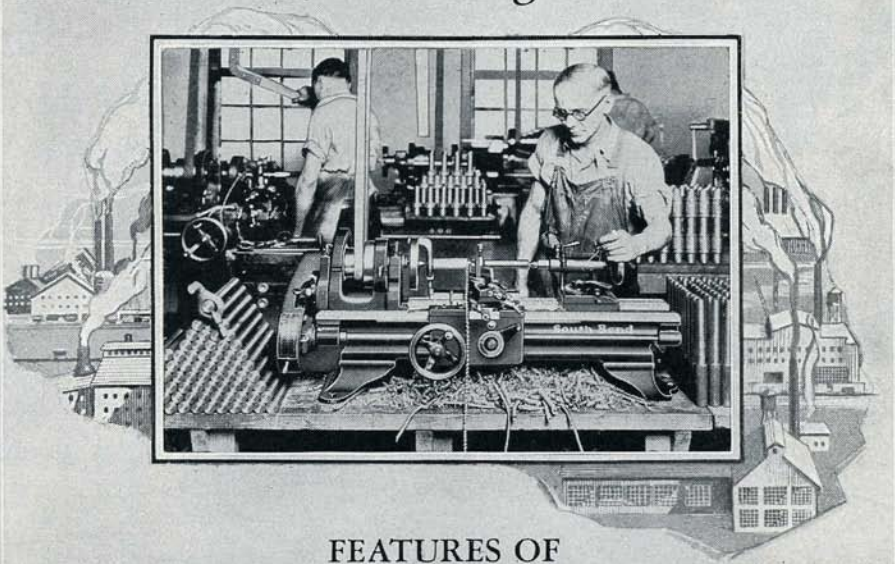
New Model South Bend
9-Inch Junior Lathes
Back-Geared Screw Cutting Precision Lathes

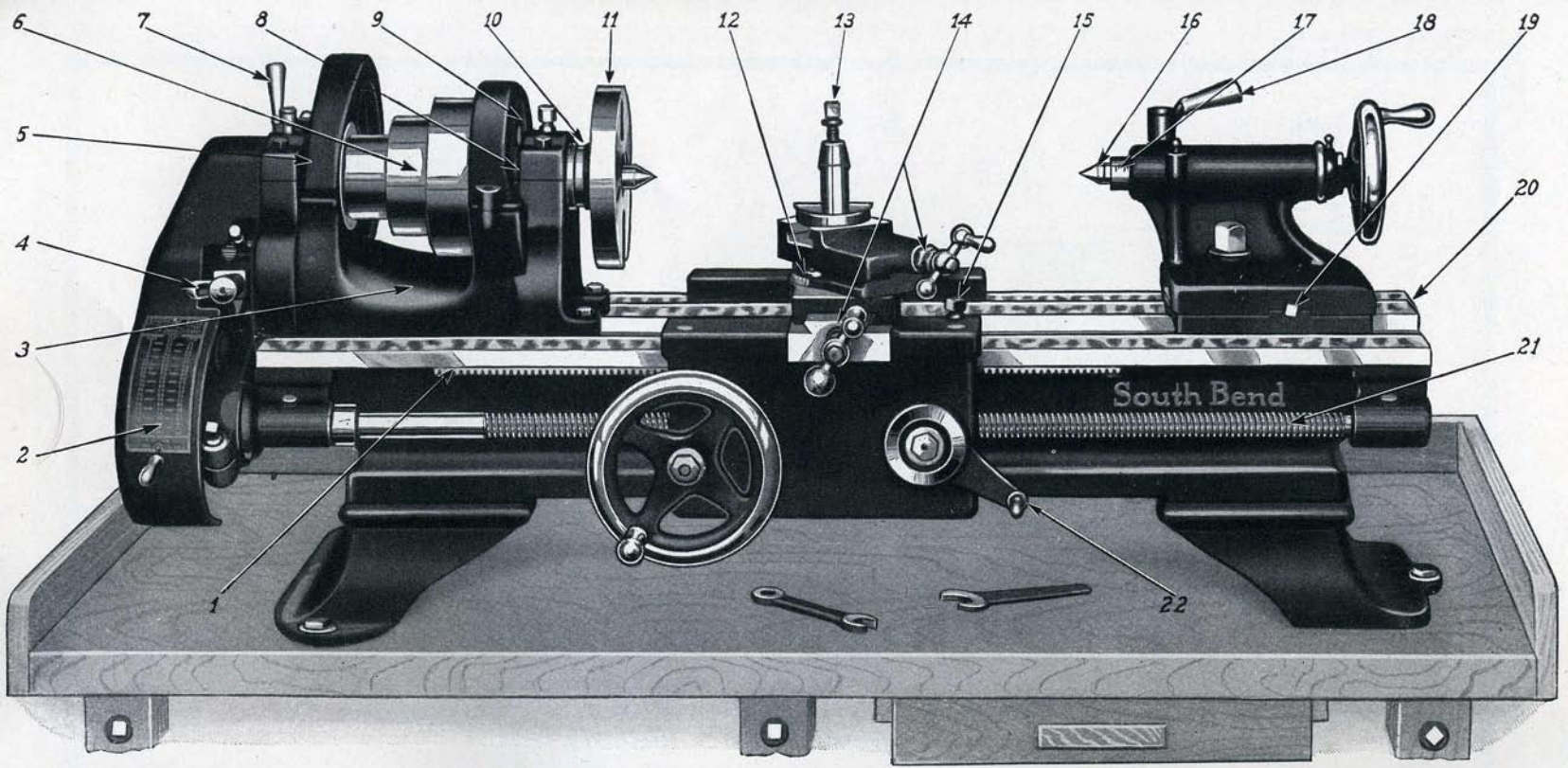


FEATURES OF
NEW MODEL 9-INCH JUNIOR LATHES

Spindle cone steps increased from 1″ to 1¼″ in width.
Lathe is 25% more powerful.
Headstock length increased 1⅛″.
Lathe cuts standard screw threads, 4 to 40 per inch.
Back-geared headstock, for slow speeds and greater power.
Six changes of spindle speeds.
Automatic longitudinal power feed to carriage.
¾″ hole through headstock spindle.
Graduated compound rest.

Junior Catalog No. 22-C
March, 1931

SOUTH BEND LATHE WORKS
402 East Madison St., South Bend, Indiana, U. S. A.



9-inch Junior New Model South Bend Precision Lathe • $150 and Up

Back-Geared, Screw Cutting Lathe—Price includes Countershaft and Equipment. See page 4

Features Which Apply to All Types of 9-inch Junior Lathes Shown Throughout This Catalog

1—Steel rack and pinion for carriage hand feed.
2—Thread cutting index chart.
3—New headstock; 25% increase in power; bolts direct to lathe bed.
4—Quick acting latch reverse for right or left hand screw threads and feeds.
5—Hardened and ground thrust bearing for spindle.
6—Three-step cone pulley; belt width increased from 1 inch to 1¼ inch.
7—Powerful back gears; improved reservoir oiling system in back gear quill.
8—Bearings for spindle are equipped with felt pad oilers and patented dust-proof oil cups.
9—Six spindle speeds, three direct cone drive, and three back-geared drive.
10—Special alloy steel headstock spindle; has ¾" hole for working long bars and rods.
11—Face plate threaded to spindle nose.
12—Compound rest graduated 180°, has angular feed of 1⅞".
13—Forged steel adjustable tool post.
14—Compound rest screw and cross feed screw have micrometer collars reading in thousandths.
15—Carriage lock provided for facing and cutting off work.
16—Head and tail centers carbon tool steel, No. 2 Morse taper.
17—Tailstock spindle graduated.
18—Improved binding plugs for tailstock spindle.
19—Tailstock has set-over for taper turning.
20—Lathe bed, heavy semi-steel casting. Weight of 3 foot bed—137 lbs., see page 12.
21—Precision lead screw ¾" diameter, 8 Acme threads per inch.
22—Split nut lever for thread cutting and power carriage feeds.

Features and Specifications of 9-inch Junior Lathes

The New Model 9-inch Junior South Bend Back-Geared Screw Cutting Precision Lathe is illustrated on page 2. The important units, features and specifications of this lathe are described below and apply to all types of 9-inch Junior Lathes shown throughout this catalog.

The 9-inch Junior Lathe is furnished in seven different types and drives which are illustrated on pages 4, 5, 6, 7, 8, 9, 10 and 11. There is a type and drive to meet the requirements of every shop.

The New Model 9-inch Junior Lathe is assembled from the units of the 9-inch Standard Change Gear Lathe we have been manufacturing for twenty-five years and which sells for $220.00 and up. The headstock, tailstock, bed, saddle, etc. are the same on both lathes. The Junior Lathe has the same accuracy and precision and receives the same handscraping and rigid inspection as our regular line of lathes.

Using the Regular Units of the New Model 9-inch Standard Change Gear Lathe and omitting the Automatic Cross Feed and Friction Clutch from the Apron, Large Face Plate, Follower Rest, Center Rest and Thread Cutting Stop which are not usually required in the small shop, it is possible for us to offer the 9-inch Junior Lathe at the low price of $150.00 and up.

New Improved Headstock. The Cone Pulley Steps of the headstock have been increased from 1" to 1¼" in width, providing 25% increase in belt power. Six spindle speeds are provided, three direct belt drive and three back-gear drive. A quick-acting wrenchless bull gear lock permits instant changing from direct belt drive to back gear drive. The headstock spindle is made of special alloy steel finished ground all over with a ¾" hole its entire length. Headstock spindle bearings are made of phosphor bronze. See page 12.

The New Carriage is strong with long bearing surface on front and rear "V" ways. The locking device fastens carriage to bed for facing or cutting off work. The cross feed screw has a micrometer collar graduated in thousandths of an inch. See page 13.

The New Tailstock is heavier and larger. Tailstock spindle is graduated in sixteenths of an inch. The tailstock top is provided with a set-over for taper turning. Tailstock center is hardened and ground and is self-ejecting. An improved device locks the tailstock spindle without altering the alignment of centers. See page 13.

The Compound Rest is graduated to 180 degrees, has an angular feed of 1⅞" and is equipped with a micrometer collar graduated in thousandths of an inch. See page 13.

The Precision Lead Screw is ¾" in diameter, has eight Acme Standard Screw Threads per inch, cut on a special machine equipped with a Pratt & Whitney lead screw. Both right and left hand screw threads of standard pitches can be cut with this lathe. See index chart.

Automatic Longitudinal Feeds for the carriage, are obtained by engaging the split-nut on the lead screw. Fine and coarse feeds are obtained through the use of change gears furnished with the lathe.

Lathe Equipment included in price of the 9-inch Junior Lathe consists of face plate; tool post complete; two lathe centers; spindle sleeve; change gears for thread cutting and for carriage power feeds; lag screws; washers, wrenches; installation plans; and instruction book, "How to Run a Lathe." In addition each lathe comes equipped with the necessary countershaft or motor drive arrangement to be driven from an overhead lineshaft or from its own motor, depending upon which type is ordered.

Machines All Kinds of Metals. The 9-inch Junior Lathe is suitable for work on all kinds of metal and can be used for working wood, hard rubber, fibre, bakelite, etc. See pages 14 and 15.

Widely Used in Industry. The 9-inch Junior Lathe has the power and accuracy for production, tool work, laboratory and for work in the engineering shop. Thousands of industries all over the world are using these lathes on fine and accurate work.

Attachments can be fitted to the 9-inch Junior Lathe for handling an almost unlimited variety of jobs, including milling, keyway cutting, collet work, grinding, taper work, etc. See pages 18, 19 and 20.

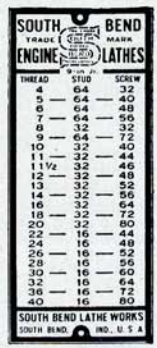
Our Guarantee is that each 9-inch Junior Lathe is accurate and mechanically perfect. We will ship a 9-inch Junior Lathe anywhere in the United States for thirty days trial in your own shop. Read this guarantee in full on page 24.

Life of the 9-inch Junior Lathe if given the proper care, is at least twenty-five years. We have one South Bend Lathe in our plant that has been in continual use for twenty-one years and is still giving excellent service.

Easy Payment Plan. Any 9-inch Junior Lathe may be purchased on the easy payment plan. Select the lathe and send us twenty per cent (20%) cash with the order and pay the balance in twelve equal monthly payments. We ship the lathe immediately on receipt of the down payment. For example and schedule of easy payment terms on popular sizes and types of 9-inch Junior Lathes see page 23.

Fine Turning Feeds. Each 9-inch Junior Lathe is furnished with a large turning gear along with the regular set of change gears to permit the use of a very fine turning feed. The standard set of change gears can also be used to produce a variety of coarser feeds.

Cutting Screw Threads—An index plate is attached to each 9-inch Junior Lathe and shows the correct change gears to use to cut all standard screw threads from 4 to 40 per inch, including 11½ pipe thread, right or left, as follows: 4, 5, 6, 7, 8, 9, 10, 11, 11½, 12, 13, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 36, and 40. See pages 13 and 16.



Index Plate

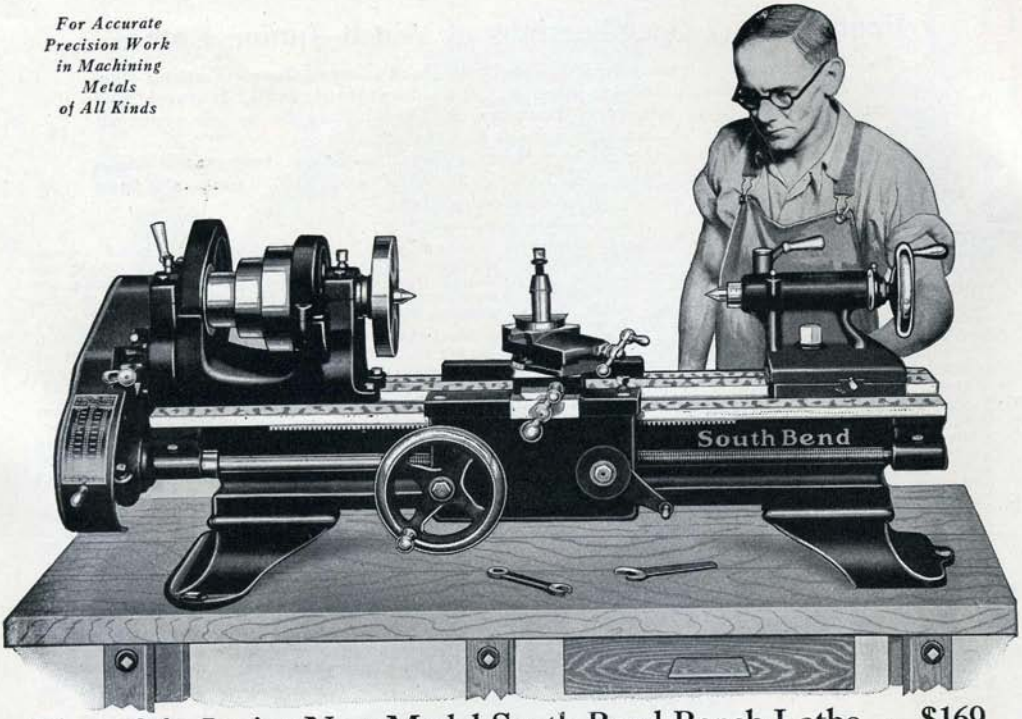
Features of Lathe

Back geared Headstock, six spindle speeds.
Hollow Spindle, made of special alloy steel.
Spring Latch Reverse for feeds and threads.
Phosphor Bronze Bearings for Spindle.
Patent Oil Cups lubricate spindle bearings.
Graduated Compound Rest swivels to any angle.
Tailstock set-over for taper turning.
Carriage Lock for accurate facing.
Micrometer Collars on cross feed and compound rest screws.
Precision Lead Screw for cutting threads.
Graduated Tailstock Spindle.
Change Gears for Threads and Feeds.
Index Plate for Thread Cutting.
Automatic Longitudinal Power Feed to Carriage.
Wrenchless Bull Gear Lock.
Steel Rack for Hand and Power Feed.
Split Nut for Thread Cutting.
Forged Steel Adjustable Tool Post.
Tailstock Spindle Lock.
Semi-Steel Seasoned Bed.

