

# SOUTH BEND LATHES



CATALOG 55 1918

## SOUTH BEND LATHE WORKS

SOUTH BEND, INDIANA, U.S.A.

## 17,000 LATHES IN USE

South Bend Lathes have been on the market over twelve years. We have been manufacturing this lathe since 1906, and there are now over 17,000 South Bend Lathes in use throughout the world.

**South Bend Lathes**

May be purchased from the Machinery  
or Supply Dealers

U. S. PRICE SHEET No. 55 A

*Revised to May 1st, 1918*

*Applying to Catalog No. 55, 1918*

**South Bend Screw Cutting Engine Lathes  
Tools and Accessories**

Lathes and Equipment Securely Crated F. O. B. Cars South Bend, Ind.

Sole Manufacturers

**SOUTH BEND LATHE WORKS**

423, 425, 427 E. Madison Street  
South Bend, Indiana, U.S.A.



## Why We Have Built Over 17,000 Lathes in Twelve Years

We have an organization that has had twelve years experience  
in building over 17,000 lathes

**1. Three Hundred and Fifty Skilled Men.**

We employ 350 skilled mechanics who are especially skilled in the manufacture of Lathes.

**2. Equipment.**

We have a modern equipment of special machinery intended for the manufacture of lathes exclusively.

**3. One-Hundred Lots.**

We build each size lathe in one-hundred lots.

**4. Interchangeable Parts.**

All parts are manufactured in lots of one-hundred or greater and are machined in special jigs. These parts are interchangeable.

**5. Grinding and Scraping.**

Every cylindrical surfaces is ground to fit special

gauges, and every flat bearing surface is hand scraped to master surface plates.

**6. Wick Oilers.**

The countershaft boxes and friction pulleys on countershaft are all equipped with wick oilers.

**7. Lead Screw and Rack.**

The lead screws and racks are purchased from well known manufacturers who have special machinery for the manufacture of these parts and who supply other lathe manufacturers with both lead screws and racks.

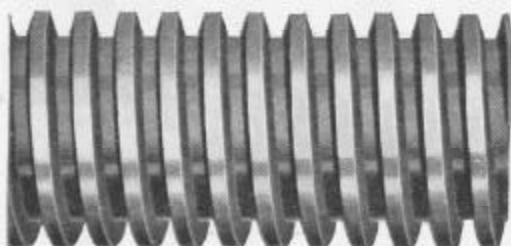
**8. The Floor Space in Our Factory.**

There are 109,000 square feet of floor space or a little over two and one-half acres—devoted exclusively to the manufacture of South Bend Lathes.

We publish catalogs printed in the Spanish and Portuguese languages. All catalogs free on request.

### SECTION OF LEAD SCREW

The cut below shows a section of the Lead Screw that is used on South Bend Lathes. Our lead screws and racks are purchased from the same manufacturers that furnish lead screws and racks to many makers of standard engine lathes.



Lead Screw of 31-inch Lathe (Actual Size)

The lead screw and rack factories are equipped with special machinery for making these products exclusively. Therefore, we guarantee the lead screws on South Bend Lathes to be accurate in every detail, so that the finest precision screw gauges, precision taps and special screws, etc., can be made on a South Bend Lathe to meet the most accurate requirements.

### ACCURACY OF SOUTH BEND LATHES

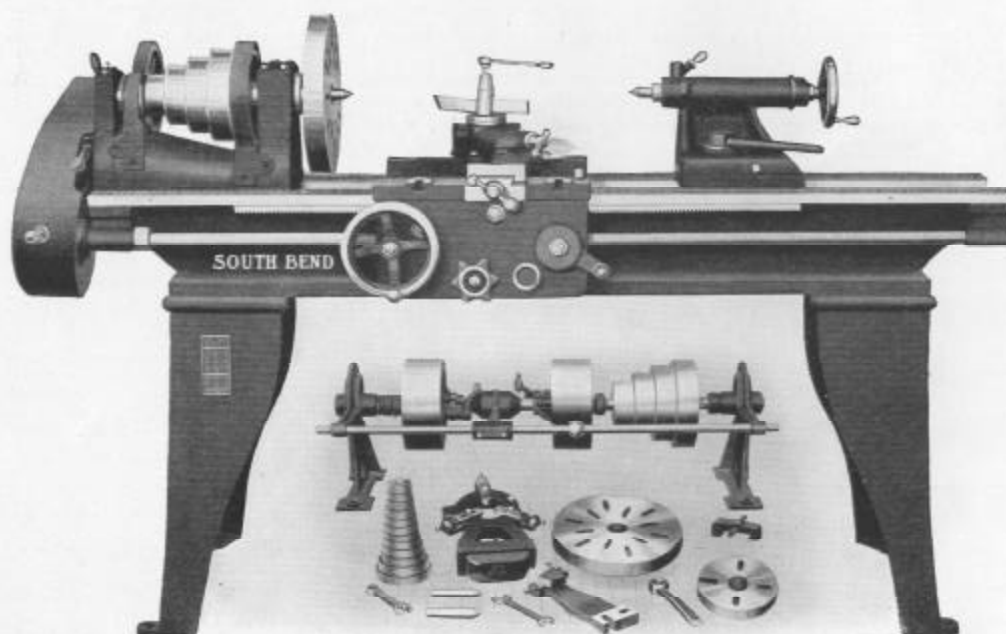
The accuracy of South Bend Lathes can be relied upon.

Every lathe is operated, and tested before leaving the factory. A tag is attached to the lathe, upon which the various tests are recorded, and when the lathe is shipped this tag is filed in our office for future reference. The illustration on the right shows one of the tags.

#### OUR GUARANTEE

We guarantee that each and every South Bend Lathe is accurate, mechanically perfect, and is exactly as illustrated and described in this catalog; that each South Bend Lathe will give you perfect satisfaction, and that it will give you the service you have a right to expect, because you pay for reliable lathe value.

Date Tested	January 4, 1918
Size Lathe	16 X 8 ft.
Serial No. of Lathe	16024
Head Spindle Test	Less than .0005"
Tail Spindle Test	Perfect
Center Test	Perfect
Lead Screw Test	Perfect
Compared to master lead screw	
Saddle Test	Less than .0005"
Face Plate Test	Less than .0005"
Assembled By	G.B. Wallinon
Inspected and Tested By	A.C. Schwartz
Lathe Shipped To	Snow Mfg. Co.
	Chicago, Ill.
Date Shipped	January 5, 1918
SOUTH BEND LATHE WORKS	



**No. 34—13-INCH SOUTH BEND SCREW CUTTING ENGINE LATHE**  
Fitted with Automatic Longitudinal Feed, Automatic Cross Feed and Compound Rest  
Regular Equipment, as Illustrated Under Lathe, is Included in Price

## No. 34—13-INCH SOUTH BEND SCREW CUTTING ENGINE LATHE

Fitted with Automatic Longitudinal Feed, Automatic Cross Feed and Compound Rest

Our No. 34 Lathe is an excellent tool for the machine shop, for light work

**Bed** is rigid, cross ribbed by heavy box braces cast in at short intervals its entire length; has three V's and one flat way for front bearing of head stock, tail stock and carriage. The rack attached is of steel, cut from the solid bar.

**Head Stock** is equipped with improved reverse. Spindle cone has four steps for  $1\frac{1}{2}$ -inch belt. Spindle is of special spindle steel accurately ground, has  $\frac{3}{4}$ -inch hole its entire length. Centers are No. 3 Morse taper. Bearings are the best phosphor bronze with ample oiling facilities, and are adjustable for wear.

**Tail Stock** is off-set to allow compound rest to swivel parallel to bed and is provided with set-over for turning taper. Tail stock center is self-ejecting.

**Carriage** is strong, with wide deep bridge; has T slots for clamping work for milling and boring. Both automatic cross feed and automatic longitudinal feed are operated from the front

of apron and but one feed at a time can be engaged. Both feeds are driven by a splined screw and worm so that the thread of the lead screw is used for screw cutting only. (See automatic apron, page 35.)

**Thread Cutting.** Lathe is indexed to cut standard threads from 4 to 40, right or left, including  $11\frac{1}{2}$  pipe thread, and by compounding the gears furnished many other threads can be cut. (See page 35.)

