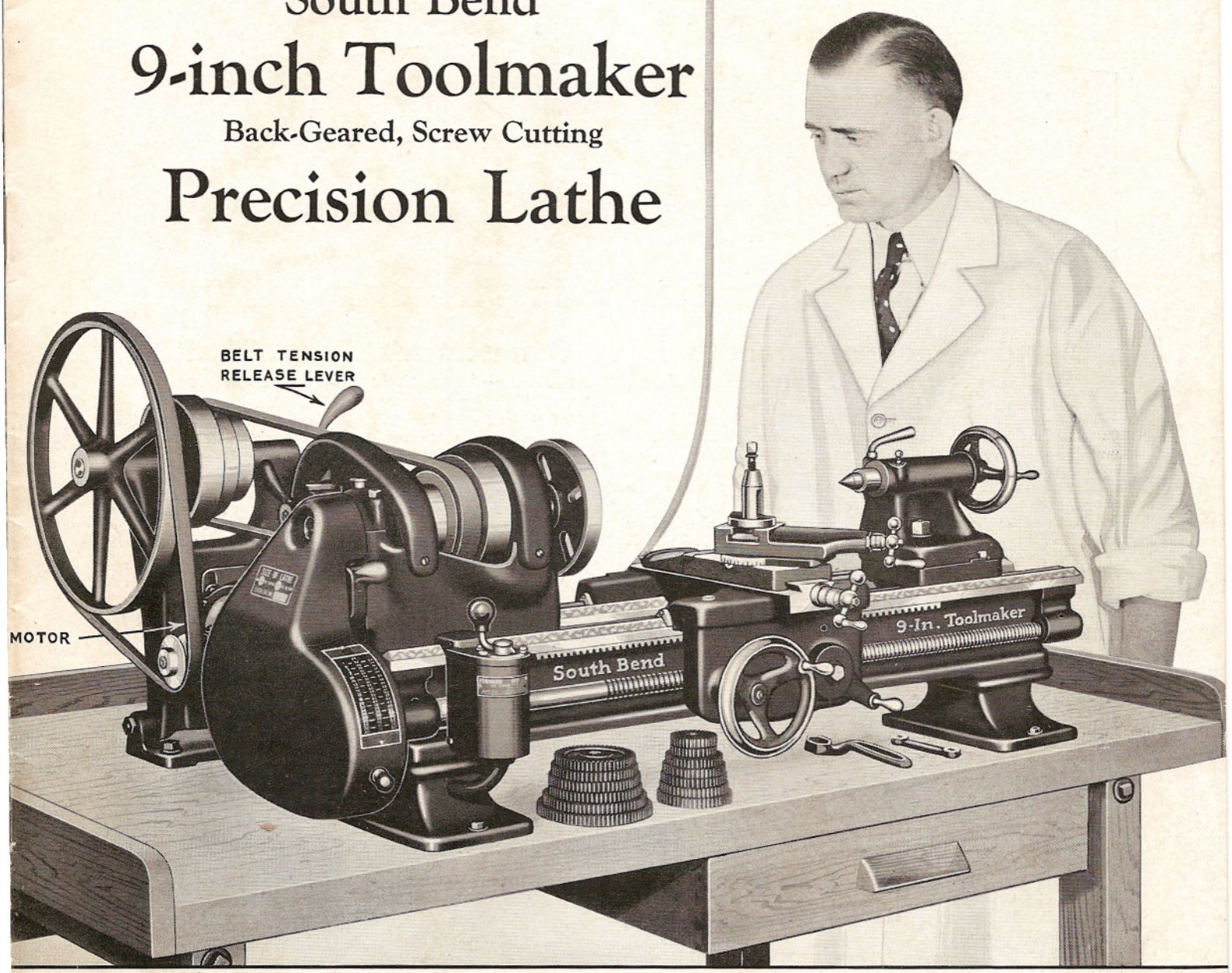
October, 1934

NRA CODE MACHINE TOOL INDUSTRY 1934

South Bend
9-inch Toolmaker
Back-Geared, Screw Cutting
Precision Lathe

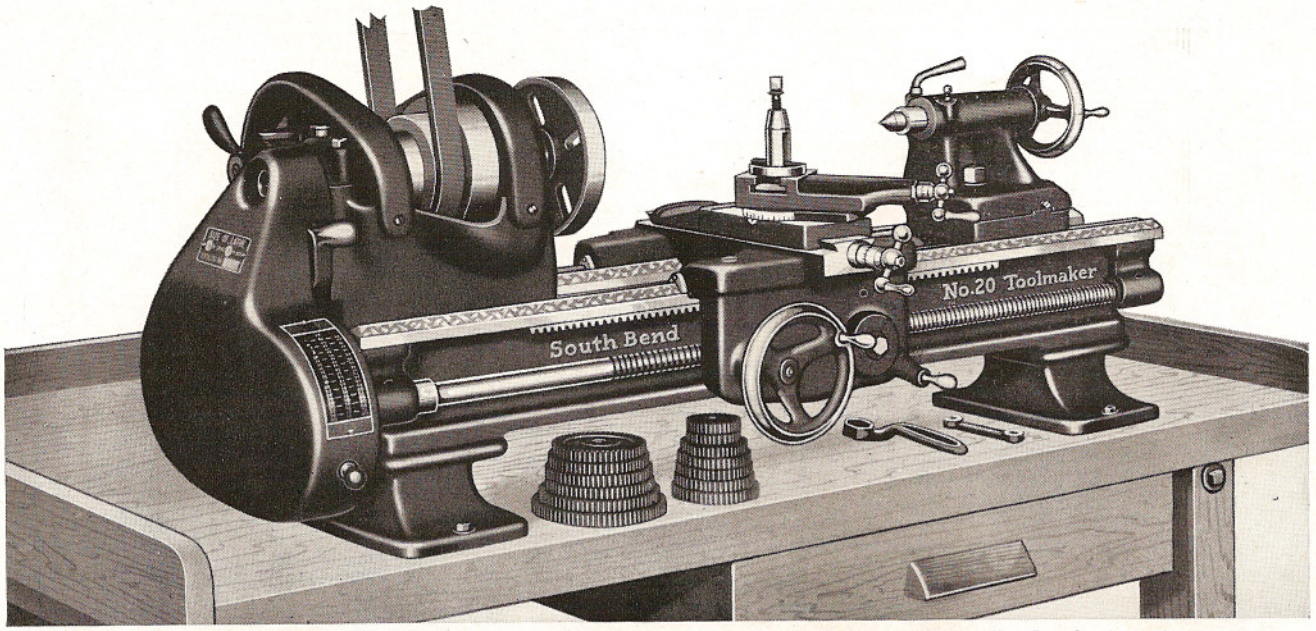


Bulletin No. 9-K

South Bend Lathe Works

425 East Madison Street - - - South Bend, Indiana, U. S. A.

Established 1906 - Lathe Builders for Twenty-Seven Years



9" x 3' Toolmaker Bench Lathe with Double Friction Countershaft and Compound Rest, but less Bench..$140.00

9-inch Toolmaker South Bend Countershaft Driven Lathe

A Back-Geared, Screw Cutting Precision Bench Lathe—Automatic Geared Screw Feed

The 9-inch Toolmaker South Bend Back-Geared, Screw-Cutting Lathe is a precision tool for machining all kinds of metal, wood, composition, fibre, etc., and has the power to reduce the diameter of a steel shaft ¼" in one cut. It is an ideal tool for the experimental shop, repair shop and home shop where a small precision lathe is required.

Mechanical Features and Specifications described below apply to all types of Toolmaker Lathes. See pages 7, 8 and 9.

Design. The 9-inch Toolmaker Lathe is similar in design to our 9-inch Standard and Quick Change Gear Lathes and has the same precision-accuracy. All V-ways and dovetails are hand-scraped and all gears are machine-cut and tested.

Short Bed Lengths are used with draw-in collet chuck and other attachments for manufacturing small parts in quantities. For the machine shop and general repair shop, the 3-foot and 3½-foot bed lengths are recommended.

Back-Geared Headstock is hand-scraped to lathe bed; has 3-step cone pulley for 1-inch belt; six spindle speeds 39 to 596 R.P.M., three direct and three back geared; reverse for threads and feeds and wrenchless bull gear lock.

Headstock Spindle is made of high carbon steel, finish ground, and has a ¾" hole its entire length. Spindle nose 1½" diam., 8 threads. Has No. 2 Morse Taper center. Collet capacity 1/64" to ½". For hardened and ground alloy steel headstock spindle instead of the regular headstock spindle add $7.00 to price of lathe.

Spindle Bearings are nickel-iron alloy cast integral with headstock and have felt wick lubrication. Similar bearings have been known to give 20 years of service.

Tailstock is hand-scraped to bed; has set-over for taper turning; spindle is accurately ground to fit barrel and has No. 2 Morse Taper hardened center which is self-ejecting.

Carriage has wide deep bridge; is accurately hand-scraped to bed; has lock for facing and cutting off work, and felt wipers for V-ways.

Precision Lead Screw. ¾" diameter 8 Acme standard threads per inch; guaranteed to meet the most exacting requirements for cutting screw threads, making taps, dies, precision thread gauges, etc.

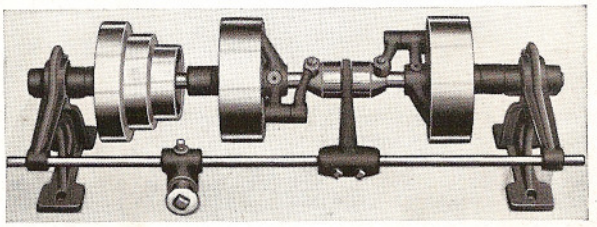
Compound Rest is graduated 180°; swivels to any angle, and has angular travel of 1⅞". Compound rest screw and cross feed screw have micrometer collars graduated in thousandths. Takes tool holder shank ⅜" x 13/16" for ¼" square cutter bit.

Lathe Bed is gray iron with 50% steel mixture. Three V-ways and one flat way accurately planed and hand-scraped, align headstock, carriage and tailstock.

Screw Thread Cutting. Change gears are supplied for cutting screw threads from 4 to 40 per inch, right or left-hand, including 11½ pipe thread. Change gears also provide for feed changes from fine to coarse. Special fine thread attachment for cutting screw threads from 44 to 80 per inch, can be supplied at $5.00 extra, when ordered with lathe. See page 10.

The Double Friction Countershaft has two friction clutch pulleys. This permits the lathe to be operated both forward and in reverse. Countershaft speed 255 R.P.M.

Regular Equipment included in price of lathe consists of: Double friction countershaft; change gears for screw threads and feeds; graduated compound rest; face plate; tool post; two 60° lathe centers; spindle sleeve; wrenches; installation plan and book, "How to Run a Lathe."



Double Friction Countershaft.

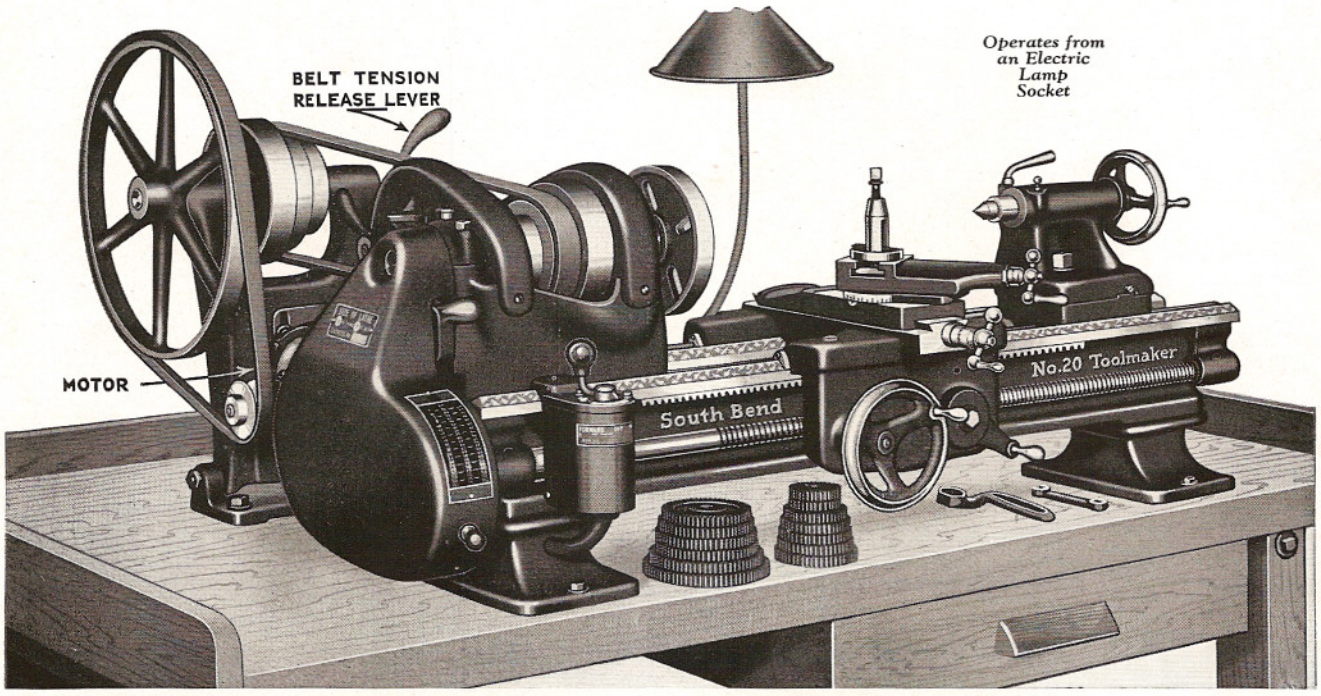
SCREW THREAD CUTTING CHART

Threads per inch	Stud Gear	Screw Gear
4	64	32
5	64	40
6	64	48
7	64	56
8	32	32
9	64	72
10	32	40
11	32	44
11½	32	46
12	32	48
13	32	52
14	32	56
16	32	64
18	32	72
20	32	80
22	16	44
24	16	48
26	16	52
28	16	56
30	16	60
32	16	64
36	16	72
40	16	80

Chart for Threads Attached to Each 9-inch Toolmaker Lathe

Prices of 9-inch Toolmaker South Bend Bench Lathes with Regular Equipment

Swing Over Bed Inches	Length of Bed Feet	Distance Between Centers Inches	Hole Through Spindle Inches	Swing Over Carriage Inches	Power Required H.P.	Approx. Weight Crated Pounds	Without Countershaft			With Double Friction Countershaft		
							Cat No.	Code Word	Factory Price	Cat. No.	Code Word	Factory Price
9¼	3	18	¾	5¾	¼	325	**20-YB**	Hefna	**$128.00**	**20-YBW**	Hegos	**$140.00**
9¼	3½	24	¾	5¾	¼	345	**20-ZB**	Hefor	**138.00**	**20-ZBW**	Hegpa	**150.00**
9¼	4	30	¾	5¾	¼	365	**20-AB**	Hefty	**148.00**	**20-ABW**	Hegso	**160.00**



9″ x 3′ Toolmaker Horizontal Motor Driven Precision Bench Lathe, with Motor Drive Equipment, but less bench.....$158.00

9-inch Toolmaker South Bend Horizontal Motor Driven Lathe

A Back-Geared, Screw Cutting Precision Bench Lathe—Automatic Geared Screw Feed

Lathe is Equipped With Adjustable Belt Tension Countershaft

The 9-inch "Toolmaker" South Bend Horizontal Motor Driven Lathe illustrated above is the same as the 9-inch Toolmaker Bench Lathe shown on the opposite page and has the same mechanical features and specifications. The only difference is that this lathe has the improved Horizontal Motor Drive instead of Countershaft Drive. For list of specifications applying to this lathe see pages 2 and 9.