Specifications of Lathe

Swing Over Bed	9¼ in.
Swing Over Carriage	6⅜ in.
Hole Through Spindle	¾ in.
Thread Cutting Range	4 to 40 per in.
Spindle Speeds	39, 64, 110, 208, 348, 596, R. P. M.
Countershaft Speed	255 R. P. M.
Countershaft Friction Clutch Pulley	6⅞ in. x 2⅜ in.
Width of Cone Pulley Belt	1¼ in.
Size of Spindle Nose	1½ in. diam., 8 Threads
Head and Tailstock Spindle Centers	No. 2 Morse Taper
Collet Capacity	3/64 in. to ½ in.
Lead Screw, Acme Thread	¾ in. diam., 8 Pitch
Angular Travel of Compound Rest Top	1⅞ in.
Travel of Tailstock Spindle	2¼ in.
Horsepower Motor Required	¼ H. P.
Size of Lathe Tool Shank	1/2 in. x 1/2 in.
Size of Turning Tool Cutter Bits	¼ in. x ½ in.
Tailstock Set Over	¾ in.
Compound Rest Base Travel	2⅛ in.
Back Gear Ratio	5.4 to 1

For Accurate Precision Work in Machining Metals of All Kinds



9-in. x 3-ft. Junior New Model South Bend Bench Lathe - $169

Back-Geared, Screw Cutting, Precision Lathe—Countershaft Drive

The 9-inch Junior New Model Precision Lathe above is exactly the same as the Junior lathe illustrated and described on pages 2 and 3. It is driven from an overhead countershaft which is bolted to the ceiling and connected by belt to the lineshaft. We recommend the Countershaft Drive Lathe for the shop that is already equipped with lineshafting from which other machines are being operated. The Junior lathe in the 3-foot bed length is the most popular size.

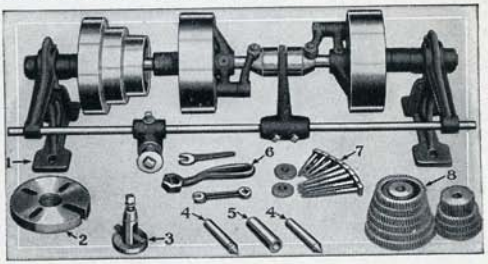
For Features and Specifications of the 9-inch Junior Lathe, see pages 2, 3, 12 and 13.

Handles Wide Variety of Work. The New Model 9-inch Junior Back-Geared, Screw Cutting Precision Lathe machines all kinds of metals and has the power and accuracy required for fine precision work. It has automatic longitudinal feed and a wide range of spindle speeds.

Cutting Screw Threads. An index plate is attached to each 9-inch Junior Lathe and shows the correct change gears to use to cut all standard screw threads from 4 to 40 per inch, right or left, including 11½ pipe thread, as follows: 4, 5, 6, 7, 8, 9, 10, 11, 11½, 12, 13, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 36, and 40.

FEATURES OF LATHE

Back-geared headstock gives six spindle speeds.
Hollow spindle made of special alloy steel.
Phosphor bronze bearings for spindle.
Graduated compound rest swivels to any angle.
Precision lead screw for cutting accurate threads.
Micrometer collar on cross feed and compound rest screws.
Tailstock set-over for turning tapers.
Quick-acting spring latch reverses carriage travel.
Automatic longitudinal power feed to carriage.
Graduated tailstock spindle.
Spindle cone pulley balanced for operation at high speeds.



The Lathe Equipment included in the price of Lathe consists of: Double Friction Countershaft, Face Plate, Tool Post Complete, two Lathe Centers, Spindle Sleeve, Wrenches, Lag Screws and Washers, and a set of Change Gears for screw thread cutting and for feeds, also Installation Plans and book, "How to Run a Lathe." The hard maple bench for Lathe is extra. For Bench and other attachments see pages 18 to 21.

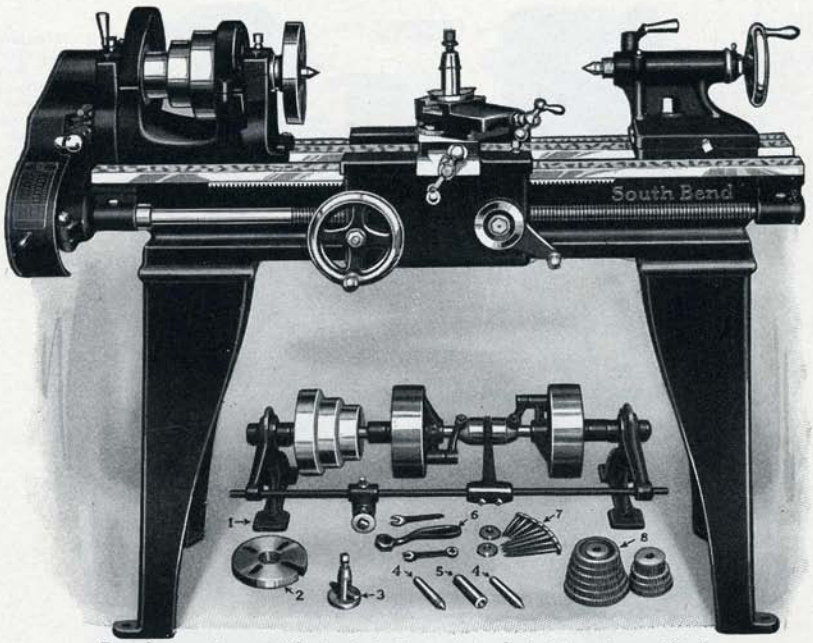
SPECIFICATIONS OF LATHE

Countershaft Speed.....255 R.P.M.
Spindle Speeds.....39, 64, 110, 208, 348, 596 R.P.M.
Width of Cone Pulley Belt.....1¼ in.
Acme Thread Lead Screw.....¾-inch diam., 8 pitch
Size of Lathe Centers.....No. 2 Morse Taper
Screw Thread Cutting Range.....4 to 40 per inch
Draw-in Collet Chuck Capacity.....$\frac{3}{64}$ inch to ½ inch
Cross Slide Travel.....7 7/16 inches
Size of Tool Shank for Tool Post.....$\frac{3}{2}$ inch x $\frac{13}{16}$ inch
Double Friction Countershaft Pulleys....6⅞ inch x 2⅞ inch
Back Gear Ratio.....5.4 to 1

Prices of 9-inch Junior New Model Precision Bench Lathe, Including Countershaft and Equipment

Cat. No. of Lathe	Swing Over Bed	Length of Bed	Between Centers	Hole Thru Spindle	Swing Over Carriage	Width Cone Pulley Steps	Power Required	Weight Crated	Code Word	Net Factory Price
22-TB	9¼ in.	2 ft.	5⅜ in.	¾ in.	6⅜ in.	1¼ in.	¼ H.P.	325 lbs.	Babad	**$150.00**
22-XB	9¼ in.	2½ ft.	9⅜ in.	¾ in.	6⅜ in.	1¼ in.	¼ H.P.	350 lbs.	Babef	**160.00**
22-YB	9¼ in.	3 ft.	16⅜ in.	¾ in.	6⅜ in.	1¼ in.	¼ H.P.	375 lbs.	Babig	**169.00**
22-ZB	9¼ in.	3½ ft.	21⅜ in	¾ in.	6⅜ in.	1¼ in.	¼ H.P.	400 lbs.	Bacaf	**175.00**
22-AB	9¼ in.	4 ft.	27⅜ in.	¾ in.	6⅜ in.	1¼ in.	¼ H.P.	425 lbs.	Baceg	**182.00**
22-RB	9¼ in.	4½ ft.	34⅜ in.	¾ in.	6⅜ in.	1¼ in.	¼ H.P.	450 lbs.	Bacoj	**190.00**

If Countershaft is not wanted deduct $12.00 from above prices. For Easy Payment Terms see page 23.
If Quick Change Gear Box is wanted add $45.00 to above lathe prices. See page 19.



Regular equipment illustrated above is included in price of Lathe

9-in. x 3-ft. Junior New Model South Bend Lathe - $179

Back-Geared, Screw Cutting Precision Lathe (Floor Legs), Countershaft Drive

The 9-Inch Junior New Model Precision Lathe above is exactly the same as the Junior lathe illustrated and described on pages 2 and 3 except that it is equipped with floor legs instead of bench legs. It is driven from an overhead double friction countershaft which is bolted to the ceiling and connected by belt to the lineshaft. We recommend this lathe for the shop which is already equipped with lineshafting from which other machines are being operated. The 9-inch Junior lathe in the 3-foot bed length is the most popular selling size.

For Features and Specifications of the 9-inch Junior Lathe see pages 2, 3, 12, and 13.

Handles Wide Variety of Work. The New Model 9-inch Junior Back-Geared, Screw Cutting, Precision Lathe, has the power and accuracy required for fine precision work in the manufacturing plant, tool room, laboratory, experimental shop and engineering shop. The lathe has automatic longitudinal feed and a wide range of spindle speeds for cutting all standard and special screw threads and for machining metals of all kinds. See pages 13, 14, 15, and 16.

Attachments for Junior Lathes are shown on pages 18 to 21.

The Lathe Equipment included in the price of lathe consists of: Double Friction Countershaft, Face Plate, Tool Post Complete, two Lathe Centers, Spindle Sleeve, Wrenches, Lag Screws and Washers, and a set of Change Gears for screw thread cutting and for feeds, also Installation Plans and book, "How to Run a Lathe."

Screw Thread Cutting. An index plate, as illustrated at right, is attached to each 9-inch Junior Lathe, all types, and shows the proper change gears to use to cut the following standard screw threads per inch, right or left hand, including 11½ pipe thread: 4, 5, 6, 7, 8, 9, 10, 11, 11½, 12, 13, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 36, and 40.

Index Plate

FEATURES OF LATHE

Back-geared headstock gives six spindle speeds.
Hollow spindle made of special alloy steel.
Phosphor bronze bearings for spindle.
Graduated compound rest swivels to any angle.
Precision lead screw for cutting accurate threads.
Micrometer collar on cross feed and compound rest screws.
Tailstock set-over for turning tapers.
Quick-acting spring latch reverses carriage travel.
Automatic longitudinal power feed to carriage.
Graduated tailstock spindle.
Spindle cone pulley balanced for operation at high speeds.

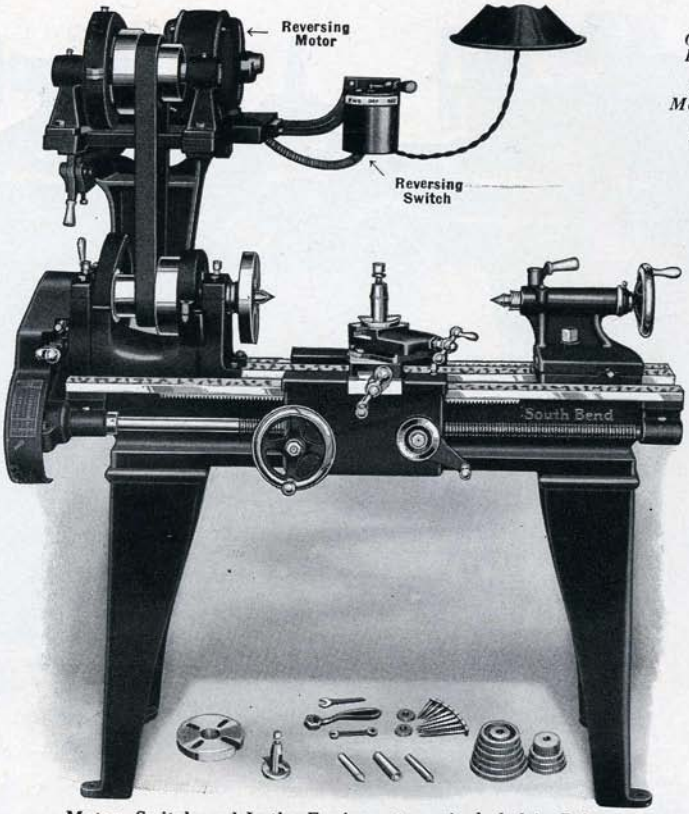
SPECIFICATIONS OF LATHE

Countershaft Speed.....255 R.P.M.
Spindle Speeds.....39, 64, 110, 208, 348, 596 R.P.M.
Width of Cone Pulley Belt.....1¼ inch
Acme Thread Lead Screw.....¾ inch diam., 8 pitch
Size of Lathe Centers.....No. 2 Morse Taper
Screw Thread Cutting Range.....4 to 40 per inch
Cross Slide Travel.....7⅛ inches
Draw-in Collet Chuck Capacity.....$\frac{21}{64}$ inch to ½ inch
Size of Tool Shank for Tool Post.....$\frac{33}{64}$ inch x $\frac{13}{16}$ inch
Double Friction Countershaft Pulleys....6⅞ inch x 2⅞ inch
Back Gear Ratio.....5.4 to 1

Prices of 9-inch Junior New Model Precision Floor Leg Lathe, Including Countershaft and Equipment

Cat. No. of Lathe	Swing Over Bed	Length of Bed	Between Centers	Hole Thru Spindle	Swing Over Carriage	Width Cone Pulley Steps	Power Required	Weight Crated	Code Word	Net Factory Price
22-T	9¼ in.	2 ft.	5⅜ in.	¾ in.	6⅜ in.	1¼ in.	¼ H.P.	390 lbs.	Bacuk	**$160.00**
22-X	9¼ in.	2½ ft.	9⅜ in.	¾ in.	6⅜ in.	1¼ in.	¼ H.P.	415 lbs.	Badag	**170.00**
22-Y	9¼ in.	3 ft.	16⅜ in.	¾ in.	6⅜ in.	1¼ in.	¼ H.P.	440 lbs.	Badhe	**179.00**
22-Z	9¼ in.	3½ ft.	21⅜ in.	¾ in.	6⅜ in.	1¼ in.	¼ H.P.	465 lbs.	Badok	**185.00**
22-A	9¼ in.	4 ft	27⅜ in.	¾ in.	6⅜ in.	1¼ in.	¼ H.P.	490 lbs.	Badul	**192.00**
22-R	9¼ in.	4½ ft.	24⅜ in.	¾ in.	6⅜ in.	1¼ in.	¼ H.P.	515 lbs.	Bafah	**200.00**

If Countershaft is not wanted deduct $12.00 from above prices. For Easy Payment Terms see page 23. If Quick Change Gear Box is wanted add $45.00 to above lathe prices. See page 19.



Operates from Electric Lamp Socket with ¼ H.P. Motor at Average Cost of 2c per Hour

Motor, Switch and Lathe Equipment are included in Price

9-in. x 3-ft. Junior Silent Chain Motor Driven Lathe - $298

With Reversing Motor, Reversing Switch and Regular Lathe Equipment

The 9-inch Junior New Model Precision Lathe above is exactly the same as the 9-inch Junior Lathe illustrated and described on pages 2 and 3 except that this lathe has a Silent Chain Motor Drive and floor legs instead of Countershaft Drive and bench legs. This lathe is equipped with a Reversing Motor and Reversing Switch which permits the operator to start, stop or reverse the direction of the lathe spindle, a feature which is of great importance when cutting screw threads.

For Specifications and Features of the 9-inch Junior Lathe see pages 2, 3, 5, 12 and 13.

Electrical Equipment included in the price of this lathe consists of ¼ H.P. Reversing Motor, 1200 R.P.M. (Westinghouse, General Electric or equal make), Reversing Switch (drum type), wiring between motor and switch, Flexible Metal Conduit, Wiring Diagram and Leather Belt.