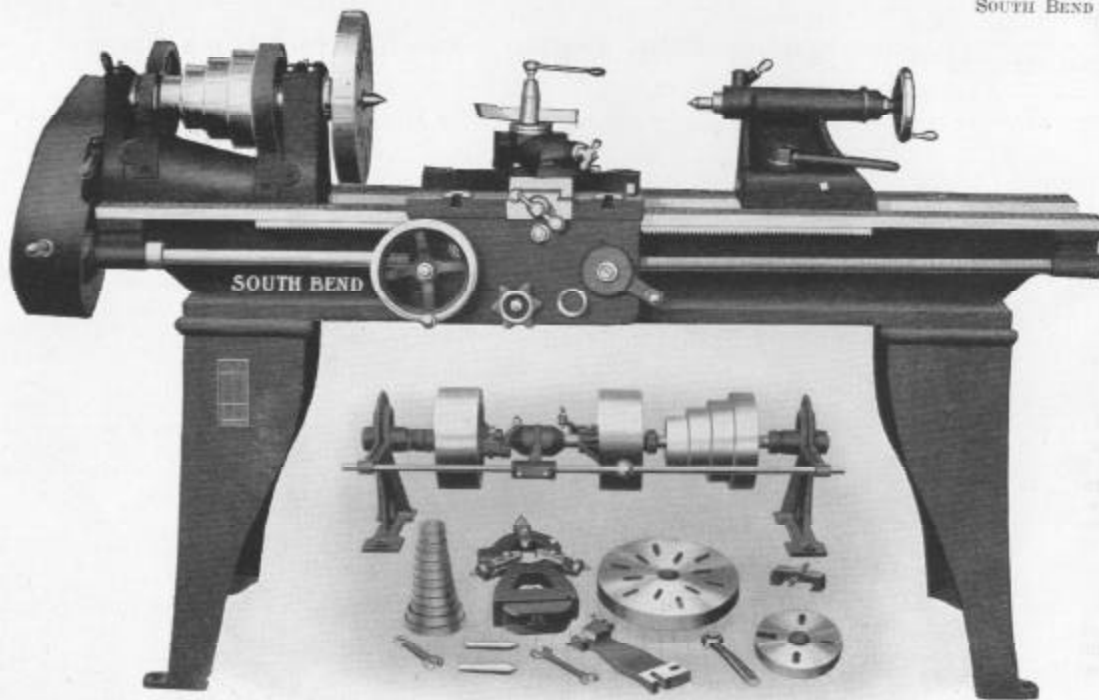
**Graduation.** The compound rest is graduated in degrees. The cross feed screw has micrometer graduated collar reading in one-thousandths of an inch.

**Equipment** as shown in cut is included in the price and consists of large and small face plates, compound rest, two steel centers, center rest, follower rest, change gears, adjustable stop for screw cutting, a set of feed gears, gear guards, necessary wrenches and double friction countershaft. (See page 34.)

Regular equipment, as illustrated under lathe, is included in price

No. of Laths	Swing over Bed	Length of Bed	Distance Between Centers	Swing Over Carriage	Hole Through Spindle	Diameter of Spindle Nose	Opening Tool Post Inches	Countershaft Speed	Approx. Weight on Skids Crated	Weight Boxed for Export
34-A	$13\frac{1}{4}$ in.	4 ft.	20 in.	9 in.	$\frac{3}{4}$ in.	$1\frac{3}{4}$ in.	$\frac{1}{2} \times 1\frac{1}{8}$ in.	275 R. P. M.	950	1050
34-B	$13\frac{1}{4}$ in.	5 ft.	32 in.	9 in.	$\frac{3}{4}$ in.	$1\frac{3}{4}$ in.	$\frac{1}{2} \times 1\frac{1}{8}$ in.	275 R. P. M.	1000	1180
34-C	$13\frac{1}{4}$ in.	6 ft.	44 in.	9 in.	$\frac{3}{4}$ in.	$1\frac{3}{4}$ in.	$\frac{1}{2} \times 1\frac{1}{8}$ in.	275 R. P. M.	1050	1200
34-D	$13\frac{1}{4}$ in.	7 ft.	56 in.	9 in.	$\frac{3}{4}$ in.	$1\frac{3}{4}$ in.	$\frac{1}{2} \times 1\frac{1}{8}$ in.	275 R. P. M.	1100	1270
34-E	$13\frac{1}{4}$ in.	8 ft.	68 in.	9 in.	$\frac{3}{4}$ in.	$1\frac{3}{4}$ in.	$\frac{1}{2} \times 1\frac{1}{8}$ in.	275 R. P. M.	1150	1350

**Extras.** The No. 34 Lathe may be supplied at extra cost with—Milling and Key-Way Cutting Attachment, Raising Blocks so lathe will turn and bore 18-inch swing, and Taper Attachment. Extras, except Taper Attachment, are interchangeable and may be attached after lathe has left the factory.



**No. 37—15-INCH SOUTH BEND SCREW CUTTING ENGINE LATHE**  
Fitted with Automatic Longitudinal Feed, Automatic Cross Feed and Compound Rest  
Regular Equipment, as Illustrated Under Lathe, is Included in Price



## No. 37—15-INCH SOUTH BEND SCREW CUTTING ENGINE LATHE

Fitted with Automatic Longitudinal Feed, Automatic Cross Feed and Compound Rest

Our No. 37 Lathe is surpassed by none for manufacturing and for the machine and general repair shop, as it has a number of practical features that enable it to take care of the various jobs that come to the shop

**Bed** is rigid, cross ribbed by heavy box braces cast in at short intervals its entire length; has three V's and one flat way for guiding the head stock, tail stock, and carriage. The rack attached is of steel, cut from the solid bar.

**Head Stock** is equipped with improved reverse. Spindle cone has four steps for 1 $\frac{3}{4}$ -inch belt. Spindle is of special carbon steel accurately ground; has 1 $\frac{1}{2}$ -inch hole its entire length. Centers are No. 3 Morse taper. Bearings are of heavy phosphor bronze with ample oiling facilities and are adjustable for wear.

**Tail Stock** is off-set to allow compound rest to swivel parallel to bed and is provided with set-over for turning taper. Tail stock center is self-ejecting.

**Carriage** is strong, with wide deep bridge; has T slots for clamping work for milling and boring. Both automatic cross feed

and automatic longitudinal feed are operated from the front of apron and but one feed at a time can be engaged. Both feeds are driven by a splined screw and worm so that the thread of the lead screw is used for screw cutting only. (See automatic apron, page 35.)

**Thread Cutting.** The lathe is indexed to cut standard threads from 4 to 40, right or left, including 11 $\frac{1}{2}$  pipe thread. (See page 35.)

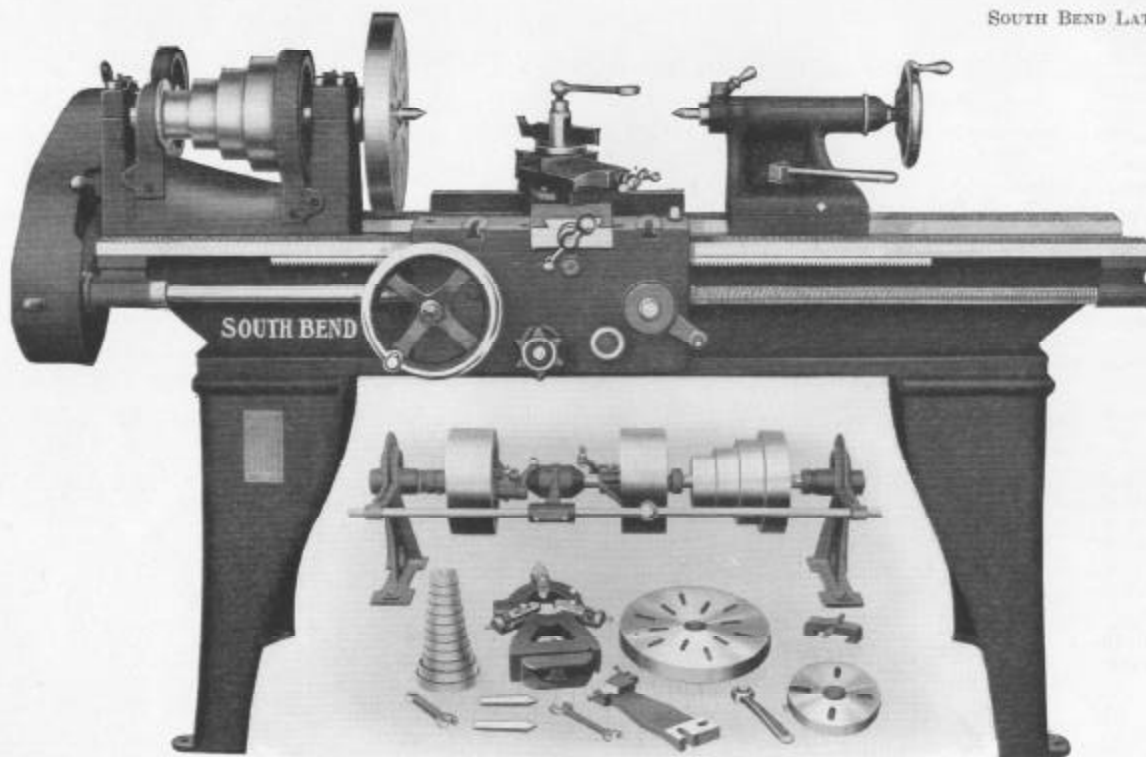
**Graduation.** The compound rest is graduated in degrees. The cross feed screw has micrometer graduated collar reading in one-thousandths of an inch.

