



REGAL
LATHES

THE R.K. LEBLOND MACHINE TOOL CO.

CINCINNATI, OHIO. U.S.A.

The Lathe is the fundamental machine in all machine shop equipment. On it you can turn, bore, face, cut threads and drill; and with the use of attachments, mill and grind. In other words, a lathe is a machine shop in itself.

Many of the industrial fortunes of today had their beginnings on a lathe in the cellar, woodshed or stable. Parts of the first Ford automobile were made by Henry Ford himself in a small shed in Detroit. His first lathe is on exhibition in The Ford Museum at Dearborn. The first electric starter for an automobile came to life in a stable in Dayton. Many other valuable inventions were perfected in small shops and the parts were machined on a lathe.

If you have a son mechanically inclined buy him a lathe and let him give vent to his mechanical ideas—he may have the makings of another Edison, Marconi or Ford.

Many of these machines pay for themselves in a short time when used on service work, such as starter and battery repair service, mechanical refrigeration repair service; service on automobiles, radios, vacuum cleaners, bicycles, sewing machines, moving picture machines, printing presses—in fact, all mechanical and electrical apparatus. Many a mechanic started on his way to fortune and independence by the purchase of a lathe.

I N S P E C T I O N

The system of inspection in our shop comprises the inspection of individual parts, finished units and the complete machine.

Material entering into the construction of these lathes is bought on specification and a check analysis made from lots to see that it comes up to the material specified.

Detail inspection of parts between operations is going on all the time between the machining processes. Limit gauges are universally used for this purpose insuring accurate dimensions where they are required.

The unit system of manufacturing is used in our shop, the various units such as headstocks, tailstocks, quick change boxes, carriages, etc., are run in large lots then assembled on beds to suit the different orders. The units are assembled, run off and inspected previous to being put in stock.

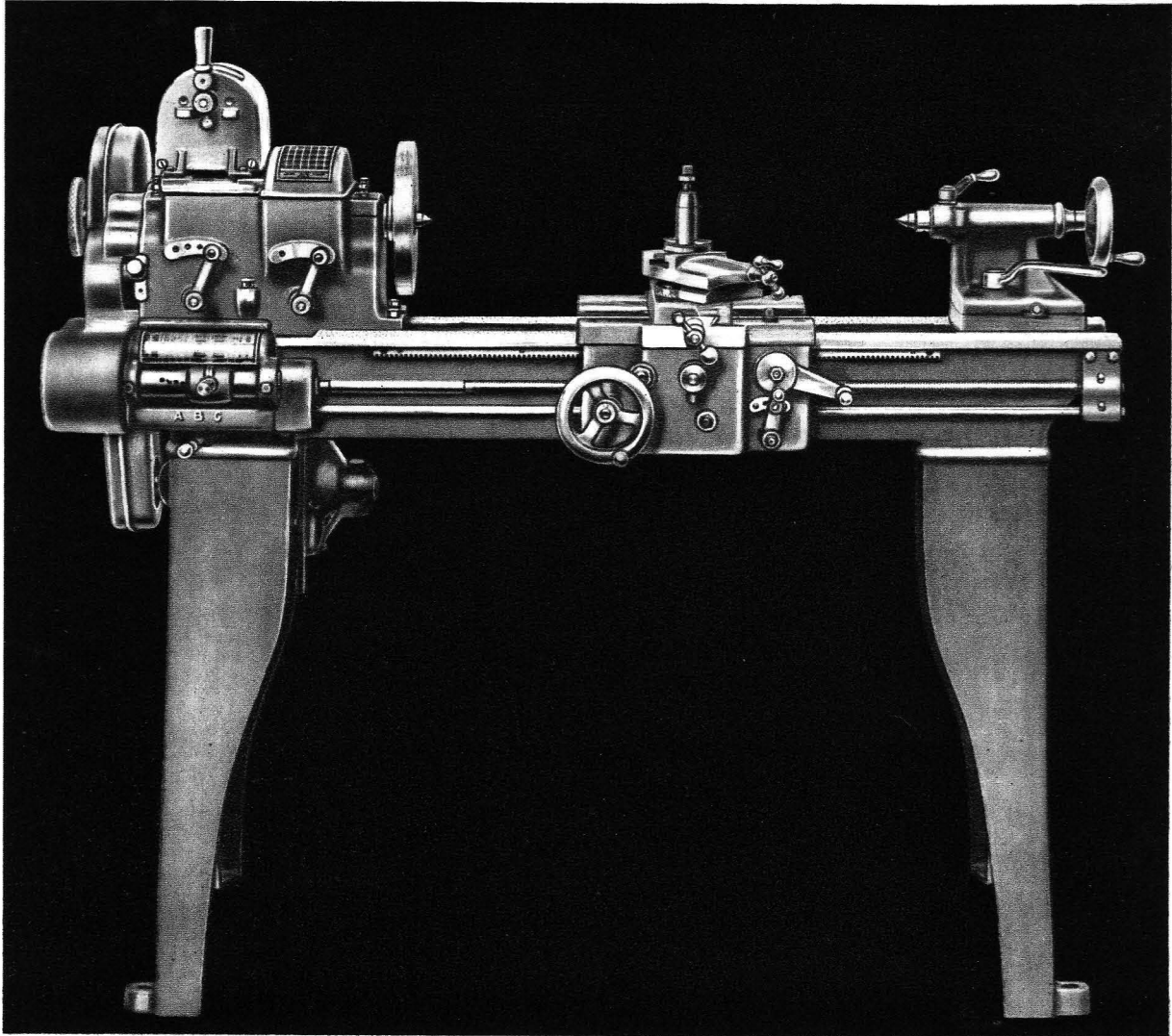
Special attention is given to the material and machining of gears. After machining and cutting of the teeth, they are burnished before hardening. A special sound proof room has been built to test the gears for noise after they are hardened and the holes ground.

The lead screw is one of the most important parts of the lathe and considerable care is taken in its manufacture. The screws are roughed on a thread milling machine and then finish chased in a special lathe equipped with a precision screw.

After the lathe is built up it is run off and again subjected to the most rigid inspection. These tests apply principally to the alignment of the lathe to see that it will turn diameters and bore holes both straight and round; face accurately and cut threads within the guaranteed limits allowed. The results are noted on our guarantee card which accompanies each machine, also on the back of our own shop order sheet which is kept for future reference.

For the interest of the user we are illustrating on page 44 some of the final inspection tests showing how these are made.

The same staff of inspectors, with all the various testing equipment used in the inspection of our high priced machines, look after the inspection of "REGAL" Lathes. On our "REGAL" Lathes as on our high-priced Heavy Duty Lathes, the same limits of accuracy, the same degree of finish and the same high grade of workmanship are demanded by these inspectors. The inspectors are in no way accountable to the production executives of the shop.



THE LATHE

HAVE YOU EVER thought about what this world would be without man's greatest invention—the *wheel and axle*? The first method of transporting heavy articles was to drag them over the ground, but man soon discovered that something round or nearly round could be rolled with much less effort. The rolling of spherical pieces no doubt inspired the creation of the wheel and axle. We do not know who actually developed this forerunner of modern transportation and industry, but whoever it was gave to mankind the greatest impetus to progress.

From the wheel and axle evolved the pulley and shaft for transmitting power; and then the toothed wheel or gear was developed with

even greater efficiency for transferring rotary motion from one shaft to another.

Next to the wheel and axle, in advancing industry, was the *screw*. As with the *wheel and axle*, we do not know who made the first shaft with a thread on it, but we believe it was first thought of by Archimedes, who used the screw for elevating water from a lower to a higher level. To turn wheels and shafts to a true diameter, to bore the hole into which the shaft must fit, and to cut the thread on the shaft in the form of a screw, required a machine which would operate economically and accurately.

The *first lathe* was in the form of a potter's wheel—an ancient device which resembled a

vertical lathe. However, hundreds of years passed before the introduction of the first engine lathe used for turning, boring and cutting threads. The development of this machine, in 1797, is attributed to the inventive genius of Henry Maudslay, an English mechanic. From this hand-operated machine, changes in design and construction of lathes have been comparatively rapid. Outstanding achievements in design have been the *cone pulley* for obtaining varying spindle speeds necessary to turn different diameters of work; the back gear giving greater torque to slow speeds and increasing speeds to the spindle; the double back gear again increasing the torque to the spindle and multiplying speed changes; and the geared head by which all speeds are obtained through gearing driven with a single step pulley. This advancement was brought about by the introduction of individual motor driven machines. Other improvements, such as the quick change box through which different feed changes and thread cutting ratios can be secured instead of the changing of loose gears and the shifting of

the feed belt, have made the modern engine lathe a highly efficient and productive tool.

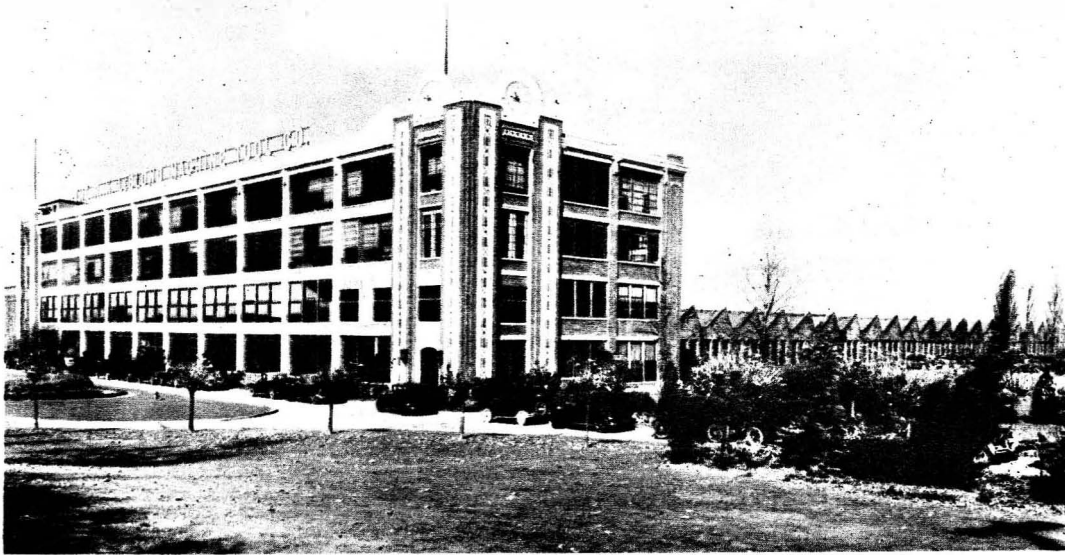
Look around you! In your home, on the street, on the water, under the water, in the air, anywhere in fact, you will find some product of the lathe. The legs of your bed, chairs, and tables, have probably been turned on it. The dies for drawing electric wires supplying you with light have been made on it. The parts of the electric generator supplying your current and the engine that drives the generator are its products. The rolls for rolling your water pipes, parts of your vacuum cleaner, your mechanical refrigerator, your gas meter, your electric switches, all would be impossible without the lathe. This likewise is true of railroad engines, automobiles, ships, airplanes and every mechanical device.

By means of the lathe other machines have been produced to do man's bidding, manufacturing the every day necessities of our present civilization.

We are living in a machine age, which is founded on the Engine Lathe—"The master tool of industry."



Power House Across Lake



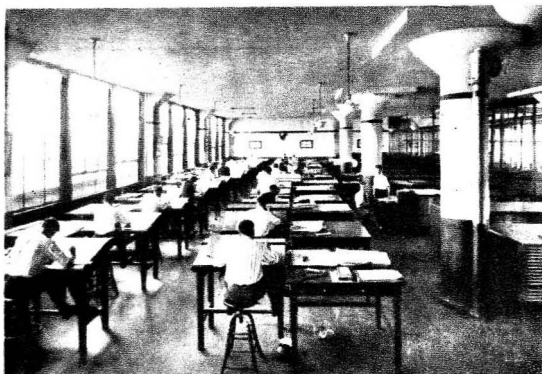
Our New Plant, Corner Madison and Edwards Roads, Hyde Park, Cincinnati

FOR ALMOST a half-century, LeBlond has been building lathes. There is hardly a spot on the globe where LeBlond Lathes are not in use and favorably known. In automobile factories, railroad shops, arsenals, ship yards and factories in this and foreign countries, LeBlond Lathes are producing parts accurately and economically. The "LEVIATHAN," *Queen of the Seas*, has three LeBlond Lathes in her engine room to take care of breakages and repairs which

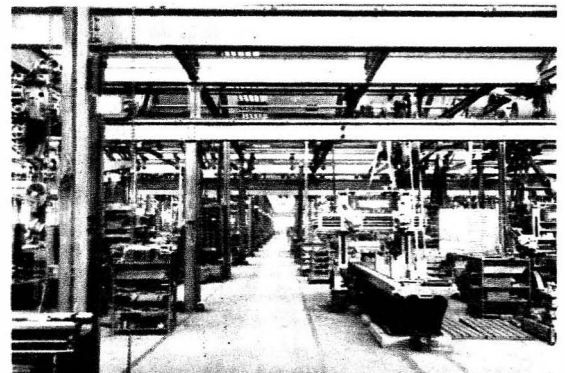
may be needed to keep her plying the seas.

The best testimony to the popularity of LeBlond Lathes is the fact that since the company's inception in 1888 it has outlived five plants, each plant in turn being replaced by a larger one better fitted and equipped to make a superior product. The present plant covers an area of four hundred and forty thousand square feet, all devoted to the manufacture of lathes of different types.

Should you visit our works, you will find under construction all types of machines from the small ten-inch lathe, weighing five hundred pounds, to the large crankshaft lathe, weighing sixty thousand pounds. The latter machine turns all the crank pins on an eight cylinder crankshaft at the rate of twenty per



Part of Our Engineering Department



Aisle Between Machinery Departments



LEFT
The Cafeteria Dining Room

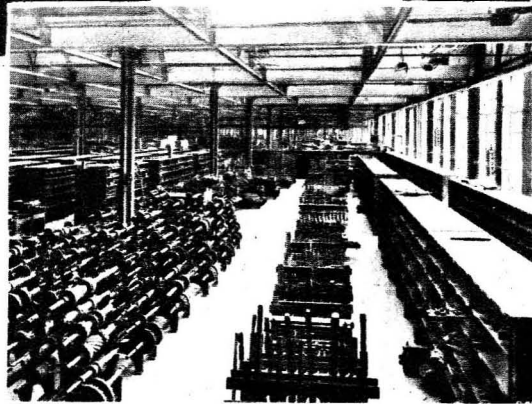
RIGHT
*A Corner of Our
Completely Equipped
Hospital*



hour. Each type of machine is built with a complete set of jigs, fixtures and gauges, and with many special machines developed for the manufacture of particular parts.

LeBlond Lathes are produced under the most favorable conditions. The new modern shop has abundance of natural light and only on the darkest days is artificial illumination required. Such conveniences as a dining room seating nine hundred employees, first-aid room for attending injured or sick employees, parking space for employees' automobiles, moving pictures during lunch time, employees' insurance and service bonus, and the beautiful grounds surrounding the plant make it an ideal place to work. These features have helped create an organization of skilled mechanics who build their many years of experience into each LeBlond Lathe. When you buy a LeBlond Lathe, you are not buying only cast iron and steel, but something that can come only from forty-six years of lathe building and lathe design—*experience*.

The New "Regal" line of lathes illustrated in this catalogue marks LeBlond's entrance into a new field. It is now possible for the student, the experimenter, the garage owner, and the service shop for all kinds of mechanical and electrical equipment, to obtain a lathe that is the exact counterpart of the machines used in the manufacture of the product, at the lowest price consistent with its quality of workmanship and of materials. These lathes have been specially designed for the work to be produced on them, both as to



A Corner of Tool Storage Room

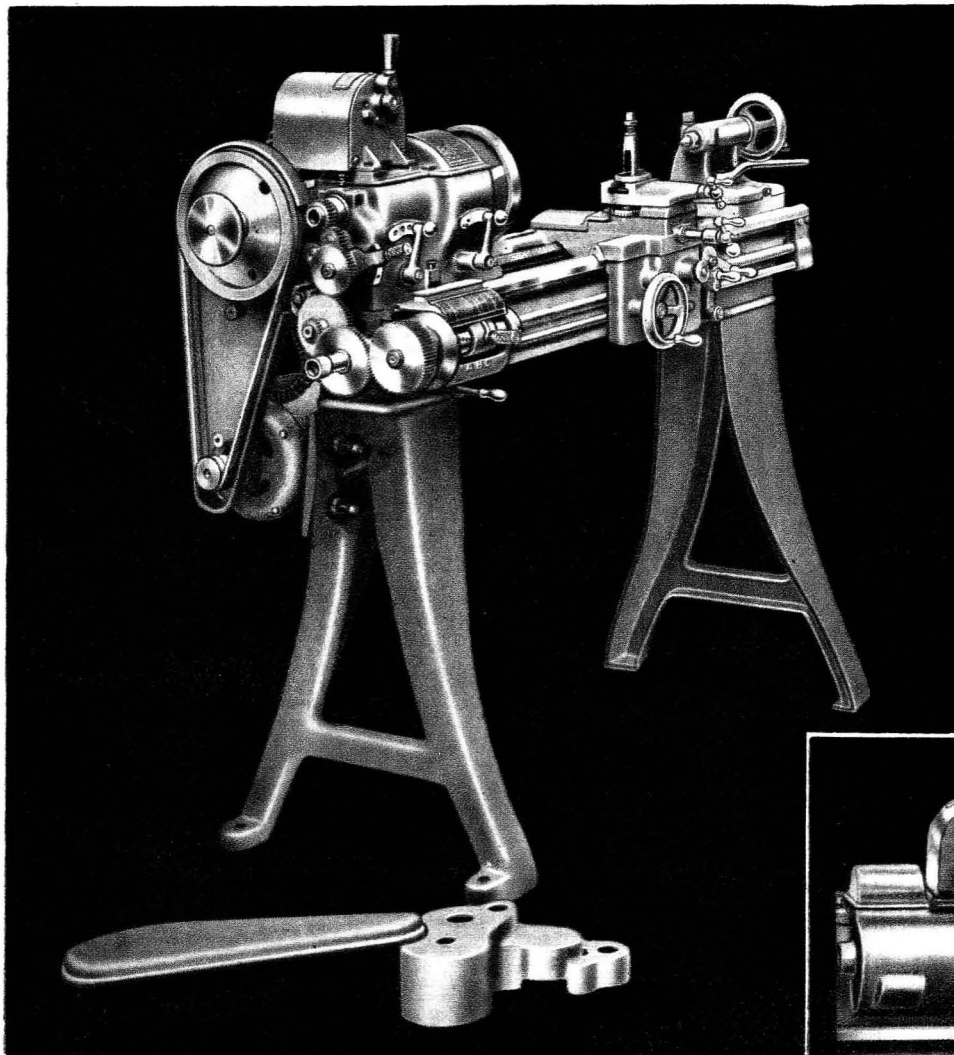
weight and pulling power. They are LeBlond Lathes backed by LeBlond's guarantee. It is obvious that the LeBlond organization could not afford to sacrifice its reputation by putting out an inferior product under its name and trademark.

A student taught on one of the "Regal" Lathes in a manual training or trade school will find many of the same type of lathes in larger manufacturing shops in which he will later be employed. On the other hand, men leaving the production shops to go into business for themselves in service work, will find in these machines the same conveniences and accuracy of the heavier machines on which they worked in the manufacturing plants.

The individual motor driven lathe has brought about the necessity for the geared head whereby speed changes are obtained by means of levers instead of shifting of belts on cone pulley with its attendant dangers. Motor and machine are self-contained, all moving parts being enclosed for the safety of the operator. The machines are made as "fool-proof" as possible by interlocking features, shear pins, and automatically resetting safety clutches.

LeBlond "Regal" Lathes fill a long felt want in the machine tool field, and have become as popular, in their particular fields, as their big brothers.

*"If it's for a turning job—
LeBlond builds it."*



Motor Drive

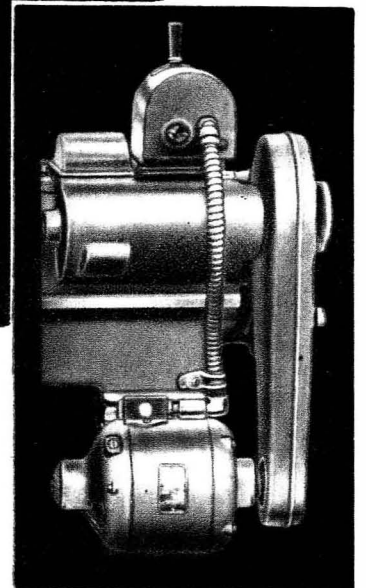
THE MOTOR DRIVE is through multiple "V" belts from the motor to the headstock. The motor is mounted on a hinged plate pivoted from the rear of headstock leg. Adjusting screws provide necessary adjustment for putting multiple "V" belts under proper tension. Multiple "V" belts are entirely enclosed to prevent accidents to operator. This drive is noiseless and powerful, and by mounting the motor on the leg, the headstock is free from any vibration of the motor, as when it is mounted on top of head. The position of the motor is high enough to make it free from dirt or dust when sweeping, a detriment to a motor mounted in a cabinet leg.

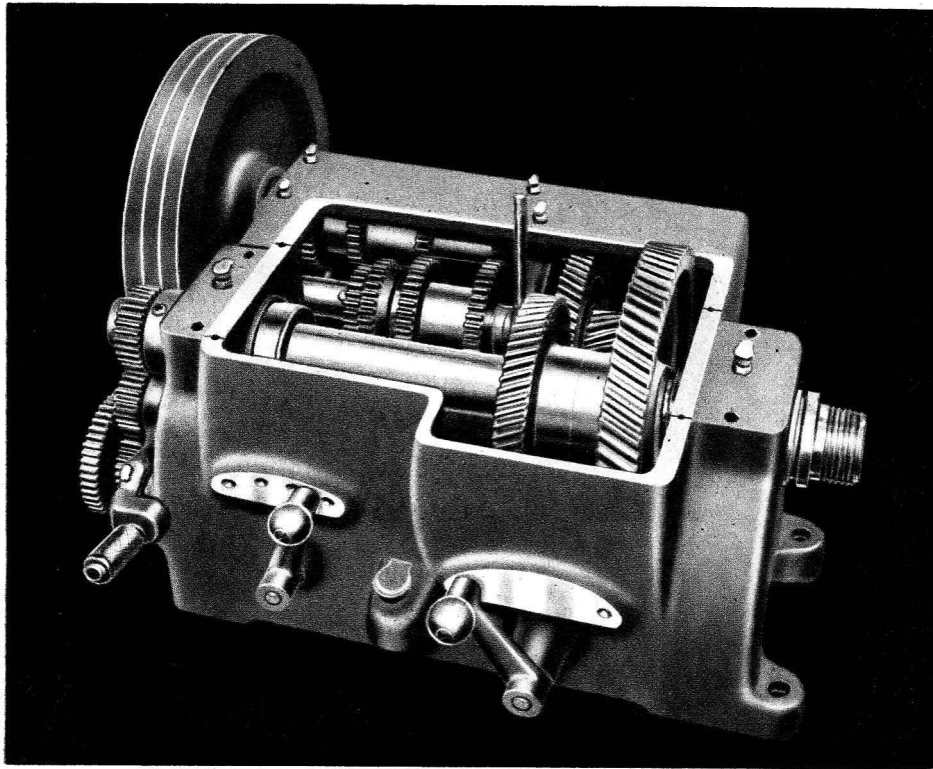
With this mounting, any standard make of motor can be used. A small drum switch provides forward, stop and reverse to motor.

Note: *When ordering, be sure and advise kind of current available, whether direct or alternating, single or three phase, also voltage and cycles.*

Motors

Prices include motors which are carried in stock, any make with standard mounting dimensions can be used. If a larger motor than specified is required, price will be quoted on request.





Headstock

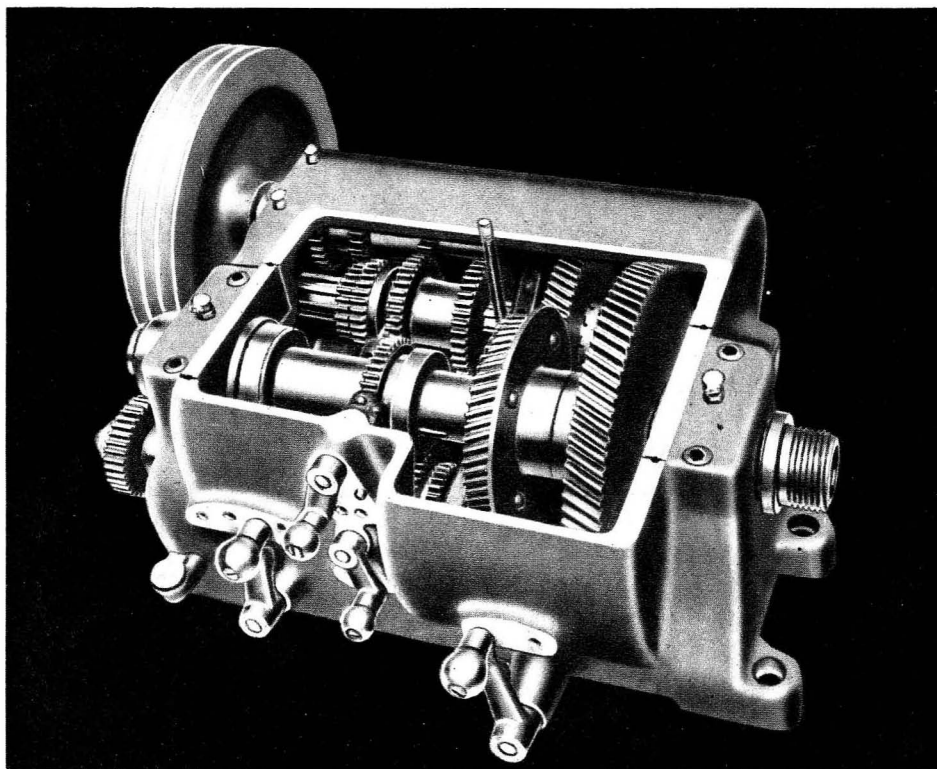
THE HEADSTOCK is a box casting reinforced under the main spindle bearings and has bearings for the main drive shaft and intermediate shaft cast integral with the head so that the shafts cannot get out of line. The headstock with the cover provides an oil tight case for the driving gears which run in oil and are thoroughly lubricated. The driving shafts run in phosphor bronze bushings carefully fitted to headstock and line reamed for the shaft. Provision is made for lubricating bearings from the splash of oil from the gears. A medium grade of machine or automobile engine oil is kept at a level within $\frac{1}{4}$ inch of top of the oil inlet on the front of the headstock.