Lathe Equipment included in the price of this lathe consists of: Face Plate, Tool Post Complete, two Lathe Centers and Spindle Sleeve, Change Gears for screw thread cutting and for feeds, Lag Screws, Washers and Wrenches, also Installation Plans and Instruction book, "How to Run a Lathe."

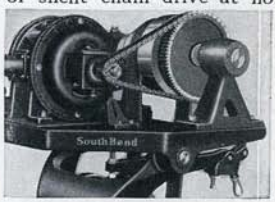
When Ordering a Motor Driven Junior Lathe always give specifications of electric current to be used. If alternating current state exact voltage, phase, cycle and number of wires. If direct current state exact voltage only.

Silent Chain Motor Drive Unit

Guard Removed to Show Mechanism

Power is delivered from the motor to the driving cone through a silent chain and then by flat leather belt to the lathe cone pulley. A small adjusting lever permits the motor table to tilt for relieving the belt tension and for belt shifting.

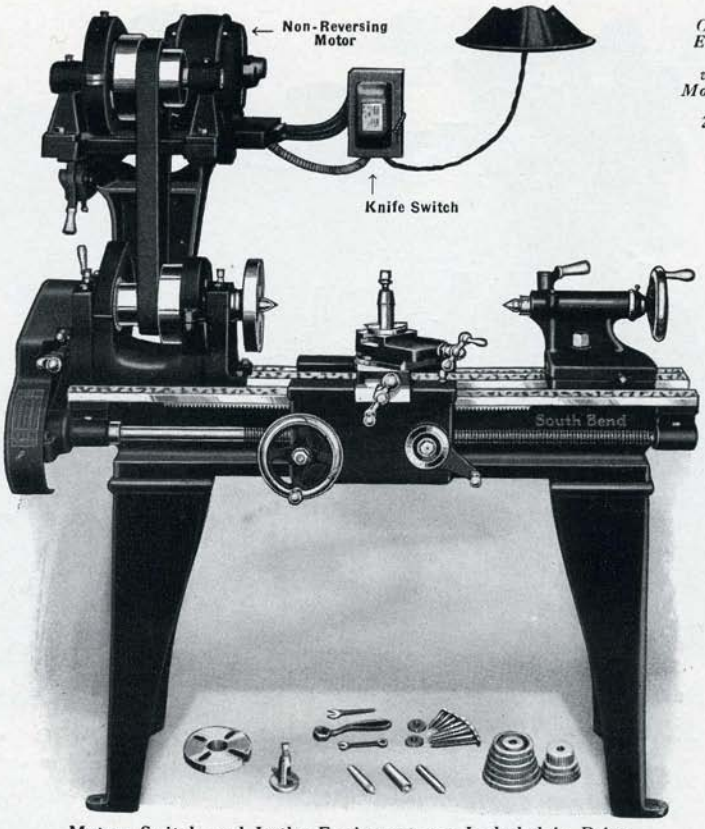
"V" Belt Drive, which some mechanics prefer, can be had in lieu of silent chain drive at no extra cost. With "V" Belt Drive power is delivered by "V" Belt from pulley on motor to pulley on drive cone shaft. If "V" Belt Drive is wanted specify this on your order, otherwise silent chain drive will be shipped.



Prices of 9-inch Junior Silent Chain Motor Driven Lathe—With Reversing Motor and Reversing Switch

Cat. No. of Lathe	Swing Over Bed	Length of Bed	Distance Between Centers	Width of Cone Pulley Steps	Size of Motor	Weight Crated	Code Word	3 Phase 60 Cycle A.C. Motor	1 Phase 60 Cycle A.C. Motor	Direct Current Motor
322-T	9¼ in.	2 ft.	5⅜ in.	1¼ in.	¼ H.P.	610 lbs.	Befne	**$264.00**	**$279.00**	**$272.00**
322-X	9¼ in.	2½ ft.	9⅜ in.	1¼ in.	¼ H.P.	630 lbs.	Begna	**274.00**	**289.00**	**282.00**
322-Y	9¼ in.	3 ft.	16⅜ in.	1¼ in.	¼ H.P.	650 lbs.	Begro	**283.00**	**298.00**	**291.00**
322-Z	9¼ in.	3½ ft.	21⅜ in.	1¼ in.	¼ H.P.	670 lbs.	Besof	**289.00**	**304.00**	**297.00**
322-A	9¼ in.	4 ft.	27⅜ in.	1¼ in.	¼ H.P.	690 lbs	Betde	**296.00**	**311.00**	**304.00**
322-R	9¼ in.	4½ ft.	34⅜ in.	1¼ in.	¼ H.P.	710 lbs.	Bevda	**304.00**	**319.00**	**312.00**

If Quick Change Gear Box is wanted add $45.00 to above lathe prices. See page 19.
For Easy Payment Terms see page 23.



Operates from Electric Lamp Socket with ¼ H.P. Motor at Average Cost of 2c per Hour

Motor, Switch and Lathe Equipment are Included in Price

9-in. x 3-ft. Junior Silent Chain Motor Driven Lathe - $278.50

With Non-Reversing Motor, Knife Switch and Regular Lathe Equipment

The 9-inch Junior New Model Precision Lathe above is exactly the same as the 9-inch Junior lathe illustrated and described on pages 2 and 3 except it is equipped with a Silent Chain Motor Drive and floor legs, instead of Countershaft Drive and bench legs. This lathe has a Non-Reversing Motor and Knife Switch, and is practical for all around general machine work. If much screw thread cutting is to be done, the lathe with Reversing Motor and Reversing Switch, as shown on page 6, is recommended.

For Specifications and Features of the 9-inch Junior Lathe see pages 2, 3, 5, 12 and 13.

Electrical Equipment included in the price of this lathe consists of ¼ H.P., Non-Reversing Motor 1200 R.P.M. (Westinghouse, General Electric or equal make), Switch (knife type), Wiring between motor and switch, Flexible Metal Conduit, Wiring Diagram and Leather Belt.

Lathe Equipment included in the price of this lathe consists of: Face Plate, Tool Post Complete, Two Lathe Centers and Spindle Sleeve, Change Gears for screw thread cutting and for feeds, Lag Screws, Washers, Wrenches, Installation Plans and book, "How to Run a Lathe."

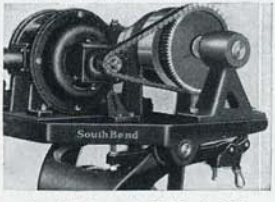
The Knife Switch for motor is conveniently located and provides for starting and stopping of the lathe spindle, but not for reversing spindle.

Silent Chain Motor Drive Unit

Guard Removed to Show Mechanism

Power is delivered from the motor to the driving cone through a silent chain and then by flat leather belt to the lathe cone pulley. A small adjusting lever permits the motor table to tilt for relieving the belt tension and for belt shifting.

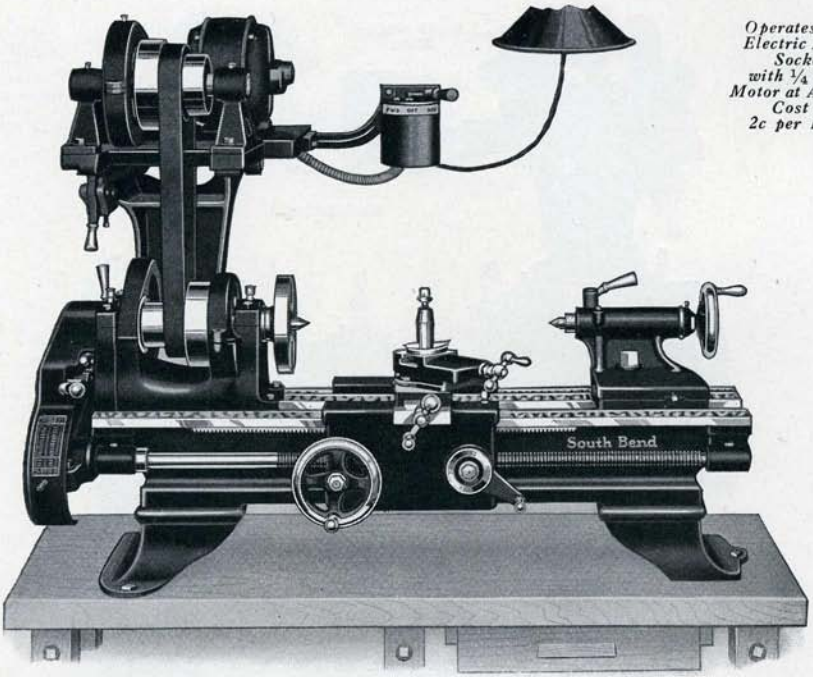
"V" Belt Drive, which some mechanics prefer, can be had in lieu of silent chain drive at no extra cost. With "V" Belt Drive power is delivered by "V" Belt from pulley on motor to pulley on drive cone shaft. If "V" Belt Drive is wanted specify this on your order, otherwise silent chain drive will be shipped.



Prices of 9-inch Junior Silent Chain Motor Driven Lathe—With Non-Reversing Motor and Knife Switch

Cat. No. of Lathe	Swing Over Bed	Length of Bed	Distance Between Centers	Width of Cone Pulley Steps	Size of Motor	Weight Crated	Code Word	3 Phase 60 Cycle A.C. Motor	1 Phase 60 Cycle A.C. Motor	Direct Current Motor
322-TF	9¼ in.	2 ft.	5⅜ in.	1¼ in.	¼ H.P.	610 lbs.	Bigiv	**$251.50**	**$259.50**	**$258.50**
322-XF	9¼ in.	2½ ft.	9⅜ in.	1¼ in.	¼ H.P.	630 lbs.	Bigsa	**261.50**	**269.50**	**268.50**
322-YF	9¼ in.	3 ft.	16⅜ in.	1¼ in.	¼ H.P.	650 lbs.	Bigte	**270.50**	**278.50**	**277.50**
322-ZF	9¼ in.	3½ ft.	21⅜ in.	1¼ in.	¼ H.P.	670 lbs.	Bigux	**276.50**	**284.50**	**283.50**
322-AF	9¼ in.	4 ft.	27⅜ in.	1¼ in.	¼ H.P.	690 lbs.	Bikwa	**283.50**	**291.50**	**290.50**
322-RF	9¼ in.	4½ ft.	34⅜ in.	1¼ in.	¼ H.P.	710 lbs.	Bijoz	**291.50**	**299.50**	**298.50**

If Quick Change Gear Box is wanted add $45.00 to above lathe prices. See page 19.
For Easy Payment Terms see page 23.



Operates from Electric Lamp Socket with ¼ H.P. Motor at Average Cost of 2c per Hour

Lathe Equipment Included in Price is Same as Illustrated with Lathes on pages 6 and 7

9-in. x 3-ft. Junior Silent Chain Motor Driven Lathe - $290.50

Back-Geared, Screw Cutting, Precision Lathe—Bench Type

The 9-inch Junior New Model Precision Lathe above is exactly the same as the 9-inch Junior Lathe illustrated and described on pages 2 and 3 except this lathe has a Silent Chain Motor Drive instead of Countershaft Drive. For specifications and features, see pages 2, 3, 4, 12, 13.

The 9-inch Junior Silent Chain Motor Driven Lathe illustrated and priced above is equipped with a Reversing Motor and Reversing Switch, which permits the starting, stopping, and reversing of the lathe spindle. This lathe is recommended for shops that handle much screw thread cutting. For the shop that wishes to do general machine work, but not much screw thread cutting, this lathe is furnished with a Non-Reversing Motor and Knife Switch at lower cost as shown in the second price tabulation below.

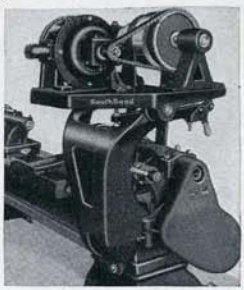
Lathe Equipment included in price of lathes consists of: Face Plate, Tool Post Complete, Two Lathe Centers and Spindle Sleeve, Change Gears for screw thread cutting and for feeds, Lag Screws, Washers, Wrenches, Installation Plans and book, "How to Run a Lathe." Bench is extra.

Electrical Equipment. The price of the lathe illustrated above, and as listed in the first tabulation below, includes ¼ H.P. Reversing Motor 1200 R.P.M., and Reversing Switch (drum type). The prices of lathes listed in the second tabulation below include ¼ H.P. Non-Reversing Motor, 1200 R.P.M. and Knife Switch. Other electrical equipment for both lathes includes wiring between motor and switch, Flexible Metal Conduit, Wiring Diagram and Leather Belt.

Silent Chain Motor Drive Unit

Guard Removed to Show Mechanism

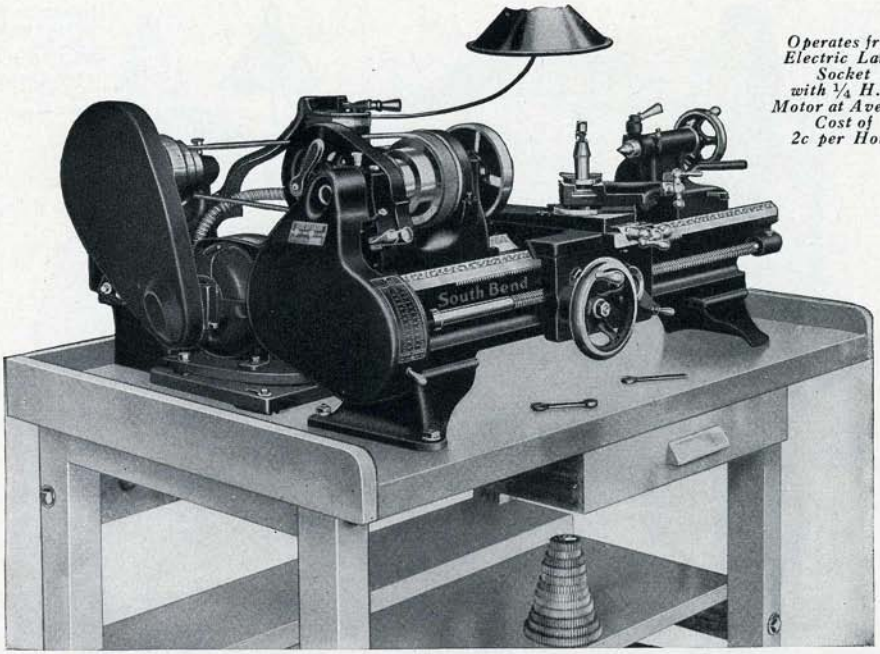
Power is delivered from motor to driving cone by silent chain then by flat leather belt to lathe cone pulley. A lever is provided for relieving belt tension and for belt shifting. "V" Belt Drive can be had in lieu of silent chain drive at no extra cost. Power on this drive is delivered by "V" Belt from pulley on motor to pulley on driving cone shaft. If "V" Belt Drive is wanted specify this on order, otherwise silent chain drive will be shipped.