**Equipment** as shown in cut is included in the price and consists of large and small face plates, compound rest, two steel centers, center rest, follower rest, change gears, adjustable stop for screw cutting, a set of feed gears, gear guards, necessary wrenches and double friction countershaft. (See page 34.)

Regular equipment, as illustrated under lathe, is included in price

No. of Lathe	Swing over Bed	Length of Bed	Distance Between Centers	Swing Over Carriage	Hole Through Spindle	Diameter of Spindle Nose	Opening Tool Post Inches	Countershaft Speed	Approx. Weight on Skids Crated	Weight Boxed for Export
37-B	15 $\frac{1}{4}$ in.	5 ft.	28 in.	10 $\frac{3}{8}$ in.	1 $\frac{1}{2}$ in.	2 $\frac{1}{4}$ in.	$\frac{5}{8}$ x 1 $\frac{1}{4}$ in.	250 R. P. M.	1350	1600
37-C	15 $\frac{1}{4}$ in.	6 ft.	40 in.	10 $\frac{3}{8}$ in.	1 $\frac{1}{2}$ in.	2 $\frac{1}{4}$ in.	$\frac{5}{8}$ x 1 $\frac{1}{4}$ in.	250 R. P. M.	1425	1675
37-D	15 $\frac{1}{4}$ in.	7 ft.	52 in.	10 $\frac{3}{8}$ in.	1 $\frac{1}{2}$ in.	2 $\frac{1}{4}$ in.	$\frac{5}{8}$ x 1 $\frac{1}{4}$ in.	250 R. P. M.	1500	1725
37-E	15 $\frac{1}{4}$ in.	8 ft.	64 in.	10 $\frac{3}{8}$ in.	1 $\frac{1}{2}$ in.	2 $\frac{1}{4}$ in.	$\frac{5}{8}$ x 1 $\frac{1}{4}$ in.	250 R. P. M.	1650	1900
37-G	15 $\frac{1}{4}$ in.	10 ft.	88 in.	10 $\frac{3}{8}$ in.	1 $\frac{1}{2}$ in.	2 $\frac{1}{4}$ in.	$\frac{5}{8}$ x 1 $\frac{1}{4}$ in.	250 R. P. M.	1900	2250

**Extras.** The No. 37 Lathe may be supplied at extra cost with—Milling and Key-Way Cutting Attachment, Raising Blocks so lathe will turn and bore 20-inch swing, and Taper Attachment. Extras, except Taper Attachment, are interchangeable and may be attached after lathe has left the factory.



**No. 40—16-INCH SOUTH BEND SCREW CUTTING ENGINE LATHE**  
Fitted with Automatic Longitudinal Feed, Automatic Cross Feed and Compound Rest  
Regular Equipment, as Illustrated Under Lathe, is Included in Price

## No. 40—16-INCH SOUTH BEND SCREW CUTTING ENGINE LATHE

Fitted with Automatic Longitudinal Feed, Automatic Cross Feed and Compound Rest

The No. 40 Lathe is a heavy, reliable tool capable of taking powerful cuts with high speed steel. We recommend it for manufacturing for the machine shop and general all-around work

**Bed** is rigid, cross ribbed by heavy box braces cast in at short intervals its entire length; has three V's and one flat way for guiding the head stock, tail stock, and carriage. The rack is of steel, cut from the solid bar.

**Head Stock** is equipped with improved reverse. Spindle cone has four steps for 2-inch belt, which, with back gears, gives eight changes of spindle speeds. Spindle is of special carbon steel accurately ground; has  $1\frac{1}{8}$ -inch hole its entire length. Centers are No. 3 Morse Taper. Bearings are heavy phosphor bronze, with ample oiling facilities, and are adjustable for wear.

**Tail Stock** is off-set to allow compound rest to swivel parallel to the bed and is provided with set-over for turning taper. Tail stock center is self-ejecting.

**Carriage** is strong with wide deep bridge; has T slots for clamping work for milling and boring. Has automatic cross feed

and automatic longitudinal feed, both of which are operated from front of apron and but one feed at a time can be engaged. Both feeds are driven by a splined screw and worm so that the thread of the lead screw is used for screw cutting only. (See automatic apron, page 35.)

**Thread Cutting.** Lathe is indexed to cut standard threads from 4 to 40, right or left, including  $11\frac{1}{2}$  pipe thread. (See page 35.)

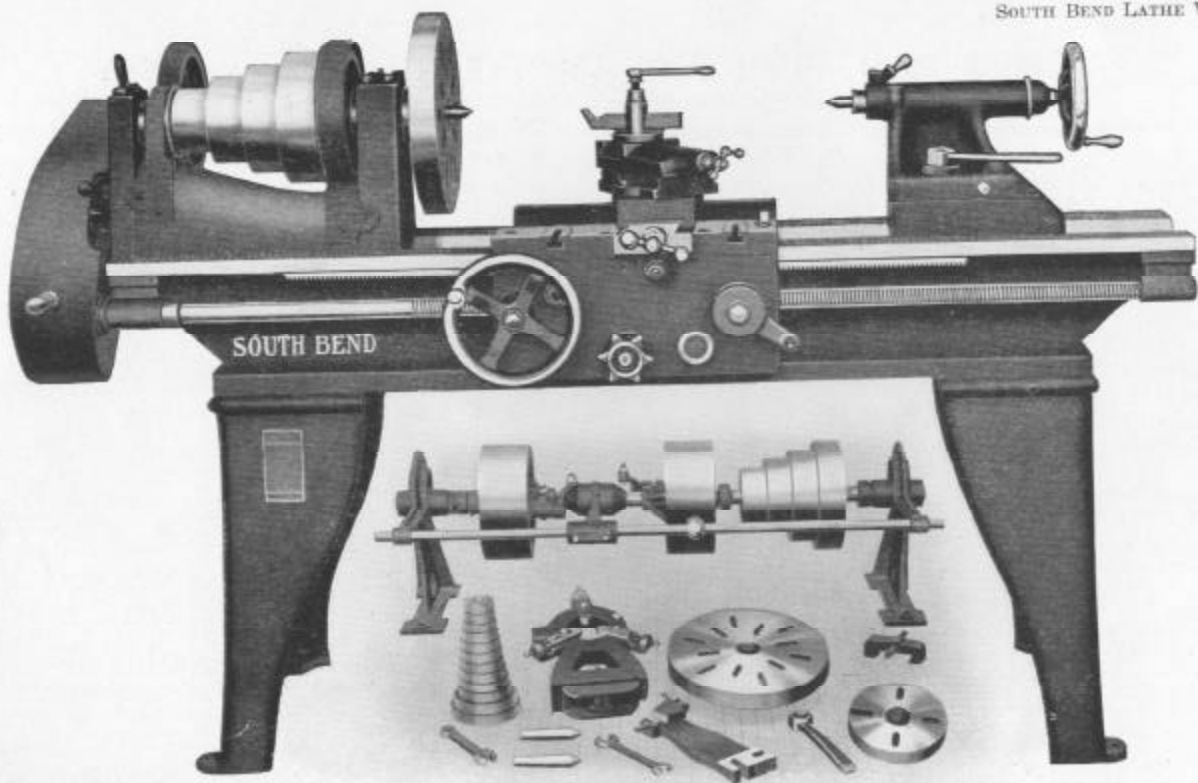
**Graduation.** The compound rest is graduated in degrees. The cross feed screw has graduated micrometer collar reading in one-thousandths of an inch.

**Equipment** as shown in cut is included in the price and consists of large and small face plates, compound rest, two steel centers, center rest, follower rest, change gears, adjustable stop for screw cutting, a set of feed gears, gear guards, necessary wrenches and double friction countershaft. (See page 34.)

