score-causing grime back into the barrel. ■ Plunger pump oiling and way wipers give further protection. Spindle clamping is by double plug binder for rigidity . . . there's no split in the solid-cast barrel. Four binder bolts clamp the tailstock to the bed. ■ The handwheel is conveniently front-mounted. ■

For ordinary turning and drilling operations, the standard, stationary center spindle, with a tang slot, is furnished. A micrometer dial, graduated in 16ths and adjustable to zero at any position of the spindle accurately measures spindle advance. ■

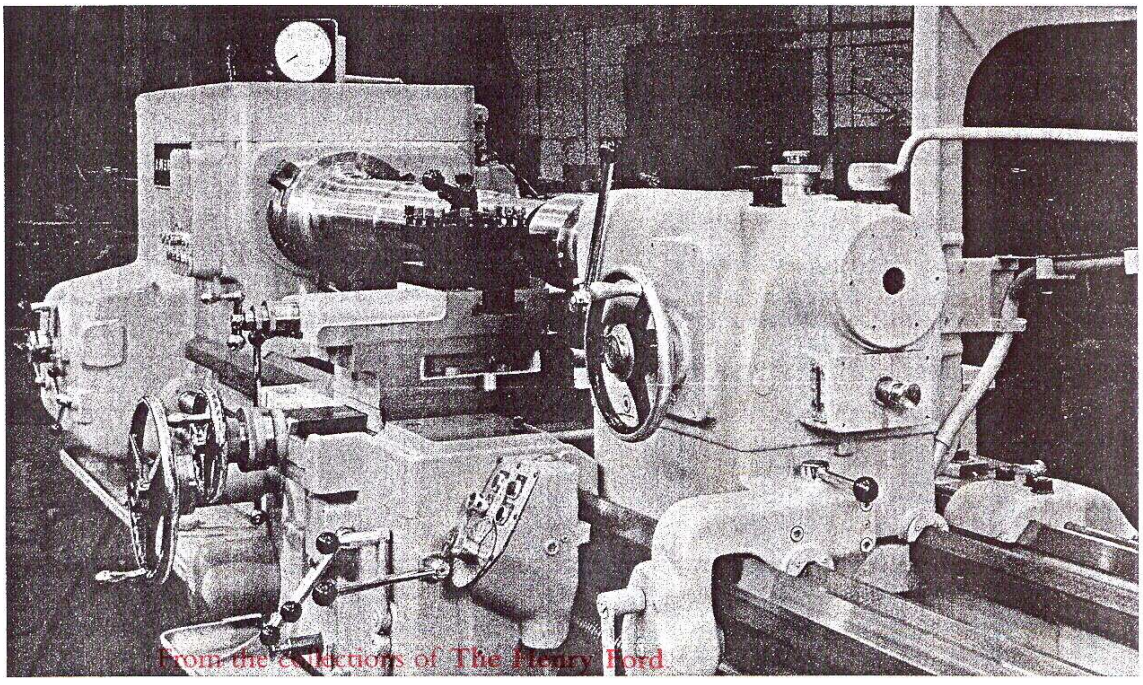
For carbide turning at high speeds, an optional combination stationary/live center spindle is recommended. A safety thrust plate, of spring steel, protects the precision bearings from workpiece heat expansion. ■ For drilling operations a tang slot holds the drill firmly in place. The micrometer dial is standard . . . it adjusts to zero at any position of the spindle and accurately measures the hole depth to 16ths. ■

Your third choice is American's interchangeable anti-friction spindle for extra rugged turning with carbide tools. This high speed spindle is easily interchanged with the stationary center spindle. The center is mounted on precision ball bearings which are protected against workpiece heat expansion by a spring steel safety thrust plate. ■