Prices of 9-inch Junior New Model Silent Chain Motor Driven Precision Bench Lathes

Cat. No. of Lathe	Swing Over Bed	Length of Bed	Distance Between Centers	Width of Cone Pulley Steps	Size of Motor	Weight Crated	Code Word	3 Phase 60 Cycle A.C. Motor	1 Phase 60 Cycle A.C. Motor	Direct Current Motor
Prices of Lathe with ¼ H.P. Reversing Motor, 1200 R.P.M. and Reversing Switch (Drum Type)										
322-TB	9¼ in.	2 ft.	5⅜ in.	1¼ in.	¼ H.P.	545 lbs.	Bampa	$256.50	$271.50	$264.50
322-XB	9¼ in.	2½ ft.	9⅜ in.	1¼ in.	¼ H.P.	565 lbs.	Bazde	266.50	281.50	274.50
322-YB	9¼ in.	3 ft.	16⅜ in.	1¼ in.	¼ H.P.	585 lbs.	Beals	275.50	290.50	283.50
322-ZB	9¼ in.	3½ ft.	21⅜ in.	1¼ in.	¼ H.P.	605 lbs.	Bebja	281.50	296.50	289.50
322-AB	9¼ in.	4 ft.	27⅜ in.	1¼ in.	¼ H.P.	625 lbs.	Becle	288.50	303.50	296.50
322-RB	9¼ in.	4½ ft.	34⅜ in.	1¼ in.	¼ H.P.	645 lbs.	Bedry	296.50	311.50	304.50
Prices of Lathe with ¼ H.P. Non-Reversing Motor, 1200 R. P. M. and Knife Switch (Enclosed Type)										
322-TBF	9¼ in.	2 ft.	5⅜ in.	1¼ in.	¼ H.P.	545 lbs.	Bijub	$244.00	$252.00	$251.00
322-XBF	9¼ in.	2½ ft.	9⅜ in.	1¼ in.	¼ H.P.	565 lbs.	Bikuc	254.00	262.00	261.00
322-YBF	9¼ in.	3 ft.	16⅜ in.	1¼ in.	¼ H.P.	585 lbs.	Bikiz	263.00	271.00	270.00
322-ZBF	9¼ in.	3½ ft.	21⅜ in.	1¼ in.	¼ H.P.	605 lbs.	Bikob	269.00	277.00	276.00
322-ABF	9¼ in.	4 ft.	27⅜ in.	1¼ in.	¼ H.P.	625 lbs.	Bilay	276.00	284.00	283.00
322-RBF	9¼ in.	4½ ft.	34⅜ in.	1¼ in.	¼ H.P.	645 lbs.	Bilco	284.00	292.00	291.00

Price of Hard Maple Bench is extra, see page 21. For Easy Payment Terms see page 23.
If Quick Change Gear Box is wanted add $45.00 to above lathe prices. See page 19.



Operates from Electric Lamp Socket with ¼ H.P. Motor at Average Cost of 2c per Hour

Lathe Equipment Included in Price Is Same as Illustrated with Lathes on Pages 6 and 7

9-in. x 3-ft. Jr. Self-Contained "V" Belt Motor Driven Lathe - $266

Back-Geared, Screw Cutting Precision Lathe—Bench Type

The 9-inch Junior New Model Lathe above is exactly the same as the 9-inch Junior Lathe illustrated and described on pages 2 and 3 except it is equipped with a Self-Contained "V" Belt Motor drive instead of Countershaft Drive. For specifications and features see pages 2, 3, 12, 13.

Self-Contained "V" Belt Motor Drive Unit
Guard Removed to Show "V" Belt

The Drive Unit is placed behind the lathe on the bench where it is free from dirt and chips. Power is delivered from the motor to the driving cone through a "V" belt and then by flat leather belt to the lathe cone pulley. The base on which the motor rests is arranged to permit belt adjustments.

The 9-inch Junior Self-Contained "V" Belt Motor Driven Lathe illustrated above is equipped with a Reversing Motor and Reversing Switch, which permits the starting, stopping and reversing of the lathe spindle. This lathe is recommended for shops that handle much screw thread cutting. For the shop that wishes to handle general machine work, but not much screw thread cutting, this lathe can be furnished with a Non-Reversing Motor and Knife Switch at lower cost as shown in the second price tabulation below.

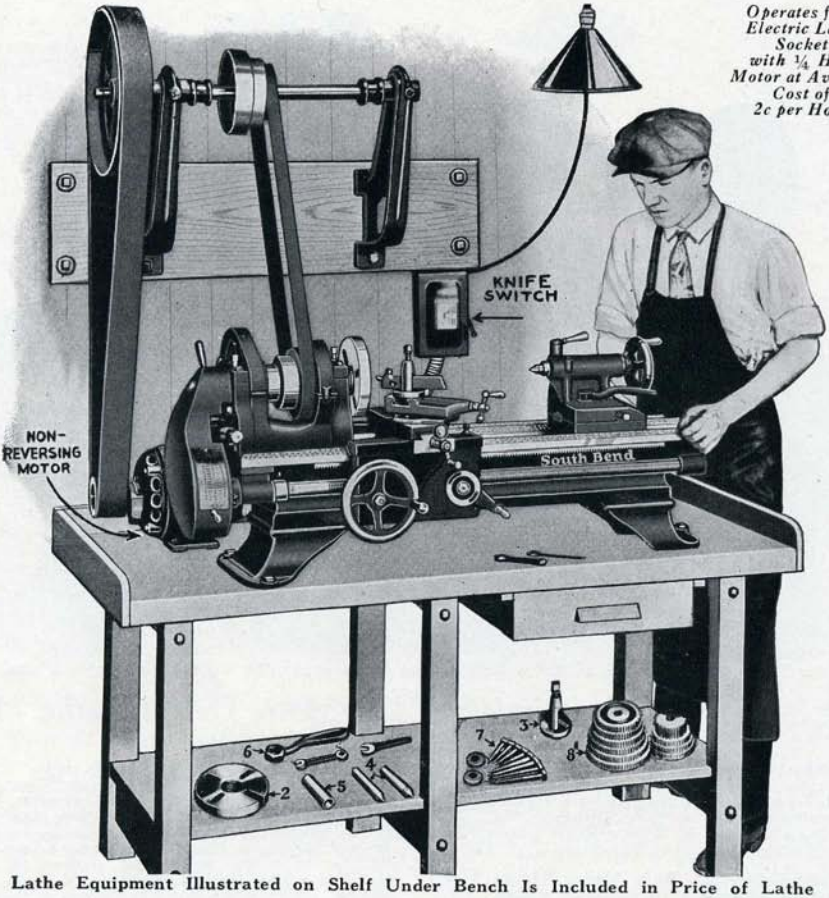
Electrical Equipment. The price of the lathe illustrated above, and as listed in the first tabulation below, includes ¼ H.P. Reversing Motor 1200 R.P.M. and Reversing Switch (drum type). The prices of lathes listed in the second tabulation below include ¼ H.P. Non-Reversing Motor 1200 R.P.M. and Knife Switch. Other electrical equipment furnished with both lathes includes wiring between motor and switch, Flexible Metal Conduit, Wiring Diagram, "V" Belt and Leather Belt.

Lathe Equipment included in the price of lathes consists of: Face Plate, Tool Post Complete, Two Lathe Centers and Spindle Sleeve, Change Gears for screw thread cutting and for feeds, Lag Screws, Washers, Wrenches, Installation Plans and book, "How to Run a Lathe." The Hard Maple Bench is extra. For prices see page 21.

Prices of 9-inch Junior New Model Self-Contained "V" Belt Motor Driven Precision Bench Lathes

Cat. No. of Lathe	Swing Over Bed	Length of Bed	Distance Between Centers	Width of Cone Pulley Steps	Size of Motor	Weight Crated	Code Word	3 Phase 60 Cycle A.C. Motor	1 Phase 60 Cycle A.C. Motor	Direct Current Motor
Prices of Lathe with ¼ H.P. Reversing Motor, 1200 R.P.M. and Reversing Switch (Drum Type)										
2722-T	9¼ in.	2 ft.	5⅜ in.	1¼ in.	¼ H.P.	410 lbs.	Bezol	$232.00	$247.00	$240.00
2722-X	9¼ in.	2½ ft.	9⅜ in.	1¼ in.	¼ H.P.	440 lbs.	Bibro	242.00	257.00	250.00
2722-Y	9¼ in.	3 ft.	16⅜ in.	1¼ in.	¼ H.P.	470 lbs.	Bicap	251.00	266.00	259.00
2722-Z	9¼ in.	3½ ft.	21⅜ in.	1¼ in.	¼ H.P.	500 lbs.	Bifar	257.00	272 00	265.00
2722-A	9¼ in.	4 ft.	27⅜ in.	1¼ in.	¼ H.P.	530 lbs.	Bifit	264.00	279.00	272.00
2722-R	9¼ in.	4½ ft.	34⅜ in.	1¼ in.	¼ H.P.	560 lbs.	Biget	272.00	287.00	280.00
Prices of Lathe with ¼ H.P. Non-Reversing Motor, 1200 R.P.M. and Knife Switch (Enclosed Type)										
2722-TF	9¼ in.	2 ft.	5⅜ in.	1¼ in.	¼ H.P.	410 lbs.	Bilib	$219.50	$227.50	$226.50
2722-XF	9¼ in.	2½ ft.	9⅜ in.	1¼ in.	¼ H.P.	440 lbs.	Bilya	229.50	237.50	236.50
2722-YF	9¼ in.	3 ft.	16⅜ in.	1¼ in.	¼ H.P.	470 lbs.	Bimaz	238 50	246 50	245.50
2722-ZF	9¼ in.	3½ ft.	21⅜ in.	1¼ in.	¼ H.P.	500 lbs.	Binab	244.50	252.50	251.50
2722-AF	9¼ in.	4 ft.	27⅜ in.	1¼ in.	¼ H.P.	530 lbs.	Binid	251 50	259.50	258 50
2722-RF	9¼ in.	4½ ft.	34⅜ in.	1¼ in.	¼ H.P.	560 lbs.	Bipac	259.50	267.50	266.50

Price of Hard Maple Bench is extra, see page 21. For Easy Payment Terms see page 23.
If Quick Change Gear Box is wanted add $45.00 to above lathe prices. See page 19.



Lathe Equipment Illustrated on Shelf Under Bench Is Included in Price of Lathe

9-inch x 3-ft. Junior Simplex Motor Driven Bench Lathe - $169

Back-Geared, Screw Cutting Precision Lathe

The 9-inch Junior New Model Lathe above is exactly the same as the 9-inch Junior Lathe illustrated and described on pages 2 and 3 except that it has a Simplex Motor Drive instead of Countershaft Drive.

For Features and Specifications see pages 2, 3, 4, 12 and 13.

The Simplex Motor Drive consists of a Simplex Countershaft, which is mounted on the wall directly behind the lathe, and a ¼ H.P. Non-Reversing Motor 1800 R.P.M., which is used to drive the lathe by means of leather belting. The motor can be mounted on the bench or fastened to the wall. A knife switch controls the starting and stopping of the motor.

The 9-inch Junior Lathe can be ordered with the Simplex Wall Countershaft and with or without, the motor drive unit as listed below. This permits the purchaser to use his own motor, switch and belting. When ordering without motor, be sure to specify the speed of motor to be used in order that we can supply the correct diameter pulley on countershaft.

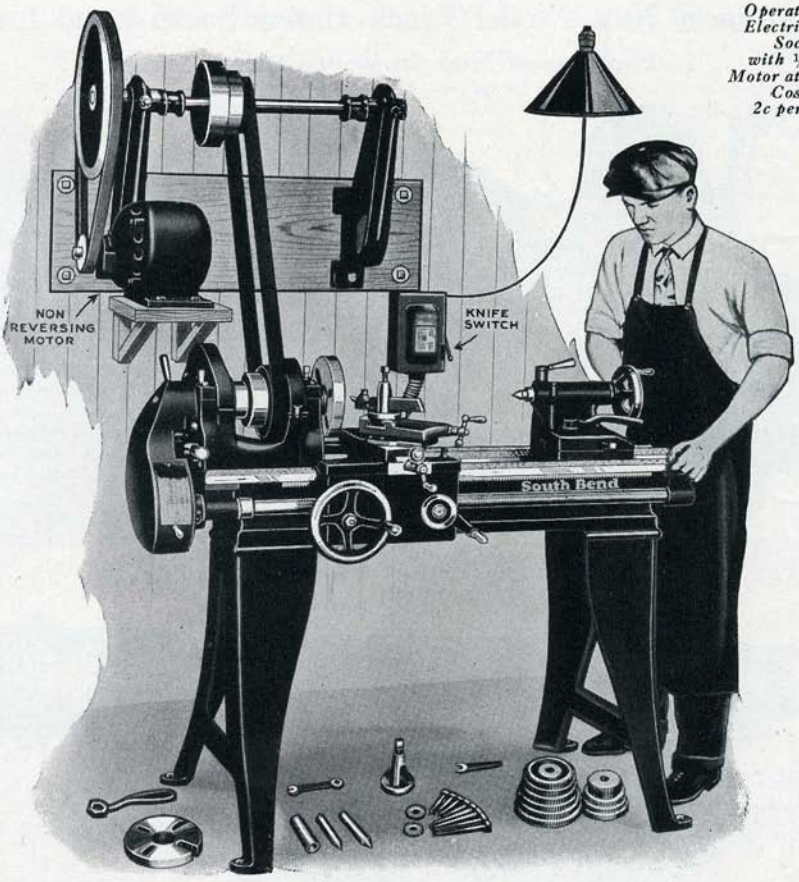
Equipment Included in Price of Lathe consists of Simplex Wall Countershaft and following equipment, as illustrated on the lower shelf of bench: Face Plate, Tool Post Complete, Two Lathe Centers, Spindle Sleeve, Wrenches, Lag Screws, Washers, Change Gears for Screw Thread Cutting and for Feeds, Installation plans and book, "How to Run a Lathe." Bench is extra, see page 21.

Net Factory Prices of 9-inch Junior New Model Simplex Motor Driven Precision Bench Lathes
With Simplex Wall Countershaft, ¼ H.P. Non-Reversing Motor, 1800 R.P.M., Knife Switch and Lathe Equipment

SPECIFICATIONS	Size of Lathe Catalog No. Code Word	9"x2' 522-TBF Bafik	9"x2½' 522-XBF Baflo	9"x3' 522-YBF Bagmo	9"x3½' 522-ZBF Bagpy	9"x4' 522-ABF Bahle	9"x4½' 522-RBF Bajop
9-inch Junior New Model South Bend Bench Lathe with Simplex Wall Countershaft and Lathe Equipment		$150.00	$160.00	$169.00	$175.00	$182.00	$190.00
Price of Motor Drive Unit:							
¼ H.P., Non-Reversing Motor, 1800 R.P.M. (1-Phase, 60-Cycle, A.C.), with Motor Pulley		13.25*	13.25*	13.25*	13.25*	13.25*	13.25*
Knife Switch, enclosed type		1.50*	1.50*	1.50*	1.50*	1.50*	1.50*
Conduit and Wiring		2.00	2.00	2.00	2.00	2.00	2.00
Leather Belt, Motor to Countershaft, 2"x117"		3.50	3.50	3.50	3.50	3.50	3.50
Leather Belt, Countershaft to Lathe, 1¼"x102"		1.75	1.75	1.75	1.75	1.75	1.75
Total Price, Lathe and Equipment as illustrated above		$172.00	$182.00	$191.00	$197.00	$204.00	$212.00

*If 1800 R.P.M. Reversing Motor and Reversing Switch are wanted instead of Non-Reversing Motor and Knife Switch, add $27.50 to above total prices of lathes. For Easy Payment Terms see page 23. If Quick Change Gear Box is wanted add $45.00 to above lathe prices. See page 19.

Operates from Electric Lamp Socket with ¼ H.P. Motor at Average Cost of 2c per Hour



Lathe Equipment Illustrated Beneath Lathe is Included in Price

9-inch x 3-ft. Junior Simplex "V" Belt Motor Driven Lathe - $179

Back-Geared, Screw Cutting, Precision Lathe—Floor Leg Type

The 9-inch Junior New Model Lathe above is exactly the same as the Junior Lathe illustrated and described on pages 2 and 3 except it has a Simplex "V" Belt Motor Drive and Floor Legs instead of Countershaft Drive and Bench Legs.

For Features and Specifications see pages 2, 3, 5, 12 and 13.

The Simplex "V" Belt Motor Drive consists of a Simplex Wall Countershaft and a ¼ H.P. Non-Reversing Motor, 1800 R.P.M., which are mounted on the wall above and behind the lathe, where they are away from dirt and chips. Power is supplied from the motor to the "V" belt driving pulley on the countershaft through a silent "V" belt and then by flat leather belt to the lathe cone pulley. A knife switch controls the starting and stopping of the motor.

The 9-inch Junior Simplex "V" Belt Motor Driven Lathe can be ordered with Simplex "V" Belt Countershaft and with, or without, the motor drive unit as listed below. This permits the purchaser to use his own motor, switch, belting, etc. When ordering this lathe without motor be sure to specify the speed of motor to be used in order that we can supply the correct diameter "V" belt pulley on countershaft.