The spindle bearings are made of phosphor bronze to which is tinned a shell of high grade babbitt. They are carefully fitted to the headstock and scraped to the spindle. The spindle nose is milled to a gauge so that the chucks and face plates are interchangeable. The main spindle bearings are lubricated from separate oil cups fitted with felt filter pads.

The spindle is provided with eight changes of speed which are obtained by sliding gears throughout, and without the use of jaw clutches. A cluster of four sliding gears machined from solid and heat treated, provides four changes of speed to the intermediate shaft. By means of a double back gear (obtained also through sliding gears) eight changes of speed to the spindle are obtainable through the two levers on front of headstock. It is impossible to conflict two driving ratios at the same time and in this way wreck the head. Spring plungers in the shift levers locate the gears for the different driving ratios.

The end thrust of the spindle is taken care of by a thrust collar against the rear bearing and adjusted by means of takeup nut on the outside of the bearing. The gears are keyed to the shaft and shafts revolve in bearings which are oiled from oil reservoirs, the oil being filtered through felt before going into the bearing. A hand wheel on the main drive shaft permits easy engagement of the sliding gears.

A feature of the headstock is the helical gear final drive, providing additional strength to the gear train and exceptionally smooth drive to the spindle.



Super Regal Headstock

THE SUPER REGAL HEADSTOCK retains the main features of the regular Regal headstock but has several additional features not found on the other Regal Lathes.

The reverse plate in the feed gear train is eliminated and the upper small handle on front of headstock controls the forward, reverse or neutral connection from spindle to feed drive shaft.

The shifting gears are hardened and slide on keyed shafts mounted in bronze bearings at both ends—the whole assembly is inside the headstock where it is lubricated by the splash of oil from the rotating gears.

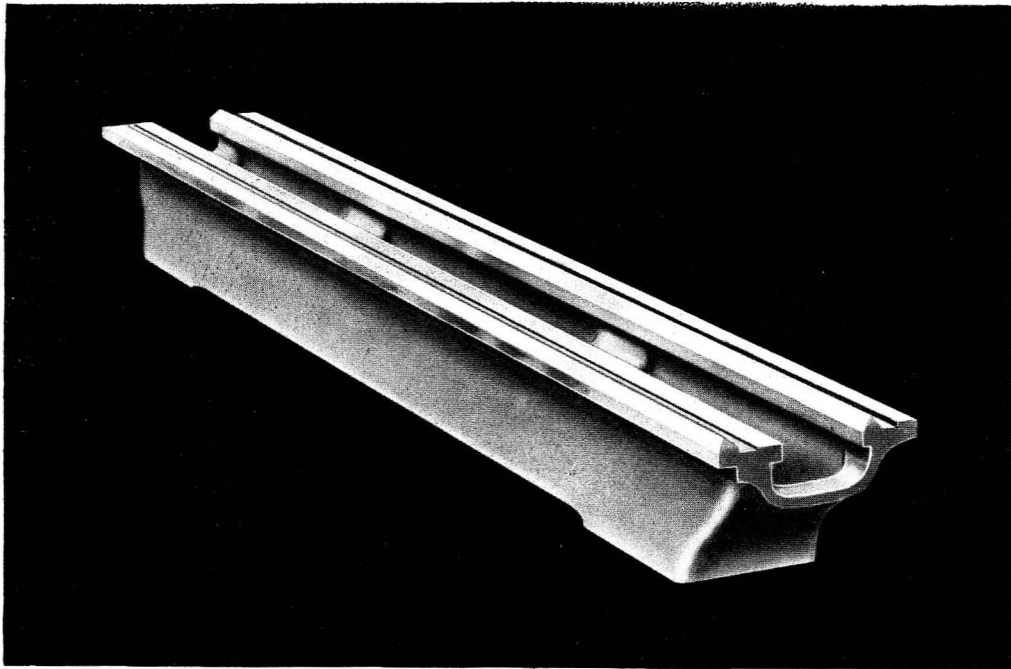
The compound shift, providing high or low range drive to feed train, which on other model lathes is mounted on the quadrant, is also installed inside headstock and controlled from front of headstock by the lower small handle. The gears involved in this shift are also hardened and slide on keywayed shafts mounted in bronze bushings at both ends and lubricated by headstock splash oiling.

The feed drive is from spindle through reversing gears through compound gears to a shaft having bearings in headstock rear wall and in center wall. This shaft projects outside headstock and carries the feed drive pinion, which is connected by means of an idler gear on quadrant to the feed box drive gear.

With the above sturdy and accurate provision for reverse and compound control to feed train drive incorporated inside headstock, the feed drive is stronger, more easily controlled, more accurate, and has longer trouble free life.

The sliding driving gears in the Super Regal headstock have multiple splined holes broached from the solid and the corresponding shafts are hobbled, these expensive operations being performed to provide the highest type of drive mounting in this model lathe.

High grade bronze bearings are provided for all shafts in the Super Regal Headstock except the spindle. The spindle bearings are split bronze backed babbitt lined bearings accurately fitted to the bearing boxes and scraped to the spindle.



←-----→
The Bed
←-----→

THE BED is of the inverted "V" type, and is exceptionally heavy for lathes of this type. Cross girths at close intervals joining the two I beam sections make the bed rigid against any twist or torsional strains. It is made of a very close grained iron obtained by adding steel and nickel to the cupola mixture.

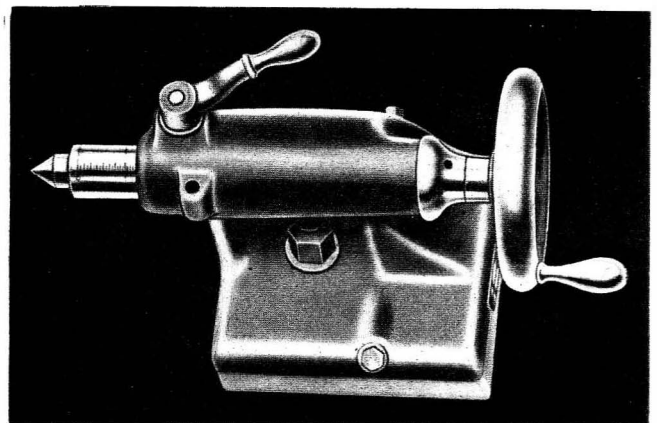
These beds are first rough machined, then seasoned and finished planed. The wearing surfaces are then hand scraped to a master and each carriage is scraped to the bed on which it is used. The carriage rack is carefully fitted to the bed and held by screws and dowel pins.

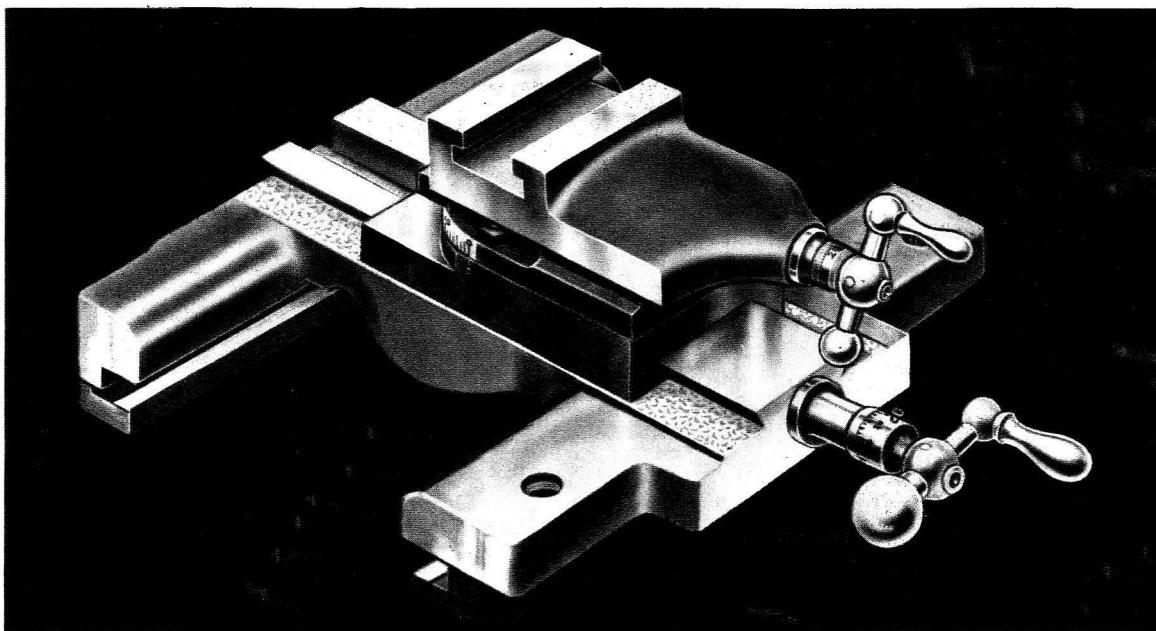
The rear "V" on the bed keeps the head and tailstock in accurate alignment. The front "V" or shear guides the carriage. The two "V's" are in absolute alignment, making possible the most accurate boring and turning work.

←-----→
Tailstock
←-----→

THE TAILSTOCK has a long bearing on the bed and is carefully scraped to it thus insuring

perfect alignment to the headstock. The tailstock top is tongued to the tailstock bottom and provision is made for set-over when turning taper. The tailstock top is graduated and screws are provided for accurately obtaining the set-over required. The tailstock is so designed that the compound rest can be used parallel to it. The tailstock spindle is of high carbon steel ground to fit the tailstock barrel and the spindle is adjusted by Acme screw and a handwheel. Morse taper hole in the spindle is made standard so that in addition to center, drills and reamers with Morse taper shanks can be used. The spindle is graduated for drilling.

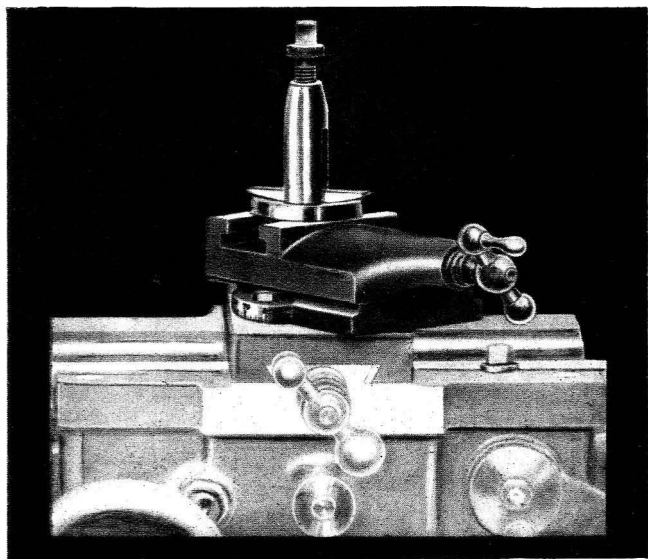




Carriage

THE CARRIAGES have exceptionally long bearings on the bed for lathes of this type. The bridge also is wide and deep to withstand the pressure of the tool under cut.

The carriage is hand scraped to the bed to assure a good bearing and the cross slide is aligned at right angles to the ways. The carriage is gibbed and provided with a clamp so that it can be securely clamped to bed when the lathe is being used for facing or cutting

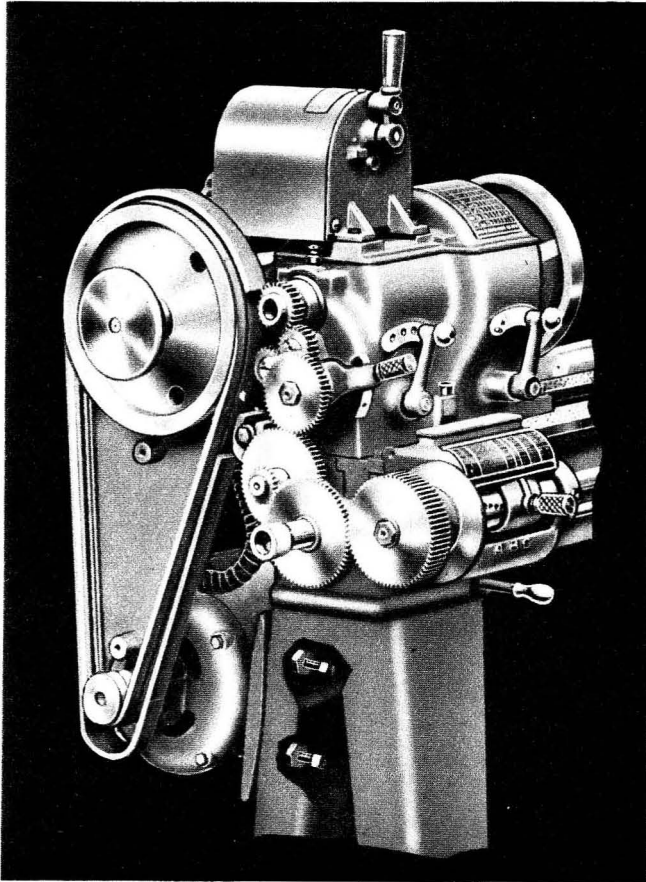


off operations. Shear wipers on the carriage wings prevent grit and dirt working between the carriage and bed bearings.

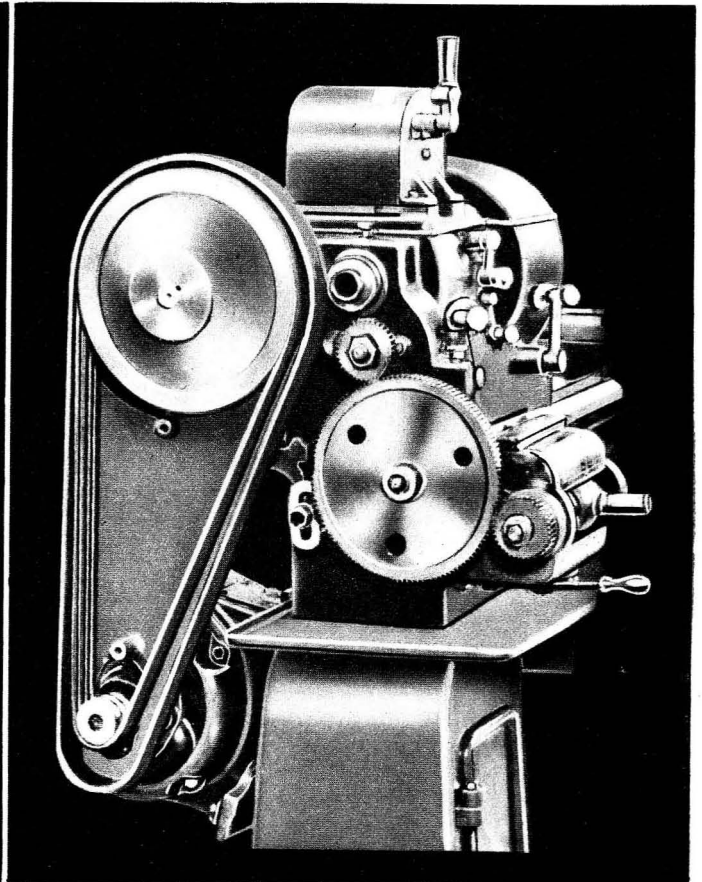
Compound Rest

THE COMPOUND REST slides on the dovetail of the carriage bridge with adjustable gibs which provide takeup for wear. The cross feed nut is held to the bottom slide by a screw in a reamed hole in the bottom slide. The cross feed screw provides cross movement in either direction by hand or by power feed for facing and cutting off operations. The cross feed screw has a collar that is graduated to thousandths of an inch. The compound rest swivel slide is graduated to degrees. It may be set at right angles to cross slide, or at any angle for boring short steep tapers. The swivel is clamped to the bottom slide by two tee slot bolts.

The top slide has screw adjustment with a graduated collar reading to thousandths of an inch. A heavy tee slot for holding tool posts and boring bars is milled from the solid. The top slide is also provided with gibs to adjust for wear. The tool post is case hardened, and it is equipped with a collar and a wedge to adjust the tool. It has a hardened tool post screw and a hardened wrench.



*Feed Gear Train of Regal Quick
Change Lathe*



*Feed Gear Train of Super-Regal
Quick Change Lathe*

The Feed Mechanism

THE CONTINUED successful performance of a lathe is largely dependent on the feed mechanism which must not only resist the shock of varying cutting tool pressures but bear the brunt of inexperienced and unskilled operators. In addition to our tried and proven heavy duty feed mechanism a number of units were designed and taken under consideration for the peculiar requirements of the Regal line. Although of greater strength and capacity than is essential it was finally decided to adopt the feed units on our heavy duty line for the 16" and 18" lathes. For the other sizes a very rugged design similar in appearance and principle to our heavy duty units was selected. It was given very severe service tests under the most trying conditions and found adequate for any service.

All Regal Lathes are built with both lead screw and feed rod, a feature not found in other lathes selling in this price class. The lead screw is used only for screw cutting which insures its accuracy indefinitely. The movement of the apron and cross slide is controlled by a positive feed mechanism, eliminating all frictions which are a source of trouble in tightening and releasing the feed under a heavy cut, also the danger of picking up when not engaged and either running the carriage into other units or the tool into the work.

As there are no frictions it is impossible to make a mistake in engaging the cross feed and longitudinal feed at the same time. Either one or the other can be in engagement, but never both at the same time.

Provision is also made for interlocking the half nuts and feed rod, so that feed and thread cutting mechanism cannot be engaged at the same time. When cutting threads all the gears

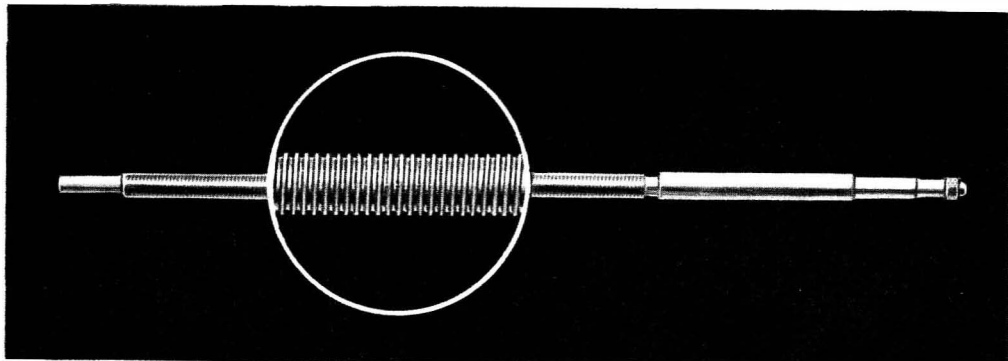
in the apron can be disengaged by placing the longitudinal and cross feed control in the neutral position, it is unnecessary to pull out the rack pinion to prevent the speed up in the apron gears when coarse threads are being cut.

An automatic resetting safety device on the feed rod of all Regal Lathes disengages the rod and the feed mechanism when the carriage is put under undue strain, as by an exceptionally heavy cut, or by some obstruction getting between the head and the carriage when turning. This safety clutch automatically engages again when the strain is relieved. The safety feature is a big factor in

protecting the machine from abuse and breakage by inexperienced operators, in schools and home workshops where it is extensively used.

All gears in the entire feed train, from the spindle feed gear to the rack on the feed, are made of steel cut from the solid bar, minimizing the possibility of breakage of these gears.

Many of the features noted above are only found in the highest priced engine lathes, but as we have been using them in our Heavy Duty Lathes for years and know their merits, we do not want to cheapen the new line by their omission, which make the "Regal" Lathes especially adaptable for manual training and service work.



Lead Screw

Lead Screw

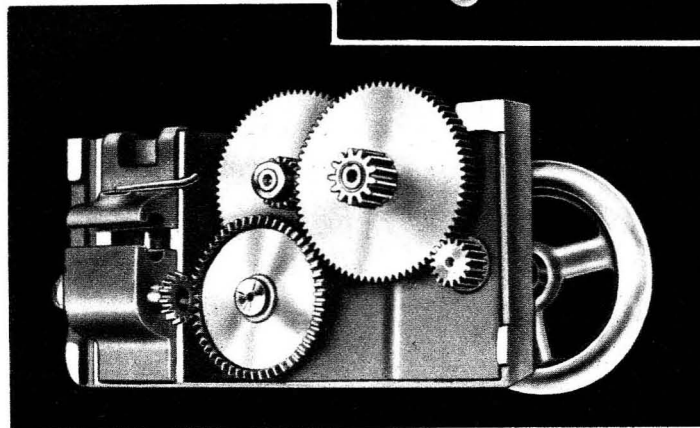
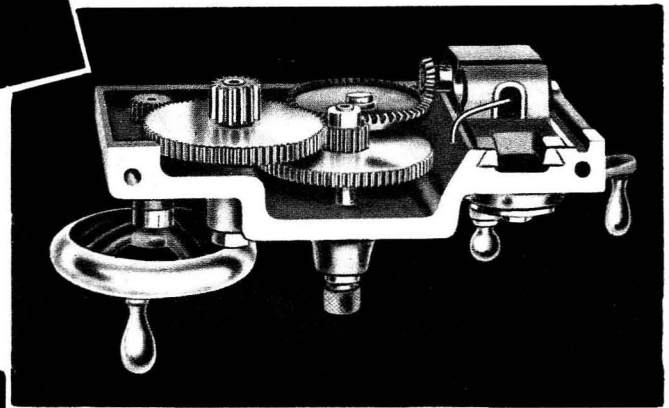
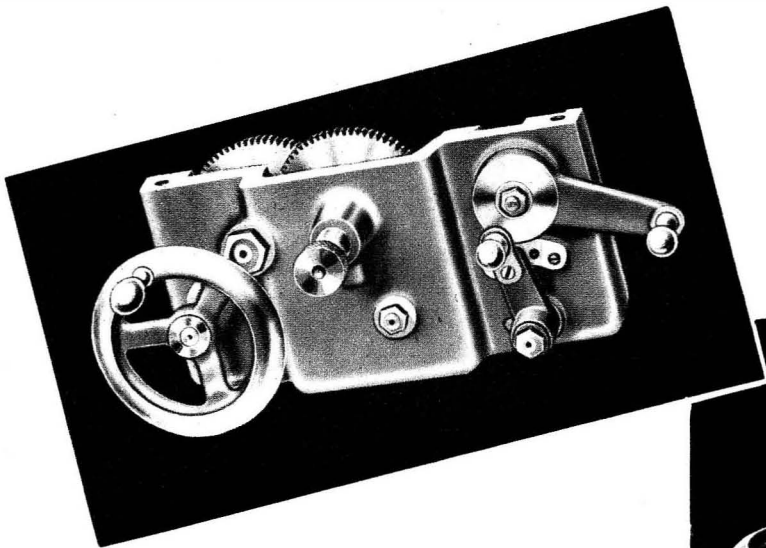
THE ACCURACY of a screw cutting lathe depends considerably on the accuracy of the lead screw and the manner in which it is mounted.

Lead screws on the LeBlond "Regal" Lathes are of high carbon steel and accurately machined. They are made of ground stock, rough machined, laid aside for sufficient time to remove the strains due to the roughing operation and then finish machined from a calibrated master screw.

A left hand lead screw with Acme form of thread is used. The screw is journaled in the

quick change box and held endwise between thrust washers accurately ground. The screw is supported on the tailstock end of bed by a substantial bearing. By taking the thrust at the quick change box end of the screw, the lead screw is under tension when cutting a right hand thread. This prevents buckling of the screw which would result if the thrust was taken against the back box.

The lead screw is only used when chasing threads and provision is made for disengaging it when not in use. In this way the accuracy of the lead screw is retained indefinitely, as it is not under the torsional strains to which it is subjected when used for feeding.