Regular equipment, as illustrated under lathe, is included in price

No. of Lathe	Swing over Bed	Length of Bed	Distance Between Centers	Swing Over Carriage	Hole Through Spindle	Diameter of Spindle Nose	Taper in Spindle Morse	Opening Tool Post Inches	Countershaft Speed	Approx. Weight on Skids Crated	Weight Boxed for Export
40-C	16 $\frac{1}{4}$ in.	6 ft.	36 in.	11 $\frac{1}{2}$ in.	1 $\frac{1}{8}$ in.	2 $\frac{3}{8}$ x 8 th.	No. 3	$\frac{5}{8}$ x 1 $\frac{1}{8}$ in.	225 R. P. M.	1700	1875
40-D	16 $\frac{1}{4}$ in.	7 ft.	48 in.	11 $\frac{1}{2}$ in.	1 $\frac{1}{8}$ in.	2 $\frac{3}{8}$ x 8 th.	No. 3	$\frac{5}{8}$ x 1 $\frac{1}{8}$ in.	225 R. P. M.	1750	2007
40-E	16 $\frac{1}{4}$ in.	8 ft.	60 in.	11 $\frac{1}{2}$ in.	1 $\frac{1}{8}$ in.	2 $\frac{3}{8}$ x 8 th.	No. 3	$\frac{5}{8}$ x 1 $\frac{1}{8}$ in.	225 R. P. M.	1825	2050
40-G	16 $\frac{1}{4}$ in.	10 ft.	84 in.	11 $\frac{1}{2}$ in.	1 $\frac{1}{8}$ in.	2 $\frac{3}{8}$ x 8 th.	No. 3	$\frac{5}{8}$ x 1 $\frac{1}{8}$ in.	225 R. P. M.	2025	2150
40-H	16 $\frac{1}{4}$ in.	12 ft.	108 in.	11 $\frac{1}{2}$ in.	1 $\frac{1}{8}$ in.	2 $\frac{3}{8}$ x 8 th.	No. 3	$\frac{5}{8}$ x 1 $\frac{1}{8}$ in.	225 R. P. M.	2250	2350

**Extras.** The No. 40 Lathe may be supplied at extra cost with—Milling and Key-Way Cutting Attachment, Raising Blocks so lathe will turn and bore 22-inch swing, and Taper Attachment. Extras, except Taper Attachment, are interchangeable and may be attached after lathe has left the factory. Lathe with 12-ft. bed, equipped with Center Leg.



**No. 44—18-INCH SOUTH BEND SCREW CUTTING ENGINE LATHE**  
Fitted with Automatic Longitudinal Feed, Automatic Cross Feed and Compound Rest  
Regular Equipment, as Illustrated Under Lathe, is Included in Price

## No. 44—18-INCH SOUTH BEND SCREW CUTTING ENGINE LATHE

Fitted with Automatic Longitudinal Feed, Automatic Cross Feed and Compound Rest

No. 44 Lathe is designed to give service with high speed steel. It has the strength for manufacturing and general all-around work in the machine shop

**Bed** is rigid, cross ribbed by heavy box braces cast in at short intervals its entire length; has three V's and one flat way for guiding the head stock, tail stock, and carriage. The rack is of steel, cut from the solid bar.

**Head Stock** is equipped with improved reverse. Spindle cone has four steps for a 2½-inch belt, which, with back gears, gives eight changes of spindle speeds. Spindle is of special carbon steel accurately ground; has a 1/8-inch hole its entire length. Centers conform to No. 3 Morse taper. Bearings are of heavy phosphor bronze, with ample oiling facilities, and are adjustable for wear.

**Tail Stock** is off-set to allow compound rest to swivel parallel to the bed, and is provided with set-over for turning taper. Tail stock center is self-ejecting.

**Carriage** is strong, with wide deep bridge; has T slots for clamping work for milling and boring. Has automatic cross feed

and automatic longitudinal feed, both of which are operated from the front of the apron and so arranged that only one feed can be engaged at a time. Both feeds are driven by a splined screw and worm so that the thread of the lead screw is used for screw cutting only. (See automatic apron, page 35.)

**Thread Cutting.** Lathe is indexed to cut standard threads from 4 to 40, right or left, including 11½ pipe thread. (See page 35.)

**Graduation.** The compound rest is graduated in degrees. The cross feed screw has a graduated micrometer collar reading in one-thousandths of an inch.

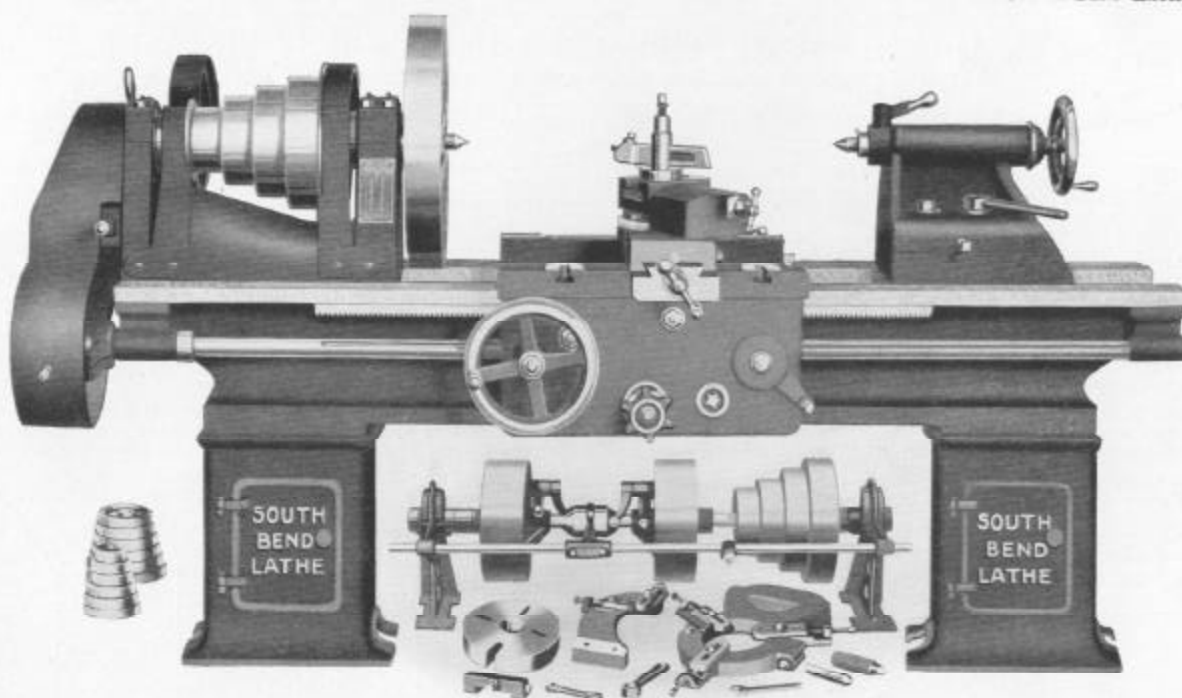
**Equipment** as shown in cut is included in the price and consists of large and small face plates, compound rest, two steel centers, center rest, follower rest, change gears, adjustable stop for screw cutting, a set of feed gears, gear guards, necessary wrenches and double friction countershaft. (See page 34.)

Regular equipment, as illustrated under lathe, is included in price

No. of Lathe	Swing over Bed	Length of Bed	Distance Between Centers	Swing Over Carriage	Hole Through Spindle	Diameter of Spindle Nose	Taper in Spindle Morse	Opening Tool Post Inches	Countershaft Speed	Approx. Weight on Skids Crated	Weight Boxed for Export
44-C	18¼ in.	6 ft.	33 in.	13¼ in.	1 1/16 in.	2 3/8 x 8 th.	No. 3	5/8 x 1 3/8 in.	200 R. P. M.	1800	1950
44-D	18¼ in.	7 ft.	45 in.	13¼ in.	1 1/8 in.	2 3/8 x 8 th.	No. 3	5/8 x 1 3/8 in.	200 R. P. M.	1875	2025
44-E	18¼ in.	8 ft.	57 in.	13¼ in.	1 1/8 in.	2 3/8 x 8 th.	No. 2	5/8 x 1 3/8 in.	200 R. P. M.	2000	2100
44-G	18¼ in.	10 ft.	81 in.	13¼ in.	1 3/16 in.	2 3/8 x 8 th.	No. 3	5/8 x 1 3/8 in.	200 R. P. M.	2100	2300
44-H	18¼ in.	12 ft.	105 in.	13¼ in.	1 1/8 in.	2 3/8 x 8 th.	No. 3	5/8 x 1 3/8 in.	200 R. P. M.	2300	2525

**Extras.** The No. 44 Lathe may be supplied at extra cost with — Milling and Key-Way Cutting Attachment, Raising Blocks so lathe will turn and bore 24-inch swing, and Taper Attachment. Extras, except Taper Attachment, are interchangeable and may be attached after lathe has left the factory. Lathe with 12-ft. bed, equipped with Center Leg.





**No. 47—21-INCH SOUTH BEND SCREW CUTTING ENGINE LATHE (Heavy Duty)**

Fitted with Automatic Longitudinal Feed, Automatic Cross and Compound Rest  
Regular Equipment, as Illustrated Under Lathe, is included in Price

## No. 47—21-INCH SOUTH BEND SCREW CUTTING ENGINE LATHE (Heavy Duty)

Fitted with Automatic Longitudinal Feed, Automatic Cross Feed and Compound Rest

No. 47 Lathe makes an excellent all-around lathe for general machine and repair shop. It is a heavy tool, well built, and will stand up under unusual service

**Bed** is rigid, cross ribbed by heavy box braces cast in at short intervals its entire length; has three V's and one flat way for guiding the head stock, tail stock, and carriage. The rack is of steel, cut from the solid bar.