Equipment Included in Price of this Lathe consists of Simplex "V" Belt Wall Countershaft and following equipment as illustrated beneath lathe: Face Plate, Tool Post complete, two Lathe Centers, Spindle Sleeve, Wrenches, Lag Screws and Washers, Change Gears for Screw Thread Cutting and for Feeds; Installation plans and book, "How to Run a Lathe."

Prices of 9-inch Junior New Model Simplex "V" Belt Motor Driven Floor Leg Lathes
With Simplex "V" Belt Wall Countershaft, ¼ H.P. Non-Reversing Motor, 1800 R.P.M., Knife Switch and Lathe Equipment

SPECIFICATIONS — Size of Lathe / Catalog No. / Code Word	9"x2' 2522-TF Balna	9"x2½' 2522-XF Balro	9"x3' 2522-YF Balpe	9"x3½' 2522-ZF Bamir	9"x4' 2522-AF Bamos	9"x4½' 2522-RF Baner
9-inch Junior New Model South Bend Floor Leg Lathe with Simplex "V" Belt Wall Countershaft and Lathe Equipment	$160.00	$170.00	$179.00	$185.00	$192.00	$200.00
Price of Motor Drive Unit						
¼ H.P. Non-Reversing Motor, 1800 R.P.M. (1-Phase, 60-Cycle, A.C.), with "V" Motor Pulley	$13.25*	$13.25*	$13.25*	$13.25*	$13.25*	$13.25*
Knife Switch, Enclosed Type	1.50*	1.50*	1.50*	1.50*	1.50*	1.50*
Conduit and Wiring	2.00	2.00	2.00	2.00	2.00	2.00
"V" Belt, Motor to Countershaft	1.00	1.00	1.00	1.00	1.00	1.00
Leather Belt, Countershaft to Lathe (1¼"x102")	1.75	1.75	1.75	1.75	1.75	1.75
Total Price, Lathe and Equipment as illustrated above	$179.50	$189.50	$198.50	$204.50	$211.50	$219.50

*If 1800 R.P.M. Reversing Motor and Reversing Switch are wanted instead of Non-Reversing Motor and Knife Switch, add $27.50 to above total prices of lathes. For Easy Payment Terms see page 23. If Quick Change Gear Box is wanted add $45.00 to above lathe prices. See page 19.

Features of New Model 9-inch Junior South Bend Lathes

Features of New Improved Headstock

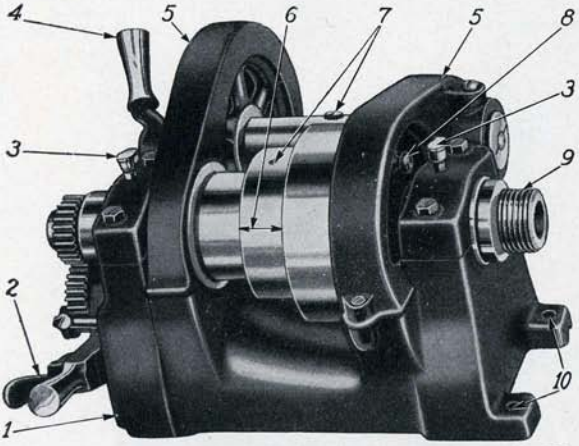


Fig. 1. Improved Back-Geared Headstock on New Model 9-inch Junior Lathes

1—Entirely new headstock design, length increased 1⅛".
2—Quick-acting reverse for threads and feeds.
3—Bearings for Spindle have full length felt pad oilers and dust-proof oil cups.
4—Back Gear Lever.
5—Back gears enclosed in improved, close fitting guards.
6—Belt width increased from 1" to 1¼". Cone pulley balanced for high speeds.
7—Reservoir oiling system for back gears and cone pulley.
8—Wrenchless bull gear lock.
9—Six spindle speeds, three direct cone drive and three back-geared drive.
10—Headstock bolts direct to lathe bed.

Headstock Spindle and Bearings

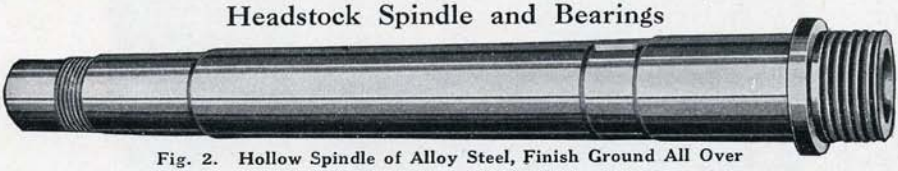


Fig. 2. Hollow Spindle of Alloy Steel, Finish Ground All Over

The New Headstock Spindle is made of special alloy spindle steel. It has a ¾-inch hole which permits rods, bars and tubing to be passed through it and held in a lathe chuck or draw-in collet chuck for machining. The spindle is finish ground all over. The steel thrust collar is hardened and ground.

Fig. 3. Phosphor Bronze Bearings for Headstock Spindle

The New Bearings for Headstock Spindle are high quality phosphor bronze, adjustable for wear. These bearings are accurately fitted into housing of headstock then line bored and lapped to size and place, to insure perfect alignment of spindle. Dust proof oil cups and felt pad wicks insure an ample supply of oil.

The 9-inch Junior Lathe Bed

The Lathe Bed is made of cast iron with 50% steel, heavily constructed and reinforced by box braces cast in at short intervals. Three prismatic "V" ways and one flat way align headstock, tailstock and carriage.

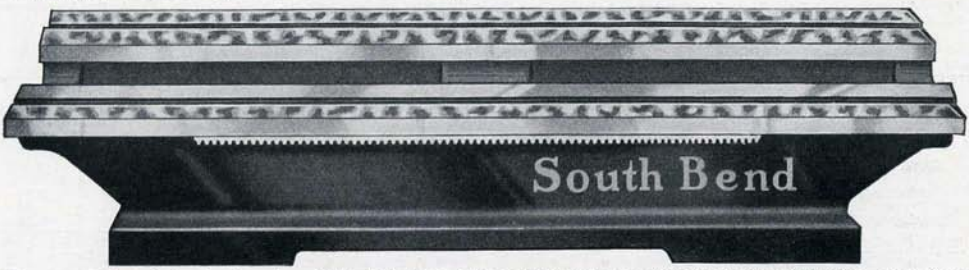


Fig. 4. 3-foot lathe bed, net weight 137 lbs.; this weight insures rigidity and permanent accuracy.

Features of New Model 9-inch Junior South Bend Lathes

Arrangement of Gears for Thread Cutting

The arrangement of the change gears on the lathe for cutting screw threads and for obtaining automatic feeds is shown at the left. A complete set of change gears, as illustrated, is furnished with each Junior Lathe for cutting screw threads from 4 to 40 per inch, right or left hand, including 11½ pipe thread, as shown by index plate at right, and for a wide range of fine or coarse automatic carriage feeds.

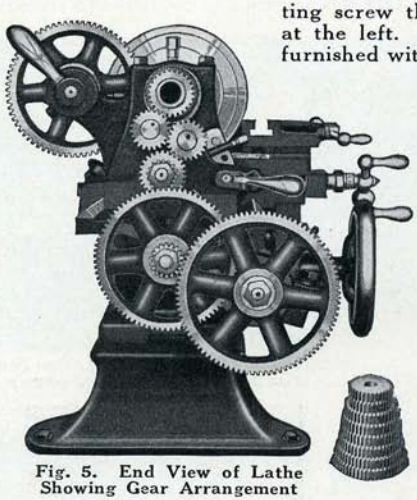


Fig. 5. End View of Lathe Showing Gear Arrangement

Precision Lead Screw

The lead screw of the 9-inch Junior Lathe is ¾ inch in diameter, has eight Acme threads per inch cut on a machine equipped with a Pratt and Whitney master lead screw and is guaranteed to meet the most exacting requirements in cutting finest precision screw threads for taps, dies, gauges, etc.

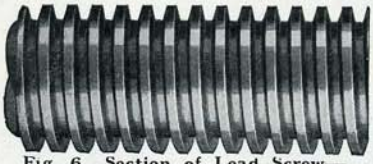


Fig. 6. Section of Lead Screw—Actual Size

Fig. 7. Index Plate

Graduated Compound Rest

The Compound Rest illustrated at right is attached to each size and type 9-inch Junior Lathe. The base is graduated in 180 degrees which permits the Compound Rest Top to be swiveled and fastened at any angle for machining and boring. Micrometer collars reading in one-thousandths of an inch are provided on both Compound Rest Screw and Cross Feed Screw.

The old style Plain Rest for Lathe is not considered practical in this modern age, but if the customer wishes it instead of Compound Rest, it can be furnished, and $10.00 deducted from the regular price of lathe.

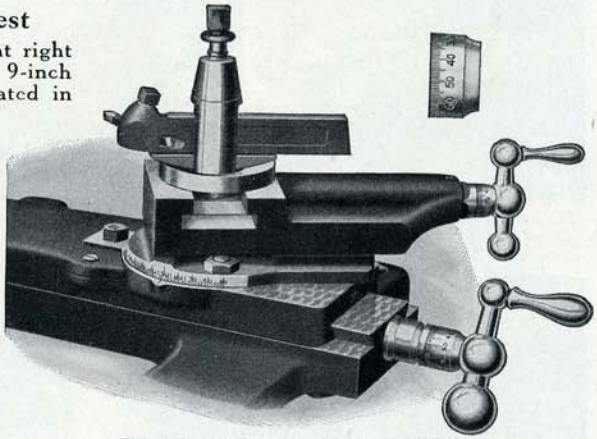


Fig. 8. Graduated Compound Rest

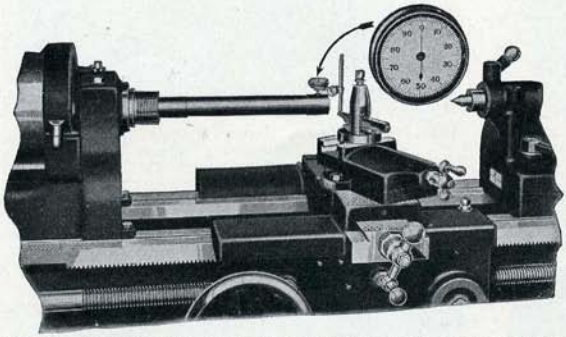


Fig. 9. Testing the Accuracy of Alignment of the 9-inch Junior Headstock Spindle with a Dial Test Indicator

Each 9-inch Junior Lathe must pass 64 rigid accuracy tests before it is ready for shipment. The final tests are made with the lathe in operation under its own power. A record of these tests is filed in our office.

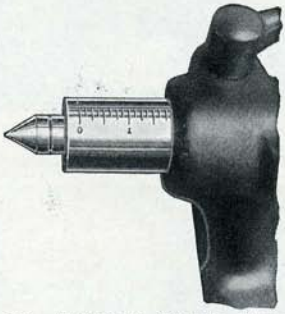


Fig. 10. Tailstock Spindle Extended to Show Graduations

The Tailstock Spindle is graduated in sixteenths of an inch which permits the operator to measure the depth of the drill when using a drill chuck in the tail spindle.

Machine Work Done on the 9-inch Junior Lathe

The 9-inch Junior South Bend Lathe is a practical tool for machine work of all kinds including boring, facing, drilling, turning, tapping, forming, reaming, knurling, polishing, recessing, bar work, cutting-off, taper turning, countersinking, chucking work, making bushings, tap and die work, refacing valves, finishing pistons, truing armatures and cutting all standard and special screw threads.

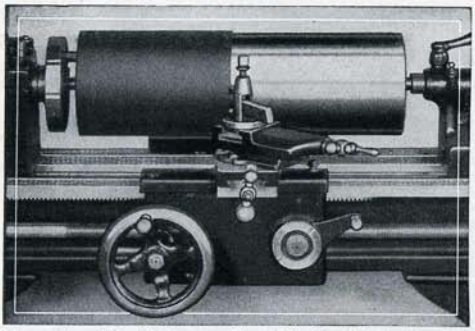


Fig. 11. Machining a Steel Roll 6⅜ Inches in Diameter and 18 Inches Long

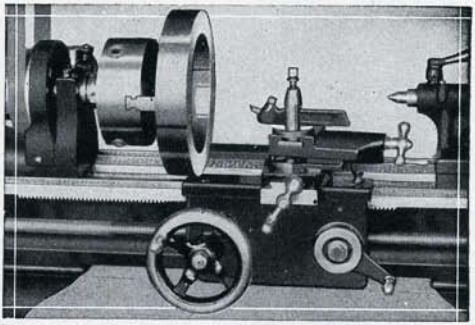


Fig. 12. Swinging Work, Over the Lathe Bed, That Measures 9¼ Inches in Diameter

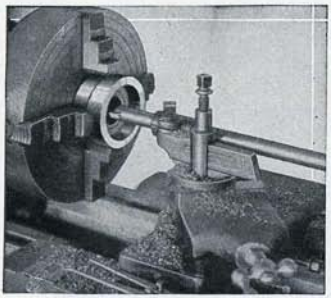


Fig. 13. Making a Large Bushing Held in a Four-jaw Chuck

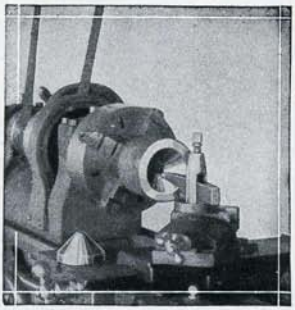


Fig. 14. Boring the Taper of a Steel Conical Die

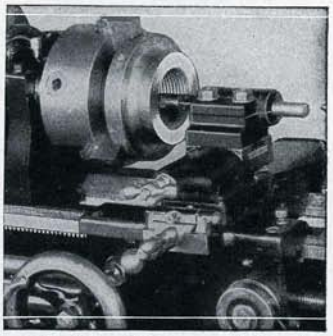


Fig. 15. Cutting an Internal National Coarse Thread (U. S. St'd.)

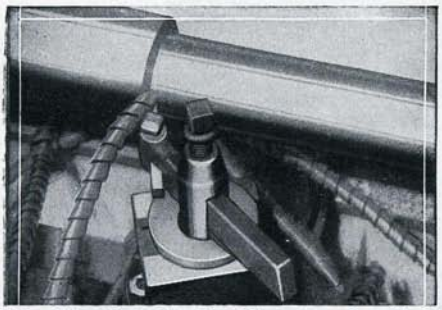


Fig. 16. Reducing the Diameter of a Shaft from 2 Inches to 1½ Inches in One Cut

Fig. 17. Many Shops Install 9-inch Junior Lathes in Batteries of from 10 to 50 for Manufacturing

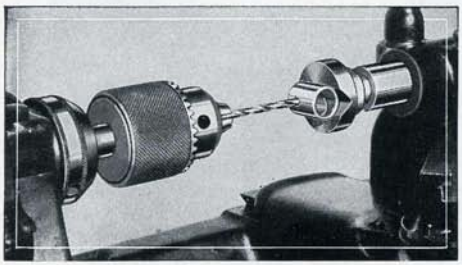


Fig. 18. Drilling Round Work Held in Crotch Center in Tailstock

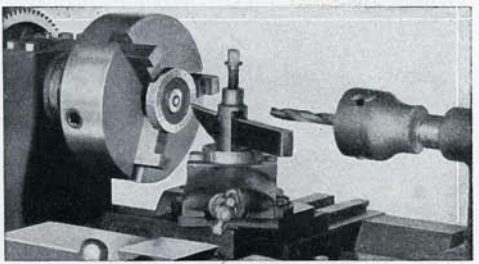


Fig. 19. Drilling and Facing a Cast Iron Gear Blank Held in a Three-jaw Chuck

Machine Work Done on the 9-inch Junior Lathe

The 9-inch Junior South Bend Precision Lathe is Back-geared and Screw Cutting. It has the power and capacity for the accurate machining of all kinds of metals such as cast iron, steel, cast steel, steel forgings, wrought iron, brass, bronze, copper, aluminum, babbitt and the various alloy steels. The Junior Lathe can also be used for working wood, hard rubber, fiber, bakelite, etc.