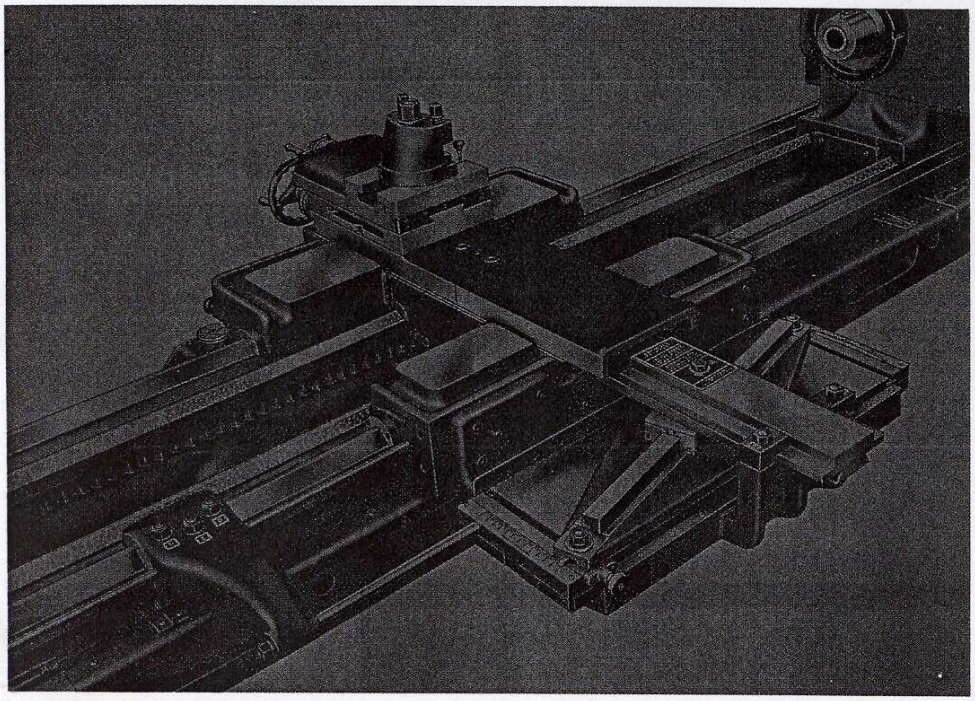
In addition to heavy duty turning, an optional 2-speed, 6-to-1 ratio tailstock gives your American engine lathe the capability of effortless drilling operations. ■

The American tailstock, above, is solid cast . . . there is no split in the barrel. There are three styles, including standard stationary center spindle, a combination stationary/live center*, and an optional interchangeable anti-friction spindle. An optional 2-speed, 6-to-1 ratio tailstock gives the capability of effortless drilling operations.

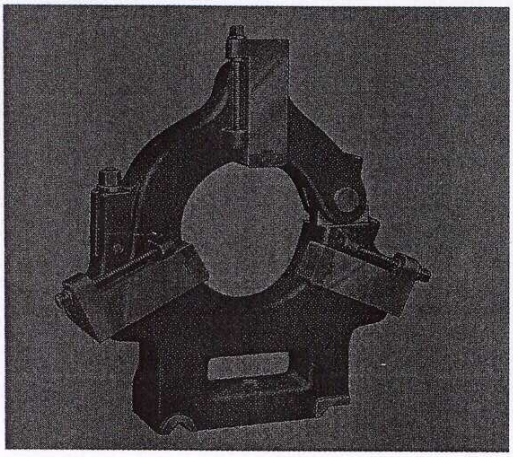
*The combination stationary/live center reduces the center distance 6 1/16" on engine or 360° tracer lathes and 7 3/4" on 45° tracer lathes.