**Head Stock** is equipped with improved reverse. Spindle cone has four steps for a 2½-inch belt, which, with back gears, gives eight changes of spindle speeds. Spindle is of special carbon steel accurately ground; has a 1½-inch hole its entire length. Centers conform to No. 4 Morse taper. Bearings are of heavy phosphor bronze, with ample oiling facilities, and are adjustable for wear.

**Tail Stock** is off-set to allow compound rest to swivel parallel to the bed, and is provided with set-over for turning taper. Tail stock center is self-ejecting.

**Carriage** is strong, with wide deep bridge; has T slots for clamping work for milling and boring. Has automatic cross feed

and automatic longitudinal feed, both of which are operated from the front of the apron and so arranged that only one feed can be engaged at a time. Both feeds are driven by a splined screw and worm so that the thread of the lead screw is used for screw cutting only. (See automatic apron, page 35.)

**Thread Cutting.** Lathe is indexed to cut standard threads from 2 to 40, right or left, including 11½ pipe thread. (See page 35.)

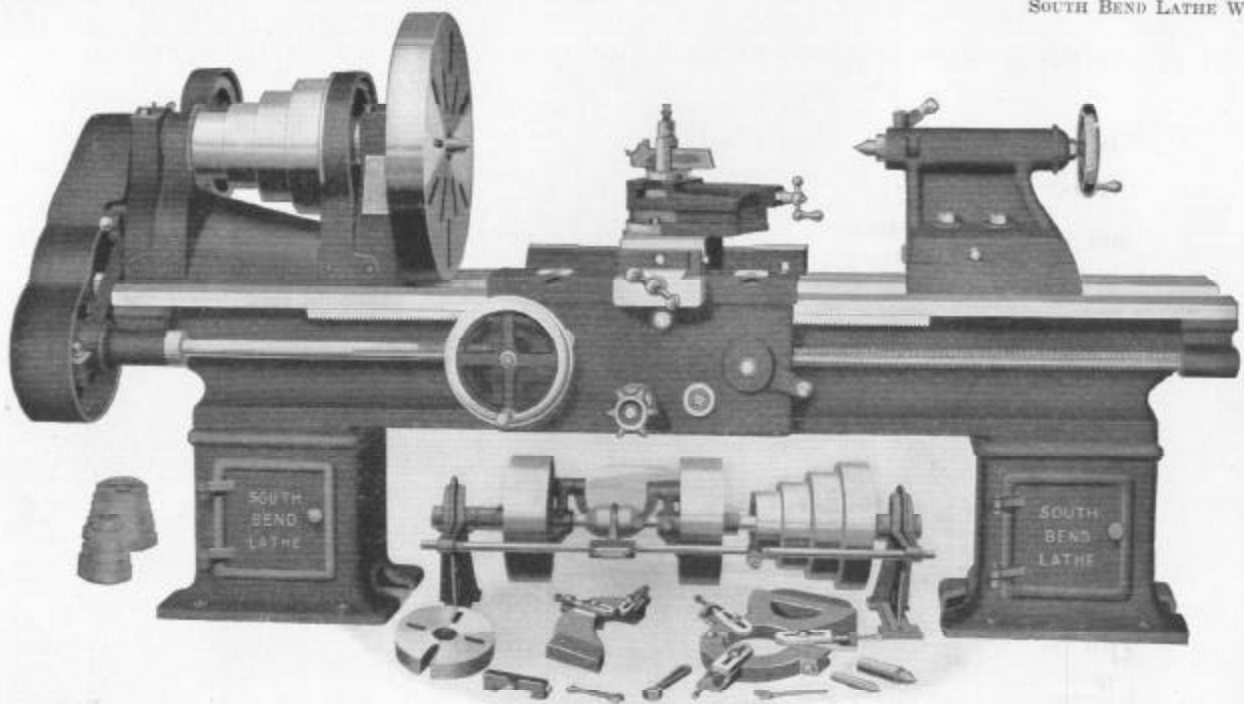
**Graduation.** The compound rest is graduated in degrees. The cross feed screw has a graduated micrometer collar reading in one-thousandths of an inch.

**Equipment** as shown in cut is included in the price and consists of large and small face plates, compound rest, two steel centers, center rest, follower rest, change gears, adjustable stop for screw cutting, a set of feed gears, gear guards, necessary wrenches and double friction countershaft. (See page 34.)

Regular equipment, as illustrated under lathe, is included in price

No. of Lathe	Swing over Bed	Length of Bed	Distance Between Centers	Swing Over Carriage	Hole Through Spindle	Diameter of Spindle Nose	Taper in Spindle Morse	Opening Tool Post Inches	Countershaft Speed	Approx. Weight on Skids Crated	Approx. Wgt. Boxed for Export
47-D	21¼ in.	7 ft.	39 in.	15½ in.	1½ in.	2¼ x 5 th.	No. 4	⅞ x 2 in.	175 R. P. M.	2820	3235
47-E	21¼ in.	8 ft.	51 in.	15½ in.	1½ in.	2¼ x 5 th.	No. 4	⅞ x 2 in.	175 R. P. M.	3035	3400
47-G	21¼ in.	10 ft.	75 in.	15½ in.	1½ in.	2¼ x 5 th.	No. 4	⅞ x 2 in.	175 R. P. M.	3275	3725
47-H	21¼ in.	12 ft.	99 in.	15½ in.	1½ in.	2¼ x 5 th.	No. 4	⅞ x 2 in.	175 R. P. M.	3700	4175
47-K	21¼ in.	14 ft.	123 in.	15½ in.	1½ in.	2¼ x 5 th.	No. 4	⅞ x 2 in.	175 R. P. M.	3975	4500

**Extras.** The No. 47 Lathe may be supplied at extra cost with—Milling and Key-Way Cutting Attachment, Raising Blocks so lathe will turn and bore 27-inch swing, and Taper Attachment. Extras, except Taper Attachment, are interchangeable and may be attached after lathe has left the factory. Lathes with 12-ft. and 14-ft. Beds, equipped with Center Leg.



**No. 54—24-INCH SOUTH BEND SCREW CUTTING ENGINE LATHE (Heavy Duty)**  
Fitted with Automatic Longitudinal Feed, Automatic Cross Feed and Compound Rest  
Regular Equipment, as Illustrated Under Lathe, is Included in Price

SOUTH BEND, INDIANA

## No. 54—24-INCH SOUTH BEND SCREW CUTTING ENGINE LATHE (Heavy Duty)

Fitted with Automatic Longitudinal Feed, Automatic Cross Feed and Compound Rest

No. 54 is a 24-inch Lathe, and the largest size we build. It is a heavy, powerful tool, designed to give service for general all-around work. We recommend it for manufacturing and for the general machine shop

**Bed** is rigid, cross ribbed by heavy box braces cast in at short intervals its entire length; has three V's and one flat way for guiding the head stock, tail stock, and carriage. The rack is of steel, cut from the solid bar.

**Head Stock** is equipped with improved reverse. Spindle cone has four steps for a 3-inch belt, which, with back gears, gives eight changes of spindle speeds. Spindle is of special carbon steel accurately ground; has a 1 1/4-inch hole its entire length. Centers conform to No. 4 Morse taper. Bearings are of heavy phosphor bronze, with ample oiling facilities, and are adjustable for wear.

**Tail Stock** is off-set to allow compound rest to swivel parallel to the bed, and is provided with set-over for turning taper. Tail stock center is self-ejecting.

**Carriage** is strong, with wide deep bridge; has T slots for clamping work for milling and boring. Has automatic cross feed

and automatic longitudinal feed, both of which are operated from the front of the apron and so arranged that only one feed can be engaged at a time. Both feeds are driven by a splined screw and worm so that the thread of the lead screw is used for screw cutting only. (See automatic apron, page 35.)

**Thread Cutting.** Lathe is indexed to cut standard threads from 2 to 40, right or left, including 1 1/2 pipe thread. (See page 35.)