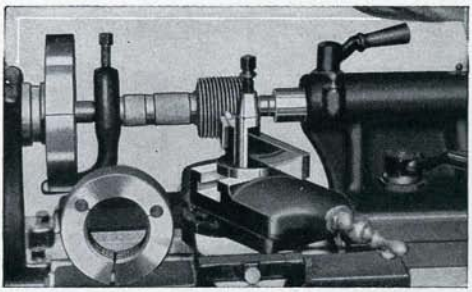


Fig. 20. Cutting the Thread on a Master Screw Thread Gauge

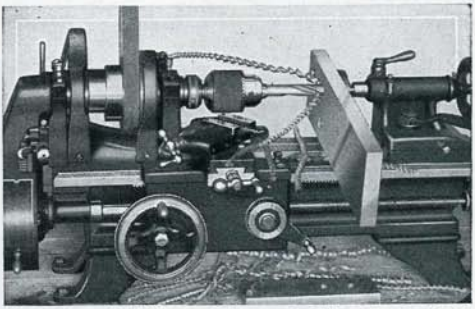


Fig. 21. Drilling a Piece of Flat Steel Held Against Drill Pad in Tailstock

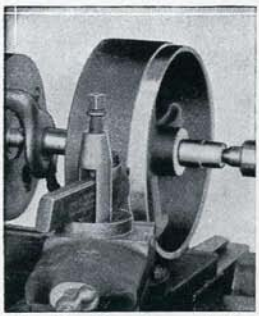


Fig. 22. Turning a Pulley on an Arbor Between Centers

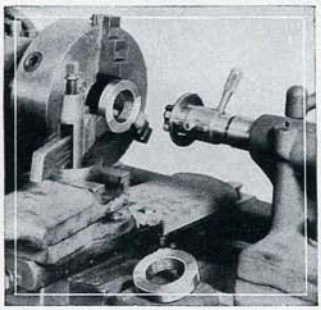


Fig. 23. Tapping Round Nuts with Collapsible Tap

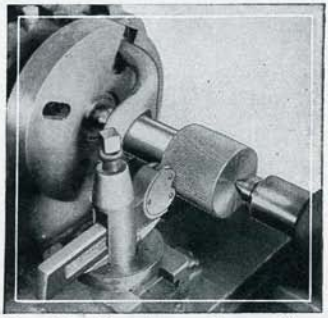


Fig. 24. Knurling a Large Handle Held Between Lathe Centers

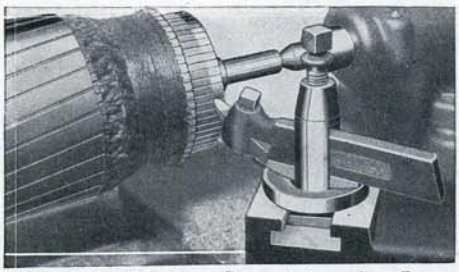


Fig. 25. Armature Commutators Can Be Turned True, Quickly and Accurately

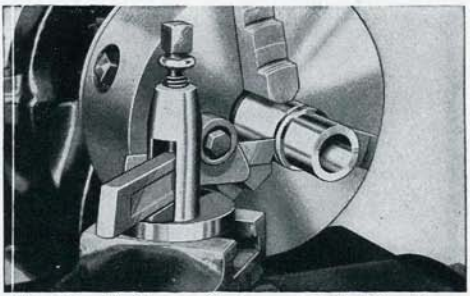


Fig. 26. Making a Replacement Bushing Complete Without Removing from Lathe Chuck

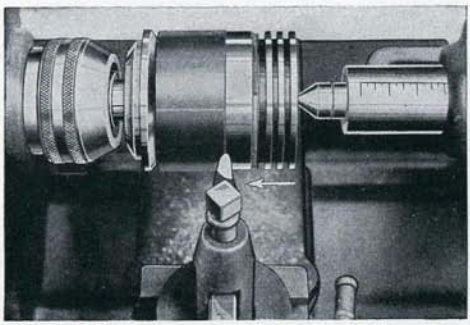


Fig. 27. Turning a Semi-Machined Piston to Finished Diameter in the Lathe

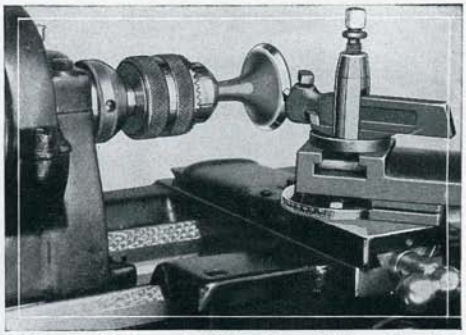


Fig. 28. Valves of All Kinds and Sizes Can Be Refaced at Any Angle

Screw Threads Cut on the 9-inch Junior Lathe

All Standard Screw Threads, National Coarse (U. S.) and National Fine (S. A. E.) from 4 to 40 per inch, right or left, including 11½ pipe thread, as shown on index plate, page 13, can be cut on the 9-inch Junior Lathe with the Change Gears included in the regular lathe equipment. Various pitches of Acme, Whitworth and "V" threads can also be cut. See page 13.

Special and Fine Screw Threads up to 100 per inch can be cut by using special change gears and the Double Gear Bracket illustrated and priced on page 20.

Acme Thread Tap

"V" Thread Tap

Cutting a Screw Thread

Master Thread Gauge

Limit Thread Gauge

Internal Square Thread

Acme Screw Thread

National Coarse Thread

Right Hand Double Screw Square Thread

Internal National Coarse Thread

Special Screw Showing Various Types of Threads

NOTE: National Coarse Threads formerly known as U. S. Standard Threads. National Fine Threads formerly known as S. A. E. Standard Threads.

Transposing Gear Attachment for Cutting Metric Screw Threads

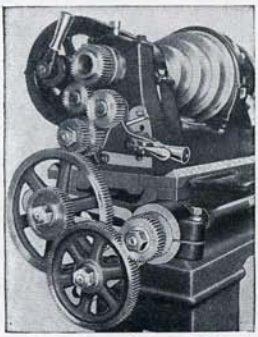


Fig. 29. Attachment Fitted to Lathe

The Metric Transposing Gear Attachment permits the 9-inch Junior Lathe (which is equipped with English Lead Screw) to be used for cutting the following International Standard Metric Threads and French Standard Metric Threads: .5, .75, 1., 1.25, 1.5, 1.75, 2., 2.5, 3., 3.5, 4., 4.5, 5., 5.5, 6., 6.5, 7., 7.5, 8 m/m pitch.

The lathe equipped with Metric Transposing Gears is capable of producing a Metric Thread that is equal in accuracy and precision to any thread cut on a regular Metric Lathe equipped with Metric Lead Screw.

Price of attachment includes bracket, two Transposing Gears, Idler Gear and set of Change Gears, also Index Plate.

Cat. No. 1442, Metric Transposing Gear Attachment. Price $35.00

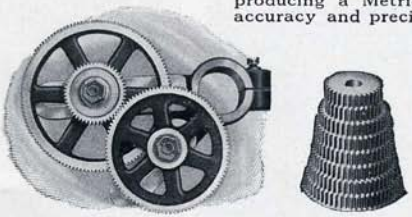


Fig. 30. Transposing Gears and Bracket, Also Additional Change Gears

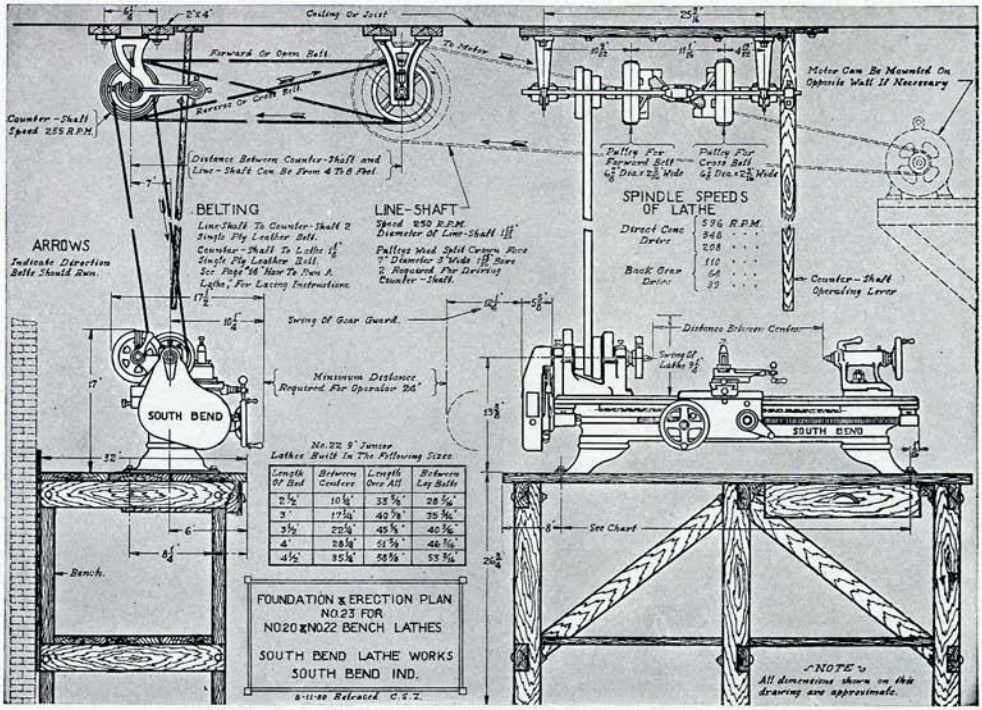


Fig. 31. Erection Plan for 9-inch Junior Bench Lathe

Erection Plan for the 9-inch Junior Bench Lathe
With Overhead Countershaft Drive

The cut shows the erection plan of a 9-inch Junior Bench Lathe with overhead countershaft drive. The principal dimensions of lathe and bench show the space required for the lathe.

The overhead countershaft drive is popular in the shop equipped with lineshaft from which other machines may be operated in addition to the lathe.

Installation Plans and Blue Prints

Countershaft Drive Lathes

The drawing above is a reduced cut of a large blue print 12x18 inches, which we furnish you, showing how to install your lathe, sizes of pulleys to use on your lineshaft and motor, speed of motor, speed of lineshaft, height of bench, etc. One blue print shows the bench type lathe and another shows the floor type lathe.

Motor Drive Lathes

We also furnish you blue prints and instructions showing how to set up and install the various drives shown on pages 6 to 11. These include necessary wiring diagrams for connecting to your electric current, sizes of electric fuses required and instructions on how to anchor your lathe to the floor or bench.

Leather Belting for Lathe

With Countershaft Drive Lathes the belts from lineshaft to countershaft should be 2-inch single ply leather belting. Belt from countershaft to lathe should be 1¼-inch single ply leather belting. We can furnish you a high grade of belting at the following prices and ship it with your lathe. Be sure to specify the exact length.

1¼-inch Single Ply Leather Belting (Countershaft to Lathe).....22c per foot
2-inch Single Ply Leather Belting..34c per foot

How to Determine the Size of a Lathe

The size of a Back-Geared, Screw Cutting Lathe is determined by the swing over bed and the length of bed (see illustration). European tool manufacturers determine the size of a lathe by its radius or center distance. Their 8-inch center lathe is the same as an American 16-inch lathe.

A—The swing over bed.
R—Radius or half the swing.
C—The length of bed.
B—Distance between centers.

When selecting the size of lathe for your work take into consideration the largest diameter and the greatest length of the work. Then select the lathe that has a swing over bed and distance between centers at least 10% greater than the largest work to be handled.

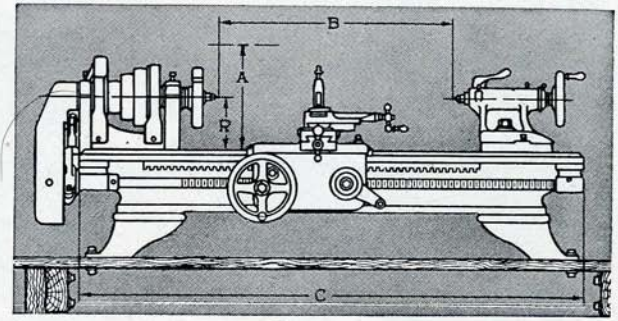


Fig. 32

Practical Attachments for 9-inch Junior Lathes

For All Classes of Machine Work

The Lathe with Attachments. The South Bend Lathe is noted for the variety of practical attachments with which it can be equipped for handling all classes of fine, accurate, precision work in the modern industrial plant and shop. All of the attachments shown below and on page 19 can be fitted to all 9-inch Junior lathes. They can be purchased with the lathe or later—whenever needed.

Hand Wheel Type Draw-in Collet Chuck Attachment

The Hand Wheel Type Draw-in Collet Chuck Attachment illustrated at the right and in Fig. 35, is used extensively in the Tool Room in making small tools and parts where accuracy is essential. It is the most accurate type of chuck made and is the choice of experienced tool makers and machinists for fine, accurate work.

The Draw-in Collet Chuck is used for manufacturing small precision parts such as watches, typewriters, sewing machines, adding machines, radios, etc. The hollow draw bar permits bars and rods being passed through the lathe spindle and held in the chuck for machining. This method of manufacturing small parts is both rapid and economical.

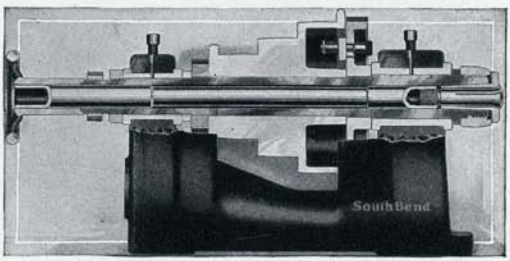


Fig. 33. A cross section of Headstock showing Draw-in Collet Chuck

Operation of Draw-in Collet Chuck

The hollow draw bar extending through the lathe spindle as in the illustration above operates the hardened and ground steel split collet. As the draw bar is rotated the threads in the end of the draw bar cause the collet to tighten or release the work. In the Hand Wheel Type Draw-in Collet Chuck the collet is operated by turning the hand wheel.

Equipment Included in Price of Draw-in Collet Chuck consists of hand wheel and hollow draw bar, nose cap for protecting threads of spindle nose, tapered steel closing sleeve (hardened and ground) and one round split collet of any size desired from $\frac{1}{64}$" up to $\frac{1}{2}$" by 64ths.

Fig. 34. Round Split Collet

Collets are made of tool steel, hardened and tempered. They are ground outside and inside to insure accuracy.

Cat. No. 609, Round Split Collet. Sizes $\frac{1}{64}$" up to $\frac{1}{2}$" capacity.
Price each $2.50

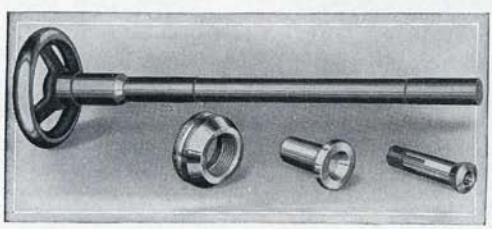


Fig. 35. Hand Wheel Draw-in Collet Chuck Attachment with one Round Split Collet.
Cat. No. 4309. Price.....$33.00

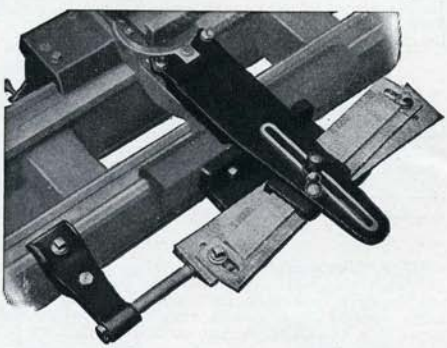


Fig. 36. Graduated Taper Attachment for Turning and Boring Tapers.
Cat. No. 209. Price.....$50.00

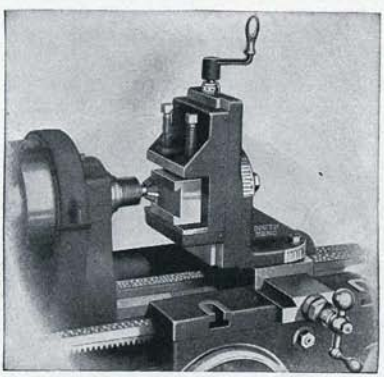


Fig. 37. Milling and Keyway Cutting Attachment. Cat. No. 1. Price...$40.00
For Milling Cutters and Arbors see page 21.