←—————→
The Apron
←—————→

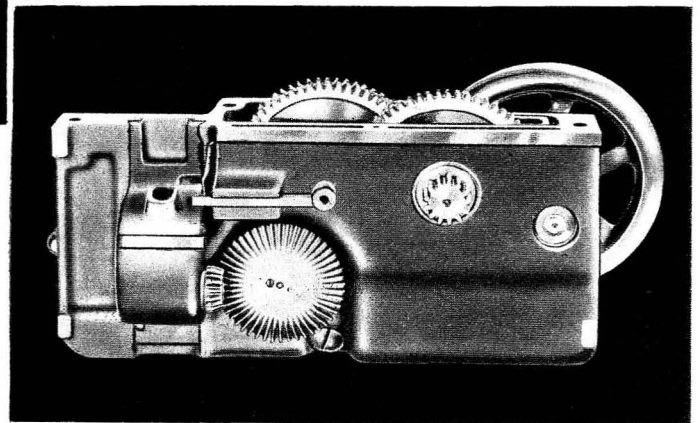
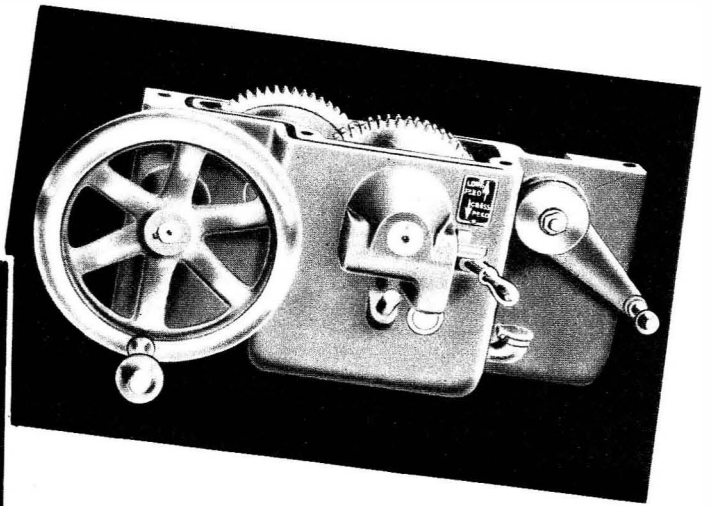
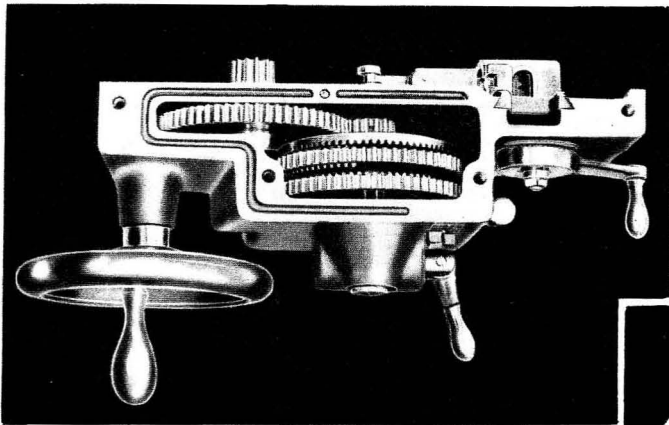
10"—12"—14"

IN THE DESIGN of the apron for the 10", 12" and 14" lathes we have incorporated many of the features of our Heavy Duty Lathe Apron. All gears are of steel cut from the solid bar, and run on heavy studs to keep the gears in alignment. All studs have an extra long bearing in the apron plate to prevent any cramping action. The apron is bolted and doweled to the under side of the carriage.

A positive feed trip to engage and disengage the feed is provided by means of feed trip lever at the right hand side of the apron.

The trip is interlocked with the half nut making it impossible to engage both the feed and thread cutting mechanism at one time. The half nut is tapped from the solid and engages the lead screw immediately over the lead screw support.

A pull pin provides three positions to the apron intermediate gears—one for longitudinal feed, one neutral position and one for cross feed. It is impossible to engage cross and longitudinal feed at the same time. The neutral position of intermediate gears cuts out all gears in the apron, except the rack wheel and pinion so that it is not necessary to withdraw rack pinion when cutting coarse leads. All studs and gear bearings are oiled from the front of the apron.



The Super-Regal Apron

FOR THE SUPER-REGAL LATHE an entirely new design apron was devised. This apron is a one piece completely enclosed box type casting with oil reservoir in bottom. All gears are of steel, no cast iron gears being used.

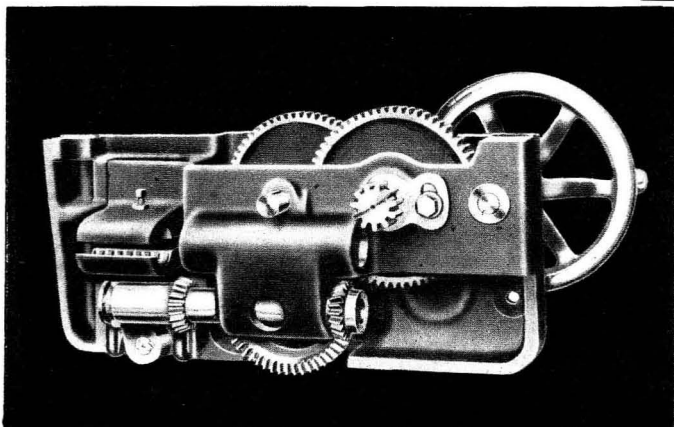
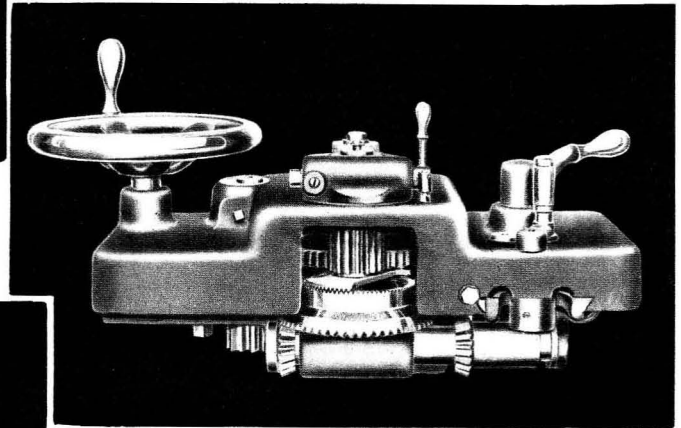
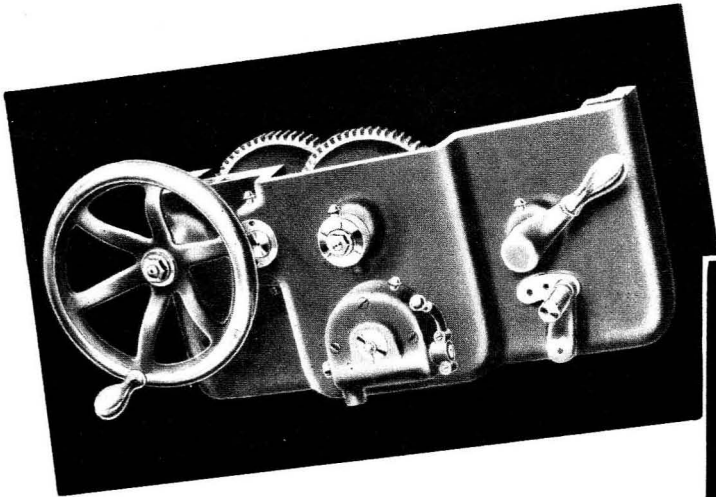
All shafts in apron have bearing on each end, thus providing rigid mounting and accurate alignment to the gears and pinions carried on these shafts. The hand wheel and rack pinion shafts are mounted on antifriction bearings. A center sliding clutch gear is moved by the feed lever to engage either the cross feed or length feed drive gears and passes through a dead neutral position.

When chasing threads the clutch gear is in neutral position so that the only shafts driven by motions of this carriage are the hand wheel and rack wheel pinion shafts. Due to the

antifriction mountings on these shafts, the friction load is so slight as to be negligible.

An upward movement from neutral position of feed lever engages the cross feed while a downward movement engages the longitudinal feed. Safety lugs which require a slight horizontal shift to go from cross to longitudinal feed allow the operator to stop either feed against a positive lug engaging the feed lever. Feed lever is interlocked with half nuts and so arranged that half nuts can be engaged only when feed clutch is in neutral position.

A simple plunger pump is mounted in lower position of apron. Two or three strokes of this plunger by the finger forces oil into upper apron bearings, cross slide and carriage bearings and on the cross feed screw, while the oil carried up on the submerged gears lubricates the entire gear train. A filler cap on side of apron is provided to fill apron with oil and to indicate oil level.

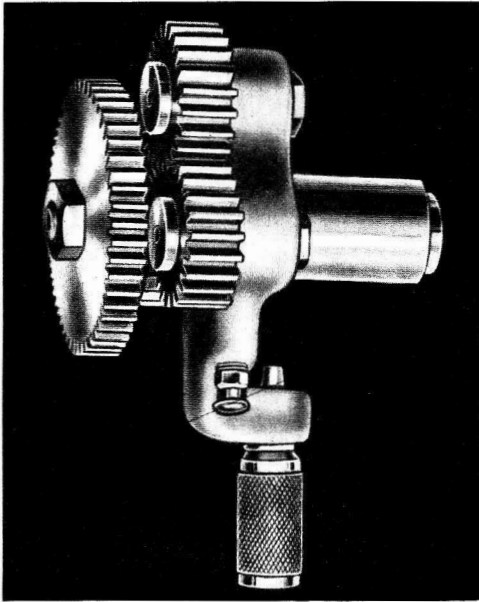


←-----→
The Apron
←-----→

16"—18"

THE APRON on the 16" and 18" Regal Lathes is an exact duplicate of the apron on the LeBlond Heavy Duty Lathes, which was designed to withstand the greater strains put on the lathe due to improved cutting tools. It is a very rigidly constructed double walled, single casting apron, braced with adequate cross ribs to give sufficient strength to withstand all strains. This patented construction reduces the number of parts to about one-half those generally used, with a consequent increase in efficiency. All the gears and studs are supported at both ends eliminating any tendency to cramp or bind. There are no frictions in the apron to pick up and thus move the carriage or cross slide into the work

or against the head or tailstock. The single jaw clutch positively engages both longitudinal and cross feed by a simple, easy tripping movement of a conveniently located handle and disengages just as simply. The change from longitudinal to cross feed, or vice versa, is accomplished by means of a sliding gear transmission operated by the knob above the feed clutch, when set in the central position all gears are disconnected—a valuable feature in threading operations. The feed shifter is interlocked with the half nuts, making it impossible to engage the lead screw and the feed rod at the same time. All gears in the apron are of drop forged steel and all studs hardened and ground. The rack pinion is of chrome nickel alloy steel normalized and hardened. The apron is attached to the carriage by a bearing its entire length. Four bolts are used to clamp to the carriage and it is further secured by accurately fitted tongues on the ends.

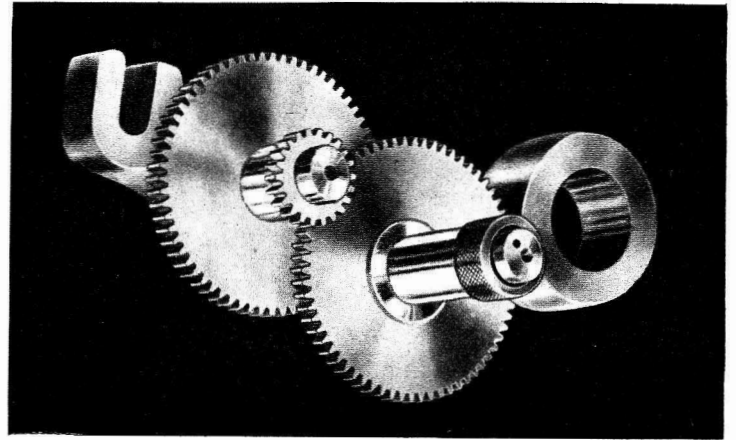


The Reverse Plate

THE FEED to the carriage is driven from a feed gear mounted on the spindle through a reverse plate, carrying two tumbler gears and a reverse plate gear and swivels in the headstock casting. By engaging either of the tumbler gears, the feed can be reversed; that is, the carriage can be fed toward the head or toward the tailstock—or if the cross feed is engaged, feed can be either toward the center or from the center.

The reverse plate is also used for reversing the lead screw when cutting right or left hand threads. All pins on the reverse plate are made of steel and tumbler gears run on hardened studs.

On Super Regal Lathes the reverse plate is not used as the reverse to feed train is incorporated in headstock. (See page 8 and illustration, page 11.)



The Quadrant

THE FEED DRIVE from the reverse plate to the quick change box is through steel gears mounted on the quadrant.

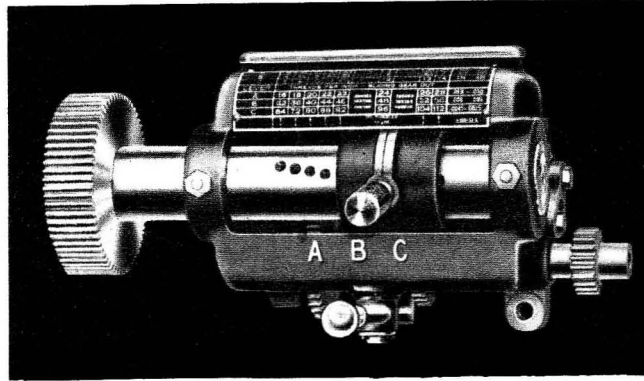
A slip gear on the quadrant provides two ratios of gearing to the quick change box and the change can be made without removing the gear cover. The entire feed mechanism on the end of the lathe is enclosed in a substantial cast iron cover to prevent chips and dirt getting into gears and especially to prevent accidents to the operator.

On Super Regal Lathes the compound shift to provide two speed ratios to the feed train are provided in the headstock. (See page 8.)

The Super Regal Lathe quadrant carries only one gear, an idler gear, which connects headstock feed drive gear with drive gear on quick change feed box. (See illustration, page 11.)

Special quadrant and gears can be provided to make possible cutting of metric threads that cannot be obtained regularly through the quick change box. See Page 34.

Quotations on special gearing and quadrant necessary to enable chasing odd pitch or special threads will be made on request.



Quick Change Box

10"—12"—14"

THE QUICK CHANGE BOX is a complete unit in itself and is bolted to the front of the lathe bed. Twenty-four changes of feed and thread cutting are obtained through two levers; and by means of the slip gear on the quadrant forty-eight changes of feed and thread cutting are obtainable. All gears are of steel with special tooth form 20 degrees pressure angle to permit easy engagement of the tumbler gear.

The tumbler yoke slides on a cylinder inside of which runs the cylinder gear and meshes with the tumbler gear on the tumbler yoke. The tumbler gear can be engaged with any of the eight feed gears on the intermediate shaft. The lower lever on the quick change box with three positions compounds the changes obtained by the tumbler yoke so that twenty-four feed and thread changes can be obtained by means of these two levers. These changes are again doubled by slip gear

on quadrant, giving in all forty-eight changes.

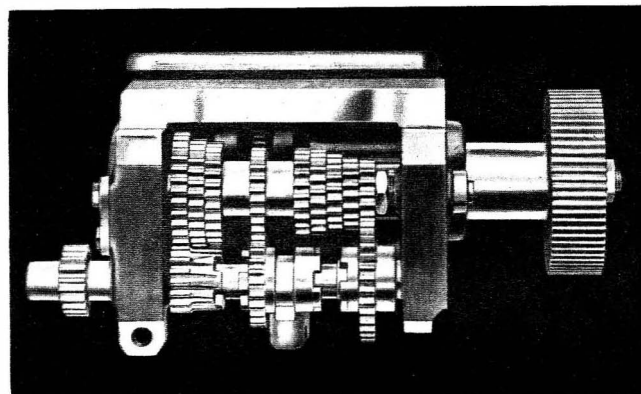
A direct reading index plate on the quick change box indicates the position of the levers to obtain the feed or thread desired.

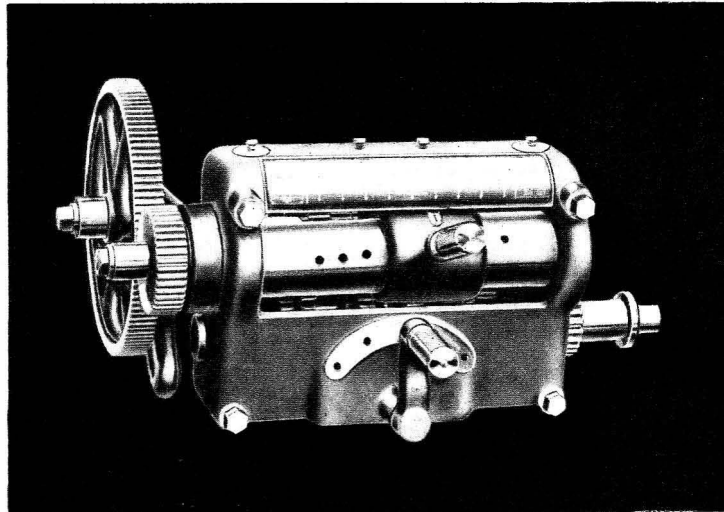
The tumbler plate is arranged so that two conflicting ratios cannot be engaged at the same time, and when it is dropped into engagement at the feed or thread required it is automatically locked in place by the pull plunger in the tumbler yoke handle.

The tumbler yoke sliding on the cylinder moves very easily into position and is free from all cramping action due to the long bearing on the cylinder.

All the bearings in the quick change box are oiled from a central oil reservoir at the top of the box; oil holes from this reservoir leading to the different bearings.

The quick change box on the 10", 12" and 14" lathes is practically the same in design as that used on our Heavy Duty Lathes which has been successfully used for over twenty-five years and during which time repair parts ordered for these boxes have been practically nothing.





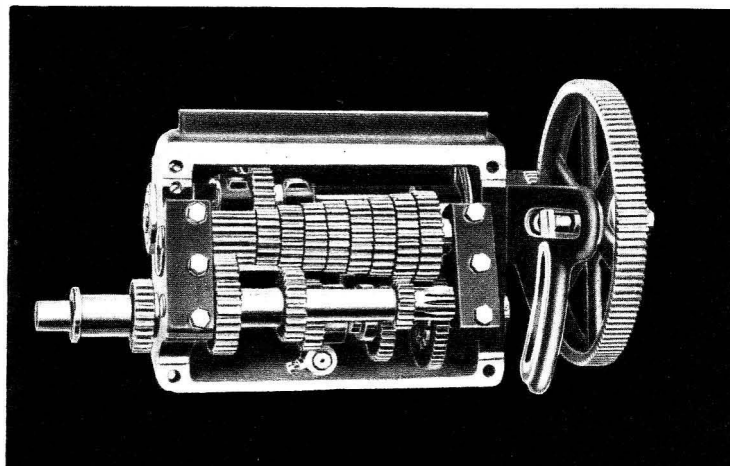
Quick Change Box

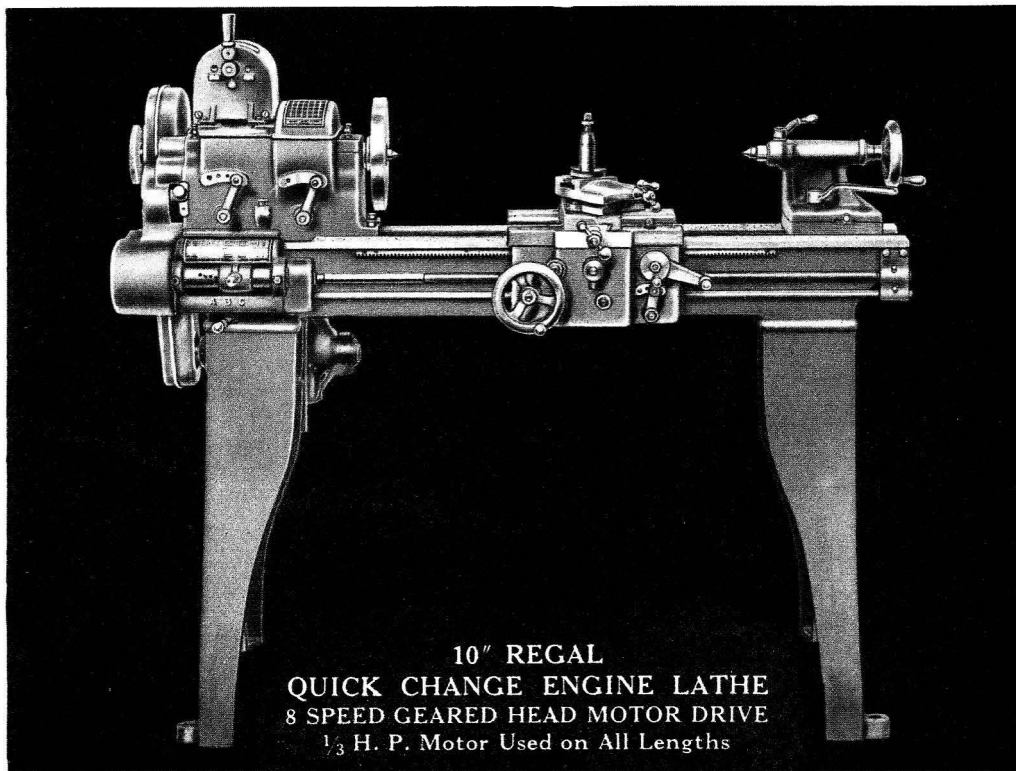
16"—18"

THE QUICK CHANGE mechanism on the 16" and 18" lathes is the same unit that is used on smaller sizes of our heavy duty lathes. It consists essentially of a cone of gears, an intermediate shaft and a set of sliding gears. The tumbler gear is permanently in mesh with a long face pinion located inside the barrel about which the tumbler gear pivots. This gear may be tumbled into engagement with any one of the gears of the cone and is positively located in engagement by an accurately fitted steel plunger in the tumbler yoke handle.

The gears are all of steel and have a special

tooth form that not only gives a tooth section of increased strength, but also permits easy engagement. The tumbler gear is rigidly supported in two bearings, while the tumbler yoke is mounted on a large cylindrical bearing so disposed that binding during the sliding motion is not possible. The tumbler barrel is notched, making it impossible to mesh the gears on the corners. A simple direct reading index plate is provided so that the operator can tell at a glance the correct setting for any thread or feed. All changes can be made while under cut. The unit construction of the mechanism, with its single train of driving gears, readily permits the insertion of special change gears, enabling the operator to cut any special or metric threads with a U. S. lead screw.





10" REGAL
 QUICK CHANGE ENGINE LATHE
 8 SPEED GEARED HEAD MOTOR DRIVE
 1/3 H. P. Motor Used on All Lengths

PRINCIPAL SPECIFICATIONS

Swing over Ways.....	10 1/4"	Threads, Number	48
Swing over Carriage.....	7 1/8"	Threads per Inch, Range.....	4-224
Swing over Taper Attachment.....	6"	Lead Screw Diameter.....	3/4"
Front Spindle Bearing Diameter and Length.....	1 3/8" x 1 7/8"	Lead Screw, Threads per Inch.....	8
Rear Spindle Bearing Diameter and Length.....	1 3/16" x 1 9/16"	Tailstock Spindle Diameter.....	1 1/16"
Spindle Nose Diameter.....	1 3/8"	Tailstock Spindle Travel, Inches.....	2"
Spindle Nose Threads per Inch.....	8	Tailstock Spindle Size of Center.....	Morse No. 2
Spindle Size of Hole.....	3/4"	Compound Rest Travel.....	2"
Spindle Size of Center.....	Morse No. 2	Taper Attachment Maximum Taper per Ft.....	3"
Spindle Speed Range.....	30-525	Taper Attachment Turns at One Setting.....	9"
Feeds, Number.....	48	Steady Rest, capacity.....	3"
Feeds, Range, Thousandths per Inch per revolution.....	.0025 to .144	Follow Rest, capacity.....	1"
Driving Pulley Diameter.....	8"	Number of Vee Belts.....	2

Rated Size	Actual Swing	Lathe Number	Distance Between Centers	PRICE CODE				Weight
				3 Phase 60 Cycle, A. C.	Single Phase 60 Cycle, A. C.	110 or 220 Volts, D. C.	Extra for Pan	
10"	10 1/4"	RA-18	18"	AARPW	AARFM	AARFW	AAPFM	600 lbs.
		RA-24	24"	AARQS	AARGI	AARGS	AAPGI	620 lbs.
		RA-30	30"	AARRY	AARHO	AARHY	AAPHO	640 lbs.
		RA-36	36"	AARRU	AARHK	AARHU	AAPHK	660 lbs.
		RA-42	42"	AARSQ	AARIG	AARIQ	AAPIG	680 lbs.

Taper Attachment, extra AATAP; Chasing Dial, extra AADED; Chuck Plate, fitted to spindle and chuck, extra AACPL; to spindle only, AACPS.

For other attachments, see pages 28 to 38.