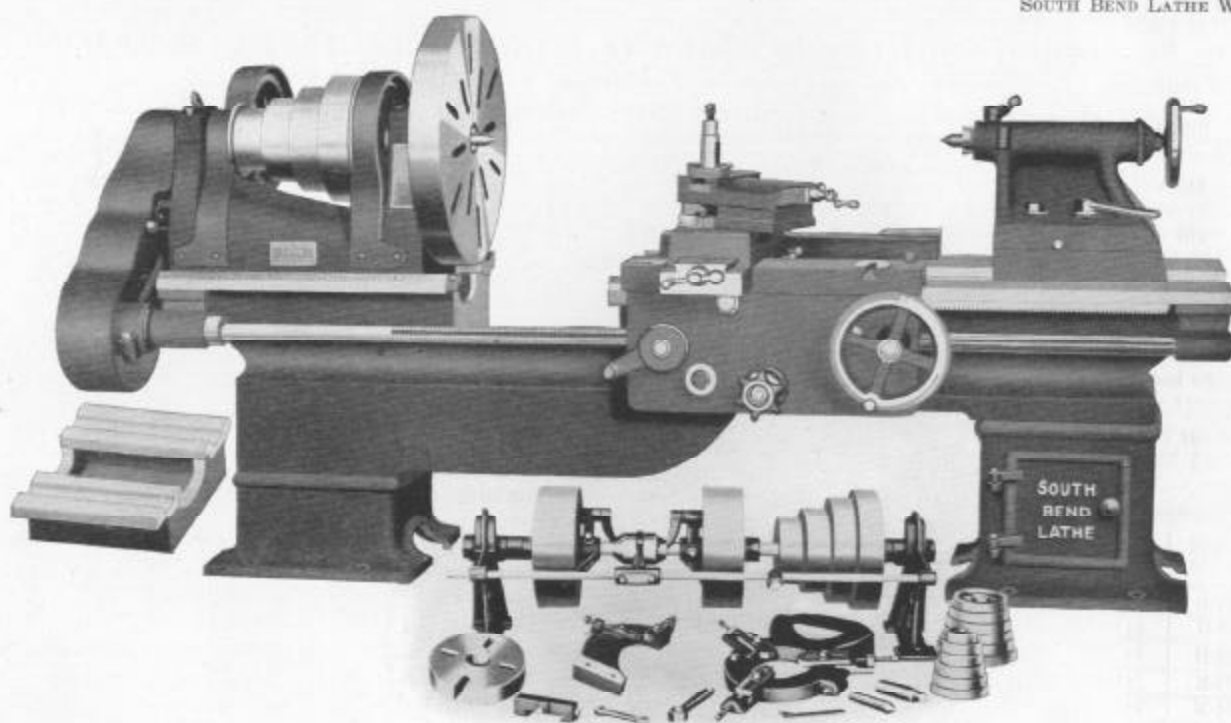
**Graduation.** The compound rest is graduated in degrees. The cross feed screw has a graduated micrometer collar reading in one-thousandths of an inch.

**Equipment** as shown in cut is included in the price and consists of large and small face plates, compound rest, two steel centers, center rest, follower rest, change gears, adjustable stop for screw cutting, a set of feed gears, gear guards, necessary wrenches and double friction countershaft. (See page 34.)

Regular equipment, as illustrated under lathe, is included in price

No. of Lathe	Swing over Bed	Length of Bed	Distance Between Centers	Swing Over Carriage	Hole Through Spindle	Diameter of Spindle Nose	Taper in Spindle Morse	Opening Tool Post Inches	Countershaft Speed	Approx. Weight on Skids Crated	Approx. Wgt. Boxed for Export
54-E	24 1/4 in.	8 ft.	47 in.	17 1/8 in.	1 3/4 in.	3 x 5 th.	No. 4	3/8 x 2 in.	150 R. P. M.	4000	4250
54-G	24 1/4 in.	10 ft.	71 in.	17 1/8 in.	1 3/4 in.	3 x 5 th.	No. 4	3/8 x 2 in.	150 R. P. M.	4350	4600
54-H	24 1/4 in.	12 ft.	95 in.	17 1/8 in.	1 3/4 in.	3 x 5 th.	No. 4	3/8 x 2 in.	150 R. P. M.	4600	5150
54-K	24 1/4 in.	14 ft.	119 in.	17 1/8 in.	1 3/4 in.	3 x 5 th.	No. 4	3/8 x 2 in.	150 R. P. M.	5025	5700
54-M	24 1/4 in.	16 ft.	143 in.	17 1/8 in.	1 3/4 in.	3 x 5 th.	No. 4	3/8 x 2 in.	150 R. P. M.	5260	6250

**Extras.** The No. 54 Lathe may be supplied at extra cost with—Milling and Key-Way Cutting Attachment, Raising Blocks so lathe will turn and bore 30-inch swing, and Taper Attachment. Extras, except Taper Attachment, are interchangeable and may be attached after lathe has left the factory. Lathes with 12-ft., 14-ft., and 16-ft. Beds, equipped with Center Leg.



**SOUTH BEND GAP LATHE, 24-INCH, SWINGS 36 INCHES OVER GAP**  
Fitted with Automatic Longitudinal Feed, Automatic Cross Feed and Compound Rest  
Regular Equipment, as Illustrated Under Lathe, is Included in Price



## SOUTH BEND LATHE WITH GAP BED AND BRIDGE

All Gap Lathes are Furnished Equipped with Compound Rest and Bridge

The Practical Lathe for all-around work in the machine and repair shop, adapted to handling work of both large and small diameter

**Sizes.** We build any size South Bend Lathe with gap bed when desired. For description and dimensions of gap bed lathes, see that of straight bed lathes, as the only difference between straight bed lathes and gap bed lathes is the bridge, and gap construction of bed, which requires more strength.

**Illustration** shows our 24-36-inch No. 154 Lathe fitted with compound rest, gap bed and bridge. The bridge, it will be seen, has been removed from the bed and rests on the floor at the left end of lathe. The illustration shows carriage mechanism transposed. This allows the carriage to pass over the entire width of the gap without letting down.

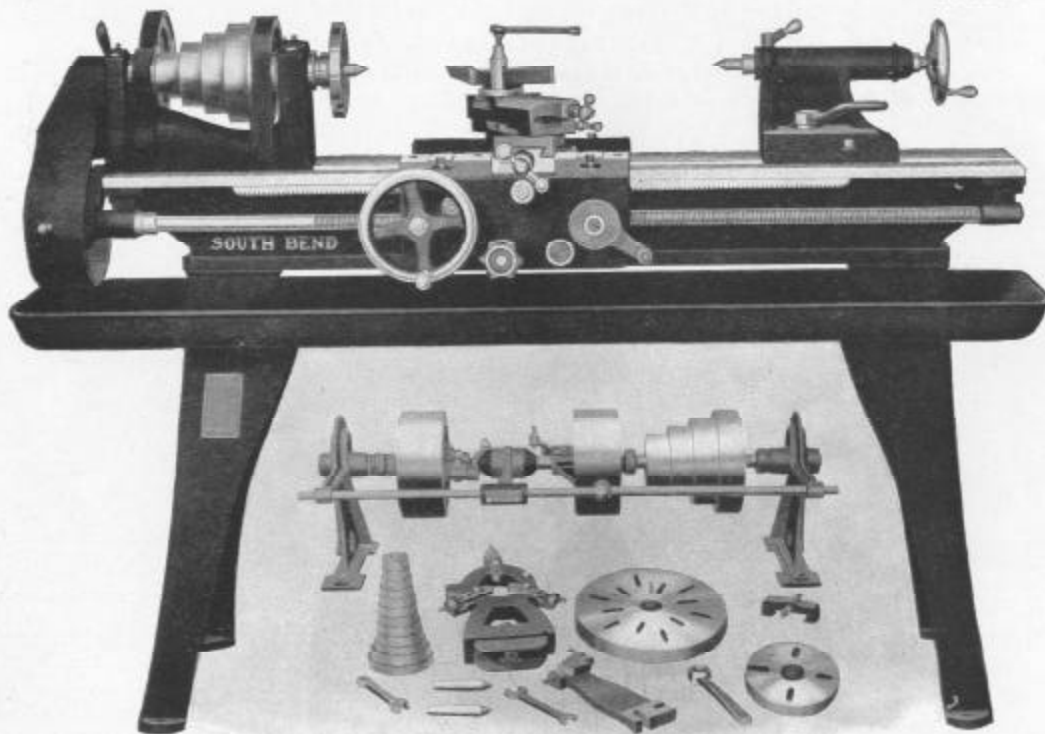
**Bridge** is used to close up the gap so that the lathe may be used as a straight bed for ordinary work. When work of large diameter is to be machined, bridge may be removed from bed in a few minutes, as it is accurately machined, scraped and fitted to gap, located by means of two steel dowel pins and held in position by four substantial bolts. Bridge must be fitted in lathe at factory.

**Equipment** as shown in cut is included in the price of lathe and consists of large and small face plates, graduated compound rest, two steel centers, center rest, follower rest, change gears, adjustable stop for screw cutting, a set of feed gears, gear guards, necessary wrenches, double friction counter-shaft, and bridge. (See page 34.)