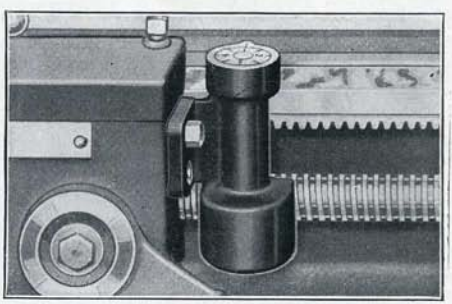


Fig. 38. Thread Indicator for thread chasing. Cat. No. 809. Price.....$8.00

Practical Attachments for 9-inch Junior Lathes
For All Classes of Machine Work

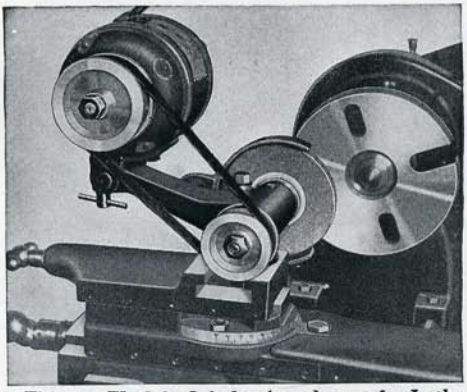


Fig. 39. Electric Grinder Attachment for Lathe.
Cat. No. 15-I. Price.....$75.00

Fig. 40

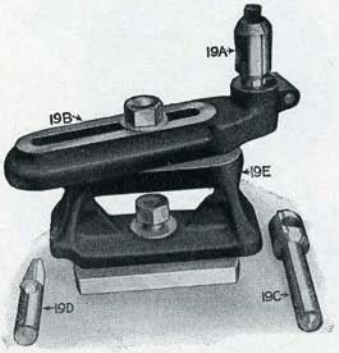


Fig. 41

Fig. 40. Industrial Diamond Dresser.
Cat. No. 18. Price.....$8.00

Fig. 41. Adjustable Holding Fixture for Diamond Dresser and Cutter Stop.
Cat. No. 19. Price.....$8.00

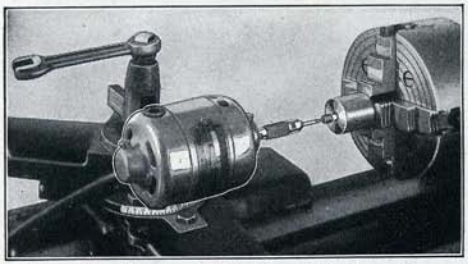


Fig. 42. Internal Grinding Attachment.
Cat. No. 166. Price.....$27.50

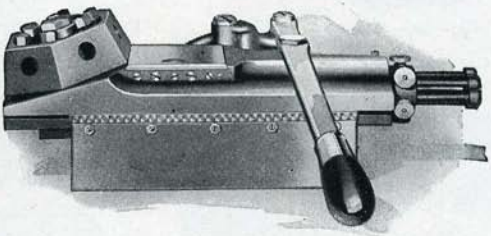


Fig. 43. Semi-Automatic Bed Turret, Hand Lever Type. Cat. No. 1509. Price.....$210.00
Fitting to lathe including special base $15.00 extra.
Finish Boring of Six Turret Holes is $6.00 extra.

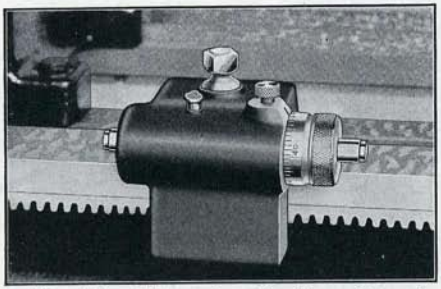


Fig. 44. Micrometer Carriage Stop for Lathe. Cat. No. 971. Price.....$10.00

Low Price ¼ H.P. Non-Reversing Motors

1 Phase, 60 Cycle, A.C., 110 Volts

Fig. 45

Dependable low price motors for operating the 9-inch Junior Lathe. Sold only when ordered with lathe.

¼ H.P. Non-Reversing Motor as illustrated, 1800 R.P.M. Cat. No. 195. Code Word "Gemtr."

Price $12.00
Knife Switch... 1.50
Motor Pulley... 1.25

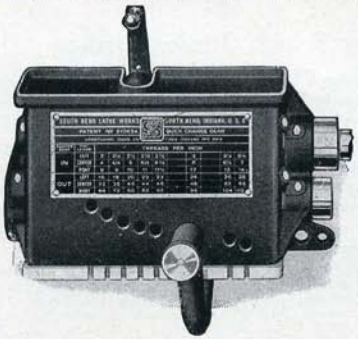


Fig. 46. Quick Change Gear Box for 9-inch Junior Lathes. Provides for cutting screw threads from 2 to 112 per inch without removing a gear. Must be fitted at factory when lathe is purchased.
Cat. No. 171. Price.....$45.00

Fig. 47. Hand Rest for Wood Turning. Cat. No. 1071.
Price $10.50

Fig. 48. Spur Center for Wood Turning.
Cat. No. 732-A.
Price $3.00

Fig. 49. Cup Center for Wood Turning.
Cat. No. 733-A.
Price $3.00

Chucks, Tools and Accessories for 9-inch Junior Lathes

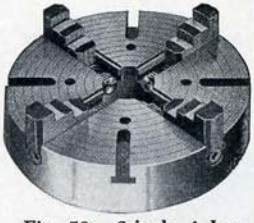


Fig. 50. 6-inch, 4-Jaw Independent Lathe Chuck, will hold 7½-in. Cat. No. 2106. Price.....$28.00

Total: Chuck with Chuck Back fitted to Chuck and Lathe..$35.00

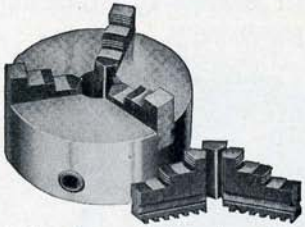


Fig. 51. 6-inch, 3-Jaw Universal Lathe Chuck, will hold 6⅛-in. Cat. No. 2406. Price $35.00

Total: Chuck with Chuck Back fitted to Chuck and Lathe.$42.00

Fig. 52. Chuck Fitting Charges

Chuck Back.....$4.00
Fitting Chuck Back to Chuck and Lathe...$3.00

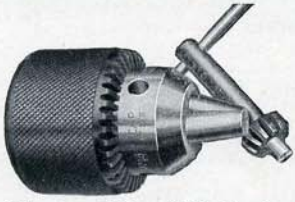


Fig. 53. 3-Jaw Drill Chuck ½-in. Capacity
Cat. No. 1201. Price....$8.50

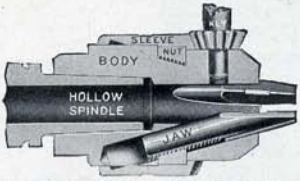


Fig. 54. Hollow Spindle Valve Chuck ½-in. Capacity
Cat. No. 1211. Price....$9.50

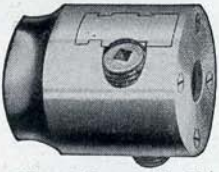


Fig. 55. 2-Jaw Drill Chuck ½-in. Capacity
Cat. No. 1301. Price...$10.00

Fig. 56

Drill Chuck Arbor, made of steel, used for fitting the Drill Chuck to the lathe. Unless Arbor is ordered with Chuck, a semi-finished Arbor fitted to Lathe Spindle only and not machined to fit Drill Chuck, will be furnished.

Solid Arbor for Drill Chucks, Finished, Cat. No. 709. Price...$0.80
Hollow Arbor for Valve Chuck, Finished, Cat. No. 1223. Price.. 3.00

Extra Equipment for 9-inch Junior Lathes

Fig. 57. Double Gear Bracket

For Cutting a Variety of Fine Pitch Screw Threads. Cat. No. 1050. Price..$15.00

Fig. 58 Center Rest

Fig. 59 Large Face Plate

Fig. 60 Follower Rest

Fig. 61 Adjustable Thread Cutting Stop

Cat. No. 125.	Center Rest.	Price, each.....	$10.00
Cat. No. 40.	Large Face Plate.	Price, each.....	10.00
Cat. No. 130.	Follower Rest.	Price, each.....	6.00
Cat. No. 67.	Thread Cutting Stop.	Price, each.....	2.50

No. 122 Chuck and Tool Assortment for 9-inch Junior Lathes

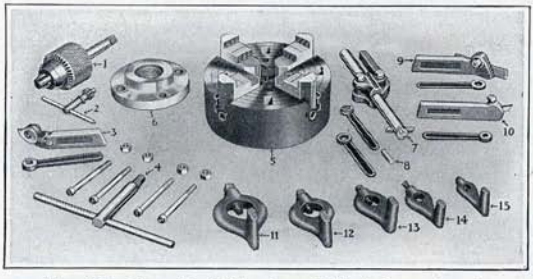


Fig. 62. Practical Chuck and Tool Assortment

1—3-Jaw Drill Chuck with Arbor; 2—Pinion Key for Drill Chuck; 3—Formed Threading Tool; 4—Wrench and Screws for Chuck; 5—Independent Lathe Chuck; 6—Semi-Machined Chuck Back; 7—Style "B" Boring Tool; 8—High Speed Steel Cutter Bit; 9—Right Hand Cutting Off Tool; 10—Straight Shank Turning Tool; 11-15—Malleable Lathe Dogs.

The Chuck and Tool Assortment illustrated at left has the practical sizes of chucks and tools for use on all 9-inch Junior Lathes. We recommend this assortment as the most practical for general shop work. The assortment is itemized so that the purchaser may add to or omit any tool not required for his work.

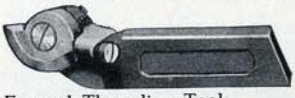
Cat. No.	Description	Price
2106	6-inch, 4-Jaw Independent Lathe Chuck	$28.00
	Fitting Chuck to Lathe including Chuck Back	7.00
1201	3-Jaw Drill Chuck, ½-inch capacity....	8.50
709	Drill Chuck Arbor, fitted to Chuck.....	.80
849-S	Patent Turning Tool, straight shank.....	2.40
865	Patent Threading Tool.....	3.75
429	Patent Boring Tool, Style B.....	4.40
881-R	Patent Cutting Off Tool (Right Hand)...	2.60
Set (5)	Malleable Lathe Dogs, ½", ¾", 1", 1¼", 1½"	4.05

Cat. No. 122. (Code Word Balor). Price...$61.50

Tools and Accessories for 9-inch Junior Lathes

Straight Shank Turning Tool.
Cat. No. 849-S. Price....$2.40

Left-Hand Off-Set Turning Tool.
Cat. No. 849-L. Price...$2.40
Right-Hand Off-Set Turning Tool.
Cat. No. 849-R. Price....$2.40



Formed Threading Tool.
Cat. No. 865. Price.....$3.75

Right-Hand Cutting-Off Tool.
Cat. No. 881-R. Price....$2.60
Left-Hand Cutting-Off Tool.
Cat. No. 881-L. Price....$2.60
Straight Cutting-Off Tool.
Cat. No. 881-S. Price....$2.60

Boring Tool, Style "B."

Two wrenches, 2 cutter bits included.
Cat. No. 429. Price.....$4.40

Knurling Tool.
Cat. No. 891. Price.....$5.10

Hand Forged Lathe Tools

Carbon and High Speed Steel

1 2 3 4 5 6 7 8 9 10 11 12

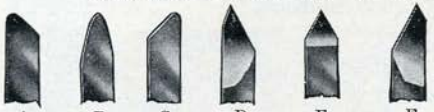
1. Left-Hand Side Tool
2. Right-Hand Side Tool
3. Right-Hand Bent Tool
4. Right-Hand Diamond Point
5. Left-Hand Diamond Point
6. Round Nose Tool
7. Cutting-Off Tool
8. Threading Tool
9. Bent Threading Tool
10. Roughing Tool
11. Boring Tool
12. Inside Threading Tool

Properly forged to shape, tempered and ground. Ready for use.

Carbon Steel Lathe Tools.
Cat. No. 438-C. Price, each..$0.60
Cat. No. 270-C. Set of 12... 7.00

High Speed Steel Lathe Tools.
Cat. No. 438-HS. Price, each.$2.00
Cat. No. 270-HS. Set of 12...20.00

High Speed Cutter Bits for Tool Holders



A Adhlp | B Aeimq | C Afjnr | D Agkos | E Ahlpt | F Aimqu

Made of high speed steel, hardened, ground to shape and ready for use. Order by code word, shown beneath each bit, not by letter.

A—Left Hand Turning Tool. B—Round Nose Turning Tool.
C—Right-Hand Turning Tool. D—Left-Hand Side Tool.
E—Threading Tool. F—Right-Hand Side Tool.
Cat. No. 1304. Price of Cutter Bits, size ¼"x¼"x2", each.$0.25
Cat. No. 1110. Set of six (Code Word "Asund"). Price... 1.50

High Speed Steel Cutter Bits

Hardened only—not ground to shape—require grinding before being ready for use.

Cat. No. 1419. Size, ¼"x¼"x2". Price, each.....$0.15

Plain Milling Cutters

Made of High Speed Steel, properly hardened and ground. Will cut on face only. Prices of Side Cutters, Woodruff Cutters and Spiral End Mills on request.

Cat. No.	Width of Face	Diameter of Cutter	Diameter of Hole	Price Each
849-A	3/16 in.	2½ in.	1 in.	$3.25
849-B	¼ in.	2½ in.	1 in.	3.50
849-C	5/16 in.	2½ in.	1 in.	3.75
849-D	⅜ in.	2½ in.	1 in.	4.00
849-F	½ in.	2½ in.	1 in.	4.50
849-I	⅞ in.	2½ in.	1 in.	6 00
849-K	1 in.	2½ in.	1 in.	6.50

Standard Lathe Dogs

Capacity of Lathe Dog	Standard Lathe Dogs		Safety Lathe Dogs	
	Cat. No.	Price Each	Cat. No.	Price Each
⅜ in.	1-M	$0.50	1-MH	$0.60
½ in.	2-M	.60	2-MH	.70
¾ in.	4-M	.70	4-MH	.85
1 in.	6-M	.80	6-MH	1.00
1¼ in.	8-M	.90	8-MH	1.10
1½ in.	10-M	1.05	10-MH	1.25
1¾ in.	11-M	1.15	11-MH	1.40
2 in.	12-M	1.30	12-MH	1.55

Center Drill & Countersink

Cat. No. 898-B. Price, ea..$0.30

Lathe Centers

Head Spindle Center of tool steel, ground to No. 2 Morse Taper, not hardened. **Cat No. 725-A.**
Price, each.....$2.00

Tail Spindle Center of tool steel, hardened and ground to No. 2 Morse Taper. **Cat. No. 726-A.**
Price, each.....$2.25

Arbor for Milling Cutters

Holds Cutters with standard 1-in. hole. Furnished with 3 spacing collars and hardened nut.
Cat. No. 109M. Price.....$9.00

Hard Maple Benches for Bench Lathes

Hard Maple Bench with One Drawer

Hard Maple Bench for lathes with 2' to 3½' beds.
Cat. No. 128-X. Price.....$45.00
Hard Maple Bench for lathes with 4' to 5' beds.
Cat. No. 128-A. Price.....$50.00

Hard Maple Bench with Four Drawers

Hard Maple Bench for lathes with 2' to 3½' beds.
Cat. No. 140-X. Price.....$50.00
Hard Maple Bench for lathes with 4' to 5' beds.
Cat. No. 140-A. Price.....$59.00

Prices and Specifications of
Series "O" South Bend Back-Geared, Screw Cutting Lathes

Quick Change and Standard Change Gear Lathes—9-inch to 18-inch Swing
Countershaft and Motor Drive Types

Lathe Equipment Included in Price of Lathe

The lathe equipment included in the price of each lathe listed below consists of: Double Friction Countershaft (not furnished with motor driven lathes), Large and Small Face Plates, Tool Post Complete, Thread Cutting Stop, Two Lathe Centers, Spindle Sleeve, Center Rest, Follower Rest, Wrenches, and Change Gears with Standard Change Gear Lathe. 9" and 11" Junior Lathe equipments do not include Large Face Plate, Thread Cutting Stop, Follower Rest and Center Rest.