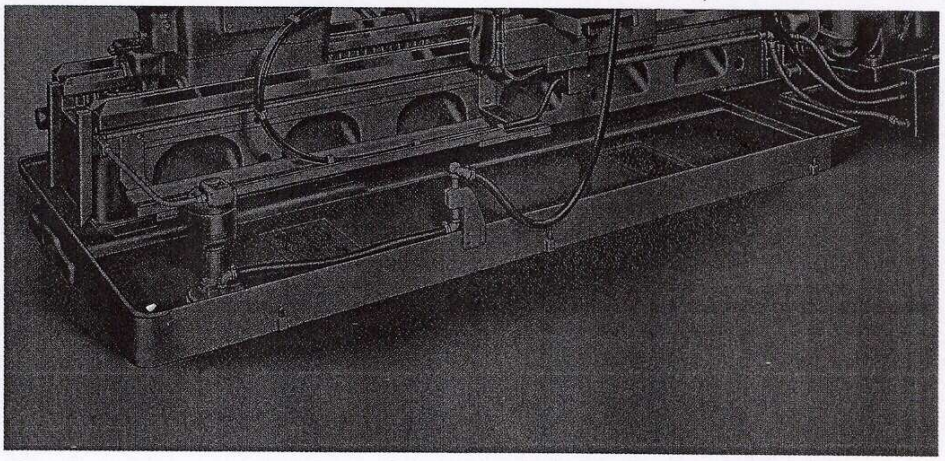
End view of tailstock, right, shows the two vee bearings that are precision-fitted to the two inner vee-ways of the lathe bed. Note micrometer, top right, behind binder bolt.



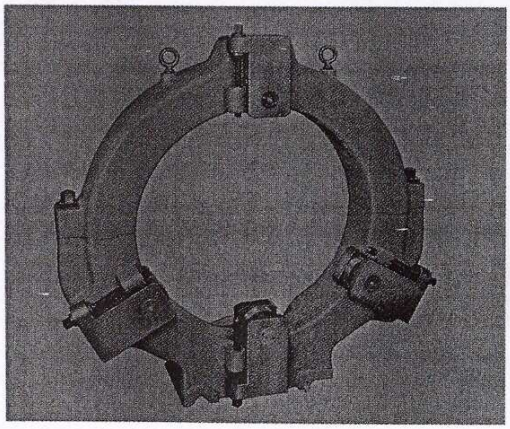
PLAIN BEARING TAPER ATTACHMENT. Meehanite slides operating on hardened and ground steel ways assure smoothness of operation and long, accurate life. Meehanite taper gibs allow perfect adjustment. Built-in compression wipers make certain that bearing surfaces remain clean. A telescopic cross feed screw controls this carriage taper attachment.



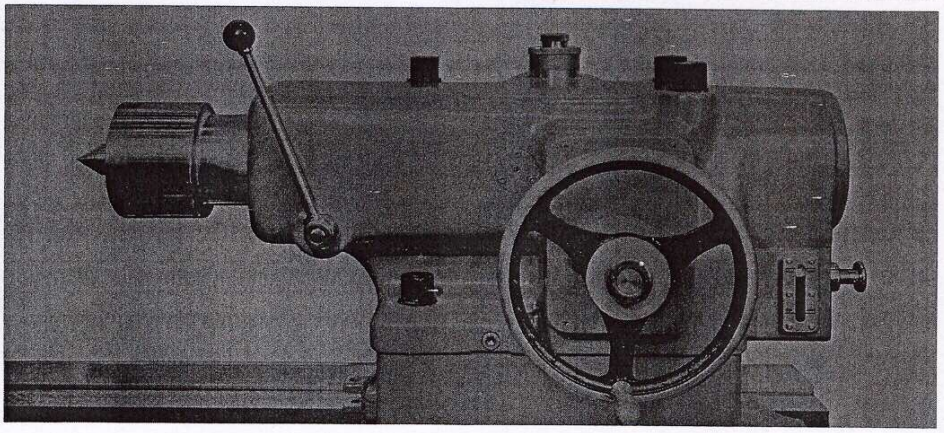
PLAIN JAW STEADY REST. This three-jaw steady rest has a cast iron body. Two sizes cover the entire range.