Improved Horizontal V-Belt Motor Drive, illustrated below, is a simple, powerful and efficient drive for the bench lathe. The motor drive unit is mounted on the bench, back of the lathe. A V-belt transmits the power from the motor to the drive pulley and a flat leather belt is used between the cone pulleys on the drive unit and headstock spindle cone.

Adjustable Belt Tension Countershaft has a belt tension adjustment for both the cone pulley belt and motor belt, also a belt tension release for the cone pulley belt. The motor and drive pulley are attached to the countershaft frame. This arrangement requires a minimum amount of bench space.

Belt Release Lever (B Fig. 2) permits the countershaft to tilt forward on pivot (A Fig. 2) which relieves the cone pulley belt tension and permits easy shifting of the belt from one step of the cone pulley to another. A separate adjustment is provided for adjusting the belt tension for any desired pulling power and for taking up the stretch in the belt.

The ¼ H.P. Reversing Motor has independent tension adjustment for the V-belt (C Fig. 2). The motor may be connected to an electric lamp socket.

Drum Reversing Switch permits starting, stopping or reversing of the motor. Switch is conveniently located on front of lathe by means of a bracket, as shown above.

Screw Thread Cutting. Change gears are supplied for cutting standard screw threads from 4 to 40 per inch, right or left-hand, including 11½ pipe thread. Change gears also provide for various feed changes from fine to coarse. Special fine thread attachment for cutting standard screw threads from 44 to 80 per inch, can be supplied at $5.00 extra when ordered with the lathe. See page 10.

Regular Equipment included in price of lathe consists of: Graduated compound rest; change gears for screw threads and feeds; face plate; tool post; two 60° lathe centers; spindle sleeve; wrenches; installation plan and "How to Run a Lathe."

Motor, Switch, Belting, etc., (itemized in the price tabulation below) may be purchased with lathe, or separately.

SCREW THREAD CUTTING CHART

Threads per inch	Stud Gear	Screw Gear
4	64	32
5	64	40
6	64	48
7	64	56
8	32	32
9	64	72
10	32	40
11	32	44
11½	32	46
12	32	48
13	32	52
14	32	56
16	32	64
18	32	72
20	32	80
22	16	44
24	16	48
26	16	52
28	16	56
30	16	60
32	16	64
36	16	72
40	16	80

Chart for Threads

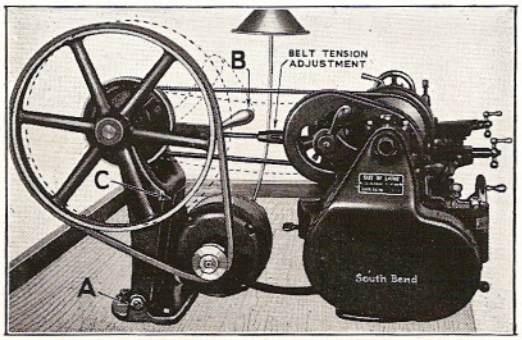
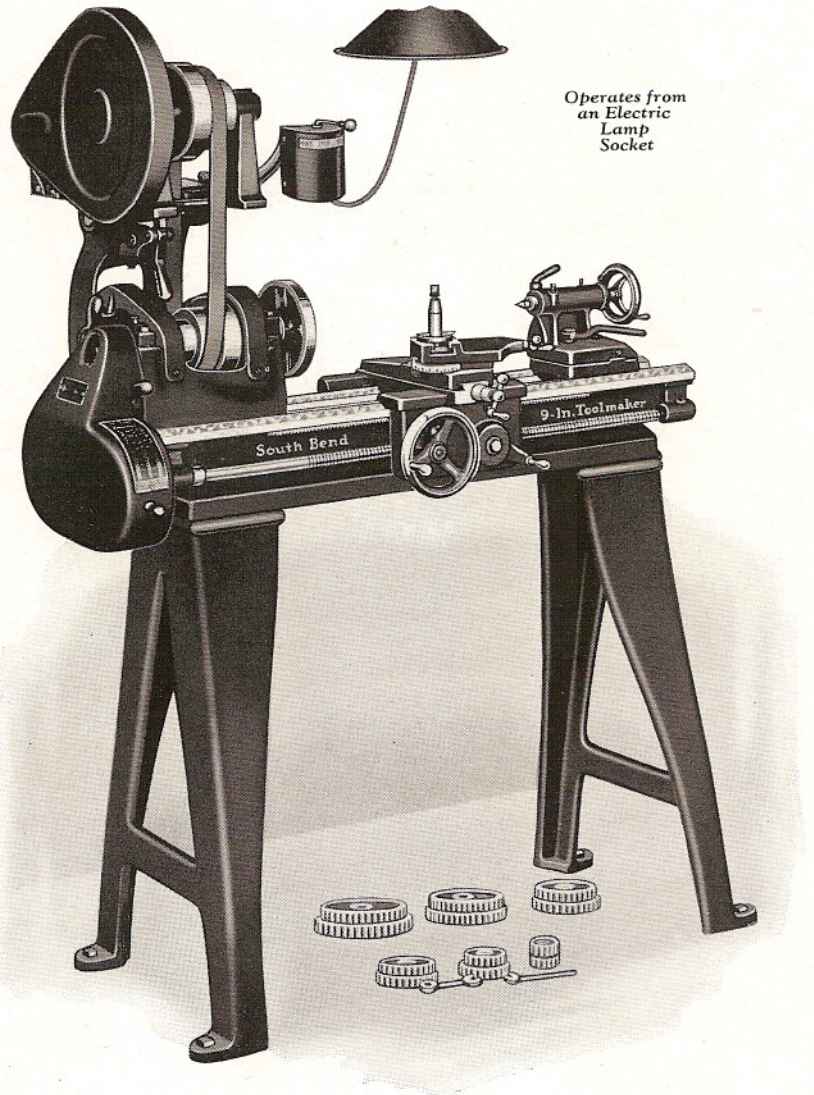


Fig. 2. Improved Adjustable Belt Tension Countershaft for Horizontal Motor Driven Lathes.

Prices of 9-inch Toolmaker Horizontal Motor Driven Bench Lathe

9-inch Toolmaker South Bend Bench Lathe with Graduated Compound Rest, Regular Equipment, but not Bench	9″x3′ 420-YN Dobke	9″x3 ½′ 420-ZN Dobmo	9″x4′ 420-AN Docak
	$128.00	$138.00	$148.00
Price of Motor Drive Equipment			
Adjustable Belt Tension Countershaft	9.00	9.00	9.00
¼ H.P. Start-and-Stop Type Reversing Split-phase Motor, 1725 R.P.M. (1-phase, 60-cycle, A.C. 110-volt)	11.50	11.50	11.50
V-Groove Pulley for Motor	.50	.50	.50
Reversing Switch (Drum Type)	5.00	5.00	5.00
Bracket for Supporting Switch	.50	.50	.50
Wiring (Wired to Switch and Tagged for Motor)	1.25	1.25	1.25
V-Belt, Motor to Drive Unit	1.00	1.00	1.00
Flat Leather Belt, 1″ x 64″	1.25	1.25	1.25
Price, Lathe and Equipment, Complete	$158.00	$168.00	$178.00
Distance Between Spindle Centers of Lathe	18 in.	24 in.	30 in.
Shipping Weight, Lathe and Motor Drive Equipment	340 lbs.	360 lbs.	380 lbs.

Instant Reversing Motor and Switch in lieu of Start-and-Stop Reversing Type Motor and Switch add: For 3-phase, $16.50; for 1-phase, add $17.50; for Direct Current, add $21.50.



Operates from an Electric Lamp Socket

9″ x 3′ Toolmaker Silent V-Belt Motor Driven Floor Leg Precision Lathe Complete with Regular Lathe Equipment and Motor Drive Equipment.....$190.00

SCREW THREAD CUTTING CHART

THREADS PER INCH	STUD GEAR	SCREW GEAR
4	64	32
5	64	40
6	64	48
7	64	56
8	32	32
9	64	72
10	32	40
11	32	44
11½	32	46
12	32	48
13	32	52
14	32	56
16	32	64
18	32	72
20	32	80
22	16	44
24	16	48
26	16	52
28	16	56
30	16	60
32	16	64
36	16	72
40	16	80

Chart for Threads. See pages 2 and 10.

9-inch Toolmaker Silent V-Belt Motor Driven Lathe

A Back-Geared, Screw Cutting Precision Lathe—Automatic Geared Screw Feed

The 9-inch Toolmaker Silent V-Belt Motor Driven Precision Lathe, illustrated above, is the same as the lathes shown on pages 2 and 5, and has the same mechanical features and specifications; the only difference is that this lathe has Silent V-Belt Motor Drive instead of Countershaft Drive and may be had with either floor legs or bench legs.

Silent V-Belt Motor Drive is ideal for those who prefer to use their own motor. Any ¼ H.P. or ⅓ H.P. 1725 R.P.M. motor may be used. The lathe with Silent V-Belt Motor Drive is a complete unit requiring no extra driving equipment. It may be set up and operated any place in the shop and occupies the same floor space as the ordinary belt driven lathe.

Silent V-Belt Motor Drive Unit and a ¼ H.P. reversing motor are mounted on a tilting table directly above the headstock of the lathe. The drive is by V-Belt from motor to countershaft and by flat leather belt to spindle cone. The tilting table is carefully balanced on the support bracket and is provided with a belt tension adjustment for obtaining any desired pulling power. A belt release lever is provided for slacking the belt when changing from step to step on the cone pulleys.

A Drum Reversing Switch controls the motor, which may be operated from an electric lamp socket. The switch has three positions which provide for "starting", "stopping" and "reversing" the direction of the lathe spindle.

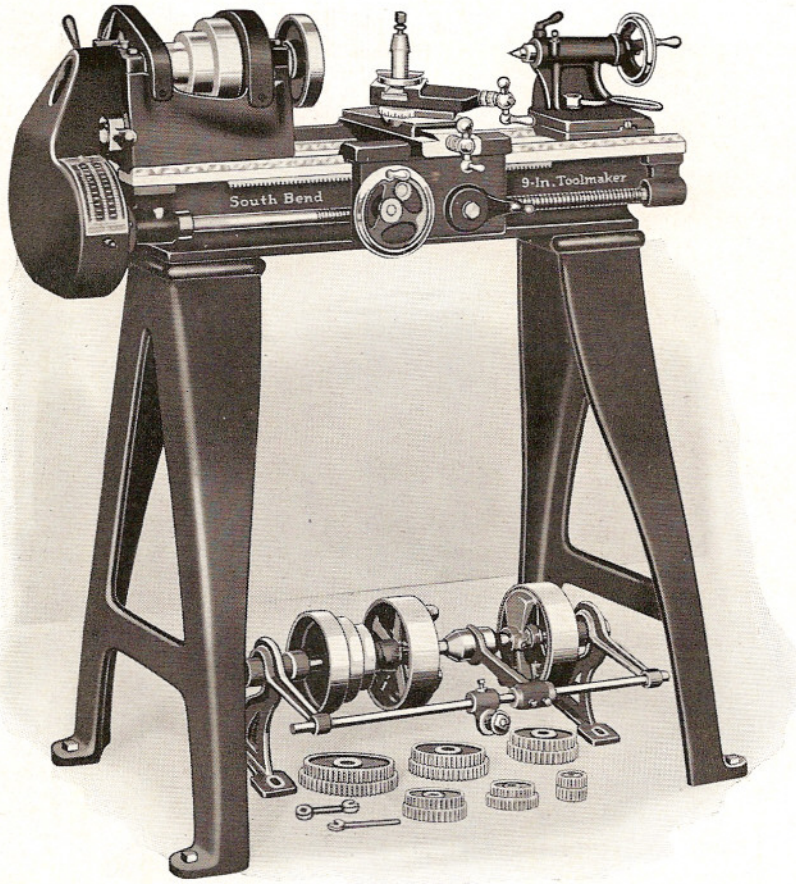
Prices of Lathe, Motor, Switch, Belting, etc., are itemized in the tabulation below so that you may order them complete or individually as desired.

Regular Equipment included in price of lathe consists of: Silent V-belt motor drive unit; graduated compound rest; face plate; tool post, ring and wedge; two 60° lathe centers; spindle sleeve; change gears for screw threads and feeds; wrenches; lag screws; washers; installation plan and book, "How to Run a Lathe."

Prices of 9-inch Toolmaker Silent V-Belt Motor Driven Lathe

9-inch Toolmaker Back-Geared, Screw Cutting Floor Leg Lathe with Graduated Compound Rest, Silent V-Belt Motor Drive Unit and Regular Lathe Equipment	9″x3′ 320-Y Dofsy	9″x3 ½′ 320-Z Dogro	9″x4′ 320-A Dogty
	$170.00	**$180.00**	**$190.00**
Price of Motor Drive Equipment			
¼ H.P. Start-and-Stop Type Reversing Split-Phase Motor, 1725 R.P.M. (1-phase, 60-cycle, A.C. 110-volt)	11.50	11.50	11.50
V-Groove Pulley for Motor	.50	.50	.50
Reversing Switch (Drum Type)	5.00	5.00	5.00
Wiring (Wired to Switch and Motor)	1.25	1.25	1.25
V-Belt, Motor to Drive Unit	1.00	1.00	1.00
Flat Leather Belt, 1″ x 36¾″	.75	.75	.75
Price, Lathe and Equipment, Complete	**$190.00**	**$200.00**	**$210.00**
Distance Between Spindle Centers of Lathe	18 in.	24 in.	30 in.
Shipping Wt., Lathe and Motor Drive Equipment	470 lbs.	490 lbs.	510 lbs.

For Instant Reversing Motor and Switch: For 3-Ph. add $16.50; for 1-Ph. add $17.50; for D.C. add $21.50.
For Bench Legs instead of Floor Legs, deduct $7.00 from price of lathe.



9″ x 3′ Toolmaker Countershaft Driven Floor Leg Precision Lathe with Regular Lathe Equipment.....$150.00

9-inch Toolmaker South Bend Countershaft Driven Lathe

A Back-Geared, Screw Cutting Precision Lathe—Automatic Geared Screw Feed

The 9-inch Toolmaker Countershaft Driven Precision Lathe, illustrated above, is the same as the 9-inch Countershaft Driven Bench Lathe shown on page 2, and has the same mechanical features and specifications; the only difference is that this lathe has Floor Legs instead of Bench Legs. This lathe is practical for machining all kinds of metal, wood, composition, fibre, etc.

Floor Legs provide a substantial support for the lathe bed and eliminate the expense and trouble of building or purchasing a bench. The 9″ x 3′ Toolmaker Floor Leg Lathe, as illustrated above, rquires a floor space of only 41″ x 18½″.

The Toolmaker Lathe in the 3-ft. or 3½-ft. bed length is recommended for the machine shop or repair shop. Short bed lengths are used with draw-in collet chuck and other attachments for manufacturing small parts in quantities.

Principal Units of Lathe such as back-geared headstock, spindle, bearings, tailstock, carriage, lead screws, compound rest, lathe bed, etc., are illustrated and described in detail on pages 2 and 7. Principal features and specifications of lathe are listed on pages 8 and 9.

Regular Equipment included in the price of the 9-inch Toolmaker Countershaft Driven Floor Leg Lathe consists of: Double friction countershaft; graduated compound rest; face plate; tool post, ring and wedge; two 60° lathe centers; spindle sleeve; change gears for screw threads and automatic longitudinal geared screw feeds to carriage; wrenches; lag screws; washers; installation plan and book, "How to Run a Lathe."