Electrical Equipment Included in Price of Lathe

The electrical equipment included in the price of each size Silent Chain Motor Driven Lathe, Quick Change Gear and Standard Change Gear Types, listed below consists of: a 3 phase 60 cycle, A.C. Reversing Motor, 1200 R.P.M., of required horsepower, (Westinghouse, General Electric or equal make), Reversing Switch (Drum Type), Wiring between motor and switch, Flexible Metal Conduit, Wiring Diagram and a Leather Belt.

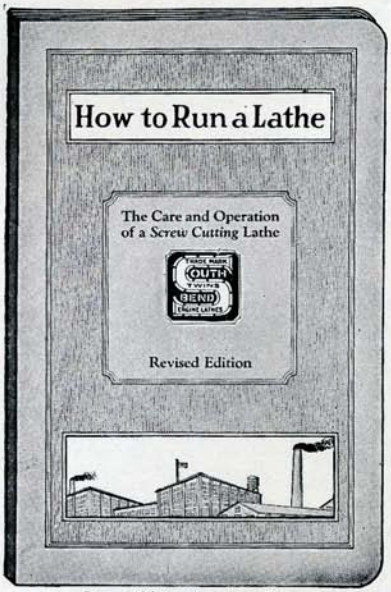
Net Factory Prices of Lathes F.O.B. cars South Bend, Ind.—Skidded and Crated for Domestic Shipment

Swing Over Bed, Inches	Length of Bed, Feet	Distance Between Centers, Inches	Power Required H.P.	COUNTERSHAFT DRIVE			SILENT CHAIN MOTOR DRIVE		
				Weight Crated, Pounds	Quick Change Gear Lathes	Standard Change Gear Lathes	Weight Crated, Pounds	Quick Change Gear Lathes	Standard Change Gear Lathes
Junior South Bend Bench Lathes									
9-inch Junior South Bend Bench Lathe with 1 Phase, 60 Cycle, A.C. Reversing Motor, 1200 R.P.M.									
9¼	2	5⅜	¼	325	NOT MADE	$150.00	545	NOT MADE	$271.50
9¼	2½	9⅜	¼	350		160.00	565		281.50
9¼	3	16⅜	¼	375		169.00	585		290.50
9¼	3½	21⅜	¼	400		175.00	605		296.50
9¼	4	27⅜	¼	425		182.00	625		303.50
9¼	4½	34⅜	¼	450		190.00	645		311.50
11-inch Junior South Bend Bench Lathe*									
11¼	3	12	½	430	NOT MADE	$215.00	625	NOT MADE	$356.50
11¼	3½	18	½	450		222.00	645		363.50
11¼	4	24	½	470		229.00	665		370.50
11¼	5	36	½	510		245.00	705		386.50
11¼	5½	42	½	530		254.00	725		395.50
Quick Change Gear and Standard Change Gear Lathes									
9-inch South Bend Lathe, Floor Leg Type, with 1 Phase, 60 Cycle, A.C. Reversing Motor, 1200 R.P.M.									
9¼	2½	9⅜	¼	470	$288.00	$243.00	670	$407.00	$362.00
9¼	3	16⅜	¼	490	294.00	249.00	690	413.00	368.00
9¼	3½	21⅜	¼	510	300.00	255.00	710	419.00	374.00
9¼	4	27⅜	¼	530	307.00	262.00	730	426.00	381.00
9¼	4½	34⅜	¼	550	315.00	270.00	750	434.00	389.00
11-inch New Model South Bend Lathe (Floor Legs)*									
11¼	3	12	½	675	$345.00	$295.00	870	$484.00	$434.00
11¼	3½	18	½	700	352.00	302.00	895	491.00	441.00
11¼	4	24	½	725	359.00	309.00	920	498.00	448.00
11¼	5	36	½	805	375.00	325.00	1035	514.00	464.00
11¼	5½	42	½	845	384.00	334.00	1060	523.00	473.00
13-inch New Model South Bend Lathe (Floor Legs)*									
13¼	4	16	¾	1060	$428.00	$368.00	1460	$587.00	$527.00
13¼	5	28	¾	1110	443.00	383.00	1510	602.00	542.00
13¼	6	40	¾	1160	458.00	398.00	1560	617.00	557.00
13¼	7	52	¾	1210	475.00	415.00	1610	634.00	574.00
13¼	8	64	¾	1260	494.00	434.00	1685	653.00	593.00
15-inch New Model South Bend Lathe (Floor Legs)*									
15¼	5	24½	1	1475	$525.00	$450.00	1925	$702.00	$627.00
15¼	6	36½	1	1550	543.00	468.00	2025	720.00	645.00
15¼	7	48½	1	1625	561.00	486.00	2075	738.00	663.00
15¼	8	60½	1	1735	581.00	506.00	2150	758.00	683.00
15¼	10	84½	1	1900	625.00	550.00	2300	802.00	727.00
16-inch New Model South Bend Lathe (Floor Legs)*									
16¼	6	34	1	1875	$598.00	$518.00	2310	$777.00	$697.00
16¼	7	46	1	1955	618.00	538.00	2390	797.00	717.00
16¼	8	58	1	2035	638.00	558.00	2470	817.00	737.00
16¼	10	82	1	2195	682.00	602.00	2630	861.00	781.00
16¼	12	106	1	2355	745.00	665.00	2890	924.00	844.00
18-inch New Model South Bend Lathe (Floor Legs)*									
18¼	7	41½	2	2540	$738.00	$648.00	3140	$ 972.00	$ 882.00
18¼	8	53½	2	2640	763.00	673.00	3240	997.00	907.00
18¼	10	77½	2	2840	817.00	727.00	3440	1051.00	961.00
18¼	12	101½	2	3140	895.00	805.00	3740	1129.00	1039.00

*Prices of Silent Chain Motor Driven Lathes with 1 Phase, 60 Cycle, A.C. Motor or with D.C. Motor will be supplied on request. The above Motor Driven Lathes can be had with multiple "V" belt drive in lieu of Silent Chain Drive if desired and at no additional cost.

"How to Run a Lathe," a Valuable Reference Book

A Copy of This Book Is Included with Each 9-inch Junior New Model Lathe

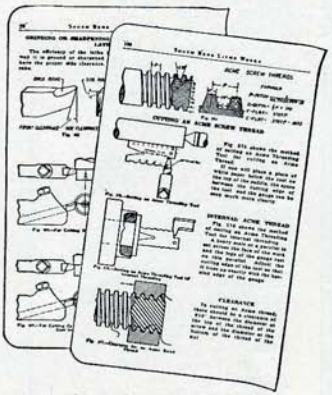


Size 5¼"x8"—160 Pages

Competent authorities say that this is one of the most complete books written on the subject of the back-geared, screw cutting lathe. It contains one hundred and sixty pages and more than three hundred illustrations, all devoted to the erection, installation and operation of the screw cutting lathe.

Four hundred different types of lathe jobs in modern machine shop practice are illustrated and described in this book. More than one million of these books have been published in the last twenty-three years. One of these books will be found in the equipment of each South Bend Lathe.

Price of additional copies, each, 25 cents. Mailed postpaid anywhere in the world. Coin or stamps of any country accepted.



Two Sample Pages

PARTIAL LIST OF CONTENTS

How to Set Up the Lathe
Care of the Lathe
How to Lay Out a Shop
How to Level a Lathe
How to Hang a Countershaft
Calculating Size and Speed of Pulleys
How to Lace a Belt
Grinding and Setting Lathe Tools
Cutting Screw Threads
Turning and Boring Tapers
Grinding and Milling Work
Chucks and Face Plates
Cutting Speeds of Metals
Cutting Feeds for Metals
Operating Automatic Feeds
Reading Micrometer Calipers
Using Outside and Inside Calipers
Locating Center Holes
Aligning Lathe Centers
Drilling, Boring, Reaming, Tapping
Use of Compound Rest
Table of Decimal Equivalents
Table of Metric Measures
300 Other Shop Kinks

Easy Payment Plan Booklet No. 91-P

Mailed Anywhere in the United States and Canada, Postpaid, No Charge

Any South Bend Lathe can be purchased on the Easy Payment Plan by making a down payment of 20% of the total order, the balance to be paid in twelve equal monthly payments beginning one month after shipment is made. Simply select the equipment, at the prices shown in this catalog and send in the order. Shipment will be made immediately on receipt of down payment.

Example of Easy Payment Order

1—No. 22-YB, 9-inch x 3-foot Junior New Model South Bend Bench Lathe, Countershaft Drive (complete with Countershaft and Equipment as illustrated and described on page 4 of this catalog).

Price F.O.B. South Bend, Indiana.....$169.00
Down Payment (20% of $169.00).....$ 33.80
Balance ($169.00 less $33.80)..... 135.20
Monthly Payments ($135.20 divided by 12).....$11.27
Monthly Handling Charge (5% of $11.27)..... .56

Each Monthly Payment Including Handling Charge.$11.83

Easy Payment Terms on Popular Sizes and Types 9-inch Junior Lathe

We list herewith a popular size in each type of Junior Lathe so as to give an idea of the Selling Price, Down Payment and Monthly Payments on each lathe. If Chucks, Tools and Accessories are wanted, simply add to the price of lathe as shown in the example above.

Size	Type of Lathe	Shown on Page	Net Factory Price	Down Payment 20%	Monthly Payments Including Handling Charge
9" x 3'	Bench Type, Countershaft Drive	4	$169.00	$33.80	$11.83
9" x 3'	Floor Legs, Countershaft Drive	5	179.00	35.80	12.53
9" x 3'	Silent Chain Motor Drive,* Floor Legs	6	298.00	59.60	20.86
9" x 3'	Silent Chain Motor Drive,** Floor Legs	7	278.50	55.70	19.50
9" x 3'	Silent Chain Motor Drive,* Bench Legs	8	290.50	58.10	20.34
9" x 3'	Silent Chain Motor Drive,** Bench Legs	8	271.00	54.20	18 97
9" x 3'	Self-Contained "V" Belt Motor Drive*	9	266.00	53.20	18.62
9" x 3'	Self-Contained "V" Belt Motor Drive**	9	246.50	49.30	17.26
9" x 3'	Simplex Motor Driven Bench Lathe**	10	191.00	38.20	13.37
9" x 3'	Simplex "V" Belt Motor Driven Lathe,** Floor Legs	11	198.50	39.70	13.90

*With Reversing Motor and Reversing Switch. **With Non-Reversing Motor and Knife Switch.

A Partial List of U.S.A. Industries Using South Bend Lathes

Names taken from a list of more than 50,000 users.

A printed list of recent purchasers mailed postpaid on request.

National Cash Register Co.
Eastman Kodak Co.
Standard Oil Co.
Elgin National Watch Co.
Frigidaire Corp.
New York Central R. R.
Pennsylvania R. R.
Union Pacific R. R.
Canadian Pacific R. R.
Illinois Central R. R.
Northern Pacific R. R.
Southern Pacific R. R.
Great Northern Railway
Nicholson File Co.
Kohler Co. of Kohler, Wisconsin
Federal Bearings Co.
Defiance Automatic Screw Co.
Link Belt Co.
Endicott-Johnson Corp.
Buescher Band Instrument Company
Cincinnati Ball Crank Co.
Air Reduction Sales Co.
Eclipse Machine Co.
American Can Co.
Formica Insulation Co.
Oliver Farm Equip. Co.
John Deere Co.
Advance Rumely Co.
Nichols & Shepard Co.
Amoskeag Textile Mills
Chenango Silk Co.
Southern Worsted Mills
Olympic Steamship Co.
Black Diamond Steamship Co.
Munson Steamship Lines
Panama Mail Steamship Co.
Pittsburgh Steamship Co.
American Hawaiian S. S. Co.
Massachusetts Institute of Technology
Purdue University
Carnegie Institute of Technology
Yale University
Western Eletcric Co.
The Sparks-Withington Co.

Atwater Kent Mfg. Co.
Youngstown Sheet & Tube Co.
Walter Bates Steel Corp.
Westinghouse Lamp Co.
Nilco Lamp Works, Inc.
Yale & Towne Mfg. Co.
Corbin Cabinet Lock Co.

Guarantee

WE GUARANTEE every South Bend Lathe to be accurate and mechanically perfect; to give you entire satisfaction and the service you have a right to expect.

We will replace, free of charge, anywhere in the United States, any part that proves defective, either in material or workmanship, within one year from the date of purchase.

We will ship a South Bend Lathe anywhere in the United States for a thirty day trial in your own shop. If you are dissatisfied in any way, within that time, ship it back to us; we will pay the return freight charges and refund your money.

Kelvinator Corp.
Auto Strop Safety Razor Co.
The Hoover Sweeper Co.
Internat'l Harvester Co.
Westinghouse Electric Mfg. Co.
General Electric Co.
Allis-Chalmers Mfg. Co.
Radio Corp. of America
Bethlehem Steel Corp.
U. S. Steel Corp.
Carnegie Steel Co.
United Shoe Machinery Corp.

Fibroc Insulation Co.
Graybar Electric Co.
Studebaker Corporation
Ford Motor Co.
Chevrolet Motor Co.
Packard Motor Car Co.
Lincoln Motor Co.
Chrysler Motor Corp.
Buick Motor Co.
Olds Motor Works
Pierce Arrow Motor Co.
Reo Motor Car Co.
Rolls-Royce of America
Fisher Body Corp.
Weaver Manufact'g Co.
Houde Engineering Corp.
Black & Decker Mfg. Co.
Bendix Brake Co.
McQuay-Norris Mfg. Co
Victor Adding Mach. Co.
Carborundum Co.
Hercules Powder Co.
U. S. Naval Vessels
U. S. Navy Air Service
U. S. Shipping Board
U. S. Engineers
U. S. Signal Corps
U. S. Marine Corps
West Point Academy
Smithsonian Institution
U. S. Aviation Corps
U. S. Dept of Interior
Pratt Whitney Aircraft Company
Stearman Aircraft Co.
Stout Airplane Co.
Universal Air Lines
Fokker Co.
Pan American Airways
Gustafson-Scott Mfg. Co.
Covel-Hanchett Co.
Cleveland Planer Co.
Watts Bros. Tool Works
Doehler Die Casting Co., Inc.
Liberty Tool & Die Corp.
Keeley Tool & Die Co.
Detroit Die Casting Co.
Superior Tool & Die Co.
Parker Fountain Pen Co.
American Can Co.
Square D Company

Manufacturers of South Bend Lathes for 25 Years

Builders of 96 Sizes and Types—9-inch to 18-inch inclusive

The South Bend Lathe Works was established at South Bend, Indiana, in 1906 and has operated continuously, under the same management, for more than 25 years, building only South Bend Back-Geared, Screw Cutting, Precision Lathes. There are now 50,000 South Bend Lathes in use in the U. S. and 85 other countries.

Lathe Builders for Twenty-five Years

50,000 Lathes in use in the U. S. and 85 other Countries

Factory Where South Bend Lathes Are Made

South Bend Lathe Works, South Bend, Ind., U. S. A.