### PRICE OF GAP AND BRIDGE IS EXTRA OVER PRICE OF STRAIGHT BED LATHE

No. of Gap Lathe	Swing over Straight Bed	Swing over Gap	Width of Gap	Length of Beds in feet	Extra Weight of Gap Beds	Price Extra for Gap and Bridge
134	13 $\frac{1}{4}$ in.	19 in.	7 in.	4, 5, 6, 7, 8	100 lbs.	\$ 30.00
137	15 $\frac{1}{4}$ in.	22 in.	8 in.	5, 6, 7, 8, 10	125 lbs.	36.00
140	16 $\frac{1}{4}$ in.	24 in.	8 $\frac{3}{4}$ in.	6, 7, 8, 10, 12	140 lbs.	40.00
144	18 $\frac{1}{4}$ in.	26 in.	10 in.	6, 7, 8, 10, 12	170 lbs.	50.00
147	21 $\frac{1}{4}$ in.	30 in.	12 in.	7, 8, 10, 12, 14	250 lbs.	100.00
154	24 $\frac{1}{4}$ in.	36 in.	15 in.	8, 10, 12, 14, 16	350 lbs.	150.00

**Extras.** The gap bed lathe may be supplied at extra cost with — Milling and Key-Way Cutting Attachment, Raising Blocks, and Taper Attachment. Extras, except Taper Attachment, are interchangeable and may be attached after lathe has left the factory. When ordering Lathe with gap bed, add figure (1) to the number of straight bed lathe or the word "Gap" to the code word.



**No. 234—13-INCH SOUTH BEND TOOL ROOM LATHE**  
With Automatic Longitudinal Feed, Automatic Cross Feed, Compound Rest and Oil Pan  
Regular Equipment, as Illustrated Under Lathe, is Included in Price

SOUTH BEND, INDIANA

## No. 234—13-INCH TOOL ROOM LATHE EQUIPPED WITH OIL PAN

With Automatic Longitudinal Feed, Automatic Cross Feed and Compound Rest

The illustration on the opposite page shows our No. 234, 13-inch Tool Room Lathe, with oil pan equipment. This is our regular No. 34, 13-inch lathe. When oil pan is added to the equipment of any South Bend Lathe, we place the figure (2) before the number of the lathe, as shown in tabulation below.

We can furnish oil pan equipped with reservoir if desired. Price of reservoir is \$5.00 extra on the 13 and 15-inch lathes;

\$7.00 on the 16 and 18-inch, and \$10.00 on the 21 and 24-inch lathes.

The South Bend Tool Room Lathe, equipped with oil pan, is very practical in the tool room and for light manufacturing, where oil or a cutting compound is used in various manufacturing operations.

We can equip any size lathe, up to and including beds 8-foot in length, with oil pan, as per tabulation shown herewith:

		Oil Pans Fitted to Lathes as Follows:					
No. of Lathe	Size of Lathe	13" x 4'	15" x 5'	13" x 6'	13" x 7'	13" x 8'	
No. 234	13-inch Tool Room Lathe.....	15" x 5'	15" x 6'	15" x 7'	15" x 8'		
No. 237	15-inch Tool Room Lathe.....	16" x 6'	16" x 7'	16" x 8'			
No. 240	16-inch Tool Room Lathe.....	18" x 6'	18" x 7'	18" x 8'			
No. 244	18-inch Tool Room Lathe.....						

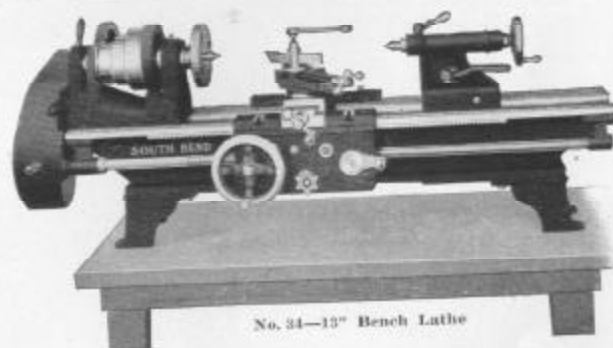
## BENCH LATHES

We can supply any of the standard lathes listed above, fitted with Bench Legs instead of oil pan and long legs.

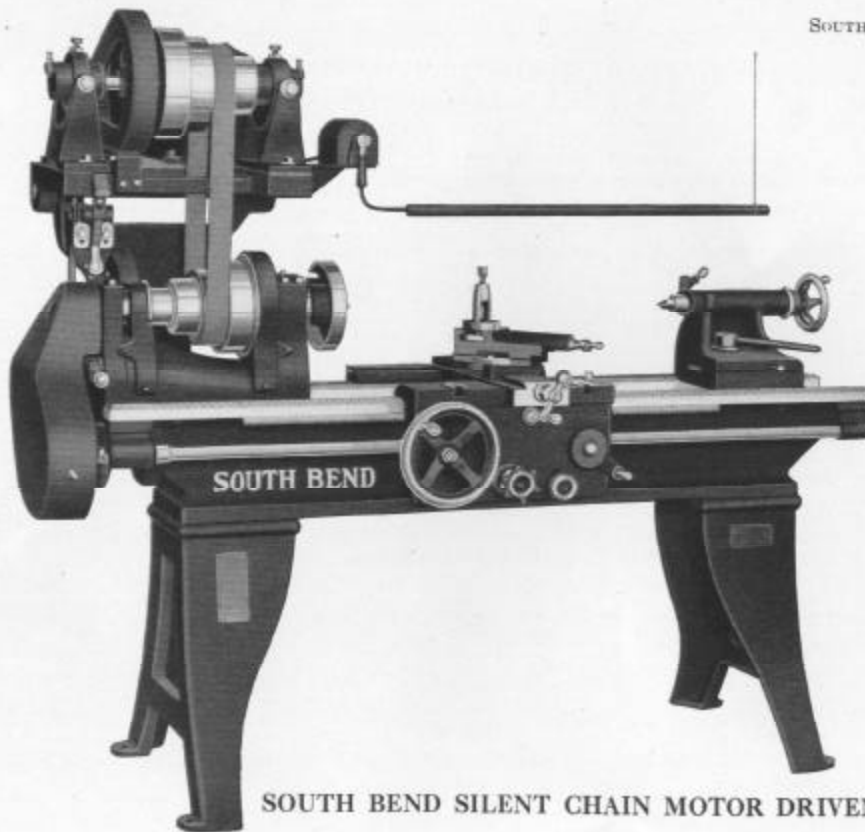
The Bench Lathes can be used in groups of two, four and six to increase the manufacturing production on small duplicate work. On some jobs, one operator can take care of six lathes.

When the lathe is wanted with bench legs instead of long legs, deduct from the list price as follows:

Size of Lathe.....	13"	15"	16"	18"
Deduct from list.....	\$5.00	\$6.00	\$7.00	\$8.00



No. 34—13" Bench Lathe



SOUTH BEND SILENT CHAIN MOTOR DRIVEN LATHE

## SOUTH BEND SILENT CHAIN MOTOR DRIVEN LATHE

The illustration on page 20 shows a South Bend Lathe equipped with the silent chain electric motor drive attachment.

A cast iron bracket is clamped to the rear V and bolted at the bottom to the lathe bed. (See page 22.) To this bracket is attached a tilting table, which carries the motor and countershaft cone. The countershaft is driven direct from the motor by a silent chain drive. The tilting table has an adjustment of about one inch, operated by a small lever shown underneath left end of table, which drops front end of this table so as to allow the belt to be shifted on the cones. This can be done instantly and while the lathe is in operation. The small bracket carrying the lever also admits of an independent adjustment for the tightening of belt when necessary. The countershaft runs in roller bearings, immersed in oil. These bearings have a self-aligned pivoting adjustment.

The starting, stopping and reversing the direction of the rotation of spindle are controlled through a reversible switch. From this switch extends a horizontal shifting bar. To rotate the spindle forward, throw the switch lever to the left; to stop the spindle, throw the switch lever to the neutral point or central position, and to reverse, throw the switch lever to the right. Through this horizontal shifting bar the operator has complete control of the lathe as he can start, stop and reverse the spindle instantaneously, quicker than even possible with the overhead countershaft and shifter method.

The Silent Chain Motor Driven Lathe is a complete unit in itself and all the regular equipment illustrated and described under each size lathe in this catalog is included in the price.

The electric motor drive attachment can be fitted to any of our regular stock lathes—either straight or gap bed. It is to be used only on South Bend Lathes. The price of the attachment does not include either motor or lathe, but is extra. There is no credit for countershaft when motor drive is used.