Double Friction Countershaft supplied with lathe is equipped with two friction clutch pulleys, one of which is driven by a straight belt and the other by a crossed belt from the lineshaft. This permits the lathe spindle to be operated both forward and in reverse.

The Countershaft may also be arranged as a two-speed drive, using one small and one large pulley on the lineshaft and driving both countershaft clutch pulleys forward. In addition to the regular spindle speeds, this arrangement provides six higher spindle speeds for machining small diameters, turning wood, brass, aluminum, etc.

Attachments for the 9-inch Toolmaker Lathe such as draw-in collet chuck, taper attachment, milling and boring table, etc., also chucks, tools and accessories are illustrated, described and priced on pages 12 and 13 of this bulletin.

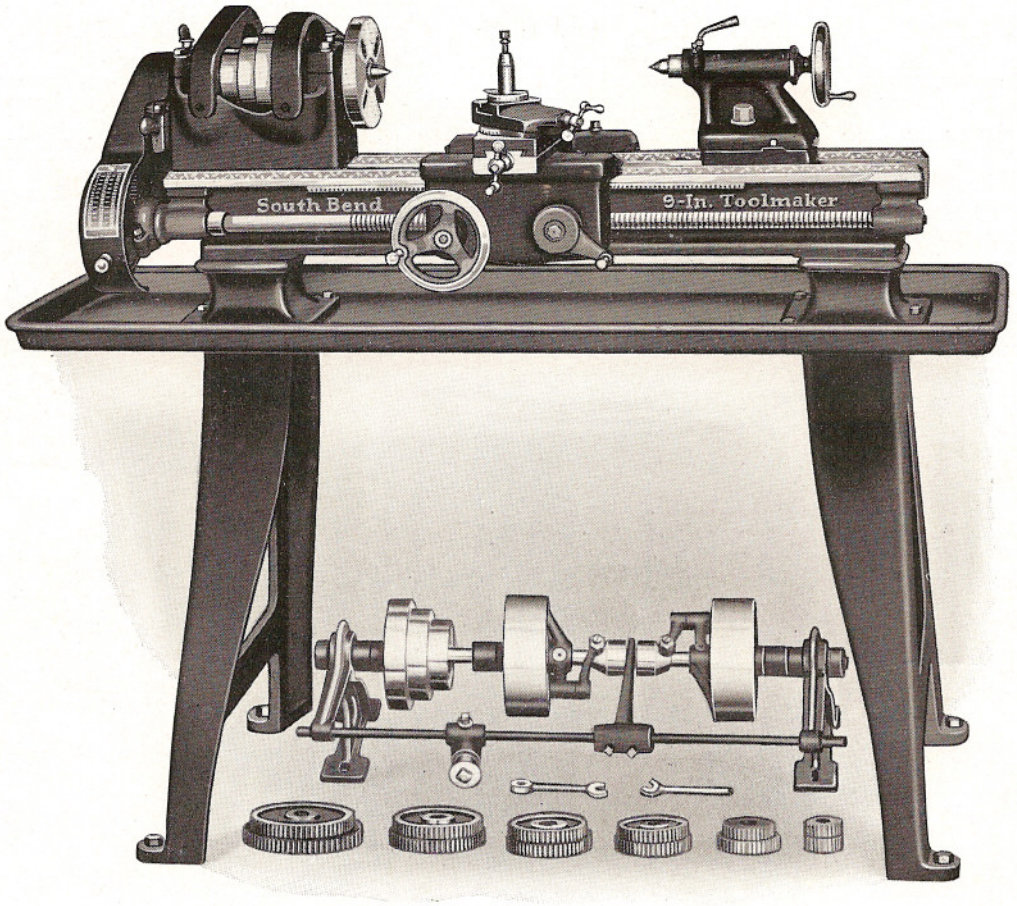
SCREW THREAD CUTTING CHART

Threads per inch	Stud Gear	Screw Gear
4	64	32
5	64	40
6	64	48
7	64	56
8	32	32
9	64	72
10	32	40
11	32	44
11½	32	46
12	32	48
13	32	52
14	32	56
16	32	64
18	32	72
20	32	80
22	16	44
24	16	48
26	16	52
28	16	56
30	16	60
32	16	64
36	16	72
40	16	80

Chart for Threads. For Information on Screw Thread Cutting See pages 2 and 10.

Prices of 9-inch Toolmaker South Bend Floor Leg Lathe with Regular Equipment

Swing Over Bed Inches	Length of Bed Feet	Distance Between Centers Inches	Hole Through Spindle Inches	Swing Over Carriage Inches	Power Required H.P.	Approx. Weight Crated Pounds	Without Countershaft			With Double Friction Countershaft		
							Cat. No.	Code Word	Factory Price	Cat. No.	Code Word	Factory Price
9¼	3	18	¾	5¾	¼	395	**20-Y**	Hejov	**$138.00**	**20-YW**	Heher	**$150.00**
9¼	3½	24	¾	5¾	¼	415	**20-Z**	Hejra	**148.00**	**20-ZW**	Hehto	**160.00**
9¼	4	30	¾	5¾	¼	435	**20-A**	Hejse	**158.00**	**20-AW**	Hehwy	**170.00**



9″ x 3′ Toolmaker Countershaft Driven Precision Oil Pan Lathe with Regular Lathe Equipment.....$169.00

9-inch Toolmaker South Bend Oil Pan Lathes

Back-Geared, Screw Cutting Precision Lathes—Automatic Geared Screw Feed

Countershaft Drive and Silent V-Belt Motor Drive

The 9-inch Toolmaker Precision Lathe, illustrated above, is the same as the Toolmaker Lathes shown on pages 2 and 5, and has the same mechanical features and specifications; the only difference is that this lathe is equipped with Floor Legs instead of Bench Legs and has a sheet steel Oil Pan. This lathe may be had in the Overhead Countershaft Drive type as shown above, or in the Silent V-Belt Motor Drive type as shown on page 4. Both types are priced in the tabulation below.

Principal Units of Lathe such as back-geared headstock, spindle, bearings, tailstock, carriage, lead screw, compound rest, lathe bed, etc., are illustrated and described in detail on pages 2 and 7. For specifications, see pages 8 and 9.

Steel Oil Pan used is made of heavy sheet steel and is of one-piece construction, which is oil tight. The rim of each pan is rolled to strengthen and reinforce the edge. The pan extends beyond the ends of the lathe bed as shown in the illustration. 9-inch Toolmaker Oil Pan Lathes are not supplied in the 2-ft. or 2½-ft. bed lengths.

Attachments, chuck and tools for the lathe are illustrated, described and priced on pages 12 and 13.

Regular Equipment included in price consists of: Double friction countershaft (with countershaft drive lathe); silent motor drive unit (with silent motor drive lathe); graduated compound rest; face plate; tool post complete; two 60° lathe centers; spindle sleeve; change gears for threads and feeds; wrenches; lag screws; washers; installation plan and book, "How to Run a Lathe."

Electrical Equipment included in price of the Silent Motor Driven Lathe consists of: ¼ H.P. 1725 R.P.M. start-and-stop type reversing split-phase motor; V-groove pulley for motor; drum reversing switch; wiring (connected to switch and tagged for motor); one V-belt, motor to drive unit; flat leather belt (1″ x 36¾″); and a wiring diagram blue print.

Motors. The Silent Motor Driven Oil Pan Lathes, priced in the tabulation below, include ¼ H. P. start-and stop type reversing split-phase motor for 1-phase, 60-cycle, A.C. For Instant Reversing Motor and Switch in lieu of Start-and-Stop Type Motor and Switch: For 3-phase add $16.50; for 1-phase add $17.50; for Direct Current add $21.50.

SCREW THREAD CUTTING CHART

Threads per Inch	Stud Gear	Screw Gear
4	64	32
5	64	40
6	64	48
7	64	56
8	32	32
9	64	72
10	32	40
11	32	44
11½	32	46
12	32	48
13	32	52
14	32	56
16	32	64
18	32	72
20	32	80
22	16	44
24	16	48
26	16	52
28	16	56
30	16	60
32	16	64
36	16	72
40	16	80

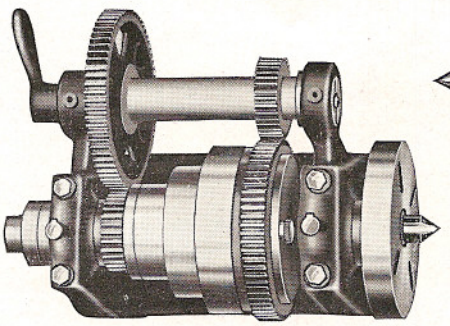
Chart for Threads See pages 2 and 10.

Prices of 9-inch Toolmaker South Bend Oil Pan Lathes

Motor Driven Lathe has ¼ H.P. Start-and-Stop Type Reversing Split-Phase Motor

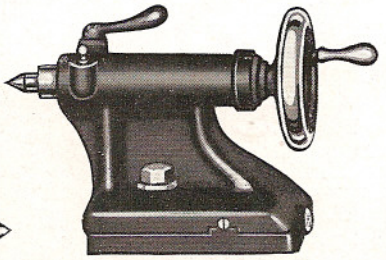
Swing Over Bed Inches	Length of Bed Feet	Distance Between Centers Inches	Hole Thru Spindle Inches	Swing Over Carriage Inches	Power Required H.P.	Countershaft Drive Lathes				Silent Motor Drive Lathes			
						Cat. No.	Weight Crated Pounds	Code Word	Net Factory Price	Cat. No.	Weight Crated Pounds	Code Word	Net Factory Price
9¼	3	18	¾	5¾	¼	**220-YW**	435	Kejah	**$169.00**	**3220-Y**	510	Kejol	**$209.00**
9¼	3½	24	¾	5¾	¼	**220-ZW**	455	Kejik	**180.00**	**3220-Z**	530	Kekek	**220.00**
9¼	4	30	¾	5¾	¼	**220-AW**	475	Kejny	**191.00**	**3220-A**	550	Kekil	**231.00**

Features of the 9-inch Toolmaker South Bend Precision Lathe



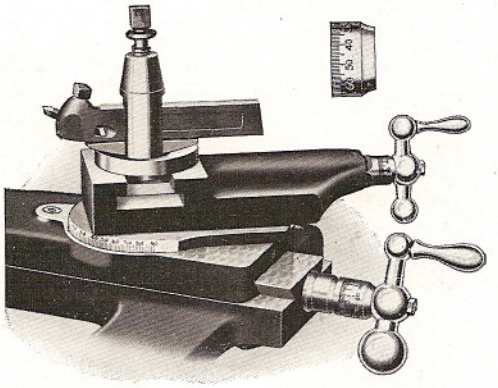
Back-Geared Headstock

Provides six spindle speeds, three direct and three back-geared, by means of the three-step spindle cone and back gears as shown in the illustration above. Bull-gear plunger is quick-acting and requires no wrench. Bearings are cast integral with headstock, and are lapped to fit the spindle. Dust-proof, felt-wick oilers lubricate the spindle and bearings.



Tailstock

Has long accurately hand-scraped bearing on lathe bed; set-over for taper turning; improved spindle lock; and self-ejecting center, No. 2 Morse Taper, made of tool steel, hardened and ground. Spindle is made of alloy steel, finish ground. Off-set design of tailstock permits the compound rest to swivel parallel over the tailstock base.



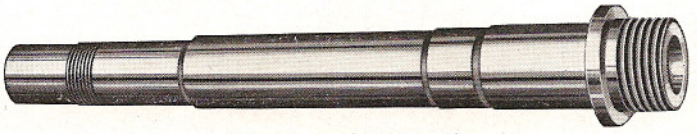
Graduated Compound Rest

The compound rest swivel is graduated 180 degrees and swivels to any angle on a central stud. Has angular travel of 1 7/8" and can be clamped at any desired angle for machining and for turning or boring short tapers.

The illustration shows the advantage of the two feed screws—the compound rest screw for angular feed and the cross feed screw of the saddle for cross feed. In combination, these two feed screws permit the cutting tool to be fed to the work at any angle for straight or taper machining.

Micrometer Collars on Feed Screws

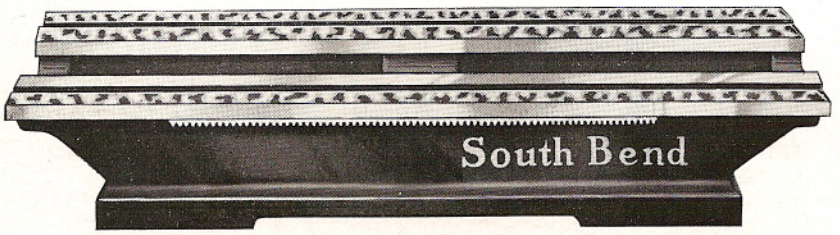
The compound rest feed screw and the cross feed screw of the saddle are each equipped with a micrometer collar, graduated in thousandths of an inch, for adjusting the depth of the cut in turning and boring. An adjustment is provided so that the operator can set the collar at zero whenever desired.



Headstock Spindle

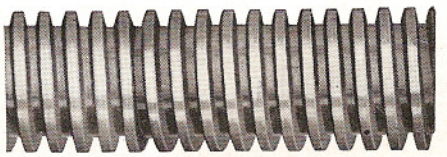
Made of special quality spindle steel with all bearing surfaces accurately ground. Has 1/4" hole its entire length for machining rods and bars through chucks. Threads on spindle nose are cut to a precision gauge permitting the interchangeable use of chucks and face plates. Steel thrust collar is hardened and ground.

For hardened and ground alloy steel headstock spindle instead of the regular spindle add $7.00 to price of lathe.



Lathe Bed for 9-inch Toolmaker Lathes

The lathe bed is made of a mixture of gray iron and 50% steel which gives it strength and wearing qualities. Beds are of heavy construction, cast in one piece, and reinforced by box braces. After rough planing the lathe bed is permitted to season thoroughly before it is finish planed. The three V-ways and one flat way are then accurately finish planed and hand-scraped to align and support the headstock, carriage and tailstock. Net weight of 3-foot bed 80 lbs. Width of bed across top 5 1/8 in.



Precision Lead Screw

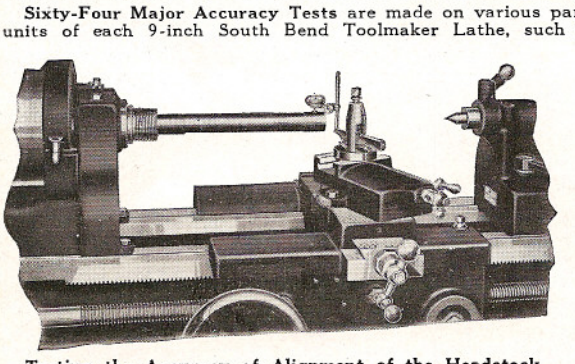
The precision lead screw of the 9-inch Toolmaker Lathe is 3/4" in diameter and has eight Acme threads per inch, cut on a special machine equipped with a Pratt and Whitney master lead screw. The lead screw is tested for accuracy of lead, form of thread and pitch diameter, and is guaranteed to meet the most exacting requirements in cutting the finest precision screw threads, taps, dies, etc.

Accuracy Tests on 9-inch Toolmaker Precision Lathes

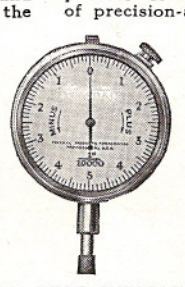
Every 9-inch Toolmaker South Bend Lathe is built with precision and accuracy for the finest tool work. The highest standards of accuracy are maintained, from the planing of the lathe bed to the final inspection tests of the lathe in actual operation.