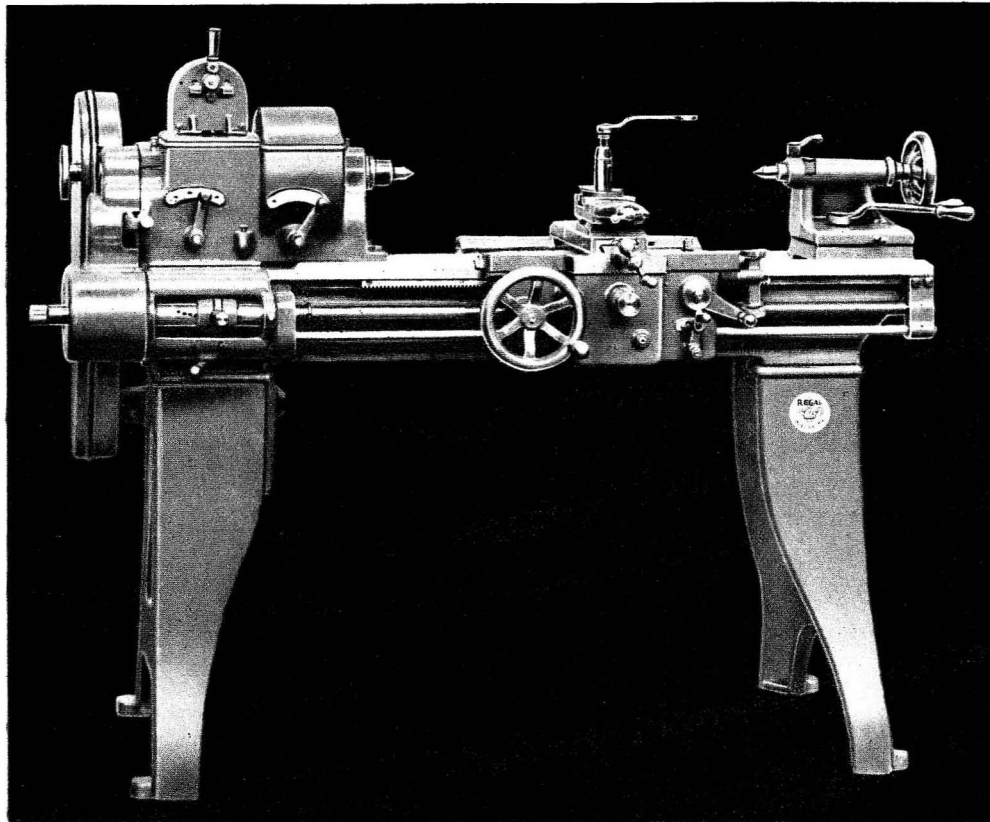
Prices are net f. o. b. cars Cincinnati, Ohio with machines crated for domestic shipment.

Regular Equipment—The regular equipment furnished with every lathe at the price listed includes a reversing type 1800 R. P. M. motor of the size noted, vee belt motor drive complete, motor control switch of drum type with forward, stop and reverse positions; including wiring in approved conduit and ready to run by plugging into the electric supply.

Also included are large and small face plates, steady rest, follow rest, graduated compound rest, tool post, collar and wedge for same, taper spindle sleeve, adjustable thread cutting stop, centers and necessary wrenches, foundation plan, instruction book, lag screws and washers.

Note—When ordering, specify if A. C. or D. C. current is available, also voltage in use. If A. C. current specify phase and cycles as well.

For prices see sheet attached to inside back cover.



**12" REGAL QUICK CHANGE ENGINE LATHE
8 SPEED GEARED HEAD MOTOR DRIVE**

3/4 H. P. Motor Used on All Lengths

PRINCIPAL SPECIFICATIONS

Swing over Ways.....	12 1/4"	Threads, Number.....	48
Swing over Carriage.....	8 3/8"	Threads per Inch, Range.....	4-224
Swing over Taper Attachment.....	7 1/4"	Lead Screw Diameter.....	1"
Front Spindle Bearing Diameter and Length.....	1 11/16" x 2 1/2"	Lead Screw, Threads per Inch.....	6
Rear Spindle Bearing Diameter and Length.....	1 1/2" x 2 3/8"	Tailstock Spindle Diameter.....	1 3/8"
Spindle Nose Diameter.....	1 7/8"	Tailstock Spindle Travel, Inches.....	2 1/4"
Spindle Nose Threads per Inch.....	8	Tailstock Spindle Size of Center.....	Morse No. 3
Spindle Size of Hole.....	1"	Compound Rest Travel.....	2 3/4"
Spindle Size of Center.....	Morse No. 3	Taper Attachment Maximum Taper per Ft.....	3"
Spindle Speed Range.....	20-400	Taper Attachment Turns at One Setting.....	10"
Feeds, Number.....	48	Steady Rest, capacity.....	3 1/2"
Feeds, Range, Thousandths per Inch per revolution.....	.0025 to .144	Follow Rest, capacity.....	1 5/8"
Driving Pulley Diameter.....	10"	Number of Vee Belts.....	3

Rated Size	Actual Swing	Lathe Number	Distance Between Centers	PRICE CODE				Weight
				3 Phase 60 Cycle, A. C.	Single Phase 60 Cycle, A. C.	110 or 220 Volts, D. C.	Extra for Pan	
12"	12 1/4"	RB-18	18"	ABRPW	ABRFM	ABRFW	ABPFM	910 lbs.
		RB-24	24"	ABRQS	ABRGI	ABRGS	ABPGI	930 lbs.
		RB-30	30"	ABRRY	ABRHO	ABRHY	ABPHO	950 lbs.
		RB-36	36"	ABRRU	ABRHK	ABRHU	ABPHK	1020 lbs.
		RB-42	42"	ABRSQ	ABRIG	ABRIQ	ABPIG	1040 lbs.
		RB-66	66"	ABRUU	ABRKK	ABRKU	ABPKK	1200 lbs.

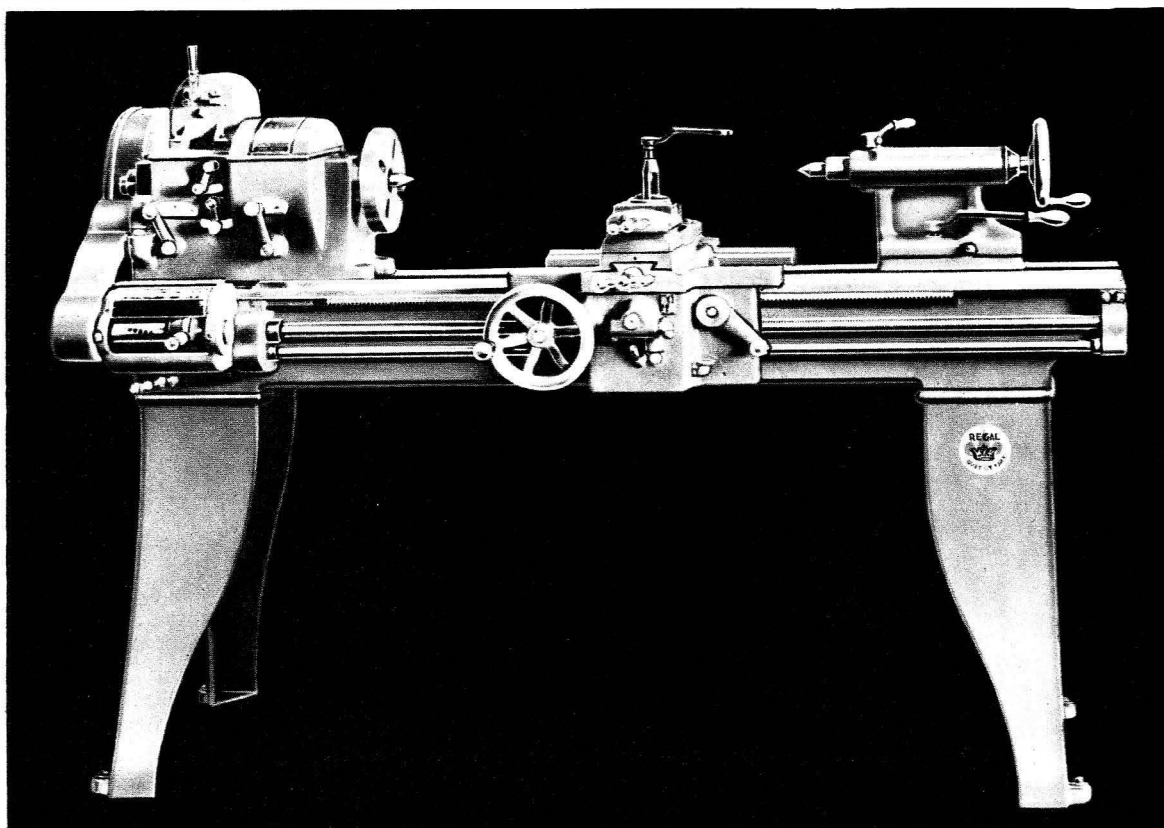
Taper Attachment, extra ABTAP; Chasing Dial, extra ABDED; Chuck Plate, fitted to spindle and chuck, extra ABCPL; to spindle only, ABCPS.

For other attachments, see pages 28 to 38.

Prices are net f. o. b. cars Cincinnati, Ohio, with machines crated for domestic shipment.

For regular equipment and motor data, see bottom Page 19.

For prices see sheet attached to inside back cover.



12" SUPER REGAL QUICK CHANGE ENGINE LATHE
8 SPEED GEARED HEAD MOTOR DRIVE
3/4 H. P. Motor Used on All Lengths
PRINCIPAL SPECIFICATIONS

Swing over Ways.....	12 1/4"	Threads, Number.....	48
Swing over Carriage.....	8 3/8"	Threads per Inch, Range.....	4-224
Swing over Taper Attachment.....	7 1/4"	Lead Screw Diameter.....	1"
Front Spindle Bearing Diameter and Length.....	1 11/16" x 2 1/2"	Lead Screw, Threads per Inch.....	6
Rear Spindle Bearing Diameter and Length.....	1 1/2" x 2 3/8"	Tailstock Spindle Diameter.....	1 3/8"
Spindle Nose Diameter.....	1 7/8"	Tailstock Spindle Travel, Inches.....	2 1/4"
Spindle Nose Threads per Inch.....	8	Tailstock Spindle Size of Center.....	Morse No. 3
Spindle Size of Hole.....	1"	Compound Rest Travel.....	2 3/4"
Spindle Size of Center.....	Morse No. 3	Taper Attachment Maximum Taper per Ft.....	3"
Spindle Speed Range.....	20-400	Taper Attachment Turns at One Setting.....	10"
Feeds, Number.....	48	Steady Rest, capacity.....	3 1/2"
Feeds, Range, Thousandths per Inch per revolution.....	.0025 to .144	Follow Rest, capacity.....	1 5/8"
Driving Pulley Diameter.....	10"	Number of Vee Belts.....	3

Rated Size	Actual Swing	Lathe Number	Distance Between Centers	PRICE CODE				Weight
				3 Phase 60 Cycle, A. C.	Single Phase 60 Cycle, A. C.	110 or 220 Volts, D. C.	Extra for Pan	
12"	12 1/4"	SRB-18	18"	SRBPW	SRBFM	SRBFW	SRPFM	950 lbs.
		SRB-24	24"	SRBQS	SRBGI	SRBGS	SRPGI	985 lbs.
		SRB-30	30"	SRBRY	SRBHO	SRBHY	SRPHO	1020 lbs.
		SRB-36	36"	SRBRU	SRBHK	SRBHU	SRPHK	1055 lbs.
		SRB-42	42"	SRBSQ	SRBIG	SRBIQ	SRPIG	1090 lbs.
		SRB-66	66"	SRBUU	SRBKK	SRBKU	SRPKK	1230 lbs.

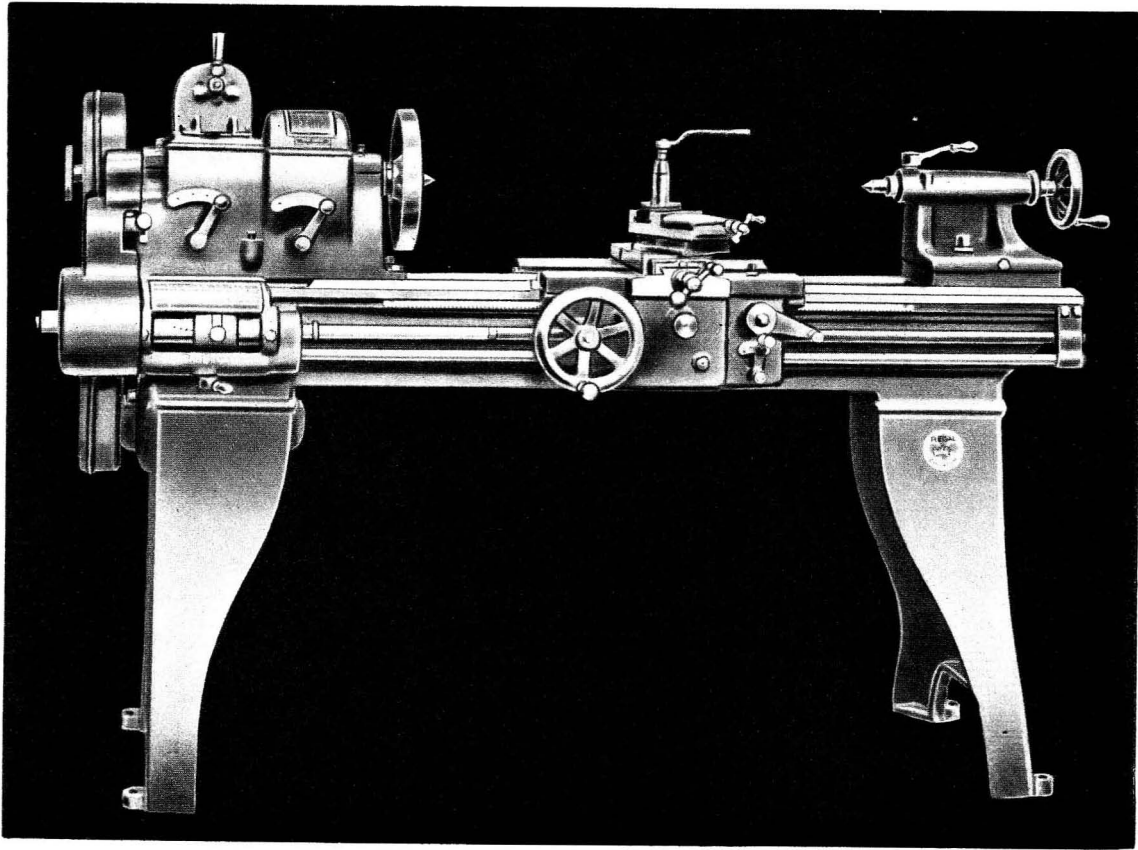
Taper Attachment, extra ABTAP; Chasing Dial, extra ABDED; Chuck Plate, fitted to spindle and chuck, extra ABCPL; to spindle only, ABCPS.

For other attachments, see pages 28 to 38.

Prices are net f. o. b. cars Cincinnati, Ohio, with machines crated for domestic shipment.

For regular equipment and motor data, see bottom Page 19.

For prices see sheet attached to inside back cover.



**14" REGAL QUICK CHANGE ENGINE LATHE
8 SPEED GEARED HEAD MOTOR DRIVE**

1 H. P. Motor Used on All Lengths

PRINCIPAL SPECIFICATIONS

Swing over Ways.....	14 $\frac{1}{4}$ "	Threads, Number.....	48
Swing over Carriage.....	10 $\frac{1}{8}$ "	Threads per Inch, Range.....	4-224
Swing over Taper Attachment.....	9 $\frac{1}{8}$ "	Lead Screw Diameter.....	1"
Front Spindle Bearing Diameter and Length.....	2"x3"	Lead Screw, Threads per Inch.....	6
Rear Spindle Bearing Diameter and Length.....	1 $\frac{1}{2}$ "x2 $\frac{3}{8}$ "	Tailstock Spindle Diameter.....	1 $\frac{5}{8}$ "
Spindle Nose Diameter.....	1 $\frac{7}{8}$ "	Tailstock Spindle Travel, Inches.....	4"
Spindle Nose Threads per Inch.....	8	Tailstock Spindle Size of Center.....	Morse No. 3
Spindle Size of Hole.....	1"	Compound Rest Travel.....	3"
Spindle Size of Center.....	Morse No. 3	Taper Attachment Maximum Taper per Ft.....	3"
Spindle Speed Range.....	20-400	Taper Attachment Turns at One Setting.....	10"
Feeds, Number.....	48	Steady Rest, capacity.....	4"
Feeds, Range, Thousandths per Inch per revolution.....	.0025 to .144	Follow Rest, capacity.....	1 $\frac{3}{4}$ "
Driving Pulley Diameter.....	10"	Number of Vee Belts.....	3

Rated Size	Actual Swing	Lathe Number	Distance Between Centers	PRICE CODE				Weight
				3 Phase 60 Cycle, A. C.	Single Phase 50 Cycle, A. C.	110 or 220 Volts, D. C.	Extra for Pan	
14"	14 $\frac{1}{4}$ "	RC-18	18"	ACRPW	ACRFM	ACRFW	ACPFM	1250 lbs.
		RC-24	24"	ACRQS	ACRGI	ACRGS	ACPGI	1300 lbs.
		RC-30	30"	ACRRY	ACRHO	ACRHY	ACPHO	1350 lbs.
		RC-36	36"	ACRRU	ACRHK	ACRHU	ACPHK	1400 lbs.
		RC-42	42"	ACRS	ACRIG	ACRIQ	ACPIG	1450 lbs.
		RC-66	66"	ACRU	ACRKK	ACRKU	ACPKK	1600 lbs.

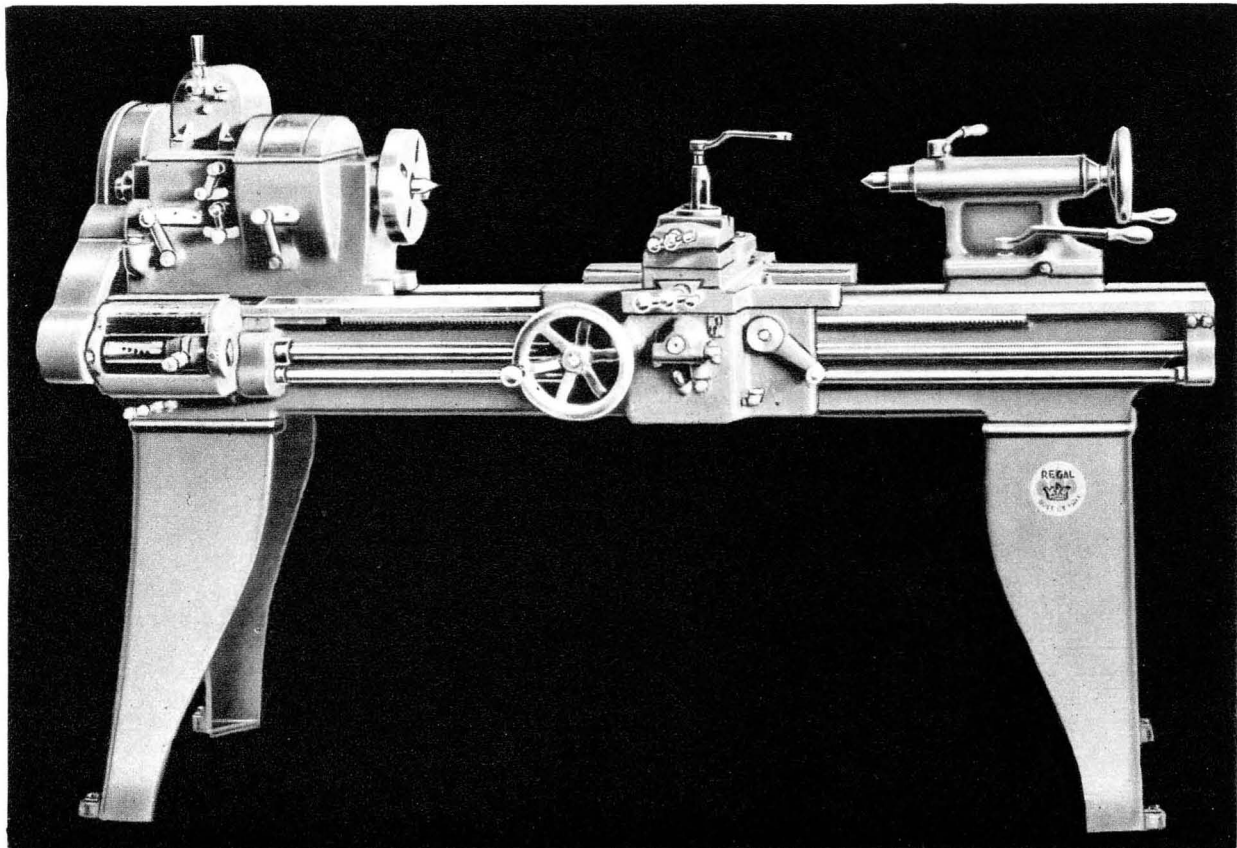
Taper Attachment, extra AC TAP; Chasing Dial, extra ACDED; Chuck Plate, fitted to spindle and chuck, extra ACCPL; to spindle only, ACCPS.

For other attachments, see pages 28 to 38.

Prices are net f. o. b. cars Cincinnati, Ohio, with machines crated for domestic shipment.

For regular equipment and motor data, see bottom Page 19.

For prices see sheet attached to inside back cover.



**14" SUPER REGAL QUICK CHANGE ENGINE LATHE
8 SPEED GEARED HEAD MOTOR DRIVE**

1 H. P. Motor Used on All Lengths

PRINCIPAL SPECIFICATIONS

Swing over Ways.....	14 $\frac{1}{4}$ "	Threads, Number.....	48
Swing over Carriage.....	10 $\frac{1}{8}$ "	Threads per Inch, Range.....	4-224
Swing over Taper Attachment.....	9 $\frac{1}{8}$ "	Lead Screw Diameter.....	1"
Front Spindle Bearing Diameter and Length.....	2" x 3"	Lead Screw, Threads per Inch.....	6
Rear Spindle Bearing Diameter and Length.....	1 $\frac{1}{2}$ " x 2 $\frac{3}{8}$ "	Tailstock Spindle Diameter.....	1 $\frac{5}{8}$ "
Spindle Nose Diameter.....	1 $\frac{7}{8}$ "	Tailstock Spindle Travel, Inches.....	4"
Spindle Nose Threads per Inch.....	8	Tailstock Spindle Size of Center.....	Morse No. 3
Spindle Size of Hole.....	1"	Compound Rest Travel.....	3"
Spindle Size of Center.....	Morse No. 3	Taper Attachment Maximum Taper per Ft.....	3"
Spindle Speed Range.....	20-400	Taper Attachment Turns at One Setting.....	10"
Feeds, Number.....	48	Steady Rest, capacity.....	4"
Feeds, Range, Thousandths per Inch per revolution.....	.0025 to .144	Follow Rest, capacity.....	1 $\frac{3}{4}$ "
Driving Pulley Diameter.....	10"	Number of Vee Belts.....	3

Rated Size	Actual Swing	Lathe Number	Distance Between Centers	PRICE CODE				Weight
				3 Phase 60 Cycle, A. C.	Single Phase 60 Cycle, A. C.	110 or 220 Volts, D. C.	Extra for Pan	
14"	14 $\frac{1}{4}$ "	SRC-18	18"	SRCPW	SRCFM	SRCFW	SRPFM	1300 lbs.
		SRC-24	24"	SRCQS	SRCGI	SRCGS	SRPGI	1350 lbs.
		SRC-30	30"	SRCRY	SRCHO	SRCHY	SRPHO	1400 lbs.
		SRC-36	36"	SRCRU	SRCHK	SRCHU	SRPHK	1450 lbs.
		SRC-42	42"	SRCSQ	SRCIG	SRCIQ	SRPIG	1500 lbs.
		SRC-66	66"	SRCU	SRCKK	SRCKU	SRPKK	1700 lbs.

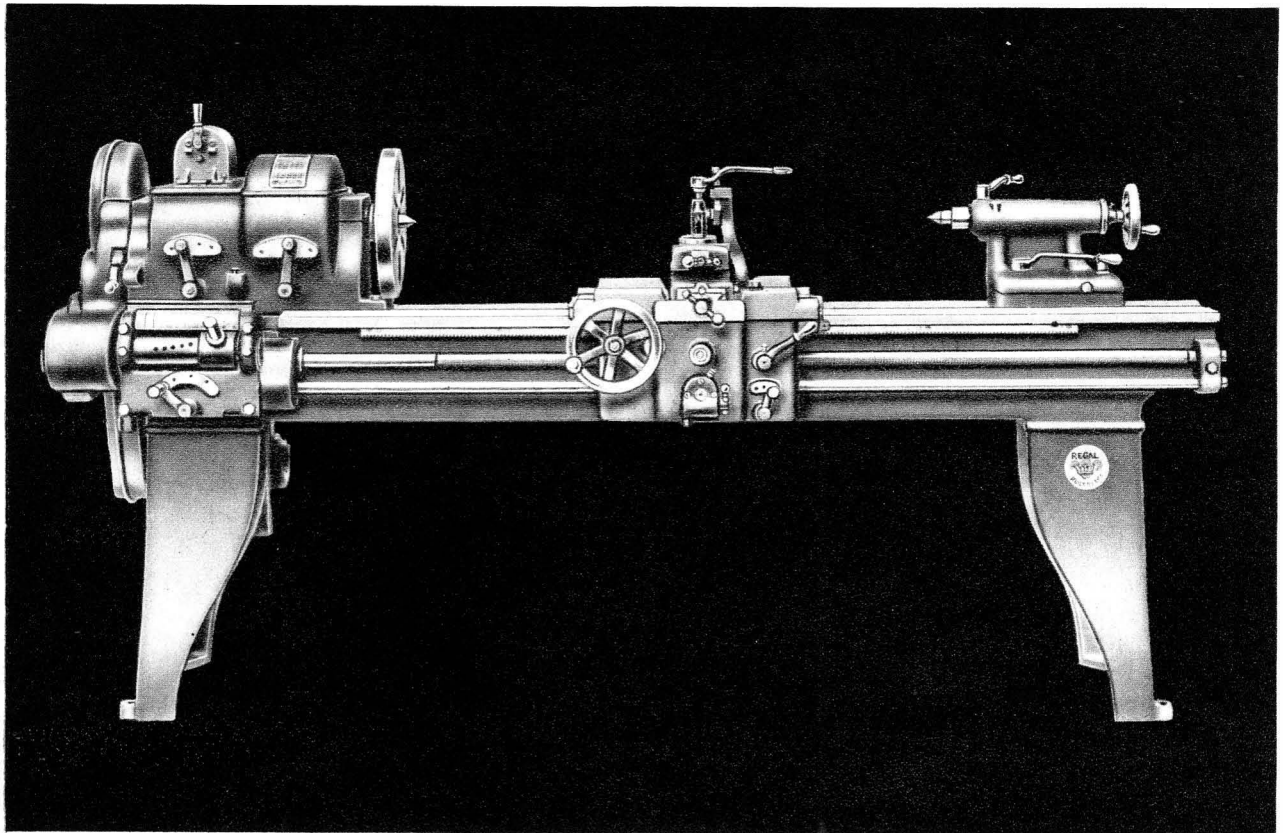
Taper Attachment, extra ACTAP; Chasing Dial, extra ACDED; Chuck Plate, fitted to spindle and chuck, extra ACCPL; to spindle only, ACCPS.