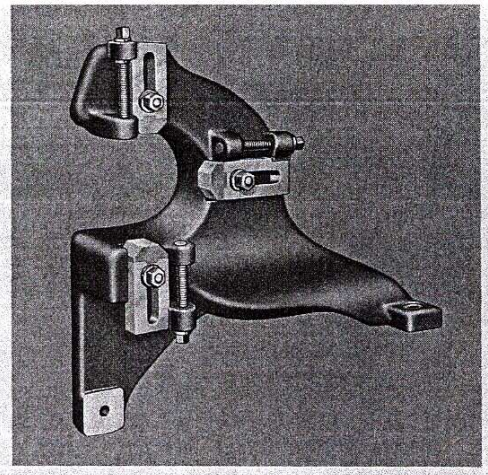
CHIP AND COOLANT PAN. Easy chip removal is possible with this chip and coolant pan. Heavy sheet steel with rolled edges. Settling tank and strainer for coolant. Provision is made for a motor driven pump and fittings for delivering coolant to the cutting tool.



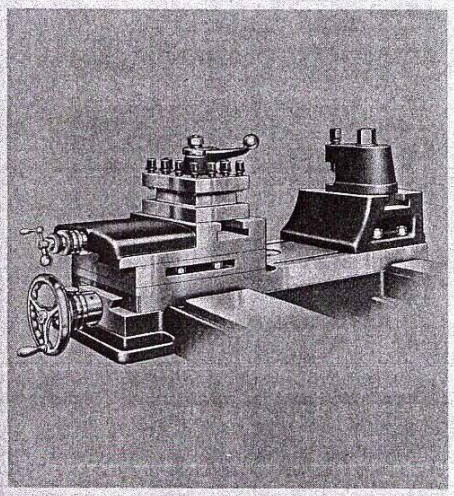
ROLLER JAW STEADY REST. Ideal for high surface speeds permitted by carbide tools. Antifriction. Available in two sizes.



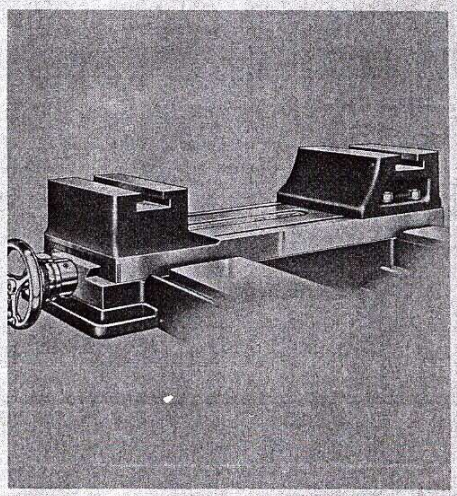
BULL NOSE COMBINATION TAILSTOCK SPINDLE is optional on American 3220 lathes.



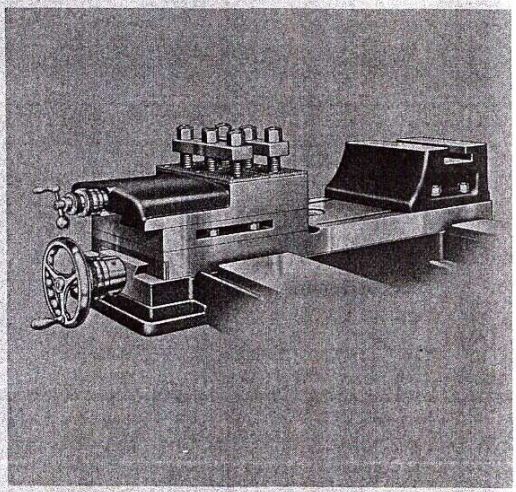
PLAIN JAW FOLLOW REST has a 3-bearing support on the carriage, 2 on the carriage wings and one on the carriage bridge. Three bronze-tipped jaws give wide area of contact with the work. Also available are ROLLER JAW FOLLOW RESTS.



DOUBLE DUTY TOOL REST with compound rest and 4-way turret tool block at front and plain block rest with double screw high duty tool holder at rear.



DOUBLE DUTY TOOL REST with plain block rests at front and rear. Tool holders to be selected as desired.



COMPOUND REST with 6-stud double strap tool holder integral with top slide.