Sixty-Four Major Accuracy Tests are made on various parts and units of each 9-inch South Bend Toolmaker Lathe, such as the headstock, tailstock, saddle, apron, compound rest, etc., during the process of manufacture and when being assembled.

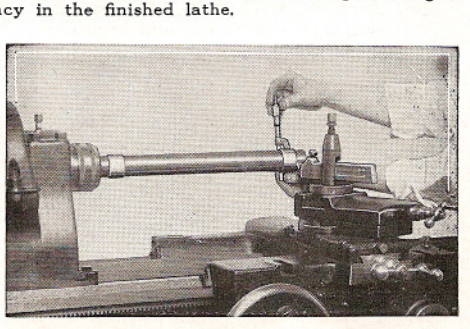
The Most Accurate Measuring Instruments, special gauges, test bars, master templets, etc., are used constantly throughout the process of construction. These tests assure the highest degree of precision-accuracy in the finished lathe.



Testing the Accuracy of Alignment of the Headstock Spindle Using a Test Bar and Dial Test Indicator.



DIAL TEST INDICATOR
Face of dial is graduated to record an error of one ten-thousandth of an inch.



Taking Trial Cut to Test Alignment of Headstock with Lathe Bed.

A Few Jobs Which Can Be Done on the 9-inch Toolmak

Fig. 1. Frederic Craven, Ship Model Maker with his South Bend Lathe.

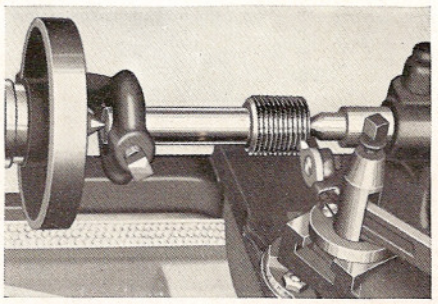


Fig. 2. Cutting a Screw Thread on a Tap in the 9-inch Toolmaker Lathe.

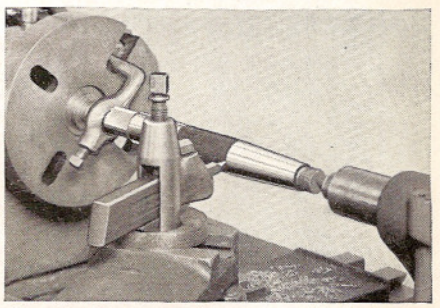


Fig. 3. Turning a Taper on a Shaft in the 9-inch Toolmaker Lathe.

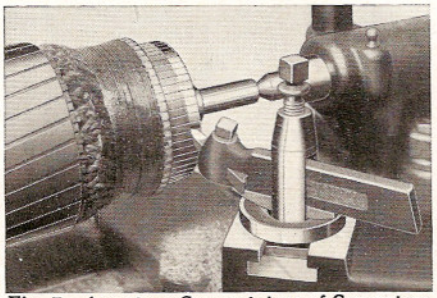
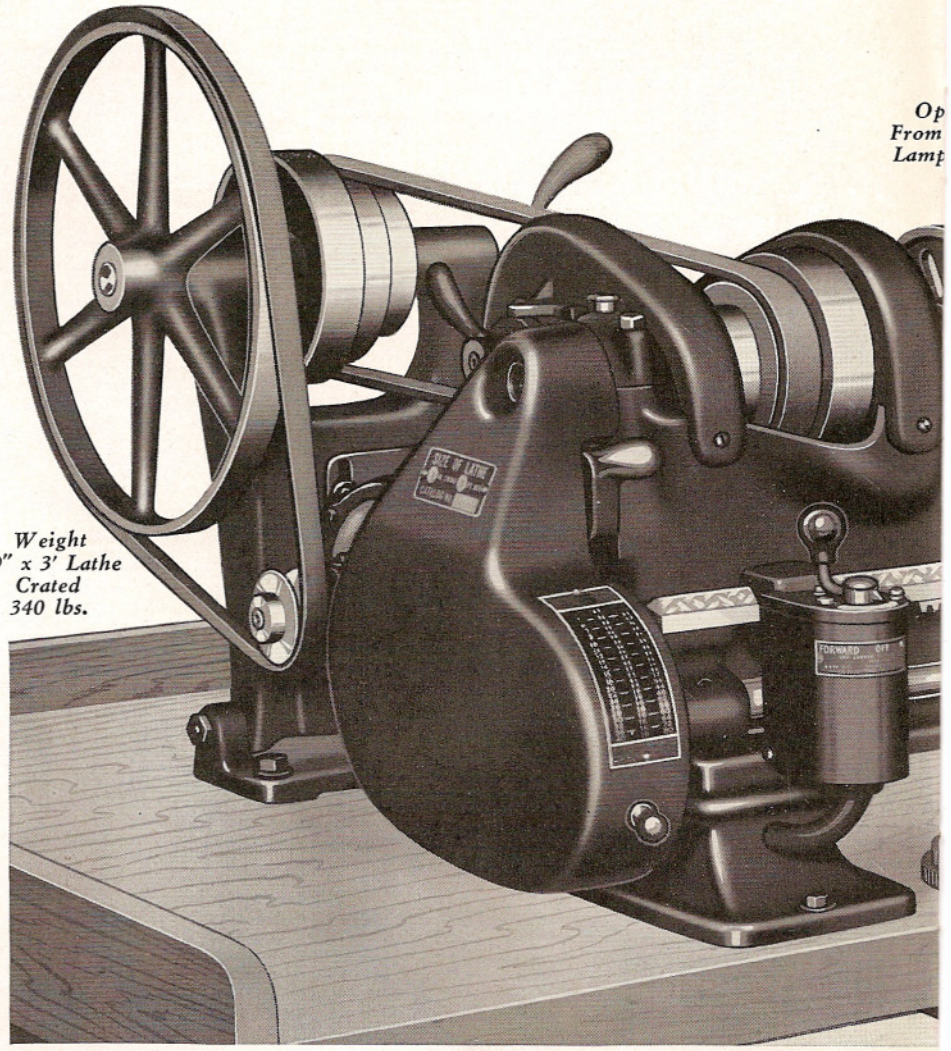


Fig. 7. Armature Commutators of Generators and Starting Motors are Accurately Trued.

Features of Lathe

(Applying to All Lathes in This Bulletin.)

Back-Geared Headstock, six spindle speeds.
Hollow Steel Spindle, ¾" hole.
Reverse Lever for feeds and threads.
Graduated Compound Rest swivels to any angle.
Tailstock Set-Over for taper turning.
Carriage Lock for accurate facing.
Graduated Collar on cross feed screw.
Graduated Collar on compound rest screw.
Precision Lead Screw for cutting screw threads.
Change Gears for threads and feeds.
Automatic longitudinal feed to carriage.
Half-Nuts for screw thread cutting.
Forged Steel Adjustable Tool Post.
Tailstock Spindle Lock.
Semi-Steel Seasoned Bed.
3 V-Ways and 1 Flat Way on lathe bed.
Steel Rack for hand power feed.



Op
From
Lamp

Weight
9" x 3' Lathe
Crated
340 lbs.

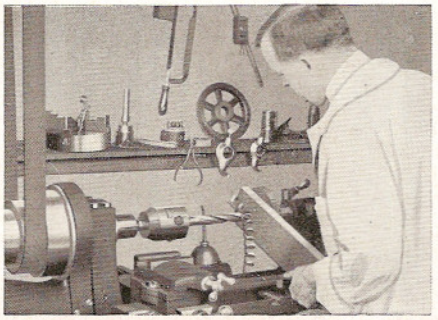


Fig. 9. Lathe Used as Drill Press for Drilling Hole in Flat Piece of Work.

Fig. 11. Home Shop of Rod La Roque, Movie Star. Equipped with South Bend Lathe.

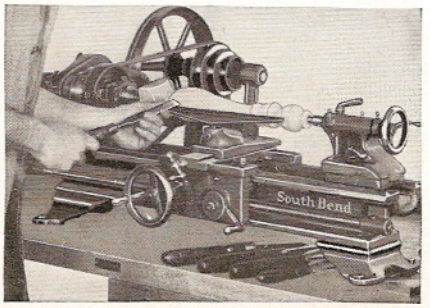


Fig. 12. Lathe Equipped with Hand Rest for Wood Turning and Pattern Making.

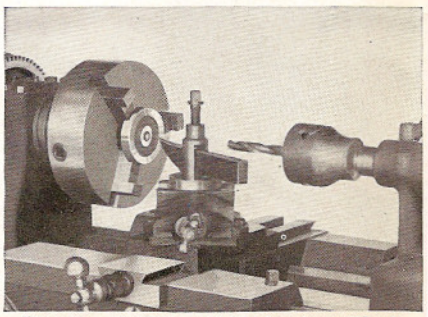


Fig. 13. Drilling and Facing Iron Blank. Drill Chuck Mounted in Tail Spindle.

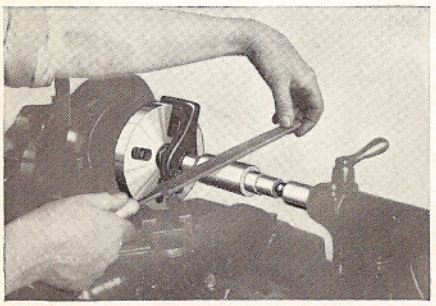


Fig. 4. Lathe is Practical for Filing and Polishing Bushings, Shafts, Parts, etc.

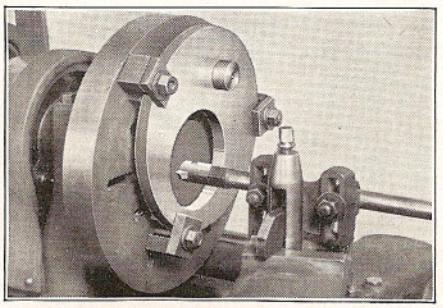


Fig. 5. Boring an Eccentric in Work on Face Plate of the 9-inch Toolmaker Lathe.

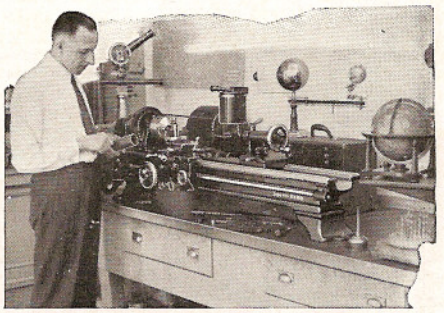
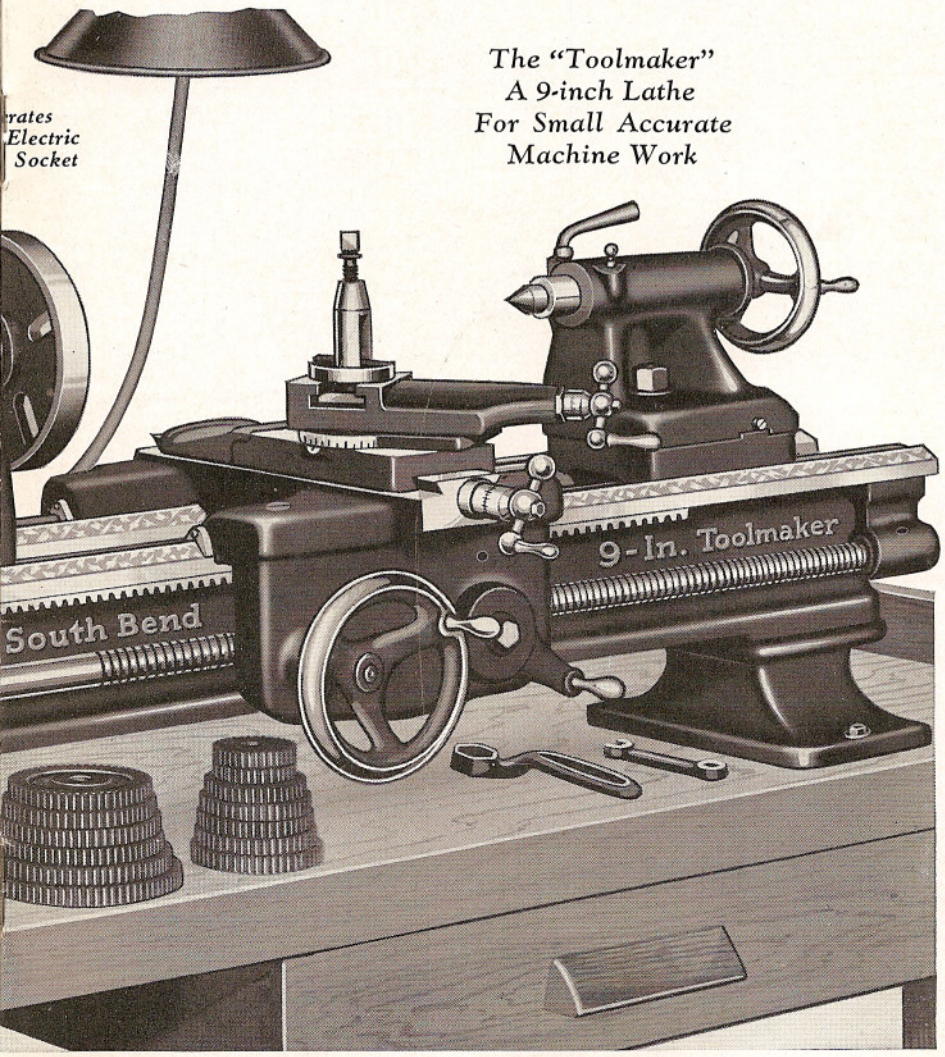


Fig. 6. Technician's Shop in Chicago Planetarium Equipped with a South Bend Lathe.

rates
Electric
Socket

The "Toolmaker"
A 9-inch Lathe
For Small Accurate
Machine Work



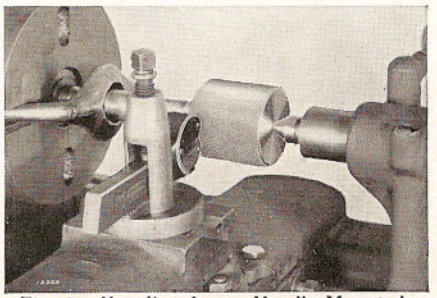


Fig. 8. Knurling Large Handle Mounted Between Centers in the Lathe.

Specifications of Lathes

(Applying to All Lathes in this Bulletin.)

Swing over bed	9¼"
Swing over carriage	5¾"
Distance between centers 3' bed lathe	18"
Hole through spindle	¾"
Screw thread cutting range	4 to 40 per in.
Spindle speeds 39, 66, 114, 209, 348, 596 R.P.M.	
Countershaft (all types) speed	255 R.P.M.
Width of cone pulley belt	1"
Size of spindle nose	1½" diam., 8 threads
Head & tail spindle centers	No. 2 Morse Taper
Lead screw, Acme thread	¾" diam., 8 threads
Angular travel of compound rest top	1⅞"
Travel of tailstock spindle	2"
Lathe tool shank	⅜" x 13/16"
Cutter Bits	¼" x ¼"
Tailstock set-over for taper turning	¾"
Horsepower motor required	⅛ H.P.
Cross slide travel of compound rest	5½"
Reduces Diam. of Steel Shaft in one cut	¼"

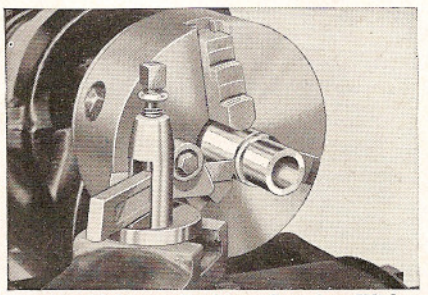


Fig. 10. Making a Bushing, Complete Without Removing from the Chuck.