For other attachments, see pages 28 to 58.

Prices are net f. o. b. cars Cincinnati, Ohio, with machines crated for domestic shipment.

For regular equipment and motor data, see bottom Page 19.

For prices see sheet attached to inside back cover.



16" REGAL QUICK CHANGE ENGINE LATHE

8 SPEED GEARED HEAD MOTOR DRIVE

1½ H. P. Motor Used on All Lengths

PRINCIPAL SPECIFICATIONS

Swing over Ways.....	16¼"	Threads, Number.....	56
Swing over Carriage.....	11"	Threads per Inch, Range.....	1½-184
Swing over Taper Attachment.....	9¾"	Lead Screw Diameter.....	1¾"
Front Spindle Bearing Diameter and Length.....	2¾"x3½"	Lead Screw, Threads per Inch.....	4
Rear Spindle Bearing Diameter and Length.....	2¼"x3"	Tailstock Spindle Diameter.....	1½"
Spindle Nose Diameter.....	2⅝"	Tailstock Spindle Travel Inches.....	5¼"
Spindle Nose Threads per Inch.....	5	Tailstock Spindle Size of Center.....	Morse No. 3
Spindle Size of Hole.....	1⅞"	Compound Rest Travel.....	3¾"
Spindle Size of Center.....	Morse No. 4	Taper Attachment Maximum Taper per Ft.....	3"
Spindle Speed Range.....	15-350	Taper Attachment Turns at One Setting.....	13"
Feeds, Number.....	56	Steady Rest, capacity.....	5"
Feeds, Range, Thousandths per Inch per revolution.....	.001 to .125	Follow Rest, capacity.....	2⅞"
Driving Pulley Diameter.....	13"	Number of Vee Belts.....	4

Rated Size	Actual Swing	Lathe Number	Distance Between Centers	PRICE CODE				Weight
				3 Phase 60 Cycle, A. C.	Single Phase 60 Cycle, A. C.	110 or 220 Volts, D. C.	Extra for Pan	
16"	16¼"	RD-30	30"	ADRRY	ADRHO	ADRHY	ADPHO	2040 lbs.
		RD-42	42"	ADRSQ	ADRIG	ADRIQ	ADPIG	2110 lbs.
		RD-54	54"	ADRTS	ADRJI	ADRJS	ADPJI	2180 lbs.
		RD-66	66"	ADRUU	ADRKK	ADRKU	ADPKK	2250 lbs.
		RD-78	78"	ADRVW	ADRLM	ADRLW	ADPLM	2370 lbs.

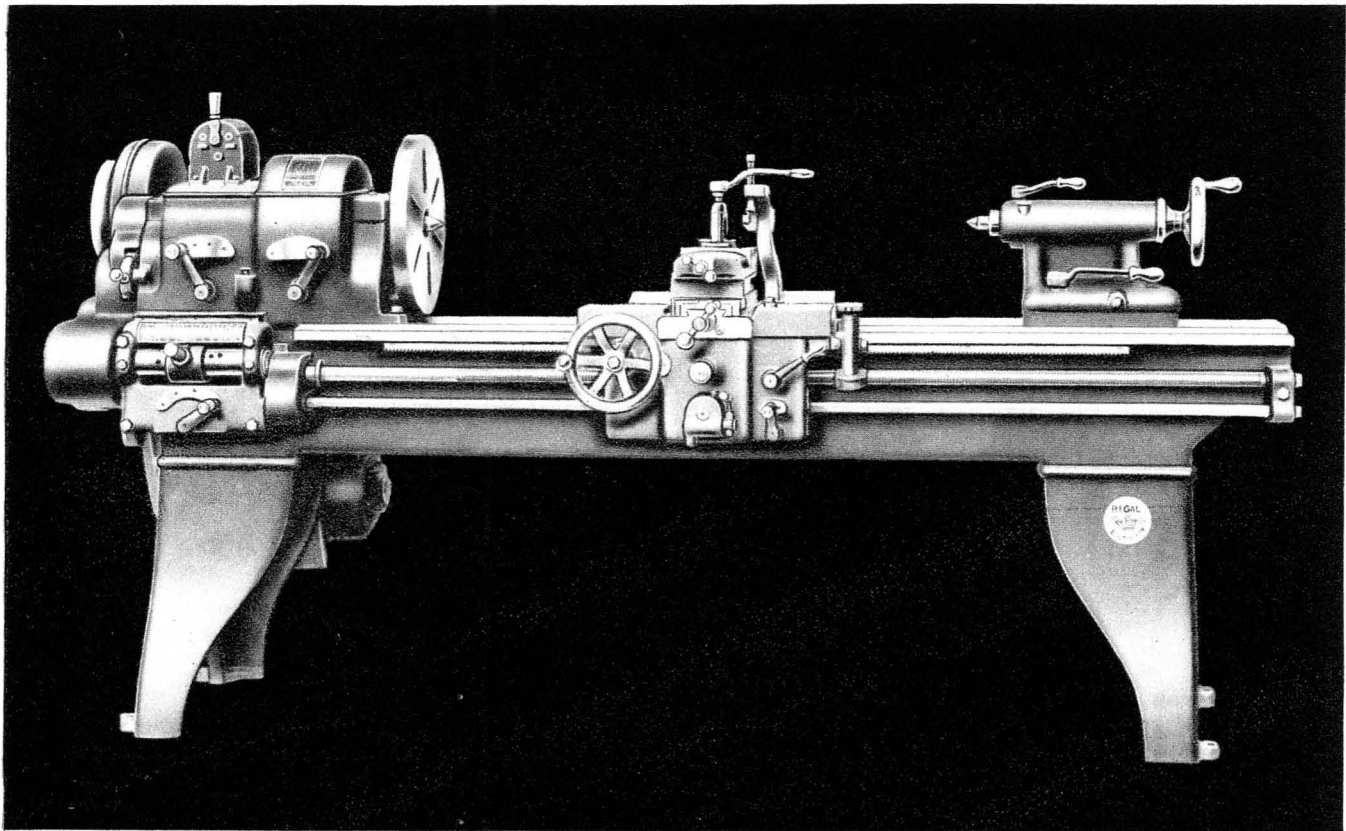
Taper Attachment, extra ADTAP; Chasing Dial, extra ADDED; Chuck Plate, fitted to spindle and chuck, extra ADCPL; to spindle only, ADCPS.

For other attachments, see pages 28 to 38.

Prices are net f. o. b. cars Cincinnati, Ohio, with machines crated for domestic shipment.

For regular equipment and motor data, see bottom Page 19.

For prices see sheet attached to inside back cover.



18" REGAL QUICK CHANGE ENGINE LATHE
8 SPEED GEARED HEAD MOTOR DRIVE
2 H. P. Motor Used on All Lengths
PRINCIPAL SPECIFICATIONS

Swing over Ways.....	18 1/4"	Threads, Number.....	56
Swing over Carriage.....	12 1/2"	Threads per Inch, Range.....	1 1/2-184
Swing over Taper Attachment.....	11"	Lead Screw Diameter.....	1 3/16"
Front Spindle Bearing Diameter and Length.....	2 3/4" x 4"	Lead Screw, Threads per Inch.....	4
Rear Spindle Bearing Diameter and Length.....	2 1/16" x 3"	Tailstock Spindle Diameter.....	2 1/8"
Spindle Nose Diameter.....	2 5/8"	Tailstock Spindle Travel, Inches.....	6 1/2"
Spindle Nose Threads per Inch.....	5	Tailstock Spindle Size of Center.....	Morse No. 4
Spindle Size of Hole.....	1 1/16"	Compound Rest Travel.....	4 1/4"
Spindle Size of Center.....	Morse No. 4	Taper Attachment Maximum Taper per Ft.....	.3"
Spindle Speed Range.....	15-350	Taper Attachment Turns at One Setting.....	13"
Feeds, Number.....	56	Steady Rest, capacity.....	.6"
Feeds, Range, Thousandths per Inch per revolution.....	.001 to .125	Follow Rest, capacity.....	2 1/2"
Driving Pulley Diameter.....	13"	Number of Vee Belts.....	4

Rated Size	Actual Swing	Lathe Number	Distance Between Centers	PRICE CODE				Weight
				3 Phase 60 Cycle, A. C.	Single Phase 60 Cycle, A. C.	110 or 220 Volts, D. C.	Extra for Pan	
18"	18 1/4"	RE-30	30"	AERRY	AERHO	AERHY	AEPHO	2480 lbs.
		RE-42	42"	AERSQ	AERIQ	AERIQ	AEPIG	2580 lbs.
		RE-54	54"	AERTS	AERJI	AERJS	AEPJI	2680 lbs.
		RE-66	66"	AERUU	AERKK	AERKU	AEPKK	2780 lbs.
		RE-78	78"	AERVW	AERLM	AERLW	AEPLM	2880 lbs.

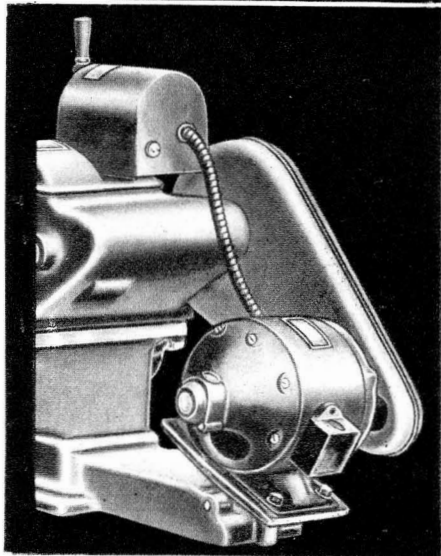
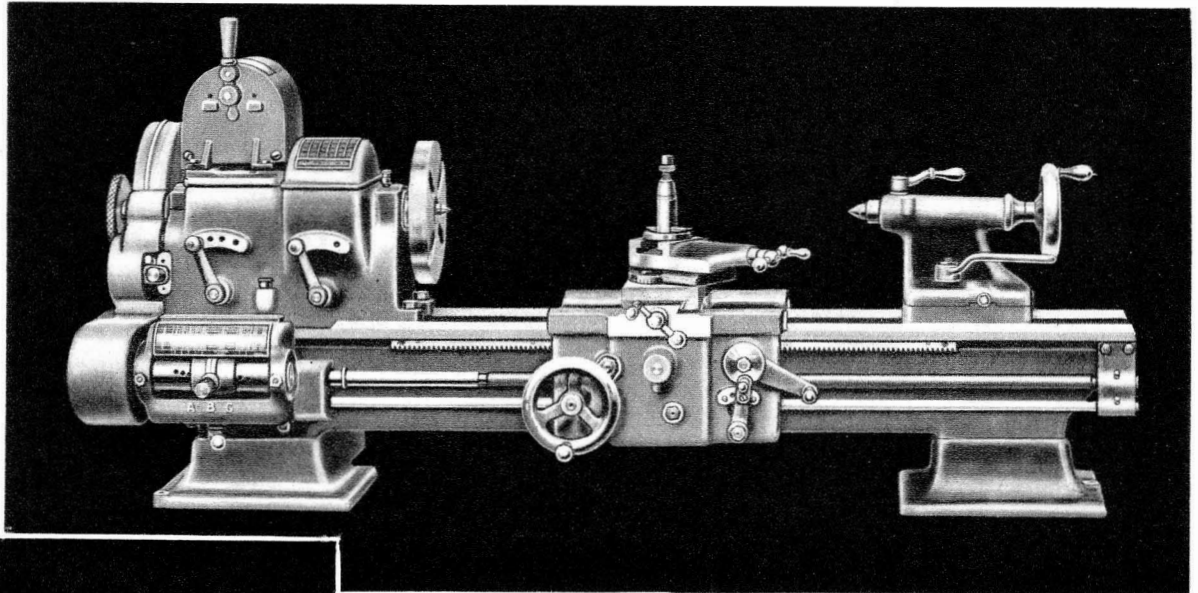
Taper Attachment, extra AETAP; Chasing Dial, extra AEDED; Chuck Plate, fitted to spindle and chuck, extra AECPL; to spindle only, AECPS.

For other attachments, see pages 28 to 38.

Prices are net f. o. b. cars Cincinnati, Ohio, with machines crated for domestic shipment.

For regular equipment and motor data, see bottom Page 19.

For prices see sheet attached to inside back cover.



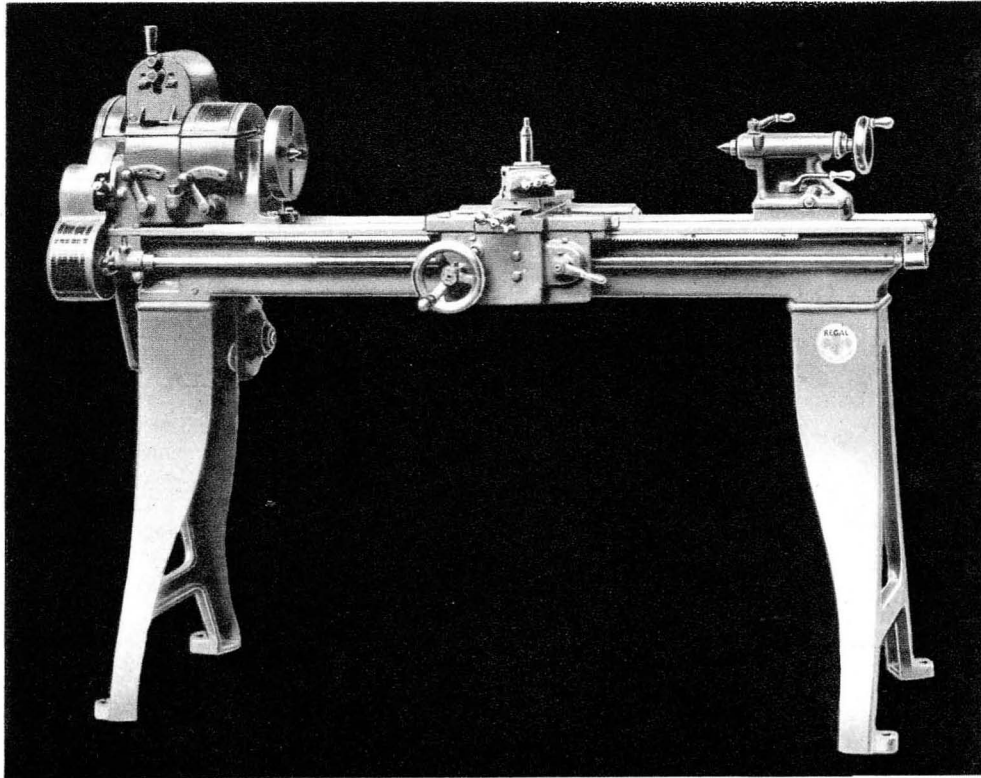
Regal Bench Lathes

THE REGAL BENCH LATHES are identical with the regular Regal Lathes except that the bed is furnished with short legs for bench mounting. The hinged motor plate support is cast integral with the short leg casting on head end.

Regal Bench Lathes are built in 10" and 12" sizes. The standard model is also supplied with bench type legs. 10" quick change bench lathe illustrated above.

Rated Size	Actual Swing	Lathe Number	Distance Between Centers	PRICE CODE			Weight
				3 Phase 60 Cycle, A. C.	Single Phase 60 Cycle, A. C.	110 or 220 Volts D. C.	
10" Quick Change	10 3/4"	RAB-18	18"	AABPW	AABFM	AABFW	535 lbs.
		RAB-24	24"	AABQS	AABGI	AABGS	555 lbs.
		RAB-30	30"	AABRY	AABHO	AABHY	575 lbs.
		RAB-36	36"	AABRU	AABHK	AABHU	595 lbs.
		RAB-42	42"	AABSQ	AABIG	AABIQ	615 lbs.
12" Quick Change	12 1/4"	RBB-18	18"	ABBPW	ABBFM	ABBFW	835 lbs.
		RBB-24	24"	ABBQS	ABBGJ	ABBGJ	855 lbs.
		RBB-30	30"	ABBRU	ABBHO	ABBHY	875 lbs.
		RBB-36	36"	ABBRU	ABBHK	ABBHU	895 lbs.
		RBB-42	42"	ABBSQ	ABBIG	ABBIQ	910 lbs.
		RBB-66	66"	ABBUU	ABBKK	ABBKU	930 lbs.
12" Super Regal Quick Change	12 1/4"	SBB-18	18"	SBBPW	SBBFM	SBBFW	875 lbs.
		SBB-24	24"	SBBQS	SBBGI	SBBGS	895 lbs.
		SBB-30	30"	SBBRY	SBBHO	SBBHY	915 lbs.
		SBB-36	36"	SBBRU	SBBHK	SBBHU	935 lbs.
		SBB-42	42"	SBBSQ	SBBIG	SBBIQ	955 lbs.
		SBB-66	66"	SBBUU	SBBKK	SBBKU	1035 lbs.

For attachments, see pages 28 to 38.
 Prices are net f. o. b. cars Cincinnati, Ohio, with machines crated for domestic shipment.
 For regular equipment and motor data, see bottom page 19.
 For prices see sheet attached to inside back cover.



10" REGAL STANDARD CHANGE GEAR ENGINE LATHE
8 SPEED GEARED HEAD MOTOR DRIVE
 1/3 H. P. Motor Used on All Lengths

THE STANDARD ENGINE LATHE is assembled from the units of the 10" Regal Quick Change Engine Lathe with the exception of the apron which is a simplified rigid one piece casting and the omission of the feed rod. The quick change feed box is not required, the feed

changes being made by change gears at the end of the lathe.

For specifications, see page 18. The feed range is 4 to 40 threads per inch. The standard lathe is built with both bench and floor type legs. Power cross feed is not furnished on this model.

Rated Size	Actual Swing	Lathe Number	Distance Between Centers	PRICE CODE			Weight
				3 Phase 60 Cycle, A. C.	Single Phase 60 Cycle, A. C.	110 or 220 Volts D. C.	
10" Floor Type	10 1/4"	RAS-18	18"	AASPW	AASFM	AASFW	590 lbs.
		RAS-24	24"	AASQS	AASGI	AASGS	610 lbs.
		RAS-30	30"	AASRY	AASHO	AASHY	630 lbs.
		RAS-36	36"	AASRU	AASHK	AASHU	650 lbs.
		RAS-42	42"	AASSQ	AASIG	AASIQ	670 lbs.
10" Bench Type	10 1/4"	RSB-18	18"	ASBPW	ASBFM	ASBFW	525 lbs.
		RSB-24	24"	ASBQS	ASBGI	ASBGS	545 lbs.
		RSB-30	30"	ASBRY	ASBHO	ASBHY	565 lbs.
		RSB-36	36"	ASBRU	ASBHK	ASBHU	585 lbs.
		RSB-42	42"	ASBSQ	ASBIG	ASBIQ	605 lbs.

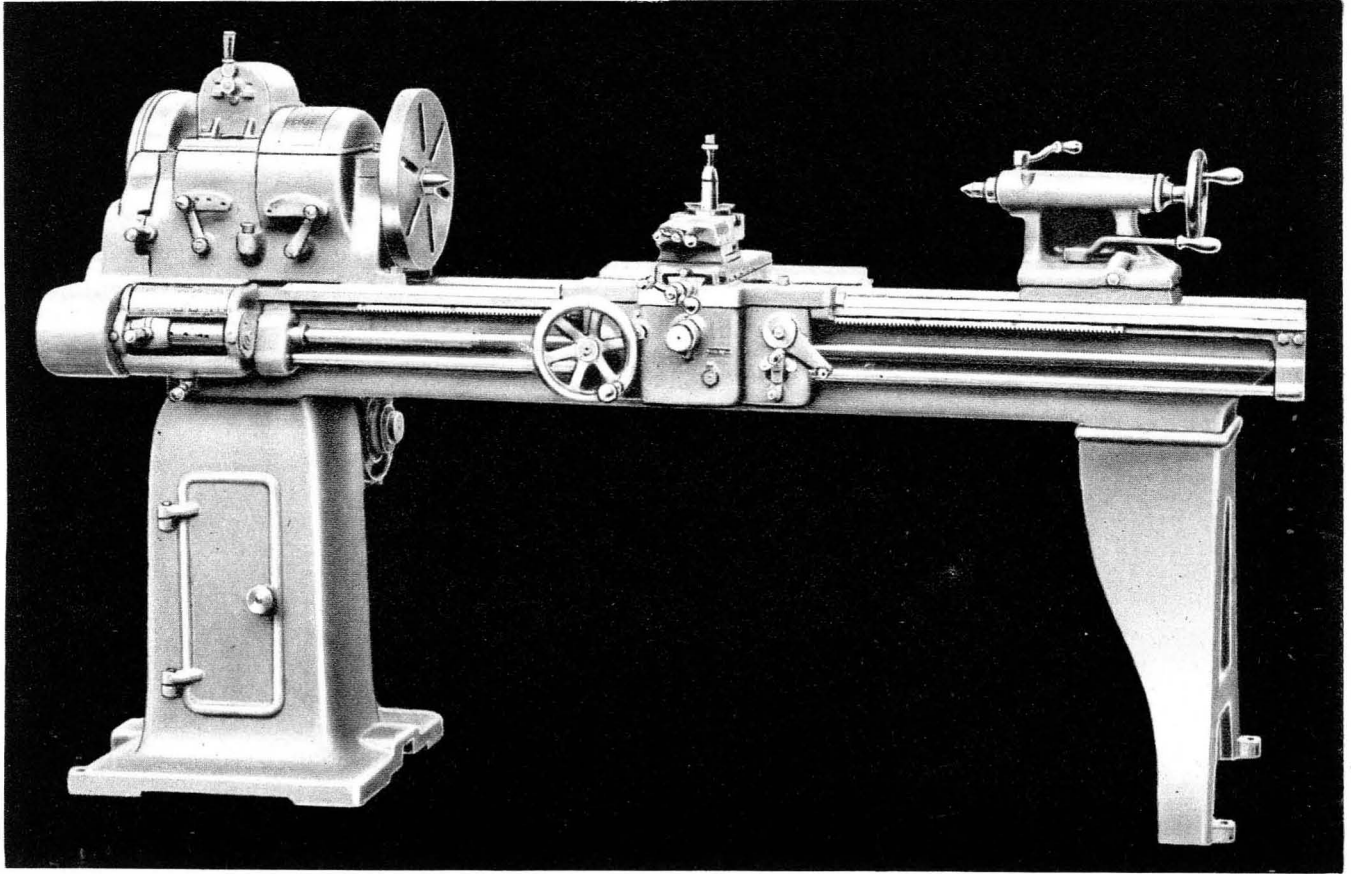
For extra attachments, see pages 28 to 38.

Prices are net f. o. b. cars Cincinnati, Ohio, with machines crated for domestic shipment.

Regular Equipment—1/3 H. P. reversing type, 1800 r. p. m. motor, vee belt drive, drum type control switch (forward, stop and reverse) wiring in approved conduit and ready to run by plugging into electric supply, also 15 change feed gears, small face plate, graduated compound rest, tool post, collar and wedge, taper spindle sleeve, centers and necessary wrenches, foundation plan, instruction book, lag screws and washers.

Note—When ordering, specify if A. C. or D. C. current is available, also voltage in use. If A. C. current, specify phase and cycles as well.

For prices see sheet attached to back cover.



←-----→
Cabinet Legs
 ←-----→

Many lathe users prefer cabinet legs to the regular floor type legs, or a combination of cabinet leg under the head end and floor type leg under the tailstock end.