Accessories

American accessories, from taper attachments through tool blocks, are constructed of the finest materials, and are designed to give your American engine lathe the extra flexibility that makes it the most productive engine lathe available. ■

Spindle Speed Ranges 27-SPEED HEAD

LOW	6, 7, 8.5, 10, 12, 15, 17, 21, 25, 30, 36, 44, 51, 62, 74, 86, 103, 125, 145, 174, 209, 245, 298, 356, 415, 500, 600.
MEDIUM	7.5, 9, 11, 13, 15, 19, 21, 26, 31, 38, 45, 55, 64, 78, 93, 108, 129, 156, 181, 218, 261, 306, 373, 445, 519, 625, 750.
HIGH	9, 10.5, 13, 15, 18, 23, 26, 32, 38, 45, 54, 66, 77, 93, 111, 129, 155, 188, 218, 261, 314, 368, 447, 534, 623, 750, 900.

English Leadscrew Lathes Standard Range

Threads Per Inch	½ 1 2 4 8 16	9/16 1⅛ 2¼ 4½ 9 18	5/8 1¼ 2½ 5 10 20	11/16 1⅜ 2¾ 5½ 11 22	23/32 1⅞ 2⅞ 5¾ 11½ 23	¾ 1½ 3 6 12 24	13/16 1⅝ 3¼ 6½ 13 26	27/32 1 11/16 3⅜ 6¾ 13½ 27	⅞ 1¾ 3½ 7 14 28	15/16 1⅞ 3¾ 7½ 15 30
Equivalent Leads in Inches	2.0000 1.0000 .5000 .2500 .1250 .0625	1.7777 .8888 .4444 .2222 .1111 .0555	1.6000 .8000 .4000 .2000 .1000 .0500	1.4545 .7272 .3636 .1818 .0909 .0454	1.3913 .6956 .3478 .1739 .0869 .0434	1.3333 .6666 .3333 .1666 .0833 .0416	1.2308 .6154 .3077 .1538 .0769 .0384	1.1851 .5925 .2962 .1481 .0740 .0370	1.1429 .5714 .2857 .1428 .0714 .0357	1.0666 .5333 .2666 .1333 .0666 .0333
Feeds in Thousandths Per Revolution of Spindle	.2400 .1200 .0600 .0300 .0150 .0075	.2133 .1066 .0533 .0266 .0133 .0066	.1920 .0960 .0480 .0240 .0120 .0066	.1745 .0872 .0436 .0218 .0109 .0054	.1669 .0834 .0417 .0208 .0104 .0052	.1600 .0800 .0400 .0200 .0100 .0050	.1477 .0738 .0369 .0184 .0092 .0046	.1422 .0711 .0355 .0177 .0088 .0044	.1371 .0685 .0342 .0171 .0085 .0042	.1280 .0640 .0320 .0160 .0080 .0040

Accessory Specifications

	25″ STYLE G (3220)	32″ STYLE H (3220-26)	32″ STYLE H-3 (3220-29)	32″ STYLE H-6 (3220-32)
TAPER ATTACHMENT				
Maximum taper per foot	6″	6″	6″	6″
Maximum length at 1 setting	30″	30″	30″	30″
PLAIN JAW STEADY RESTS				
Standard capacity, 3 jaws	2″ to 12″	2″ to 12″	2″ to 12″	2″ to 12″
Large capacity, 4 jaws	12″ to 20″	12″ to 20″	12″ to 20″	12″ to 20″
ROLLER JAW STEADY RESTS				
Standard capacity, 3 jaws	2″ to 12″	2″ to 12″	2″ to 12″	2″ to 12″
Large capacity, 4 jaws	12″ to 20″	12″ to 20″	12″ to 20″	12″ to 20″
PLAIN JAW FOLLOW REST				
Standard capacity	1½″ to 7″	1½″ to 7″	1½″ to 7″	1½″ to 7″
ROLLER JAW FOLLOW REST				
Standard capacity	1½″ to 6″	1½″ to 6″	1½″ to 6″	1½″ to 6″
LARGE FACE PLATE				
Diameter	29″	35″	35″	35″

THE AMERICAN TOOL WORKS COMPANY

PEARL STREET AT EGGLESTON AVENUE
CINCINNATI, OHIO 45202

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