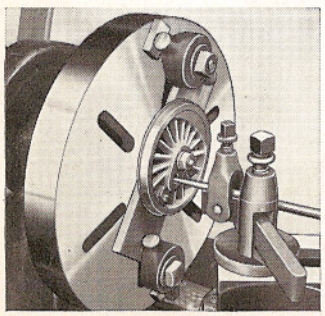


Fig. 14. Boring Hub of Wheel in the Lathe for Model Locomotive.

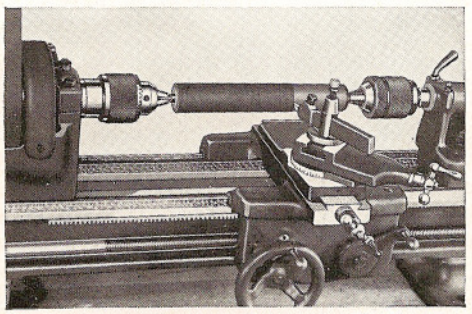


Fig. 15. Truing a Typewriter Platen. Lathe Trues All Types of Rollers.

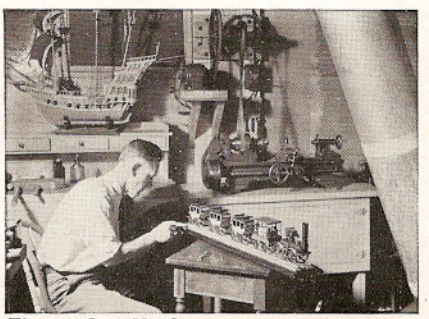
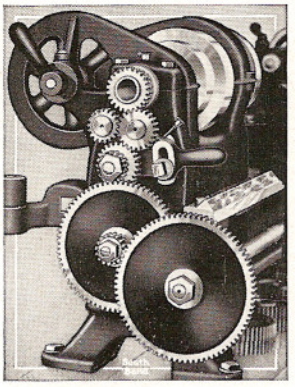


Fig. 16. Ivar Nordstrom, winner of Popular Mechanics' 1933 De Witt Clinton Model Railway Contest. South Bend Lathe Used.

Screw Thread Cutting on 9-inch Toolmaker Precision Lathes

Gear Arrangement for Screw Thread Cutting and Automatic Feeds on All 9-inch Toolmaker Lathes



Arrangement of Gears for Screw Thread Cutting and Automatic Longitudinal Feed.

All Standard Screw Threads, from 4 to 40 per inch, right or left-hand, including National Coarse (U. S. S.); National Fine (S. A. E.); Sharp "V"; Whitworth; Acme; Square; including pipe thread 11½ threads per inch, can be cut on the 9-inch Toolmaker South Bend Back-Geared, Screw Cutting Precision Lathe. All the threads can be cut single or multiple, for example, double, triple, etc.

Arrangement of Gears on the lathe for cutting screw threads and for obtaining automatic longitudinal geared screw feed to carriage is shown by the illustration at left. A set of change gears, as shown below, is furnished with each lathe for cutting standard screw threads and for a wide variety of automatic longitudinal geared screw feeds from fine to coarse. A large gear is furnished with the 9-inch Toolmaker Lathe for obtaining very fine turning feeds for finishing.

Fine Screw Threads 44 to 80 per inch. By using the regular change gears supplied with the lathe and a special Fine Thread Attachment, as illustrated and priced on page 12, the following fine screw threads can be cut on the 9-inch Toolmaker Lathe in addition to the standard screw threads shown on the index chart at the right: 44, 46, 48, 52, 56, 60, 64, 72 and 80 per inch.

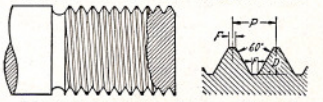
SCREW THREAD CUTTING CHART

THREAD	STUD	SCREW
4	64	32
5	64	40
6	64	48
7	64	56
8	32	32
9	64	72
10	32	40
11	32	44
11½	32	46
12	32	48
13	32	52
14	32	56
16	32	64
18	32	72
20	32	80
22	16	44
24	16	48
26	16	52
28	16	56
30	16	60
32	16	64
36	16	72
40	16	80

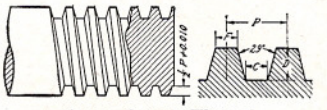
Chart for Threads and Feeds Attached to Each Toolmaker Lathe

Metric Screw Threads from .5 to 8 m/m Pitch. A transposing gear attachment can be supplied for the 9-inch Toolmaker Lathe for cutting the following standard screw threads in millimeter pitch: .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. Attachment includes all necessary equipment for threads and feeds. **Cat. No. 1449. Code "Tibit". Price** **$25.00**

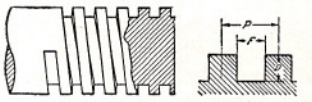
SCREW THREAD FORMULAS



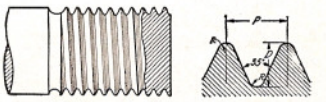
National Coarse Screw Thread



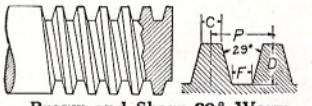
Acme Screw Thread



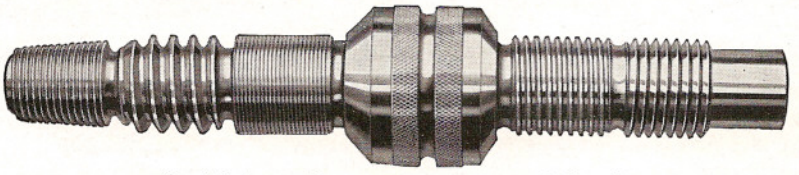
Square Screw Thread



Whitworth Screw Thread

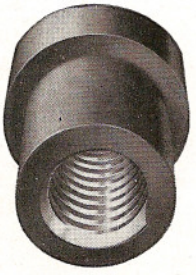


Brown and Sharp 29° Worm Screw Thread



Special Screw Showing Various Types of Threads

Change Gears



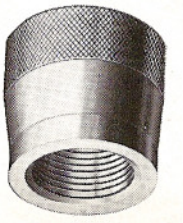
Internal Square Thread

Master Thread Gauge

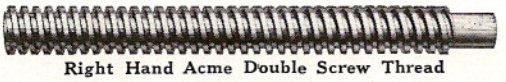
"V" Thread Tap

Limit Thread Gauge

Acme Thread Tap

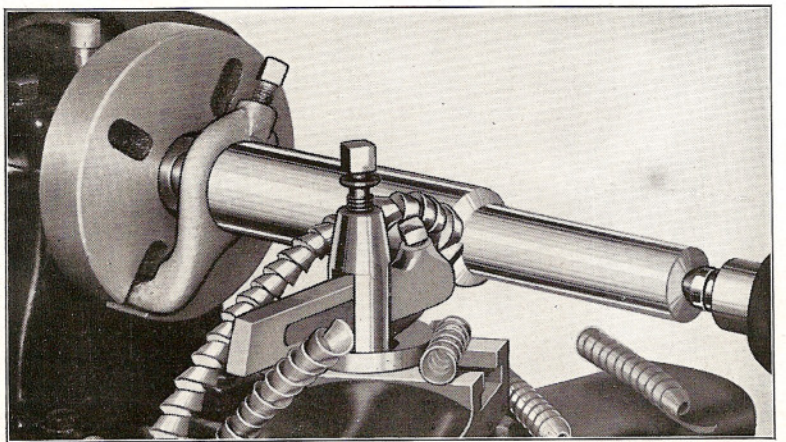


Internal U. S. Standard Thread



Right Hand Acme Double Screw Thread

National Coarse (U. S. S.) Screw Thread



9" Toolmaker Lathe Reducing Diameter of Machinery Steel Bar ¼-inch in one cut

Cutting Power

of All 9-inch Toolmaker Lathes.

The machining power of the 9-inch Toolmaker South Bend Lathe is indicated by the illustration at left, which shows a shaft of machinery steel being turned between centers in the 9" x 3' Toolmaker South Bend Lathe. The chip taken is ⅛-inch in depth, which reduces the diameter of the shaft ¼-inch in one cut.

9-inch Toolmaker Lathe, All Types	Reduces the Diameter of a Machinery Steel Shaft ¼-inch in one cut.

Start-Stop Reversing Motors and Drum Reversing Switches

For 9-inch Toolmaker Horizontal V-Belt and Silent V-Belt Motor Driven Lathes

The Motor Driven Lathes shown in this bulletin are all operated by start-and-stop type reversing motors and drum type reversing switches, as illustrated and described at right.

When Cutting a Screw Thread, the operator should be able to reverse the direction of the power feed of the carriage after taking each chip in the cutting of the thread. This must be done by reversing the entire lathe mechanism. For this reason we use a reversing motor and a reversing switch on all 9" Toolmaker Lathes.

It is Possible for the expert mechanic to cut screw threads on a lathe without reversing the carriage by power after each chip, but it is difficult for anyone except the expert and even he prefers the reversing by-power feature when cutting small precision threads.

Other Jobs Requiring the Reversing Feature include tapping in the lathe, grinding in the lathe, special jobs using an inverted tool.

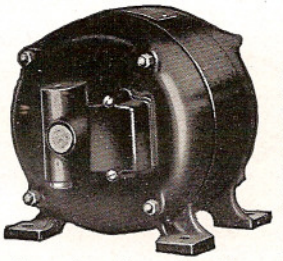
Instant Reversing Motors and Switches

Instant Reversing Motors and Drum Type Reversing Switches can be supplied at the following prices in lieu of the Start-and-Stop Type Reversing Motor and Drum Type Reversing Switch, as listed in the price tabulations on pages 3, 4 and 6:

1-Phase, 60-Cycle, 110 or 220-volt, A.C. Motor, Cat. No. 714	$27.00
3-Phase, 60-Cycle, 110 or 220-volt, A.C. Motor, Cat. No. 906	26.00
Direct Current Motor, 115 or 230-volt, Cat. No. 718	31.00
Drum Type Reversing Switch. Cat. No. 719	7.00
Bracket for Supporting Switch. Cat. No. 707	.50

Special Motors for Alternating Current or Direct Current can be supplied at slightly higher prices.

Motors we Furnish are Westinghouse, G.E., or equal make. We carry standard motors in stock, ready for prompt shipment.



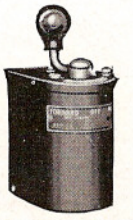
Start-Stop Reversing Type Split-Phase Motor.

Start-Stop Reversing Motor

All 9-inch Toolmaker Motor Driven Lathes illustrated in this bulletin are equipped with ¼ H.P. start-stop reversing split-phase type motors, 1725 R.P.M., suitable for 1-phase, 60-cycle, alternating current, 110-volt. Motors may be operated from an ordinary lamp socket. Motor will operate in either direction at the will of the operator, by letting motor come to a full stop before throwing the switch lever across from forward to reverse or vice versa.

Drum Type Reversing Switch

The drum reversing switch supplied with the 9-inch Toolmaker Lathes shown throughout this bulletin is a six contact reversing switch. The switch is used for starting, stopping and reversing the start-stop type reversing motors. It can also be used with instant reversing type motors. This switch is practical for the efficient operation of the back-geared, screw cutting lathe and conforms to the requirements of underwriter's specifications.



Drum Reversing Switch

9-inch Toolmaker Lathe Services all Kinds of Small Mechanical Devices

The list below contains a few of the hundreds of mechanical devices used in factories, plants, offices, laboratories, homes, etc., that can be repaired and serviced on the new 9-inch Toolmaker South Bend Screw Cutting Lathe.

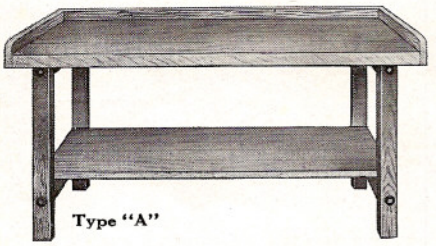
Typewriters
Cash Registers
Firearms
Motors, Generators
Electrical Appliances
Auto, Bus and Truck Parts
Tractor Parts
Farm Equipment
Radio Equipment
Refrigerators
Vacuum Sweepers
Cameras and Projectors
Vending Machines
Locks, Safe Mechanisms
Tool and Die Makers
Battery Service Stations
Scientific Apparatus Makers
Sewing Machine Manufacturers
Watches, Clocks & Chronometers
Bicycles, Motorcycles
Telegraph and Signal Equipment
Laboratory Equipment
Dental and Medical Instruments
Model Parts
Optical Instruments and Equip.
Microscopes
Invention Development
Pattern Makers
Artificial Limb Mfrs.
Blacksmith Shops
Toy Manufacturers
Jewelry Manufacturers
Engineering Equipment
Fishing Tackle
Outboard Motors
Railroad Traffic Signal Equip.
Construction Equipment
Metal Pattern Work
Electrotyping Equipment
Gasoline Pumps
Refining Apparatus
Marine and Nautical Instruments
Television Apparatus
X-ray Equipment
Gas and Water Works
Aeronautical Instruments
Agricultural Implements
Navigation Instruments
Scales, Meters and Gauges
Hydraulic Equipment
Traffic Signal Equipment
Barometrical Instruments
Bottlers' and Brewers' Apparatus
Hardware Parts
Electric Railway Equipment
Engraving Equipment
Silk, Cotton and Fabric Mills
Lubricating Instruments
Die Stamping & Embossing Equip.
Surgical Instruments
Vacuum Controlled Equipment
Plumbing Shops
Hoists and Cranes
Animated Signs

Frame and Cabinet Benches for 9-inch Toolmaker Bench Lathes

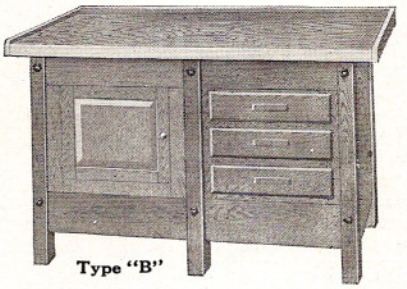
Benches for the 9-inch "Toolmaker" Bench Lathes are supplied in either hard maple or hard pine and in three different types, as illustrated below. **Type "A"** frame bench can be supplied with or without drawer; **Type "B"** bench has three drawers and one cabinet; **Type "D"** bench has six large drawers and four small drawers. Each type of bench shown is solidly constructed and each is made of the same high quality materials.

Benches are of mortise and tenon construction throughout to resist swelling, shrinking and hard usage. Drawers are mortised and grooved. Bench tops have edge-grain surface made of strips glued under heavy pressure. Finished thickness of bench tops: Maple 1¾"; Pine 1½". Benches are shellacked and varnished in natural wood finish. Frame benches are shipped knocked down to save freight charges, but cabinet benches, because of their construction, must be shipped completely assembled.

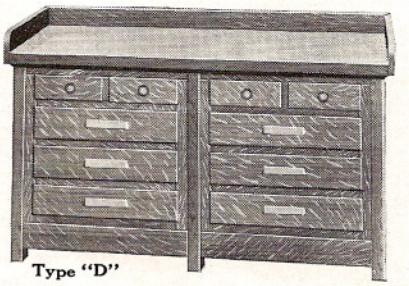
Blue Prints for Benches. If you wish to make your own bench, we will supply blue prints and detailed drawings of the bench you desire, free of charge with the 9-inch "Toolmaker" Lathe.