The cabinet leg furnishes a convenient

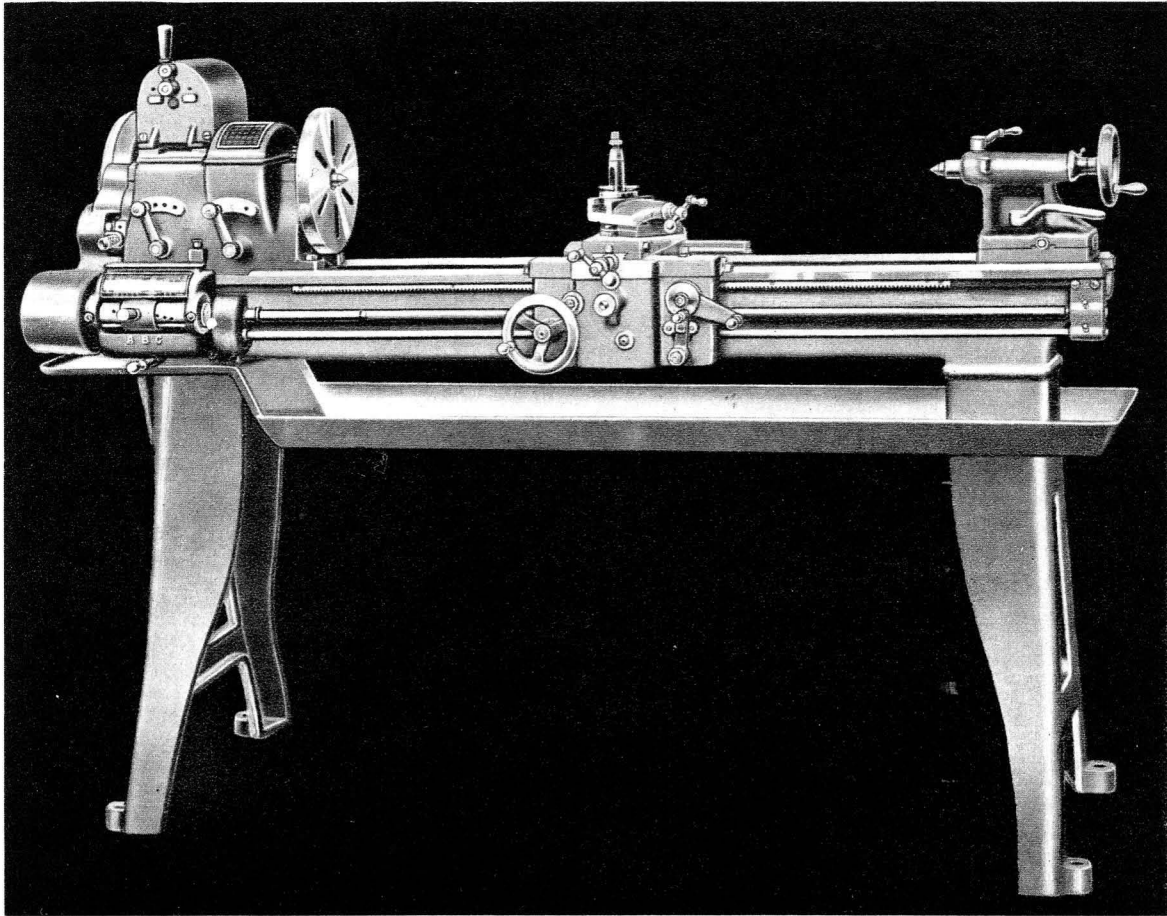
compartment for the storage of tools and wrenches. Both the standard and the quick change Regal Lathes can be furnished with cabinet legs.

A 14" lathe is shown in the illustration.

Cabinet Legs

Lathe Size	Catalogue Number	Price Code
10"	265	AALEG
12"	266	ABLEG
14"	267	ACLEG
16"	268	ADLEG
18"	269	AELEG

For prices see sheet attached to inside back over.



Pan Bed

THE PAN BED, as illustrated above, is recommended where cutting compound is used on the lathe tool and the work. It is also useful in that it collects chips ready for easy

removal, thus aiding the maintenance of shop cleanliness.

When ordered with the Lathe, Pan is installed at factory. When ordered separately a special pan leg is furnished and the customer returns the regular tailstock end leg. Pan Bed is furnished only in sizes listed.

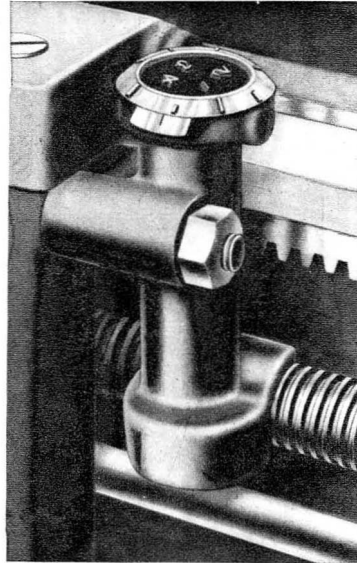
Pan Bed

Center Distance of Lathe	Price Code									
	10" Lathe	Cat. No.	12" Lathe	Cat. No.	14" Lathe	Cat. No.	16" Lathe	Cat. No.	18" Lathe	Cat. No.
18"	AAPFM	250	ABPFM	251	ACPFM	252				
24"	AAPGI	250	ABPGI	251	ACPGI	252				
30"	AAPHO	250	ABPHO	251	ACPHO	252	ADPHO	253	AEPHO	254
36"	AAPHK	250	ABPHK	251	ACPHK	252				
42"	AAPIG	250	ABPIG	251	ACPIG	252	ADPIG	253	AEPIG	254
54"							ADPJI	253	AEPJI	254
66"			ABPKK	251	ACPKK	252	ADPKK	253	AEPKK	254
78"							ADPLM	253	AEPLM	254

For prices see sheet attached to inside back cover.

Chasing Dial

THE CHASING DIAL consists of a graduated dial geared to the lead screw of the lathe. With this device it is unnecessary to reverse the spindle at the end of the thread cut as the half nuts are disengaged for this purpose—the tool removed to clear the work and the carriage returned to starting position. The tool is set for the depth of the next cut and the half nuts reengaged when the proper line on moving dial coincides with the index line.



The Chasing Dial is arranged so that it may be disconnected from the lead screw when not in use.

The Chasing Dial may be installed at any time, as provision is made in the machining of all carriages for its application.

Chasing Dial

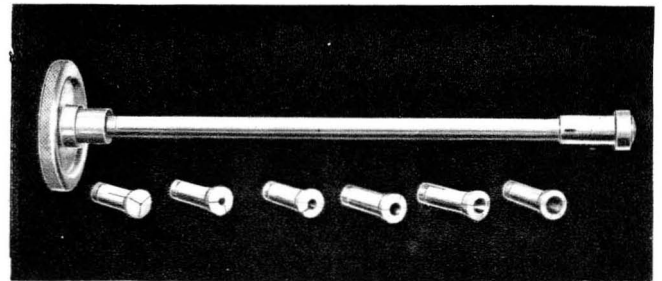
Lathe Size	Catalogue Number	Price Code Each
10"	220	AADED
12"	221	ABDED
14"	222	ACDED
16"	223	ADED
18"	224	AEDD

Draw-in Attachment and Collets

THE DRAW-IN ATTACHMENT is of the popular hand wheel type, consisting of the hand wheel, the sleeve and the closer. When the hand wheel is screwed up against the end of the spindle, the split collet is drawn into the closing taper in the closing bush and clamps the work in the ground hole of the collet.

Price of the attachment includes one

collet of size optional with customer but within capacity of lathe for which it is ordered.



Draw-in Attachment

Extra Collet

Draw-in Attachment					Extra Collet			
Size Lathe	Catalogue Number	Spindle Hole	Collet Capacity in 64ths (round)	Price Code	Size Lathe	Number	Collet Capacity in 64ths (round)	Price Code
10"	200	3/4"	1/64" to 1/2" incl.	AAFED	10"	210	1/64" to 1/2" incl.	AACED
12"	201	1"	1/64" to 5/8" incl.	ABFED	12"	211	1/64" to 5/8" incl.	ABCED
14"	202	1"	1/64" to 5/8" incl.	ACFED	14"	212	1/64" to 5/8" incl.	ACCED
16"	203	1 1/16"	1/64" to 7/8" incl.	ADFED	16"	213	1/64" to 7/8" incl.	ADCED
18"	204	1 1/16"	1/64" to 1" incl.	AEFED	18"	214	1/64" to 1" incl.	AFCED

Collet Tray

THE COLLET TRAY provides a convenient means of holding the draw-in attachment parts and collets. Centers, wrenches and small tools also can be held in the tray. A clamping bracket is provided to attach the unit to the bed.



Collet Tray

Size Lathe	Catalogue Number	Price Code
10"	225	AAFET
12"	226	ABFET
14"	227	ACFET
16"	228	ADFET
18"	229	AFFET

For prices see sheet attached to inside back cover.

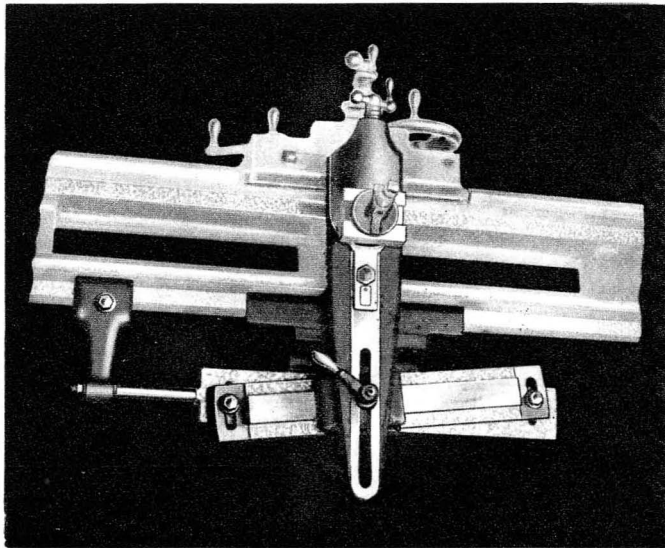
Taper Attachment

THE TAPER ATTACHMENT is of the carriage type mounted on rear of carriage. The taper attachment bracket has a dovetail bearing for the guide bar provided with a gib for adjustment. Both guide bar and bracket are accurately scraped to each other.

The swivel bar is pivoted on guide bar and the ends are graduated, one in degrees, the other in taper per foot. Collar screws on each end provide the method for clamping.

The swivel bar shoe has a long bearing on the swivel bar and is also provided with a gib to take up the wear. A bed bracket and stud holds the guide stationary when turning taper and is locked to rear shear by a clamping screw.

The compound rest gets its movement from



the bottom slide extension; the extension also has a bearing on the cross slide dovetail. By means of locking handle, the bottom slide extension is locked to the swivel bar shoe and this causes the tool to turn the taper set on the swivel bar.

When turning taper, cross feed screw must be disengaged by removing cross feed screw nut.

The entire taper attachment is simple, rigid and efficient.

Taper Attachment

Lathe Size	Catalogue Number	Price Code
10"	235	AATAP
12"	236	ABTAP
14"	237	ACTAP
16"	238	ADTAP
18"	239	AETAP

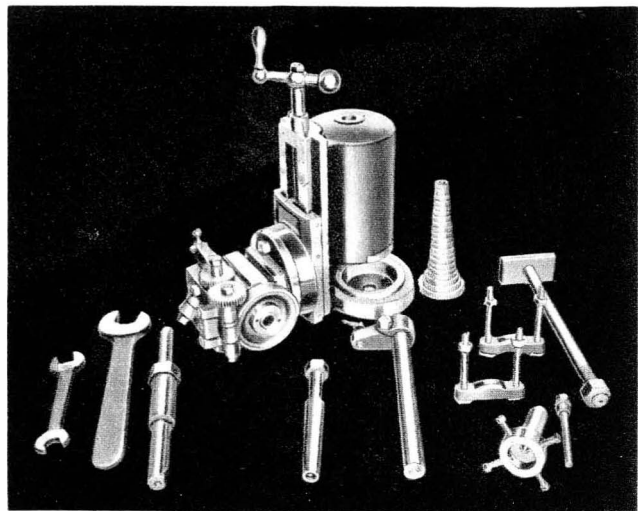
The "Millerette" Converter

THE "MILLERETTE" as a wide range lathe attachment is so useful and convenient that it will pay the owner of a machine shop of any size to include it in his working equipment. It takes the place of a milling machine for all ordinary purposes or adds additional milling equipment when needed, but requires no extra space and entails no heavy power consumption.

A great variety of work can be done on a lathe with a "Millerette." Spur and bevel gears, splines and slots can be cut and all regular dividing head milling machine work done on a lathe with a "Millerette."

External key seating, surface milling and many other jobs are also economically done with this equipment.

Price includes two wrenches, one cutter arbor, one work arbor with draw bolt, one straight clamp, one concave clamp, one dog center, one outboard support, and one set of 24 change gears.



The "Millerette" Converter

Lathe Size	Catalogue Number	Price Code	Travel of Down Slide	Weight
10-12-14	245	AALOS	6½	45 lbs.
	245 V.*	AAVOX		
14-16	246	ACLOT	7½	60 lbs.
	246 V*	ACVOT		
16-18	247	ADLOU	9	100 lbs.
	247 V*	ADVOU		

*Complete with vise.

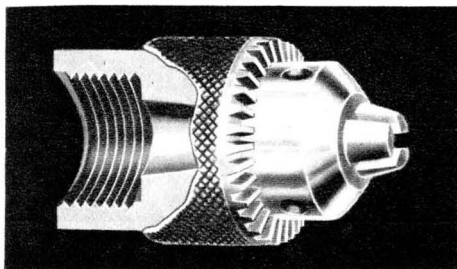
For prices see sheet attached to inside back cover.

Spindle Nose Chuck

THE SPINDLE nose chuck was developed to provide an accurate rigid chucking device for bar work—valves, etc. Chuck body is tapped to fit spindle nose thread. Clear through capacity $\frac{5}{8}$ " on 10", $\frac{3}{4}$ " on 12" and 14" lathes. Not furnished for 16" or 18" Regal Lathes.

Spindle Nose Chuck

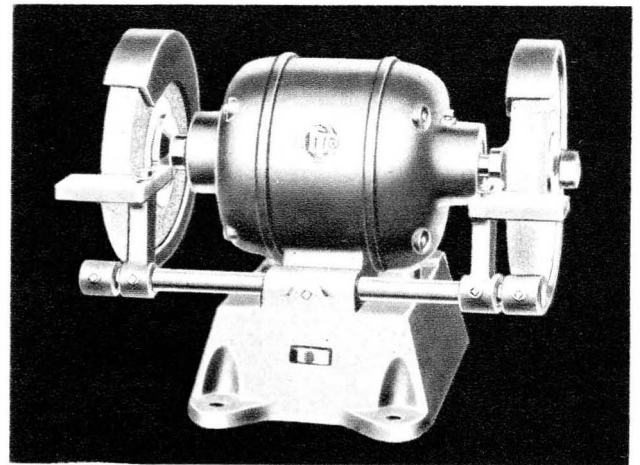
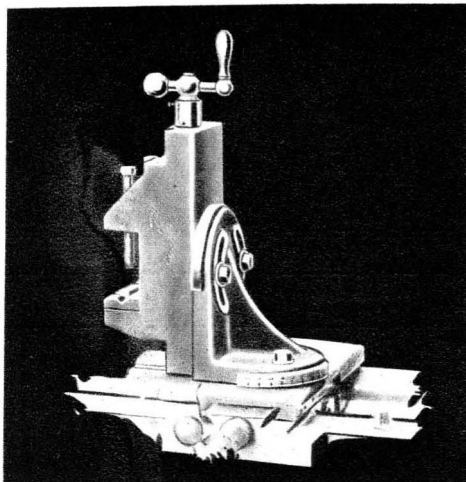
Size Lathe	Catalogue Number	Price Code
10"	402	AACND
12"	403	ABCND
14"	404	ACCND



Milling Attachment

THIS VISE TYPE milling attachment provides an economical device to hold work for milling by means of a cutter mounted on an arbor held in lathe spindle.

Fixed jaw type vise slides vertically on vertical slide. Vertical slide swivels 45° each side of vertical on angle base. Angle base bolts on cross slide bottom slide in place of compound rest and swivels entirely around.



6" Ball Bearing Bench Grinder

THIS GRINDER was designed to meet the need for an accurate, sturdy grinder to do light grinding, tool grinding, polishing and buffing.

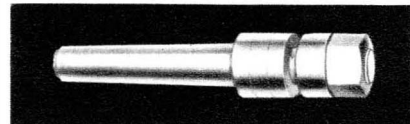
Motors can be furnished for either A. C. or D. C. in following specifications.

This Grinder is not Universal.

Current Specifications	Catalogue No.	Price Code
110 V. 60 Cy. 1 Ph.	413	CETAA
220 V. 60 Cy. 1 Ph.	414	CETBA
110 V. D. C.	415	CETAD
220 V. D. C.	416	CETBD

Arbor for Milling Cutters

THESE ARBORS fit in headstock spindle taper hole and have stem for cutters with 1" hole capacity between shoulder and nut $1\frac{1}{2}$ ". Three spacing collars furnished—nut is hardened.



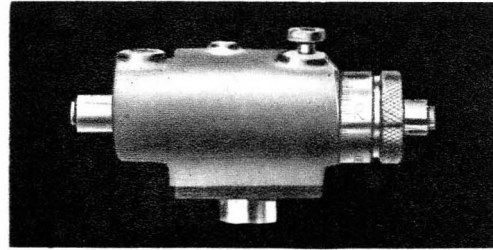
Milling Attachment			Arbor	
Size Lathe	Catalogue Number	Price Code	Catalogue Number	Price Code
10"	405	AAMVA	410	AAMAA
12"	406	ABMVA	411	ABMAA
14"	407	ACMVA	411	ABMAA
16"	408	ADMVA	412	ADMAA
18"	409	AEMVA	412	ADMAA

For prices see sheet attached to inside back cover.

Micrometer Carriage Stop

THE MICROMETER CARRIAGE STOP is designed to be used either as an adjustable or positive carriage stop and is clamped to the front way of the lathe. The adjustment is by means of a screw on which a graduated collar indicates the advance or withdrawal of the locating end from the fixed block clamped on the way. The block is clamped securely but without possibility of scoring the way.

A lock is provided to clamp the screw at any setting.



Micrometer Carriage Stop

Lathe Size	Catalogue Number	Price Code Each
10"	230	AAMED
12"	231	ABMED
14"	232	ACMED
16"	233	ADMED
18"	234	AEMED

Grinding Attachment

THE GRINDING ATTACHMENT illustrated is designed and built for the "Regal" Lathe.

The unit comprises a grinding spindle mounted on ball bearings in a unit casting which is bolted to the compound rest, and a motor hinged to the casting to provide means for maintaining proper belt tension. Provision is made for swiveling the attachment about the clamping bolt and also for changing the height of the spindle.

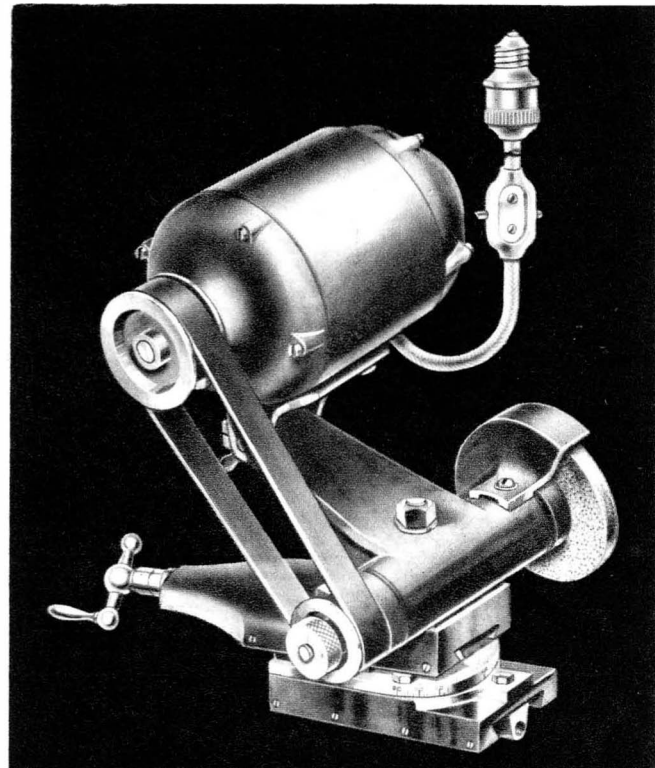
A universal motor is available for all voltages. This motor runs on either D. C. or A. C. power.

The grinding wheel is properly guarded to protect the operator from dust and sparks.

The whole unit is very easily mounted ready for operation, it only being necessary to clamp the unit, as a whole, to the compound rest Tee slot and to plug in the motor line at the nearest light socket.

Prices include attachment as illustrated, one aluminum grinding wheel (grain 46, grade M), extension cord, switch and compound rest clamping device.

When ordering, specify voltage.



Grinding Attachment

Size Lathe	Catalogue Number	Size Grinding Wheel	Size of Motor	Price Code, Each
10"	240	4" x 3/8"	1/3 H.P.	AAGED
12"	241	4" x 3/8"	1/3 H.P.	ABGED
14"	242	4" x 3/8"	1/3 H.P.	ACGED
16"	243	4" x 3/8"	1/3 H.P.	ADGED
18"	244	4" x 3/8"	1/3 H.P.	AEGED

Motor—1/3 h. p. ball bearings, fan cooled.
Spindle—Ball bearings, saturated felt oiling.

Speed—8800 r. p. m. no load, 6000 r. p. m. rated load. With pulley reversed: 22,300 r. p. m. no load, 15,200 r. p. m. rated load.

Distance from center of tool post to center of spindle, 1 1/8".

Distance from bottom of bracket to center of spindle, 3/4" min.

For prices see sheet attached to inside back cover.

Metric Transposing Attachment

IT IS frequently necessary to cut metric threads either for repair work on foreign equipment in English-standard countries or because the lathe is being used in a metric-standard country.

We have therefore developed a transposing attachment consisting of a special quadrant and the necessary gears to interpose between headstock and quick change box gears to secure the 50 to 127 ratio between English and metric leads.

With this attachment the more commonly used metric leads are available.

A similar arrangement can also be furnished to cut special leads not regularly available. Request information from our factory, giving leads which you require, and we will be glad to forward complete information and quotation.

Metric Transposing Attachment

Size Lathe	Catalogue Number	Price Code
10"	420	AAGAR
12"	421	ABGAR
14"	422	ACGAR
16"	423	ADGAR
18"	424	AEGAR

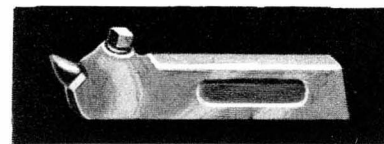
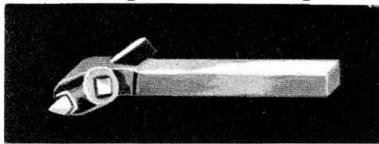
Turning Tool Holders

THE TOOL HOLDERS listed consist of a drop forged holder in which a high speed steel cutting bit is clamped.

Using these tool holders, the only thing used up in cutting work and grinding tool is

the tool bit itself which is small. Tool wastage is a small fraction of that experienced when using forged tools.

The holders are strong and ruggedly designed so as to offer practically the same resistance to cutting forces as the forged tool. The tool holder price includes one cutter bit and wrench.

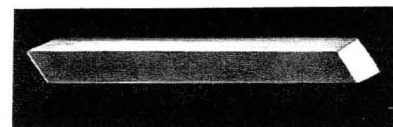
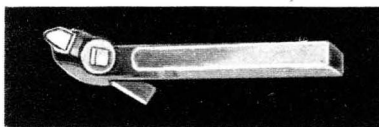


Right-hand Tool Holders

Size Lathe	Catalogue Number	Size Shank	Size Cutter Square	Price Code Each
10"	260-R	5/16 x 3/4	3/16 x 3/16	AAHRH
12"	261-R	3/8 x 7/8	1/4 x 1/4	ABHRH
14"	262-R	1/2 x 1 1/8	5/16 x 5/16	ACHRH
16"	263-R	5/8 x 1 3/8	3/8 x 3/8	ADHRH
18"	263-R	5/8 x 1 3/8	3/8 x 3/8	AEHRH

Straight Shank Tool Holders

Size Lathe	Catalogue Number	Size Shank	Size Cutter Square	Price Code Each
10"	260	5/16 x 3/4	3/16 x 3/16	AAHST
12"	261	3/8 x 7/8	1/4 x 1/4	ABHST
14"	262	1/2 x 1 1/8	5/16 x 5/16	ACHST
16"	263	5/8 x 1 3/8	3/8 x 3/8	ADHST
18"	263	5/8 x 1 3/8	3/8 x 3/8	AEHST



Left-hand Tool Holders

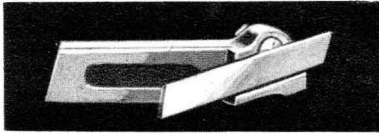
Size Lathe	Catalogue Number	Size Shank	Size Cutter Square	Price Code Each
10"	260-L	5/16 x 3/4	3/16 x 3/16	AAHLH
12"	261-L	3/8 x 7/8	1/4 x 1/4	ABHLH
14"	262-L	1/2 x 1 1/8	5/16 x 5/16	ACHLH
16"	263-L	5/8 x 1 3/8	3/8 x 3/8	ADHLH
18"	263-L	5/8 x 1 3/8	3/8 x 3/8	AEHLH

Extra Turning Tool Bits

Size Bit	Length Bit	Catalogue Number	Price Code Each
3/16 x 3/16	1 1/2	260-X	AAHBX
1/4 x 1/4	2 1/4	261-X	ABHBX
5/16 x 5/16	2 1/2	262-X	ACHBX
3/8 x 3/8	3	263-X	ADHBX

For prices see sheet attached to inside back cover.