Frame Bench Without Drawer
Price of Bench with Drawer is $2.00 extra



Bench with 3 Drawers and 1 Cabinet



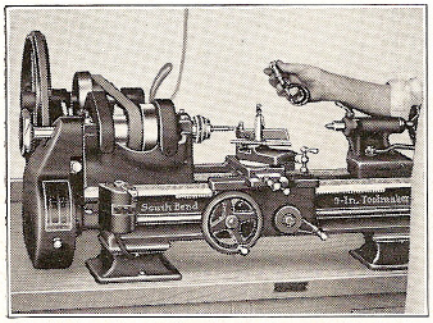
Bench with 6 Large and 4 Small Drawers

Prices of Frame and Cabinet Benches (Hard Maple and Hard Pine) for 9-inch Toolmaker Bench Lathes

Size Bench Top		Height of Bench	For Lathes with Bed Lengths of		Frame Benches without Drawer† Type "A"				Cabinet Benches Type "B"				Cabinet Benches Type "D"			
					Hard Maple		Hard Pine		Hard Maple		Hard Pine		Hard Maple		Hard Pine	
Width Bench Top	Length Bench Top		Countershaft Drive	Horizontal Motor Drive	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price
32 in.	54 in.	30½ in.	2′, 2½′, 3′, 3½′	2½′, 3′, 3½′	347-X	$37.00	369-X	$20.00	573-C	$79.00	737-C	$48.00	783-X	$112.00	837-X	$71.00
32 in.	72 in.	30½ in.	4′, 4½′	4′, 4½′	*347-A	45.00	*369-A	25.00	573-D	89.00	737-D	54.00	783-A	122.00	837-A	78.00

*Furnished with center leg. †Price of bench with drawer is $2.00 extra. NOTE: Mounting Lathe on any of the benches listed above is $5.00 extra.

Hand Wheel Draw-in Collet Chuck Attachment

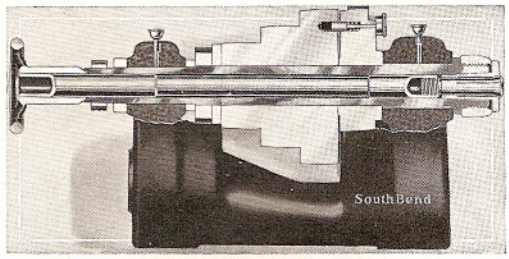


Machining Small Duplicate Parts Held in the Draw-in Collet Chuck

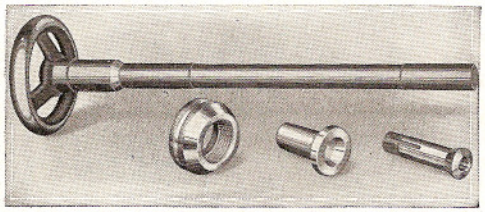
The Hand Wheel Draw-in Collet Chuck is a precision chuck. The hollow draw-bar, which tightens and loosens the collet, permits bar stock from 1/64" to ½" diameter to be held in the various size collets. **Collet Capacity:** A ¼" collet, for example, holds finished work exactly .250" in diameter or .001" undersize (.249" dia.). A separate collet must be used for each step of increase or decrease in the diameter of the work.

Collets can be supplied with hole sizes up to and including ½-inch in steps of 64ths of an inch, for example, 1/64", 1/32", 3/64", etc.

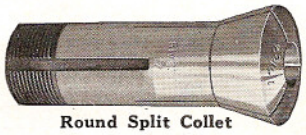
Price includes hand wheel and hollow draw-bar; nose cap; wrench; closing sleeve, hardened, tempered and ground; and one collet for round work. Specify hole size of collet wanted. **Cat. No. 4307.....$29.00**



Section of Headstock Showing Draw-in Collet Chuck



Hand Wheel Draw-in Collet Chuck Attachment

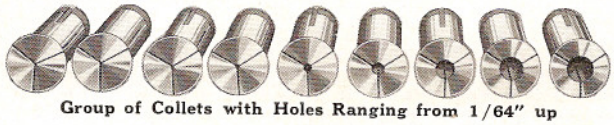


Round Split Collet

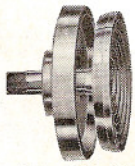
Round Split Collets

Made of tool steel, hardened, tempered, ground. Supplied in any hole diameter from 1/64" to ½" (by 64ths). **No. 609-T $2.50.**

Metric Collets. Can be supplied in hole sizes from 1 mm. to 13 mm. in millimeters. **Cat. No. 373.** Price each.....$2.75

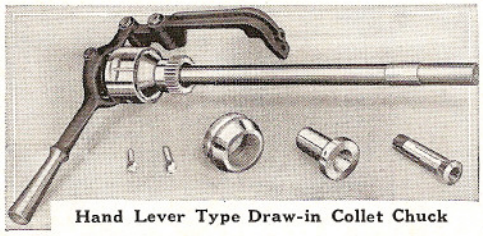


Group of Collets with Holes Ranging from 1/64" up



Step Chuck and Closer

Holds discs and round flat work.

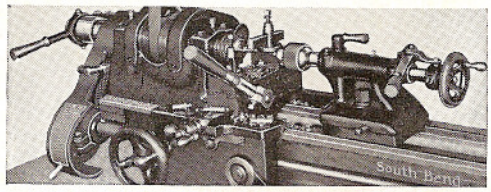


Hand Lever Type Draw-in Collet Chuck

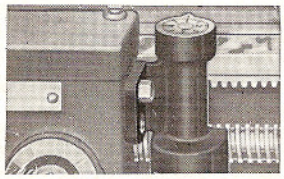
Hand Lever Draw-in Collet Chuck

This chuck, for rapid production work, permits releasing and feeding bar stock through the collet without stopping the lathe. **Cat. No. 5207.....$75.00**

Hand Lever Tailstock for quantity drilling and machining operations. **Cat. No. 898. Price $35.00,** when supplied in lieu of the regular tailstock.



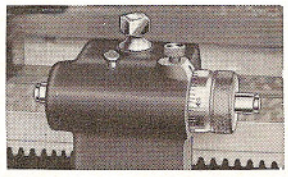
Lathe Equipped with Hand Lever Draw-in Collet Chuck, H.L. Double Tool Slide and H.L. Tailstock



Thread Indicator

Permits running carriage back by hand when cutting threads, to eliminate the necessity of reversing the travel of the carriage by power to the starting point to catch the threads at the beginning of each cut.

Cat. No. 807.....$8.00

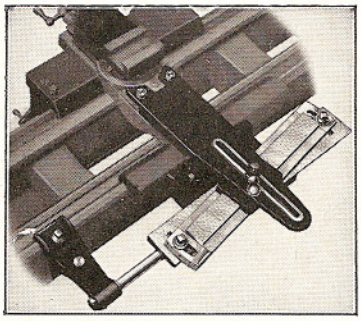


Carriage Stop

Used for stopping the carriage at any point along lathe bed on accurate facing, turning and boring work. Has micrometer adjustment. Can be used on either side of carriage. **Cat. No. 968. $10.00**

Plain Carriage Stop without adjustment. **Cat. No. 751.....$2.25**

Graduated Taper Attachment



Taper Attachment Fitted to Lathe.

Practical for turning and boring taper work. Attachment bolts on lathe carriage and can be used at any point along lathe bed.

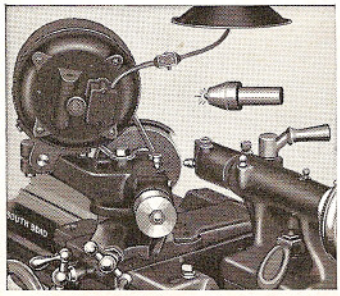
Can be left on lathe at all times and engaged only when wanted for taper turning or boring.

The swivel bar, which controls the taper, is graduated — one end in inches per foot of taper, the other end in degrees.

Attachment must be fitted to lathe at factory.

Cat. No. 207.....$50.00

No. 14-J Electric Grinder



Electric Grinder with Diamond Holder and Diamond Dresser.

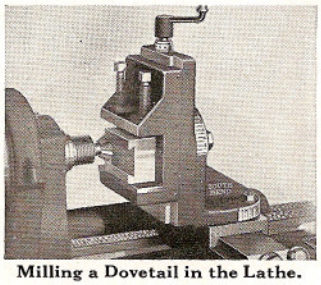
Grinds straight, taper or spiral reamers, lathe centers, milling cutters, taps, dies, valves, pistons, bushings, hardened or tempered tools, parts, etc. Operates from electric light socket. Price includes ¼ H.P. motor, 1725 R.P.M. (1-phase, 60-cy., 110-v. A.C.), V-belt, belt guard, one 4"x½" alundum grinding wheel, cord, switch, and clamp. Spindle speed 4000 r.p.m.

Cat. No. 14-J.....$40.00

Cat. No. 91-T Diamond Holder, Tailstock type.....**$2.25**

Cat. No. 406 Diamond Dresser for above Holder.....**$4.50**

Milling and Keyway Cutting Attachment



Milling a Dovetail in the Lathe.

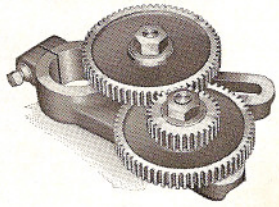
This practical lathe attachment will cut keyways, square shafts, mill dovetails, tapers, etc. The attachment fits on the compound rest base of lathe and swivels both horizontally and vertically over an arc of 180°. Capacity of vise is 1⅜". Vertical feed is 2½". The vertical adjusting screw has a micrometer graduated collar. Cross feed is 5½", operates by hand. Longitudinal feed can be by hand or by automatic feed to carriage. **Cat. No. 9....$40.00**

We can supply popular milling cutters and arbors. Prices on request.

Fine Thread Attachment

For Cutting Fine Screw Threads 44 to 80 per inch

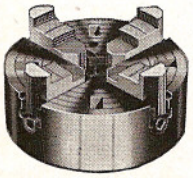
The thread cutting range of the lathe can be increased by using the Fine Thread Attachment illustrated at right. This permits compounding the gears furnished with lathe and provides the following threads: 44, 46, 48, 52, 56, 60, 64, 72 and 80 per inch, in addition to the regular threads as listed on index chart on page 10. A blue print is supplied showing how to arrange the gears for cutting the various fine screw threads.



Cat. No. 307. Attachment, when ordered with Lathe .....**$ 5.00**
Cat. No. 1049. Attachment, when not ordered with Lathe **15.00**

4-Jaw Independent Lathe Chucks

All Chucks Below Have Four Reversible Jaws

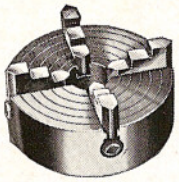


4-Jaw Independent Chuck (Class 400)

A Standard Weight Chuck

This precision chuck has four reversible independent solid jaws with individual screw adjustment for chucking round or irregular work in a concentric or eccentric position. Face of chuck is ground and is graduated in inches. **Prices include** wrench and cap screws for chuck-back. For fitting charges see prices below.

Cat. No. 4404. 4½-inch Chuck. 6″ capacity, Shipping Weight 11 lbs. $23.00
Cat. No. 4406. 6-inch Chuck. 7½″ capacity, Shipping Weight 21 lbs. 28.00

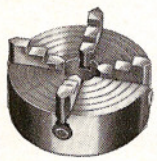


4-Jaw Independent Chuck (Class 600)

A Medium Weight Chuck

This medium weight precision chuck is similar to the standard weight chuck described above, but is lighter in design. **Prices include** wrench and screws for fastening chuck-back to chuck. Chuck-back and fitting are extra. For these charges see prices below.

Cat. No. 4604. 4-inch Chuck. 5″ capacity, Shipping Weight 5 lbs. $19.55
Cat. No. 4605. 5-inch Chuck. 6″ capacity, Shipping Weight 9¼ lbs. 21.25
Cat. No. 4606. 6-inch Chuck. 7¼″ capacity, Shipping Weight 12¾ lbs. 23.80



4-Jaw Independent Chuck (Class 800)

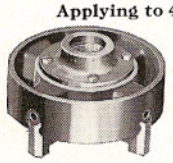
A Light Weight Chuck

A well built chuck, practical for light machining. Has four reversible independent jaws for chucking work in a concentric or eccentric position. Complete with wrench and screws for chuck-back. For fitting charges see prices below.

Cat. No. 4806. 6″ Chuck. 6¼″ cap., Ship Wt. 9½ lbs. $15.25

Prices for Fitting Lathe Chucks to Lathe

Applying to 4-Jaw Independent and 3-Jaw Universal Chucks

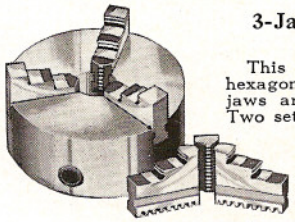


A chuck-back is needed to fit 4-Jaw Independent Chucks and 3-Jaw Universal Chucks to the lathe. The chuck-back is mounted on the lathe spindle nose after being bored and threaded to fit it. Then it is accurately faced and turned to fit the recess in back of chuck and bolted in place as shown in illustration at left. We recommend that lathe chucks be fitted to the lathe at factory.

No. 375. Semi-Machined Chuck-Back. Code "Codwy" $4.00
No. 407. Fitting Chuck-Back to Chuck and to Lathe. Code "Degeg" 2.50
No. 617. Total Price for Chuck-Back Fitted to Chuck. Code "Eflad" 6.50

3-Jaw Universal Lathe Chucks

All Chucks Below Have Two Sets of Jaws

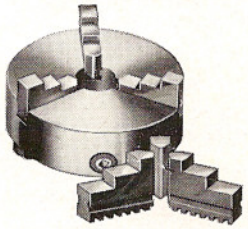


3-Jaw Universal Chuck (Class 400)

A Standard Weight Chuck

This self-centering chuck holds round and hexagonal work in a concentric position. The jaws are moved simultaneously by a scroll. Two sets of jaws are furnished: One set grips work on the outside, the other holds work internally. **Prices include** wrench and cap screws for chuck-back. Fitting charges are extra, see prices below at left.

Cat. No. 3404. 4-inch Chuck. 4¼″ capacity, Shipping Weight 7½ lbs. $29.00
Cat. No. 3405. 5-inch Chuck. 5″ capacity, Shipping Weight 11 lbs. 31.00
Cat. No. 3406. 6-inch Chuck. 6⅛″ capacity, Shipping Weight 20 lbs. 35.00

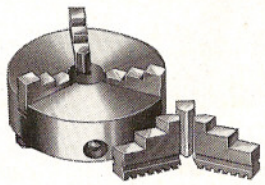


3-Jaw Universal Chuck (Class 600)

A Medium Weight Chuck

This medium weight precision chuck is similar to the standard weight chuck described above, but is lighter in design. Has two sets of jaws: one set for gripping work on the outside, the other for holding work internally. **Prices include** wrench and cap screws for chuck-back. See fitting charges below at left.

Cat. No. 3604. 4-inch Chuck. 4¼″ capacity, Shipping Weight 5¼ lbs. $23.80
Cat. No. 3605. 5-inch Chuck. 5″ capacity, Shipping Weight 6⅜ lbs. 26.35
Cat. No. 3606. 6-inch Chuck. 6¼″ capacity, Shipping Weight 12 lbs. 29.75

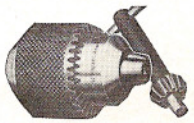


3-Jaw Universal Chuck (Class 800)

A Light Weight Chuck

An excellent, well built, self-centering chuck which is practical for light machining. **Price includes** wrench, two sets of jaws and screws for chuck-back. See fitting charges below at left.