Cut Off Tool Holders



THE CUT OFF TOOL HOLDERS are of the same type of design as the turning tool

holders, that is, they use a high speed steel cut off tool bit mounted in a rigid tool holder made of drop forged steel. Here again is presented the most economical tool for cut off work since only the inexpensive cutter blades are used up. The tool holder price includes one cutter blade and wrench. Tool holders are available in right, left hand or straight shank at same price—right hand holder furnished unless otherwise specified.

Right, Left or Straight Cutting Off Tool Holders
Specify right, left or straight.

Size Lathe	Catalogue No.	Size Shank	Cutter Size	Price Code Each	Extra Blade Each	Catalogue No.
10"	280	5/16" x 3/4"	3/32" x 1/2"	AAHCO	AAHBL	280-X
12"	281	3/8" x 7/8"	3/32" x 5/8"	ABHCO	ABHBL	281-X
14"	282	1/2" x 1 1/8"	1/8" x 3/4"	ACHCO	ACHBL	282-X
16-18"	283	5/8" x 1 3/8"	1/8" x 7/8"	ADHCO	ADHBL	283-X

Knurling Tool Holders

THE HOLDER is of a self-centering type with two rolls and can be supplied with coarse, medium or fine, in either diamond or straight line, patterns. Medium diamond pattern knurls will be furnished unless customer specifies otherwise.



Price includes holder and one set knurls.

Knurling Tool Holders

Size Lathe	Size Shank	Size Knurls			Complete Knurl Catalogue No.	Price Code Each Complete Knurl	Catalogue No. Extra Knurls	Price Code per Pair
		Diam.	Face	Hole				
10"	5/16" x 3/4"	5/8"	3/16"	7/32"	290	AAHKC	290-X	AAHKN
12"	3/8" x 7/8"	5/8"	3/16"	7/32"	291	ABHKC	291-X	ABHKN
14"	1/2" x 1 1/8"	3/4"	1/4"	1/4"	292	ACHKC	292-X	ACHKN
16-18"	5/8" x 1 3/8"	3/4"	1/4"	1/4"	293	ADHKC	293-X	ADHKN

Boring Bar Holders



THE BORING BAR HOLDERS are of the type which clamp in the tool post like standard tools; the bars are of the sleeve type in which the cutter bit may be set at either 90° or 45° with the axis of bar and locked in that position.

Price includes two wrenches necessary and two tool bits.

Boring Bar Holder

Size Lathe	Size Shank	Size of Boring Bar	Size Cutter	Catalogue No.	Price Code Tool Complete	Catalogue No. Cutter Bit	Price Code Ea. Extra Cutter
10"	5/16" x 3/4"	1/2"	3/16"	300	AAHBO	300-X	AAHBC
12"	3/8" x 7/8"	5/8"	3/16"	301	ABHBO	301-X	ABHBC
14"	1/2" x 1 1/8"	3/4"	1/4"	302	ACHBO	302-X	ACHBC
16-18"	5/8" x 1 3/8"	1 5/16"	5/16"	303	ADHBO	303-X	ADHBC

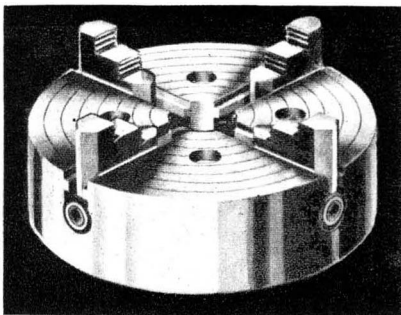
For prices see sheet attached to inside back cover.

Homecrafters Tool Set

A COMPLETE SET of low priced forged shank tools with high speed tool bits is now available for use on our 10" Royal Lathe. Set comprises one each of following tools with bits and wrench in steel box, with compartment for each tool: Straight, right and left turning tools, boring, straight and right hand cut off tools, knurling and threading tools, shank size $\frac{3}{8}$ " x $\frac{3}{4}$ ". Price code (complete set in box) AAATS.

Four Jaw Independent Chuck

THE FOUR JAWED CHUCK is beyond doubt the most universally useful chuck that can be put on a lathe. With it any piece with a regular or irregular contour may be chucked on or off center to the spindle axis. Chuck jaws are reversible by running them out of the slots and turning end for end, then running jaws back in for use.



Lathe chucks listed and illustrated are standard weight iron body. Light weight chucks will be quoted upon request.

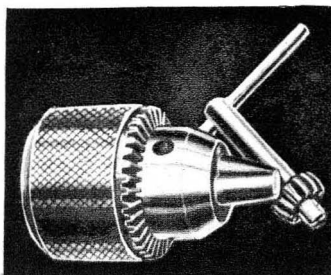
4 Jawed Independent Chucks

Price includes wrench and screws to attach plate to chuck but not chuck plate or fitting.

Chuck Size	Catalogue Number	Capacity Round	Shipping Weight	Chuck Price Code
4"	319	5 $\frac{1}{2}$ "	11 lbs.	AACIF
6"	320	7 $\frac{1}{2}$ "	21 lbs.	AACIG
8"	321	9 $\frac{1}{2}$ "	35 lbs.	ACCII
9"	322	11 $\frac{1}{2}$ "	42 lbs.	ACCIS
10"	323	12 $\frac{1}{2}$ "	51 lbs.	ADCIJ
12"	324	14 $\frac{1}{2}$ "	90 lbs.	AECIK

Semi and Full Fitted Chuck Plate

Size of Lathe.....	10"	12"	14"	16"	18"
Price of Chuck Plate fitted to spindle only.....	AACPS	ABCPS	ACCPs	ADCPS	AECPS
Catalogue Number for Chuck Plate fitted to spindle only.....	355	356	357	358	359
Price of Chuck Plate fitted to spindle and chuck.....	AACPL	ABCPL	ACCP	ADCPL	AECPL

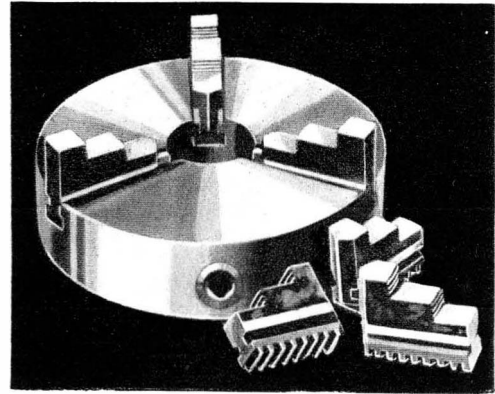


Three Jawed Drill Chucks

Capacity	Cat. Number	Price Code Each
0" x $\frac{3}{8}$ "	340	AXCHM
0" x $\frac{1}{2}$ "	341	AXCFG
$\frac{1}{16}$ " x $\frac{3}{4}$ "	342	AXCHI
$\frac{3}{8}$ " x 1"	343	AXCOF

Three Jaw Universal Chuck

THE THREE JAW UNIVERSAL CHUCK is useful in holding round stock for centering or turning on the lathe. The three jaws are geared together and one wrench operates all three jaws simultaneously, opening or closing the chuck. Two sets of jaws are furnished with this type of chuck and are included in the listed price of chuck. One set is adapted to external surfaces of round work, the other to internal surfaces.



Light chucks listed and illustrated are standard weight iron body. Light weight chucks will be quoted upon request.

3 Jawed Universal Chucks

Price includes wrench and screws to attach plate to chuck but not chuck plate or fitting.

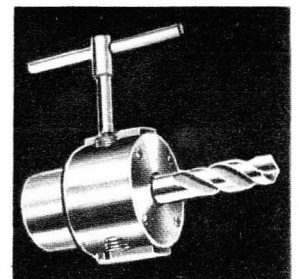
Chuck Size	Catalogue Number	Capacity Round	Shipping Weight	Chuck Price Code
3"	325	3"	3 $\frac{1}{2}$ lbs.	AACUF
4"	326	4 $\frac{1}{4}$ "	7 $\frac{1}{2}$ lbs.	AACUG
5"	327	5 $\frac{3}{4}$ "	11 lbs.	AACUH
6"	328	6"	20 lbs.	AACUI
7 $\frac{1}{2}$ "	329	7 $\frac{1}{2}$ "	32 lbs.	ABCUI
9"	335	9"	45 lbs.	ACCUK
10 $\frac{1}{2}$ "	336	10 $\frac{3}{4}$ "	64 lbs.	ADCUL
12"	337	12 $\frac{3}{4}$ "	80 lbs.	AECUM

Maximum Chuck Size Recommended

Lathe Size	4 Jawed Independent Chuck	3 Jawed Universal Chuck
10"	6"	6"
12"	8"	7 $\frac{1}{2}$ "
14"	10"	10 $\frac{1}{2}$ "
16"	12"	10 $\frac{1}{2}$ "
18"	14"	12"

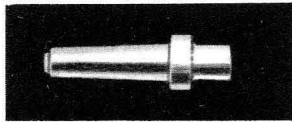
Two Jawed Drill Chucks

Capacity	Cat. Number	Price Code Each
$\frac{3}{8}$ "	345	AYCHM
$\frac{1}{2}$ "	346	AYCFG
$\frac{3}{4}$ "	347	AYCHI
1"	348	AYCOF



For prices see sheet attached to inside back cover.

Drill Chuck Arbors



DRILL CHUCK ARBORS are turned taper on both ends, the long end fitting into the head or tailstock taper holes while the short taper fits the taper hole in the drill chuck.

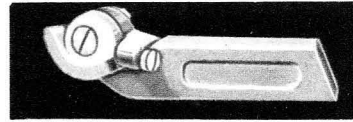
When ordered alone—arbor is finished on long taper only—short taper being fitted to chuck by customer.

When ordering state lathe size—make of drill chuck—diameter and depth of chuck socket hole.

Drill Chuck Arbors

Size Lathe	Morse Taper	Catalogue Number	Price Each
10"	2	350	AACAR
12"	3	351	ABCAR
14"	3	352	ACCAR
16"	3	353	ADCAR
18"	4	354	ADCAR

Formed Threading Tool Holders



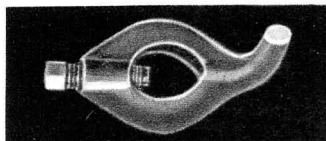
THIS HOLDER is drop forged and machined to receive a formed cutter with accurately ground 60° sides. The cutter is sharpened on top only. Cutters are available in Whitworth, U. S. S. or sharp "V" form. Specify threads per inch to be cut when ordering.

Sharp "V" form supplied unless otherwise specified. Each cutter chases threads two pitches above and below nominal pitch of cutter.

Formed Threading Tool Holders

Size Lathe	Catalogue Number	Size Shank	Price Each	Extra Cutters, Ea.
10"	310	5/16 x 3/4	AAHTH	AAHTI
12"	311	3/8 x 7/8	ABHTH	ABHTI
14"	312	1/2 x 1 1/8	ACHTH	ACHTI
16"	313	5/8 x 1 3/8	ADHTH	ADHTI
18"	313	5/8 x 1 3/8	AEHTH	AEHTI

Lathe Dogs

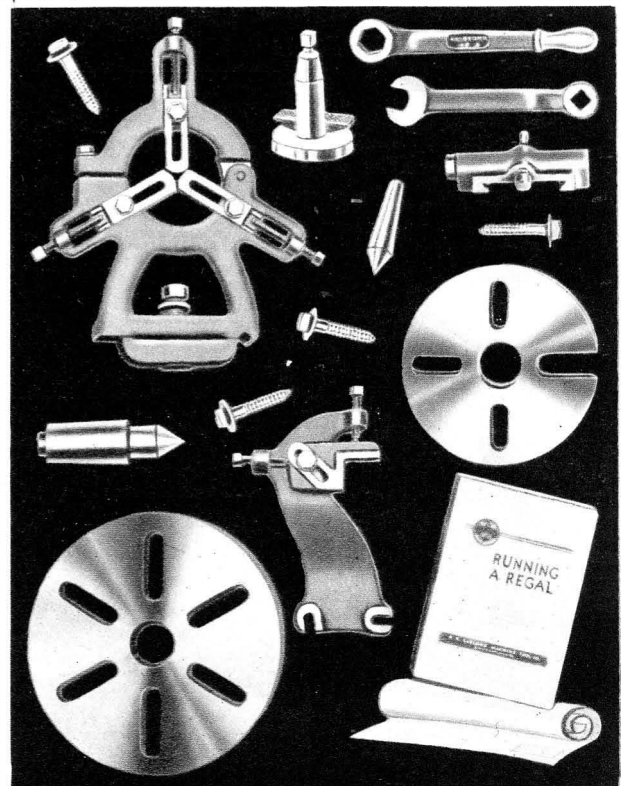


THE LATHE DOGS we furnish are of standard type of design but are available in both square head set screws and safety type flush mounted set screw. Price of safety type includes hexagon wrench for set screw.

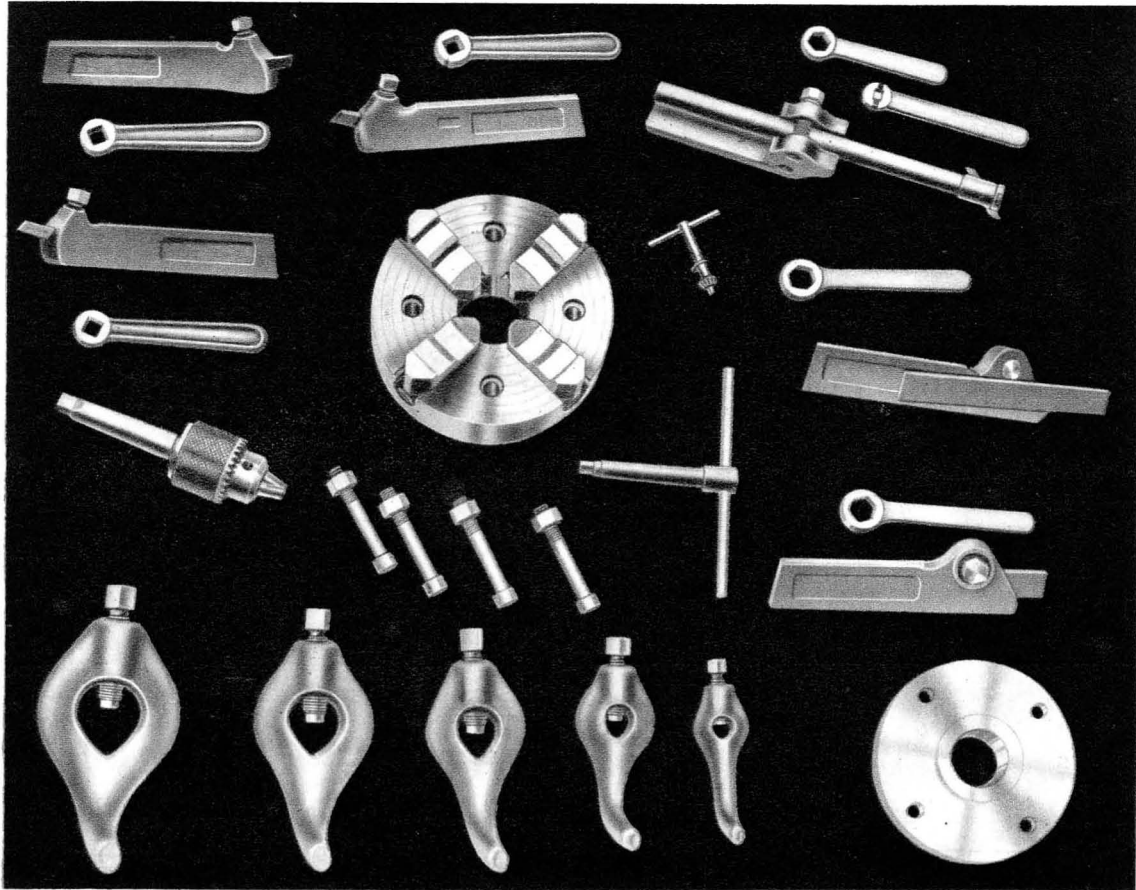
Lathe Dogs

Capacity of Lathe Dog	Standard Lathe Dogs with Hardened Steel Set Screw		Safety Lathe Dogs with Headless Set Screw and Wrench	
	Catalogue Number	Price Each	Catalogue Number	Price Code Each
3/8"	360	AXJOA	360-S	AYJOA
1/2"	361	AXJOB	361-S	AYJOB
3/4"	362	AXJOC	362-S	AYJOC
1"	363	AXJOD	363-S	AYJOD
1 1/4"	364	AXJOE	364-S	AUJOE
1 1/2"	365	AXJOF	365-S	AYJOF
1 3/4"	366	AXJOG	366-S	AUJOG
2"	367	AXJOH	367-S	AYJOH
2 1/2"	368	AXJOI	368-S	AYJOI
3"	369	AXJOJ	369-S	AYJOJ
3 1/2"	375	AXJOK	375-S	AYJOK
4"	376	AXJOL	376-S	AYJOL

Standard Equipment On Quick Change Lathes



For prices see sheet attached to inside back cover.



Standard Tool Set

THE STANDARD TOOL sets have been made up to offer the most comprehensive usefulness for the least initial outlay. The use of these tools greatly enhances the scope of work possible in the lathe.

Each set of tools applies only to the lathe for which it is listed, as the tool sizes vary with the size lathe in which they are used.

- 1—Independent 4 jawed chuck
- 1—Chuck plate for chuck.
- 1—Drill chuck complete with arbor and pinion key for chuck.

- 1—Straight shank tool bit holder and wrench.
- 1—Threading tool holder with formed cutter and wrench.
- 1—Right hand cutting off tool holder with bit and wrench.

- 1—Boring bar holder with wrench.
- 1—Boring bar with bit and wrench.
- 1—Each 1/2", 3/4", 1", 1 1/4", 1 1/2" capacity malleable lathe dogs.

Standard Tool Set

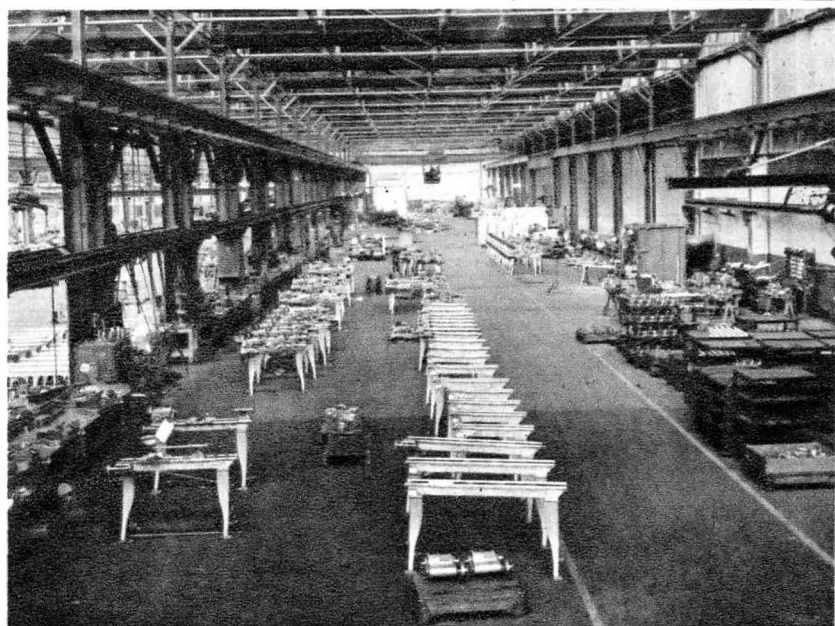
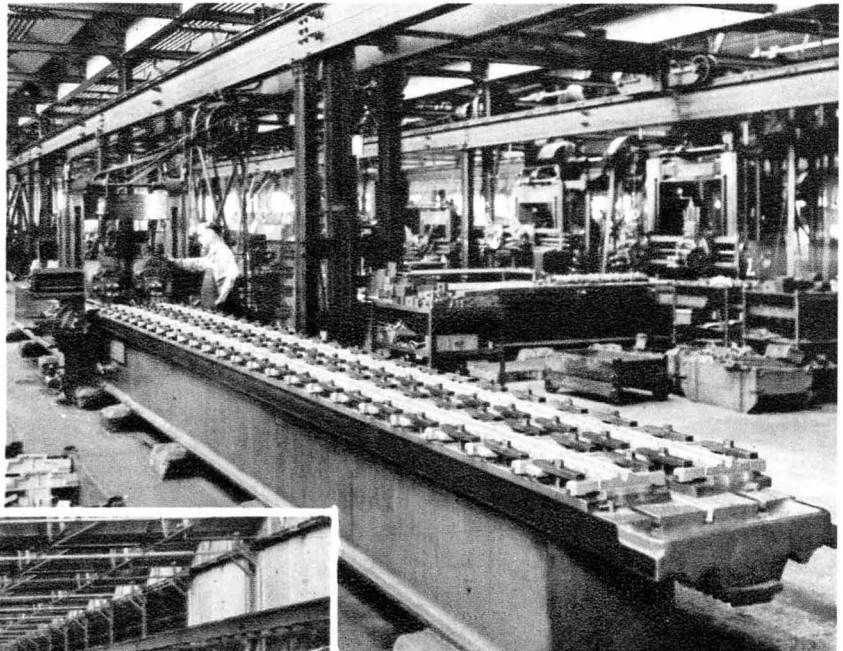
Catalogue Number					DESCRIPTION	Price Code				
10"	12"	14"	16"	18"		10"	12"	14"	16"	18"
320	320	321	323	324	1—4 jawed independent chuck.....	6" Chuck AACIG	6" Chuck AACIG	8" Chuck ACCIH	10" Chuck ADCIJ	12" Chuck AECIK
355	356	357	358	359	1—Chuck plate fitted to chuck and spindle.....	AACPL	ABCPL	ACCPL	ADCPL	AECPL
341	341	341	348	348	1—3 jaw drill chuck 1/2" cap; 2 jaw, 1" cap*.....	AXCFG	AXCFG	AXCFG	AYCOF*	AYCOF*
350	351	352	353	354	1—Arbor for drill chuck fitted to chuck.....	AACAR	ABCAR	ACCAR	ADCAR	ADCAR
260	261	262	263	263	1—Str. shank turning tool holder and wrench.....	AAHST	ABHST	ACHST	ADHST	ADHST
310	311	312	313	313	1—Threading tool holder with formed cutter and wrench.....	AAHTH	ABHTH	ACHTH	ADHTH	ADHTH
280	281	282	283	283	1—Right hand cutting off tool holder with bit and wrench.....	AAHCO	ABHCO	ACHCO	ADHCO	AEHCO
300	301	302	303	303	1—Boring bar holder with bar, wrench and bit.....	AAHBO	ABHBO	ACHBO	ADHBO	AEHBO
377	377	377	378	379	1—Set Malleable Lathe dogs 1/2", 3/4", 1", 1 1/4", 1 1/2" on 10", 12" and 14" lathes..... 1/2", 3/4", 1", 1 1/2", 2" on 16" lathes. 3/4", 1 1/2", 2", 2 1/2", 3" on 18" lathes.	AAJOG	AAJOG	AAJOG	ADJOG	AEJOG

Catalogue Number Complete Set—10" Lathe, No. 250; 12", No. 251; 14", No. 252; 16", No. 253; 18", No. 254.

For prices see sheet attached to inside back cover.

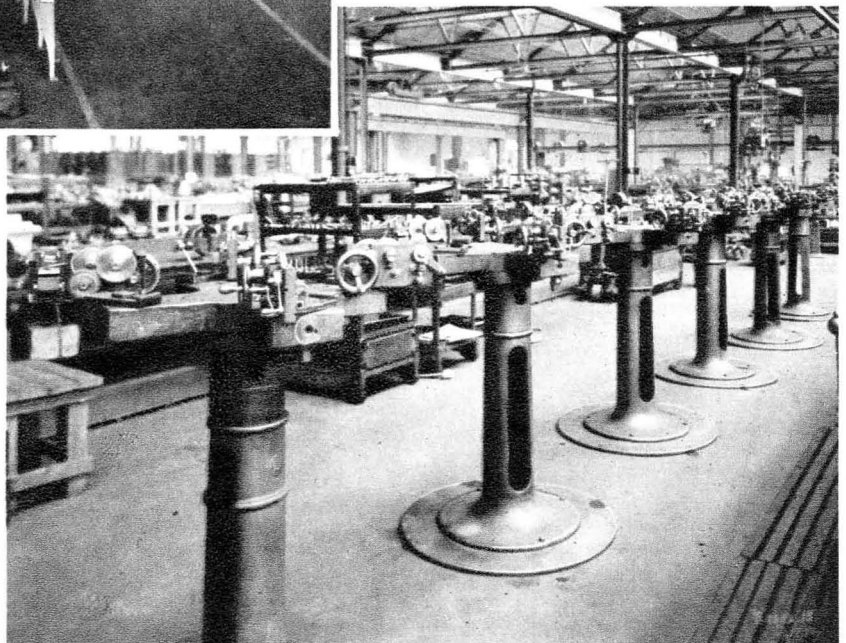
←—————→
Regal Lathes in Production
←—————→

Planing 50 carriages in one set up, parts clamped in special fixtures.