No. 3805. 5″ Chuck. Ship. Wt. 4¾ lbs. $17.00



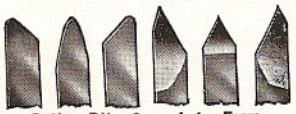
3-Jaw Drill Chuck (Standard Weight)

A powerful, accurate chuck. Price includes pinion key. Arbor is extra, see price below.

No. 1200. 3-Jaw Drill Chuck, ⅜″ cap., Ship. Wt. 1 lb. $4.25
No. 1201. 3-Jaw Drill Chuck, ½″ cap., Ship. Wt. 1¾ lbs. .. 6.75
Arbor for fitting Drill Chuck to Lathe, Cat. No. 709 ..... .60

Tool Holder and Cutter Bit Set

Straight Tool Holder with Cutter Bit.



Cutter Bits Ground to Form.
A B C D E F

A—L. H. Turning; B—Round Nose; C—R. H. Turning; D—L. H. Side; E—Threading; F—R. H. Side.

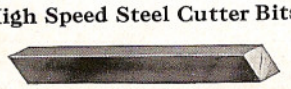
Tool Holder and Cutter Bit Set, consists of: Tool holder (choice of straight, right-hand or left-hand), wrench, unground cutter bit and six high speed steel cutter bits ground to above forms A, B, C, D, E, F.
No. 603-B. Price, complete .. **$3.50**

Turning Tool Holders

With wrench and unground cutter bit.

No. 849-S Straight Turn. Tool.. $2.20
No. 849-L L. H. Turning Tool.. 2.20
No. 849-R R. H. Turning Tool.. 2.20

High Speed Steel Cutter Bits



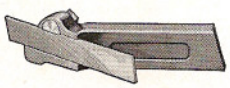
Not Ground High Speed Steel Cutter Bits

No. 1419. Size ¼″x¼″x2″. Each... $0.13

Ground High Speed Steel Cutter Bits

No. 1304. Ground to forms A to F above, size ¼″x¼″x2″. Each..... $0.23

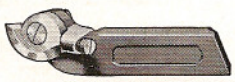
No. 1110. Set of six high speed cutter bits ground to forms A to F..... $1.30



Cutting-Off Tool

With Wrench and One Ground Cutter.

Right-Hand—No. 881-R $2.35
Left-Hand—No. 881-L 2.35
Straight—No. 881-S 2.35



Formed Threading Tool

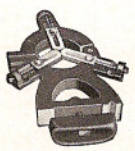
With Wrench and One Formed Cutter.

No. 865 ..... $3.35

Knurling Tool

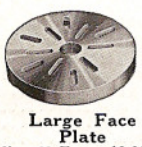
With one set of knurls.

No. 891 ..... $4.50



Center Rest

No. 125-T.... $8.00



Large Face Plate

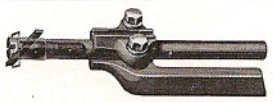
No. 40-T..... $6.00

Thread Cutting Stop

No. 67-T $2.00

Follower Rest

No. 34-T..... $4.00



Boring Tool Holder (Style "B")

With ½″ boring bar, wrenches and two unground cutters. No. 429..... $4.00

Extra cutters, ⅜″ x ⅜″ x 1½″.
No. 454, each..... $0.10

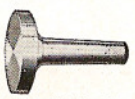
Boring Tool Holder (Style "D")

With Wrench and ¼″ boring bar.

No. 505-A $2.50
Extra Boring Bar, 5/16″. No. 498-B .45

Lathe Centers, Drill Pads, and Countersinks

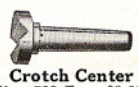
Head Center
No. 725-T...$2.00



Drill Pad
No. 727-T....$3.00

Tail Center
No. 726-T....$2.25

Center Drill and Countersink
No. 898-B. 3/32″ diam.
Price $0.30
No. 898-C. ⅛″ diam.
Price $0.35



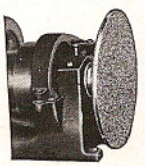
Crotch Center
No. 728-T....$3.00

Standard Lathe Dogs

Made of heavy malleable iron. Designed for strength and service.

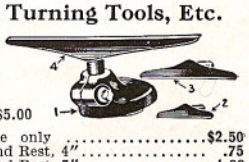
⅜″ cap.	No.	1-MJ	$0.40
½″ cap.	No.	2-MJ	.50
¾″ cap.	No.	4-MJ	.60
1″ cap.	No.	6-MJ	.70
1¼″ cap.	No.	8-MJ	.80
1½″ cap.	No.	10-MJ	.95

Sanding and Polishing Disc



For wood, steel, iron, etc. Screws on headstock spindle. Size 8″ in diameter. Disc supplied with emery cloth or sandpaper attached, as desired.
No. 507-T. Price..$5.00
Price of extra emery cloth or sandpaper disc on request.

Wood Turning Tools, Etc.

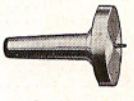


Hand Rest
For wood turning
No. 896-T $5.00

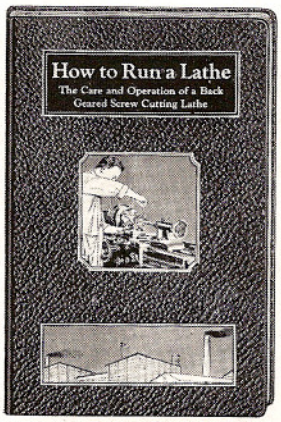
No. 1, Base only $2.50
No. 2, Hand Rest, 4″ ..... .75
No. 3, Hand Rest, 7″ 1.00
No. 4, Hand Rest, 12″ 1.25

Cup Center
No. 733-T....$3.00

Spur Center
No. 732-T....$3.00



Screw Center
No. 731-T....$3.00



"How to Run a Lathe"—31st Edition

Copy Free with Each 9-inch Toolmaker Lathe

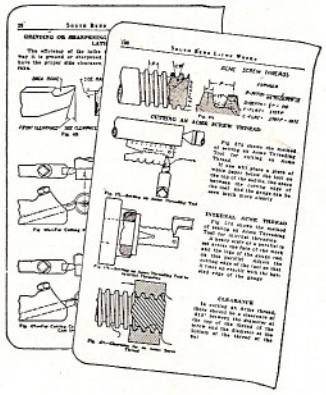
"How to Run a Lathe," a 160-page manual, 5¼ x 8-inches, covers the fundamental operations of the screw cutting lathe and contains over 300 illustrations, devoted to the installation and operation of the lathe. Correct and modern methods for handling over 400 machine operations on the lathe are fully described and illustrated.

More than 1,500,000 copies of this book are in use. Printed in English, Spanish, Portuguese and Chinese. Used as a textbook in trade and industrial schools, also by machinists' apprentices.

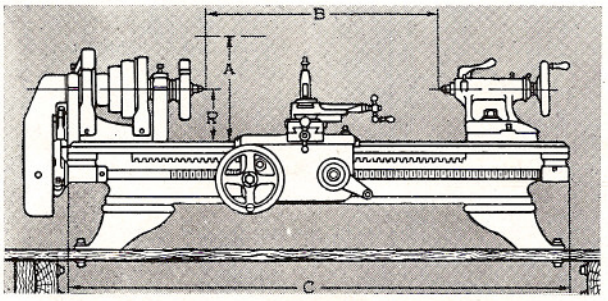
Paper Binding or Leatherette. Price of book, "How to Run a Lathe", with paper binding 25c; with leatherette binding 75c. Coin or stamps of any country accepted.

THIS VALUABLE BOOK SHOWS

—How to set up the lathe.
—How to care for the lathe.
—How to lay out a shop.
—How to calculate size and speed of pulleys.
—How to grind and set lathe tools.
—How to cut screw threads.
—How to turn and bore tapers.
—How to do grinding and milling work.
—How to do centering and countersinking.
—How to drill, bore and ream.
—How to use chucks and arbors.
—The cutting speeds & feeds for metals.
—Tables of information.
—300 other shop kinks.

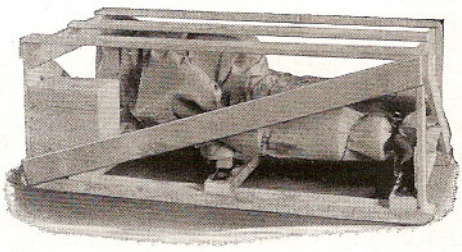


Two Sample Pages



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 length of bed. European tool manufacturers determine the size of a lathe by its radius or center distance. Their 4½-inch center lathe is the same as our 9-inch swing lathe. The letters in illustration designate the various dimensions of lathe as follows: A—swing over bed; R—radius or one-half the swing; C—length of bed; B—distance between centers.



Safe Delivery Guaranteed

Every South Bend Lathe is carefully packed and crated to reach you in perfect condition, free from rust and breakage. We guarantee you against any loss or damage while your lathe is in transit.

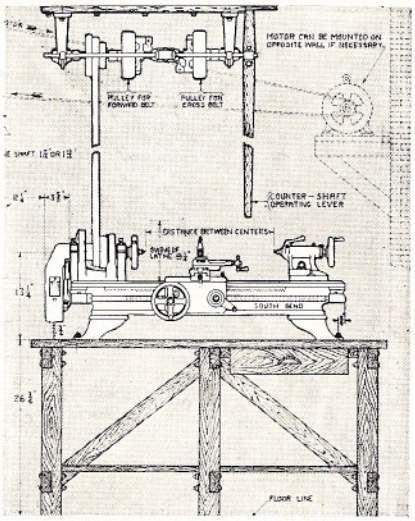
Lathe Crated for Domestic Shipment

The illustration above shows a 9-inch Toolmaker South Bend Lathe skidded and crated for domestic shipment, that is by rail to any point in the United States, Canada or Northern Mexico. In preparing lathes for shipment all finished or polished parts are greased to prevent rusting and each unit is wrapped securely in heavy paper.

The lathe is skidded and crated and the small parts are packed in a box which is nailed to the skids.

Lathes for domestic shipment are not knocked down but are crated and shipped completely assembled. All that is necessary on arrival is to remove the crating and wrapping and install the lathe.

Installation and Erection Plan Blue Print



To customers interested in the purchase of a 9-inch Toolmaker South Bend Lathe, we will supply, free of charge, an installation and erection plan blue print, size 13" x 19", giving the principal dimensions of the lathe, such as over-all length, width, height; location of bolt holes; hangers; speed and size of pulleys; etc.

One of these blue prints similar to the illustration at left is included with each 9" Toolmaker Lathe. Detailed information for setting up, leveling, operating and taking care of the lathe will be found in the book "How to Run a Lathe."

Easy Payment Terms—12 Months to Pay

Any of our customers in the United States may purchase any of the 9-inch Toolmaker South Bend Lathes illustrated in this circular on the South Bend easy payment plan, by making a small down payment with the order and paying the balance monthly. The schedule of easy payment terms is given below.

Mail your order with down payment and as soon as these are received, the lathe will be shipped to you immediately. You deal direct with the factory, all accounts are carried in our own office and you make your payments directly to us each month.

SCHEDULE OF EASY PAYMENT TERMS

If Total Price of Your Order Amounts to	Amount to Add for Financing	Amount of Down Payment	Payment Each Month	Approx. No. of Payments*
$100.00 to $110.00	$ 7.50	$ 28.00	$ 7.00	12
110.01 to 120.00	7.50	29.00	8.00	12
120.01 to 130.00	8.00	30.00	8.50	12
130.01 to 140.00	8.50	31.00	9.00	12
140.01 to 150.00	9.00	32.00	10.00	12
150.01 to 175.00	10.00	35.00	11.50	12
175.01 to 200.00	11.50	40.00	13.00	12
200.01 to 225.00	13.00	45.00	15.50	12
225.01 to 250.00	14.50	50.00	17.00	12
250.01 to 275.00	16.00	55.00	18.50	12
275.01 to 300.00	17.50	60.00	19.50	12
300.01 to 325.00	19.00	65.00	22.00	12

* In some cases there will be one more or less payments than the number listed because of the difference in the total order.

Approximate Freight Rates From South Bend to Principal Cities

City	State	Rate per 100 lbs.
Albuquerque	New Mexico	$3.55
Atlanta	Georgia	1.60
Baltimore	Maryland	1.12
Boise	Idaho	4.60
Boston	Massachusetts	1.27
Cedar Rapids	Iowa	1.03
Charleston	South Carolina	1.89
Charlotte	North Carolina	1.70
Cheyenne	Wyoming	2.44
Chicago	Illinois	.48
Cincinnati	Ohio	.68
Cleveland	Ohio	.70
Decatur	Illinois	.66
Denver	Colorado	2.49
Detroit	Michigan	.63
Fargo	North Dakota	$1.85
Hartford	Connecticut	1.23
Helena	Montana	4.46
Los Angeles	California	5.27
Louisville	Kentucky	.72
Memphis	Tennessee	1.34
Miami	Florida	2.58
Milwaukee	Wisconsin	.62
Minneapolis	Minnesota	1.39
Montgomery	Alabama	1.64
Natchez	Mississippi	1.80
New York	New York	1.23
New Orleans	Louisiana	1.90
Oklahoma City	Oklahoma	2.36
Omaha	Nebraska	1.48
Philadelphia	Pennsylvania	$1.17
Phoenix	Arizona	4.60
Pittsburgh	Pennsylvania	.84
Portland	Oregon	5.27
Portland	Maine	1.31
Reno	Nevada	4.58
Richmond	Virginia	1.20
St. Louis	Missouri	.80
Salt Lake City	Utah	4.46
San Antonio	Texas	2.91
San Francisco	California	5.27
Seattle	Washington	5.27
Sioux Falls	South Dakota	1.66
Tampa	Florida	2.32
Wichita	Kansas	1.88

Domestic Information

Prices listed in this bulletin are net f.o.b. cars, South Bend, Indiana, and include skidding and crating of lathes for shipment.

Lathes on Display. South Bend Lathes may be seen and examined in Dealers' Display Rooms in over 72 principal cities throughout the United States and Canada, or in our Factory Display Room at South Bend. If it is impossible for you to do this, write for a list of South Bend Lathe users in your town or locality. You can visit these shops, see the lathe in operation and obtain an actual user's opinion regarding the high quality of the South Bend Lathe.

Quotation on Lathe and Equipment. If you should have difficulty in selecting your lathe and equipment for the particular class of work you intend to handle in your shop, write us requesting quotation. We will gladly advise you as to the size and type of lathe and selection of tools and attachments, and we will quote prices and freight charges. This, of course, does not obligate you in any way.

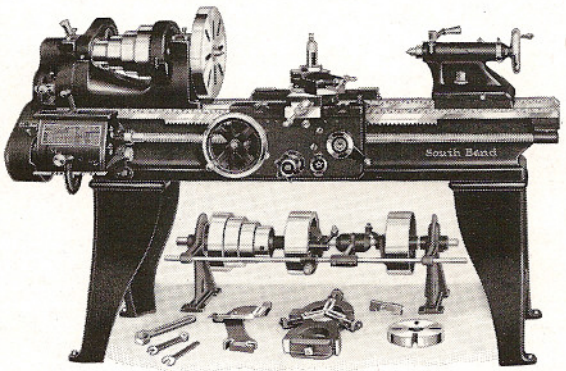
Export Information

Export Prices. All prices quoted in this bulletin are the latest net prices f.o.b. factory. We will be glad, however, to send you an itemized quotation on the lathe in which you are interested delivered C.I.F. to your nearest port. We will also include consular fees, if any, in this quotation.