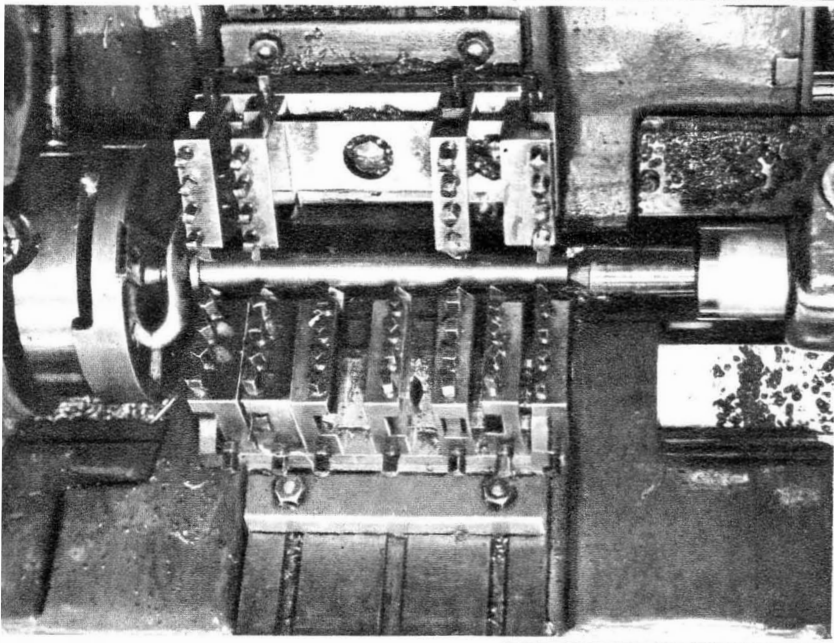
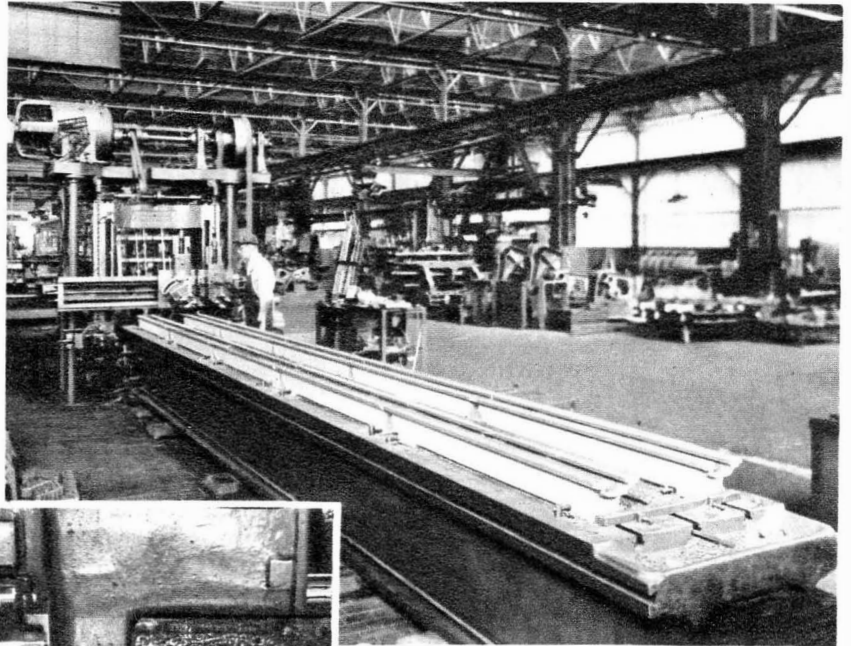
View of one end of the assembly floor.

One of the unit assembly departments. Aprons in process of construction.



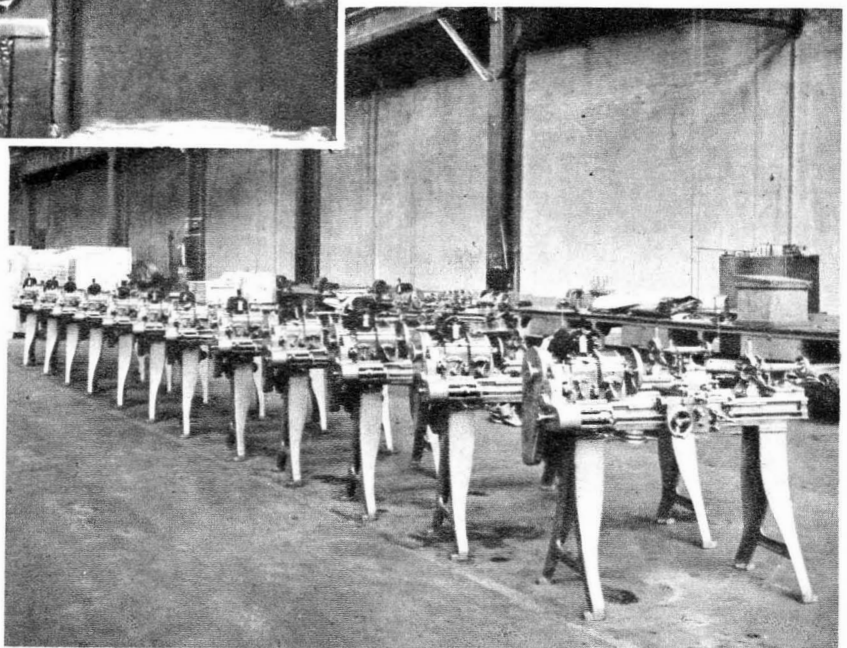
←—————→
Regal Lathes in Production
←—————→

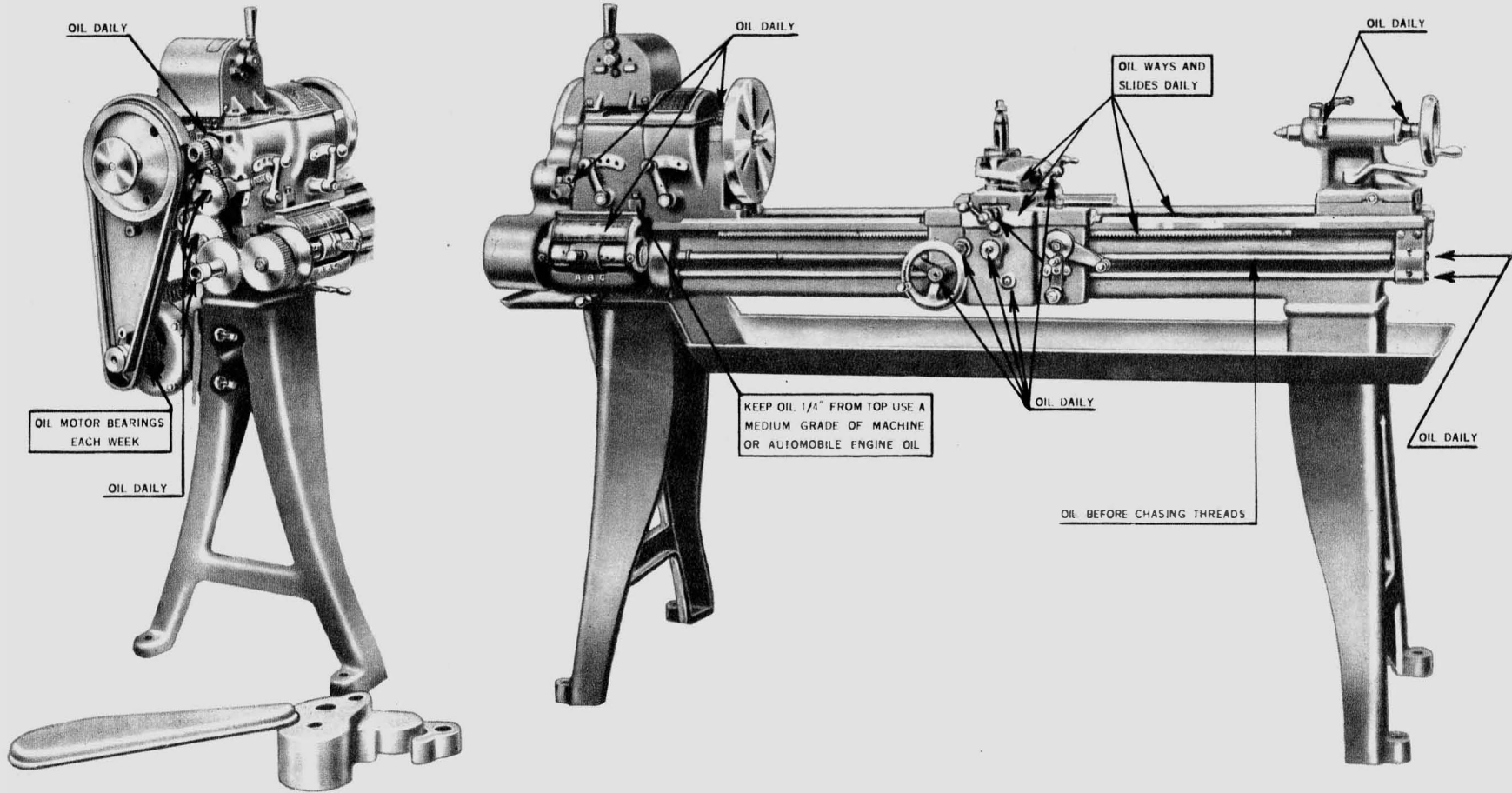
Lathe Beds being planed.



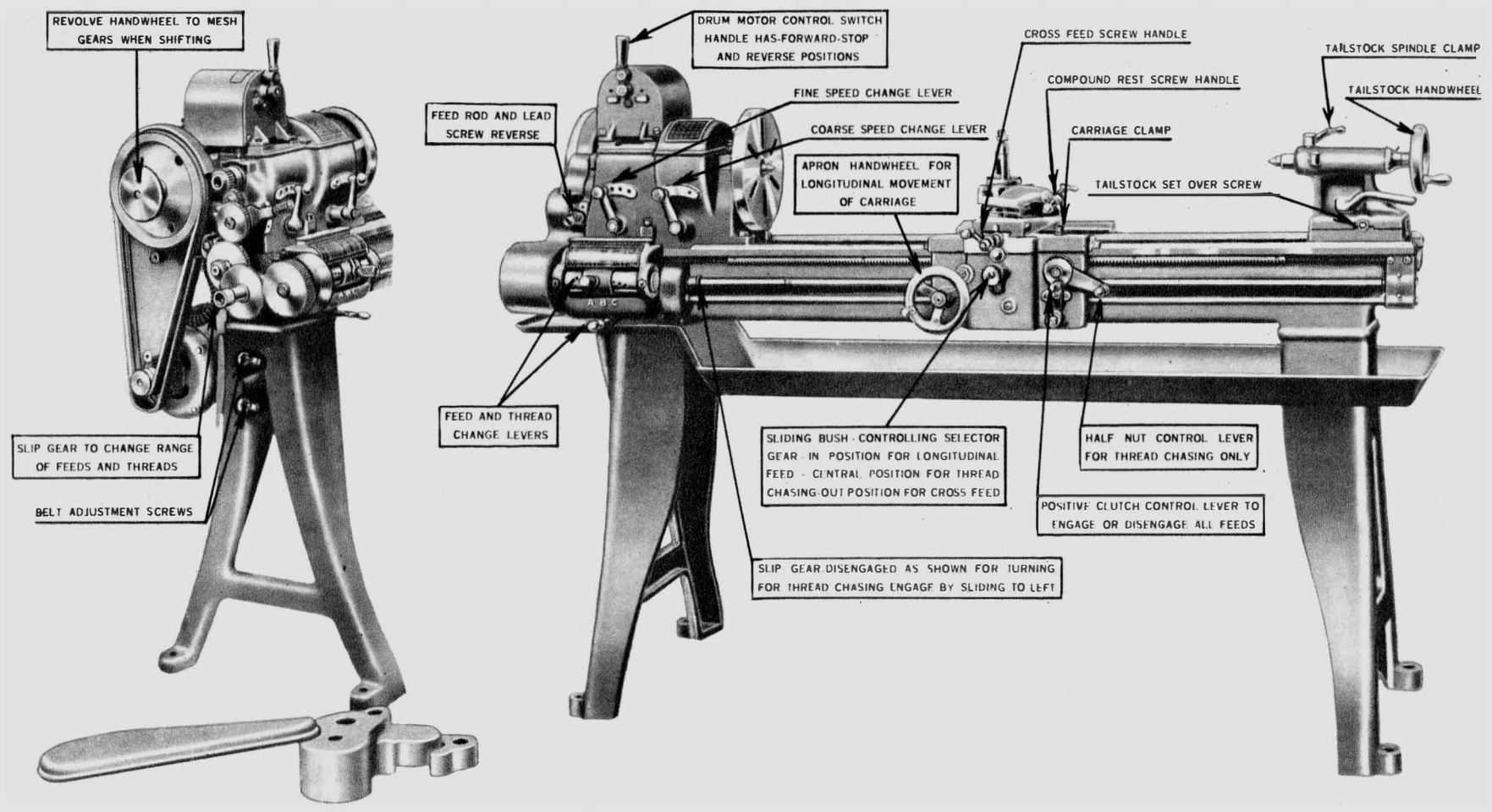
Machining Regal Lathe Spindle on a LeBlond Automatic Lathe.

Finished lathes ready for run-off and final inspection.





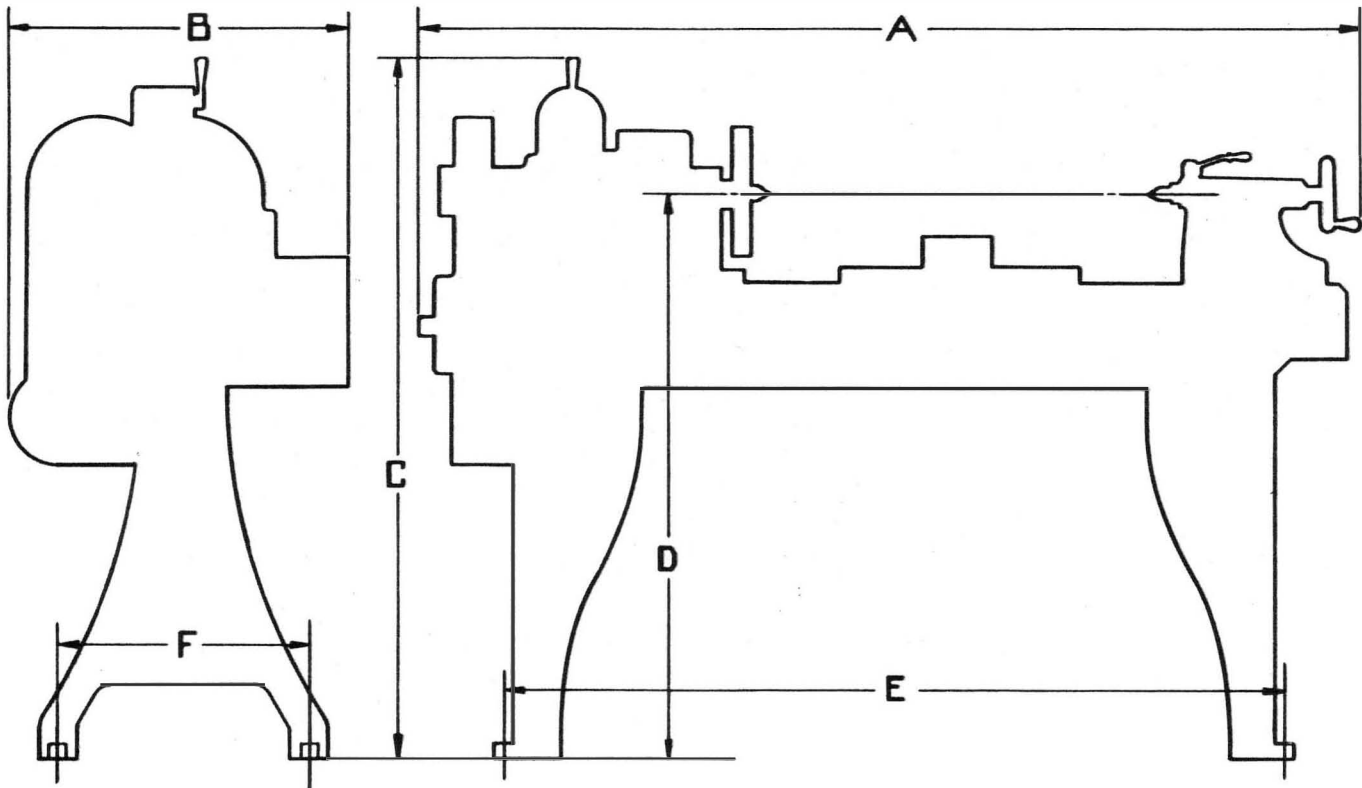
Lubrication Chart



Operating Chart



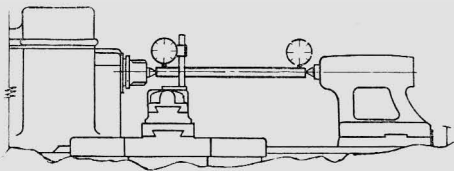
DIMENSIONS OF REGAL LATHES AND APPROXIMATE SPACE REQUIRED



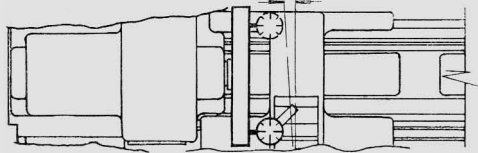
Size of Lathe, Inches	Center Distance*, Inches	Bed Length, Feet	FLOOR SPACE REQUIRED			Total Height C, Inches	Height to Center D, Inches	APPROX. DISTANCE BETWEEN BOLT HOLES			
			A Inches	B				Without Cabinet Legs		With One Cabinet Leg	
				With Taper Att., Inches	Without Taper Att., Inches			E, Inches	F, Inches	E, Inches	F, Inches
FLOOR TYPE—REGULAR AND STANDARD LATHES											
10	18	3	44 ⁵ / ₁₆	24	21	48 ³ / ₈	39	35 ³ / ₄	18	40	14 ⁷ / ₈
12	18	4	54 ³ / ₄	31	27	49 ¹ / ₈	39 ¹ / ₈	43 ¹ / ₂	18 ¹ / ₂	47 ⁷ / ₈	16 ³ / ₄
14	18	4	56 ³ / ₄	33	27	49 ⁷ / ₈	49 ⁷ / ₈	45 ³ / ₈	19	50	17 ¹ / ₄
16	30	6	78	40	35	51 ³ / ₄	41	63 ¹ / ₂	19 ³ / ₄
18	30	6	80	42	35	51 ³ / ₄	41	64	20 ¹ / ₂
BENCH TYPE—REGULAR AND STANDARD LATHES											
10	18	3	44 ⁵ / ₁₆	24	21	22 ⁷ / ₈	13 ³ / ₈	43	7 ³ / ₄
12	18	4	54 ³ / ₄	31	27	27	17	45 ³ / ₄	9 ¹ / ₂

*Base Lengths—For longer beds, add additional length.

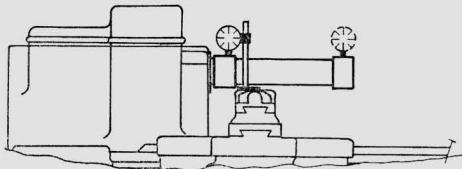
Alignment Tests



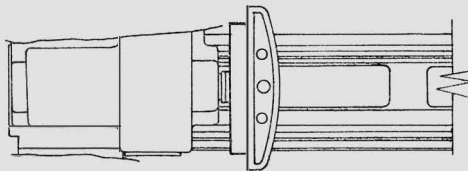
Test No. 1
Head and Tailstock Vertical .001" in 12"



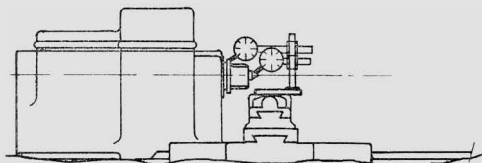
Test No. 2
Cross Slide .0015" in 12"



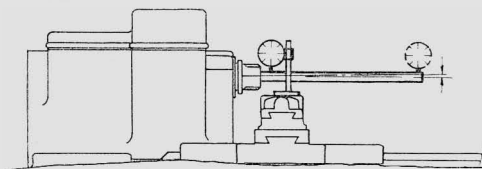
Test No. 3
Lathe Turn True Diameter .0005"



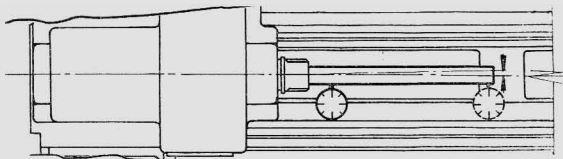
Test No. 4
Face Plate .00075" Hollow



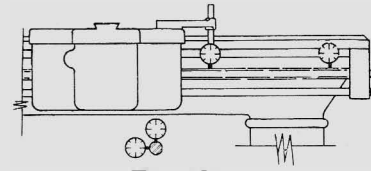
Test No. 5
Spindle Face and Center Run Out .0005"



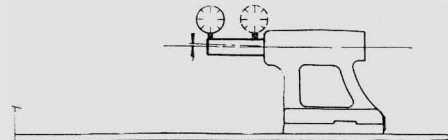
Test No. 6
Headstock Vertical .0015 in 12"



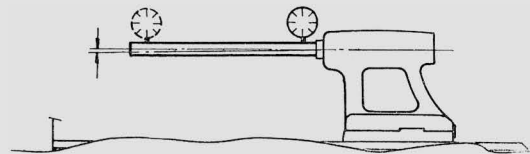
Test No. 7
Headstock Horizontal .0005" in 12"



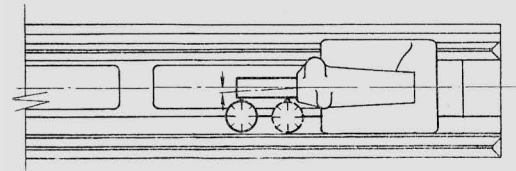
Test No. 8
Lead Screw Parallel to Bed Shear Vertical .0015" in 48"
Lead Screw Parallel to Bed Shear Horizontal .0015" in 48"



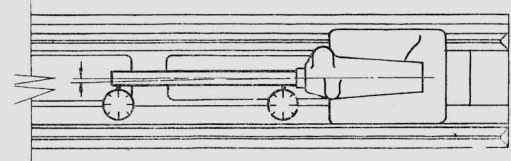
Test No. 9
Tailstock Spindle Vertical .0005" in 6"



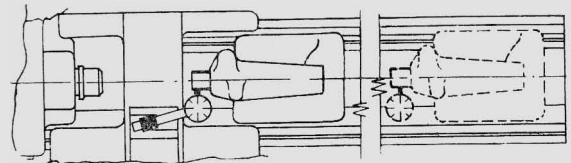
Test No. 10
Tailstock Vertical .001" in 12"



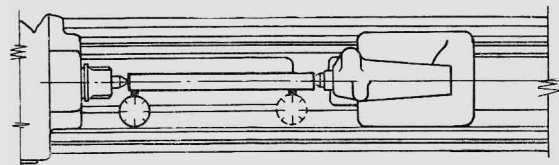
Test No. 11
Tailstock Spindle Horizontal .0005" in 6"



Test No. 12
Tailstock Horizontal .001" in 12"



Test No. 13
Tailstock Shear Parallel to Carriage Shear .0005" in 48"



Test No. 14
Headstock and Tailstock Horizontal .0005" in 12"

The catalog lists all equipment and accessories commonly used on lathes, however, we will quote special equipment upon request.

Printed in U. S. A.

The "REGAL"

Deferred Payment Plan

LeBlond "REGAL" Lathes may be purchased on a very liberal deferred payment plan so that it can be put to work and made to pay for itself. The plan is as follows:

The lathe will be shipped to you on a down payment with the order of twenty per cent of the selling price. The balance of the purchase price, plus a carrying charge of 5% on the balance, can be paid in twelve equal monthly payments.

As an example, you order a 10" "REGAL" Lathe with 18" center distance, complete with motor drive and a 3 phase, 60 cycle motor, which sells for \$398.00, f. o. b. Cincinnati, Ohio. Send with your order the initial down payment of 20%, or 1-5 of the price, which amounts to \$79.60, and the lathe will be shipped, and you can put it to work. The difference between \$398.00 and \$79.60 constitutes the balance, and equals \$318.40. To this should be added a carrying charge amounting to \$15.92 (5% of \$318.40) on the balance—making a total amount to be paid of \$334.32, and this amount is divided in 12 equal monthly payments amounting to \$27.86 per month. Your payment can be made by check, bank draft or money order.

The deferred payment plan can be applied to all "REGAL" Lathes, lathe attachments, chucks and tools.

SPECIAL NOTICE

The manufacturer reserves the right to revise, change, or modify the construction of "REGAL" Lathes or any part thereof as he may see fit, without incurring any obligation to make like changes on lathes previously sold. Deferred payment plan to be used only in U. S. A.

The R. K. LeBlond Machine Tool Co.
Cincinnati, Ohio