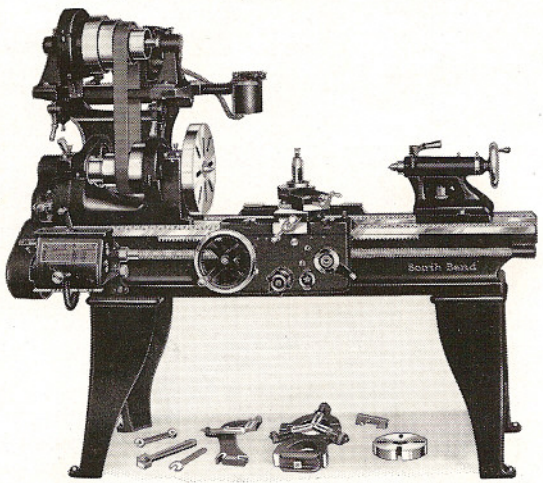
Boxing the Lathe for Ocean Shipment. The lathe is dismantled and all removable parts are oiled, greased, wrapped and packed in one strong case. All parts are blocked and fastened solidly inside the case. The box is lined with waterproof paper and bound with steel tape outside. Shipments to Canada and nothern Mexico are crated and sent by rail.

Export Shipping Information

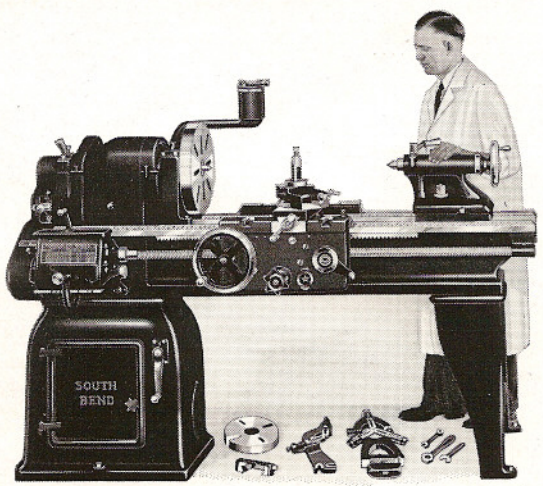
Size of Export Case (9" x 3' Toolmaker Lathe).....66" x 22" x 21"
Weight of 9" x 3' Lathe, boxed, approximately.....550 lbs.
Freight Rate to Ship Side New York City .....$1.30 per cwt.



16" x 6' Quick Change Gear Lathe Including Countershaft and Regular Lathe Equipment.....$540.00



16" x 6' Quick Change Gear Silent V-Belt Motor Driven Lathe Complete with Electrical and Regular Equipment.....$682.00



16" x 6' Quick Change Gear Underneath Motor Driven Lathe Complete with Electrical and Regular Equipment.....$752.00

Prices of New Model South Bend Lathes

As Shown in New General Catalog

In the price tabulation below will be found brief specifications and prices of the three principal types of South Bend Lathes: (1) Overhead Countershaft Drive Lathes; (2) Silent V-Belt Motor Drive Lathes; and (3) Underneath Belt Motor Drive Lathes. See illustrations at left. Each type of lathe is listed in sizes from 9-inch to 18-inch swing, and in various bed lengths. Prices listed below are for lathes complete with regular equipment.

Complete information, illustrations, description and prices of each size and type of South Bend Lathe will be found in the Catalog.

Prices New Model South Bend Lathes—9" to 18" Swing

Complete with Electrical and Regular Equipment

Swing Over Bed Inches	Length of Bed Feet	Distance Between Centers Inches	Power Required H.P.	Countershaft Drive: Cat. No.	Countershaft Drive: Weight Crated Pounds	Countershaft Drive: Net Factory Price	Silent Motor Drive: Cat. No.	Silent Motor Drive: 3-Phase 60-Cycle A.C. Motor	Underneath Motor Drive: Cat. No.	Underneath Motor Drive: 3-Ph.60-Cy A.C. Motor
9-inch Toolmaker Lathes—Floor Leg Type (Illustrations on Pages 4 & 5)										
9¼	3	18	¼	20-YW	395	$150.00	320-Y	$190.00*	Not Made	
9¼	3½	24	¼	20-ZW	415	160.00	320-Z	200.00*		
9¼	4	30	¼	20-AW	435	170.00	320-A	210.00*		
9-inch Junior Lathes—Floor Leg Type										
9¼	2½	9⅜	¼	22-X	402	$170.00	322-X	$219.00*	122-X	$267.00
9¼	3	16⅜	¼	22-Y	427	180.00	322-Y	229.00*	122-Y	277.00
9¼	3½	21⅜	¼	22-Z	452	190.00	322-Z	239.00*	122-Z	287.00
9¼	4	27⅜	¼	22-A	477	200.00	322-A	249.00*	122-A	297.00
9¼	4½	34⅜	¼	22-R	502	210.00	322-R	259.00*	122-R	307.00
9-inch Quick Change Gear Lathes—Floor Leg Type										
9¼	2½	9⅜	¼	80-X	457	$265.00	380-X	$314.00*	180-X	$362.00
9¼	3	16⅜	¼	80-Y	482	275.00	380-Y	324.00*	180-Y	372.00
9¼	3½	21⅜	¼	80-Z	507	285.00	380-Z	334.00*	180-Z	382.00
9¼	4	27⅜	¼	80-A	532	295.00	380-A	344.00*	180-A	392.00
9¼	4½	34⅜	¼	80-R	557	305.00	380-R	354.00*	180-R	402.00
11-inch Quick Change Gear Lathes—Floor Leg Type										
11¼	3	12	½	84-Y	665	$316.00	384-Y	$409.00	184-Y	$455.00
11¼	3½	18	½	84-Z	695	328.00	384-Z	421.00	184-Z	467.00
11¼	4	24	½	84-A	725	340.00	384-A	433.00	184-A	479.00
11¼	5	36	½	84-B	795	352.00	384-B	445.00	184-B	491.00
11¼	5½	42	½	84-S	830	364.00	384-S	457.00	184-S	503.00
13-inch Quick Change Gear Lathes—Floor Leg Type										
13¼	4	16	¾	86-A	1060	$387.00	386-A	$520.00	186-A	$560.00
13¼	5	28	¾	86-B	1110	402.00	386-B	535.00	186-B	575.00
13¼	6	40	¾	86-C	1160	417.00	386-C	550.00	186-C	590.00
13¼	7	52	¾	86-D	1215	434.00	386-D	567.00	186-D	607.00
13¼	8	64	¾	86-E	1275	453.00	386-E	586.00	186-E	626.00
15-inch Quick Change Gear Lathes—Floor Leg Type										
15¼	5	24½	1	88-B	1575	$467.00	388-B	$607.00	188-B	$677.00
15¼	6	36½	1	88-C	1650	485.00	388-C	625.00	188-C	695.00
15¼	7	48½	1	88-D	1725	503.00	388-D	643.00	188-D	713.00
15¼	8	60½	1	88-E	1805	523.00	388-E	663.00	188-E	733.00
15¼	10	84½	1	88-G	1970	567.00	388-G	707.00	188-G	777.00
16-inch Quick Change Gear Lathes—Floor Leg Type (Illustrations at Left)										
16¼	6	34	1	92-C	1875	$540.00	392-C	$682.00	192-C	$752.00
16¼	7	46	1	92-D	1955	560.00	392-D	702.00	192-D	772.00
16¼	8	58	1	92-E	2035	580.00	392-E	722.00	192-E	792.00
16¼	10	82	1	92-G	2195	624.00	392-G	766.00	192-G	836.00
16¼	12	106	1	92-H	2425	687.00	392-H	829.00	192-H	899.00
16¼	14	130	1	92-K	2650	742.00	392-K	884.00	192-K	954.00
18-inch Quick Change Gear Lathes—Floor Leg Type										
18¼	6	29½	2	94-C	2440	$655.00	394-C	$845.00	194-C	$925.00
18¼	7	41½	2	94-D	2540	680.00	394-D	870.00	194-D	950.00
18¼	8	53½	2	94-E	2640	705.00	394-E	895.00	194-E	975.00
18¼	10	77½	2	94-G	2840	759.00	394-G	949.00	194-G	1029.00
18¼	12	101½	2	94-H	3140	837.00	394-H	1027.00	194-H	1107.00
18¼	14	125½	2	94-K	3365	899.00	394-K	1089.00	194-K	1169.00
18¼	16	149½	2	94-M	3615	969.00	394-M	1159.00	194-M	1239.00

Lathes with 12-ft., 14-ft. and 16-ft. beds have center legs.
For Bench Legs in lieu of Floor Legs on 9", 11", and 13" Lathes deduct: For Countershaft Drive and Underneath Belt Motor Drive deduct $10.00; for Silent V-Belt Motor Drive deduct $7.00.
For Standard Change Gear Lathes instead of Quick Change Gear Lathes deduct from the above prices: For 9", $40.00; for 11", $40.00; for 13", $50.00; for 15", $55.00; for 16", $60.00; for 18", $70.00.
*Prices include ¼ H.P. Start-Stop Rev. Split-Phase Motor (1-ph., 60-cy., A.C. 110-volt.)

A Partial List of Industries Using South Bend Lathes

More Than 57,000 Now in Use in U. S. and 96 Other Countries and Colonies

Aircraft Industry
Pan-American Airways
Universal Aviation Corp.
Fokker Aircraft Corp.
Goodyear Zeppelin Corp.
Pratt & Whitney Aircraft Co.

Machinery Industry
Champion Shoe Machinery Co.
Simplicity Manufacturing Co.
Singer Mfg. Co., Inc.
Burroughs Adding Mach. Co.

Automobile Mfrs.
Auburn Automobile Co.
Buick Motor Co.
Cadillac Motor Car Co.
Chevrolet Motor Co.
Chrysler Corp.
Ford Motor Co.
Hudson Motor Co.
Lincoln Motor Car Co.
Nash Motors Co.
Olds Motor Works
Packard Motor Car Co.
Reo Motor Car Co.
Studebaker Corp. of America
White Motor Company

Accessory Mfrs.
A. C. Spark Plug Co.
Bendix Aviation Corp.
Firestone Tire & Rubber Co.
Fisher Body Corp.
Goodyear Tire & Rubber Co.

Electric Motor Mfrs.
General Electric Co.
Wagner Electric Corp.
Allis-Chalmers Mfg. Co.
Westinghouse Elec. & Mfg. Co.

Steel Industry
Bethlehem Steel Co.
Carnegie Steel Co.
Inland Steel Co.
U. S. Steel Corp.
Youngstown Sheet & Tube Co.

Broadcasting Stations
WEAF—New York City
KOA—Denver, Colorado
WHK—Cleveland, Ohio
WBBM—Chicago, Illinois

Movie Industry
Agfa-Ansco Corp.
DuPont Vita Color Corp.
Warner Bros. Pictures, Inc.

Power Companies
Brooklyn Edison Co., Inc.
Commonwealth-Edison Co.
Detroit Edison Co.
Georgia Power Company

Oil Industry
Atlantic Refining Co.
Gulf Refining Co.
Phillips Petroleum Co.
Shell Oil Co.
Sinclair Refining Co.
Standard Oil Co.

Scientific Instrument Mfrs.
Acme International X-Ray Co.
Eastman Kodak Co.
General Electric X-Ray Corp.
Leeds & Northrup Co.
Eugene Dietzgen 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, within one year from the date of purchase, any lathe part that proves defective, either in material or workmanship.

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.

South Bend Lathe Works

United States Government
Over 400 South Bend Lathes used by the following Govt. Depts.

Treasury Dept.
War Dept.
Dept. of Justice
Post Office Dept.
Navy Dept.
Dept. of Interior
Dept. of Agriculture
Dept. of Commerce
Dept. of Labor
Dept. of State
Dept. of Terrestrial Magnetism
Smithsonian Inst.
Capitol (Building)
Veterans' Bureau
Bureau of Standards
Naval Observatory
Soldiers' Home
Bureau of Insular Affairs
Customs Service
Panama Canal
U. S. Coast & Geodetic Survey
Geological Survey
West Point Military Academy

Textile Industry
Amoskeag Mfg. Co.
Chenango Textile Corp.
Southern Worsted Corp.
American Enka Corp.

Shipbuilders
Bethlehem Shipbuilding Corp.
Federal Shipbuilding Co.
Newport News Shipbuilding & Dry Dock Co.
Pusey & Jones Corp.

Steamship Companies
Dollar Steamship Lines
Munson Steamship Lines
Pittsburgh Steamship Co.

Railroads
New York Central R. R.
Pennsylvania R. R.
Southern Pacific R. R.
Baltimore & Ohio R. R.

Appliance Mfrs.
Frigidaire Corp.
The Hoover Co.
Kelvinator Corp.

Tool and Die Shops
Ajax Tool & Die Co.
Arrow Tool & Reamer Co.
Doehler Die Casting Co.

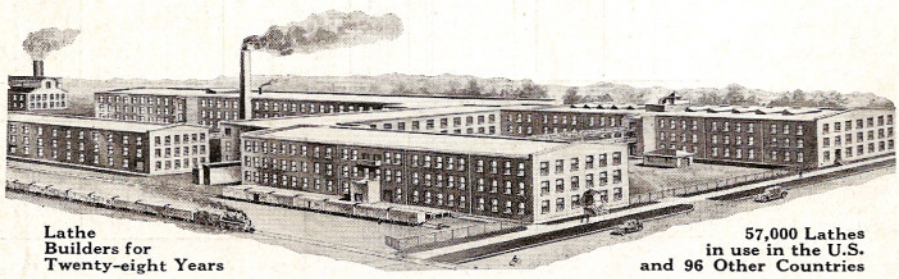
Radio Mfrs.
Atwater Kent Mfg. Co.
Crosley Radio Corp.
Philco Radio & Television
Radio Corp. of America

Miscellaneous
E. I. duPont de Nemours & Co.
Climalene Co.
Popular Mechanics Magazine
Chicago Tribune
Parker Pen Co.

Approximate Number of South Bend Lathes Used in Each State of U. S. A.

Quantities Do Not Include Many Lathes Sold by Dealers Not Reporting Destination

Alabama	245	Iowa	920	Nebraska	492	Rhode Island	154
Arizona	209	Kansas	844	Nevada	62	South Carolina	195
Arkansas	239	Kentucky	359	New Hampshire	123	South Dakota	298
California	2204	Louisiana	210	New Jersey	1281	Tennessee	356
Colorado	369	Maine	213	New Mexico	124	Texas	1477
Connecticut	647	Maryland and Dis't. of Col.	665	New York	3651	Utah	110
Delaware	82	Massachusetts	1043	North Carolina	581	Vermont	91
Florida	594	Michigan	2139	North Dakota	271	Virginia	503
Georgia	294	Minnesota	827	Ohio	2118	Washington	567
Idaho	213	Mississippi	137	Oklahoma	795	West Virginia	433
Illinois	3033	Missouri	940	Oregon	360	Wisconsin	976
Indiana	1684	Montana	288	Pennsylvania	3087	Wyoming	80



Lathe Builders for Twenty-eight Years

57,000 Lathes in use in the U.S. and 96 Other Countries

South Bend Lathe Works, 425 E. Madison St., South Bend, Ind.

FACTORY OF THE SOUTH BEND LATHE WORKS

The illustration at left shows the factory of the South Bend Lathe Works. Established in 1906. For more than 28 years this organization has been devoted exclusively to the manufacture of South Bend Back-Geared, Screw Cutting Precision Lathes. Countershaft and Motor Driven Lathes, 9" to 36" swing inclusive, are manufactured in this modern plant. Visitors are always welcome.

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