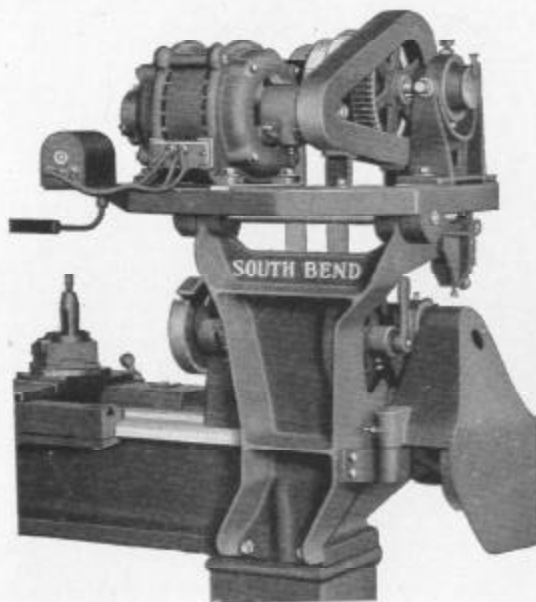
The Silent Chain Motor Drive Attachment is the result of years of experience and development. The word "silent" describes the drive, because when in operation there is no noise whatever; even in the instantaneous reverse there is no jar, vibration or grinding of gears such as is heard in many electric motor drives. This motor driven lathe may be placed in an office room, put in operation, and the occupants in the adjoining office would not know it was there. The self-aligned roller bearings immersed in oil is a feature that will be appreciated by a mechanic; the instant release for belt shifting is of great advantage to the operator. The reversible switch makes it possible to do away with expensive reversing motors, and the cone on the countershaft does away with heavy and costly variable speed motors, allowing us to use the regular standard stock motor. All these features enable us to offer the most modern and practical motor driven lathe in use today.

Any constant speed motor, alternating or direct current, having a speed of 900 R. P. M. can be used. It is necessary that the motor be fitted to the electric drive attachment in our shop, but the customer may purchase the motor if he desires, ship it to us and we will attach it here. In placing an order for a silent chain motor driven lathe, please give the following specifications: Current, whether alternating or direct. If alternating, state voltage, phase and cycle. If direct, state voltage.

### HORSE POWER OF MOTOR REQUIRED FOR DRIVING SOUTH BEND LATHES

Size of Lathe.....	13"	15"	16"	18"	21"	24"
Horse Power of Motor.....	1	1½	2	2	3	4
Countershaft, R. P. M.....	275	250	225	200	175	150

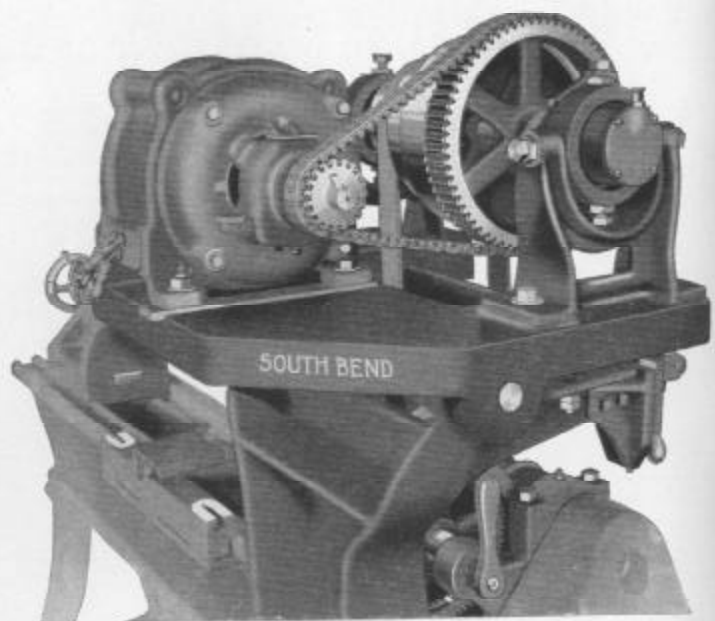




### SILENT CHAIN MOTOR DRIVE ATTACHMENT

Rear View

The above illustration shows a rear view of the silent chain motor drive attachment fitted to a 15-inch South Bend Lathe. (Illustrated and described on pages 20 and 21.) Note that the attachment does not extend below the bottom of the bed; it is simply fitted to one of our standard stock lathes. We make this attachment in various sizes to fit all South Bend Lathes.



### THE SILENT CHAIN DRIVE

Enlarged View

The illustration above shows a section of the silent chain drive with the gear guard removed so that the chain and gears may be seen. This silent chain drive is noiseless and efficient. Silent chains have been used for driving machinery for the last twenty-five years. The cut also shows the construction of the self-aligned countershaft boxes in which the roller bearings are immersed in oil.

**DIMENSIONS OF CASES IN INCHES AND GROSS WEIGHT OF SOUTH BEND  
LATHE BOXED FOR EXPORT, BOTH STRAIGHT  
AND GAP BED LATHES**

No. of Lathe	Swing Over Bed	Length of Bed	Dimensions of Case Straight Bed	Weight Boxed for Export Straight Bed	Dimensions of Case Gap Bed	Weight Boxed for Export Gap Bed	Code Word
<b>No. 34 13-INCH SOUTH BEND LATHE</b>							
34-A	13 1/4 in.	4 ft.	59x29x28	1050	59x31x28	1100	Hall
34-B	13 1/4 in.	5 ft.	71x29x28	1180	71x31x28	1220	Hasen
34-C	13 1/4 in.	6 ft.	82x29x28	1200	82x31x28	1265	Hisor
34-D	13 1/4 in.	7 ft.	94x29x28	1270	94x31x28	1315	Horte
34-E	13 1/4 in.	8 ft.	107x29x28	1350	107x31x28	1407	Itom
<b>No. 37 15-INCH SOUTH BEND LATHE</b>							
37-B	15 1/4 in.	5 ft.	70x30x30	1600	70x31x30	1640	Jass
37-C	15 1/4 in.	6 ft.	82x30x30	1675	82x31x30	1715	Jadlin
37-D	15 1/4 in.	7 ft.	94x30x30	1725	94x31x30	1785	Jagil
37-E	15 1/4 in.	8 ft.	106x30x30	1900	106x31x30	1970	Jilon
37-G	15 1/4 in.	10 ft.	129x30x30	2250	129x31x30	2302	Joker
<b>No. 40 15-INCH SOUTH BEND LATHE</b>							
40-C	16 1/4 in.	6 ft.	82x30x31	1875	82x30x34	1965	Juddo
40-D	16 1/4 in.	7 ft.	94x30x31	2000	94x30x34	2080	Jud
40-E	16 1/4 in.	8 ft.	106x30x31	2050	106x30x34	2150	Julcy
40-G	16 1/4 in.	10 ft.	129x30x31	2150	129x30x34	2205	Jular
40-H	16 1/4 in.	12 ft.	152x30x31	2350	152x30x34	2415	Junjo
<b>No. 44 18-INCH SOUTH BEND LATHE</b>							
44-C	18 1/4 in.	6 ft.	82x30x31	1950	82x30x34	2060	Kane
44-D	18 1/4 in.	7 ft.	94x30x31	2025	94x30x34	2155	Karst
44-E	18 1/4 in.	8 ft.	106x30x31	2100	106x30x34	2260	Kell
44-G	18 1/4 in.	10 ft.	129x30x31	2300	129x30x34	2470	Kerr
44-H	18 1/4 in.	12 ft.	152x30x31	2525	152x30x34	2625	Koss
<b>No. 47 21-INCH SOUTH BEND LATHE</b>							
47-D	21 1/4 in.	7 ft.	94x40x37	3235	94x42x40	3650	Paden
47-E	21 1/4 in.	8 ft.	106x40x37	3400	106x42x40	3850	Pages
47-G	21 1/4 in.	10 ft.	130x40x37	3725	130x42x40	4275	Pentl
47-H	21 1/4 in.	12 ft.	154x40x37	4175	154x42x40	4625	Pekom
47-K	21 1/4 in.	14 ft.	178x40x37	4600	178x42x40	5050	Pelts
<b>No. 54 24-INCH SOUTH BEND LATHE</b>							
54-E	24 1/4 in.	8 ft.	106x40x40	4250	106x46x40	4325	Pines
54-G	24 1/4 in.	10 ft.	130x40x40	4600	130x46x40	4875	Pitts
54-H	24 1/4 in.	12 ft.	154x40x40	5150	154x46x40	5425	Polly
54-K	24 1/4 in.	14 ft.	178x40x40	5700	178x46x40	5975	Pond
54-M	24 1/4 in.	16 ft.	203x40x40	6250	203x46x40	6525	Prose

When ordering Lathe with Gap Bed, add figure (1) to the number of straight bed lathe, or the word "Gap" to the code word.

Example: No. 47-G is 21"x10' lathe with straight bed, code word "Pentl."  
No. 147-G is 21"x10' lathe with gap and bridge, code word "Pentl-Gap."

### SOUTH BEND MILLING AND KEY-WAY CUTTING ATTACHMENT FOR LATHES

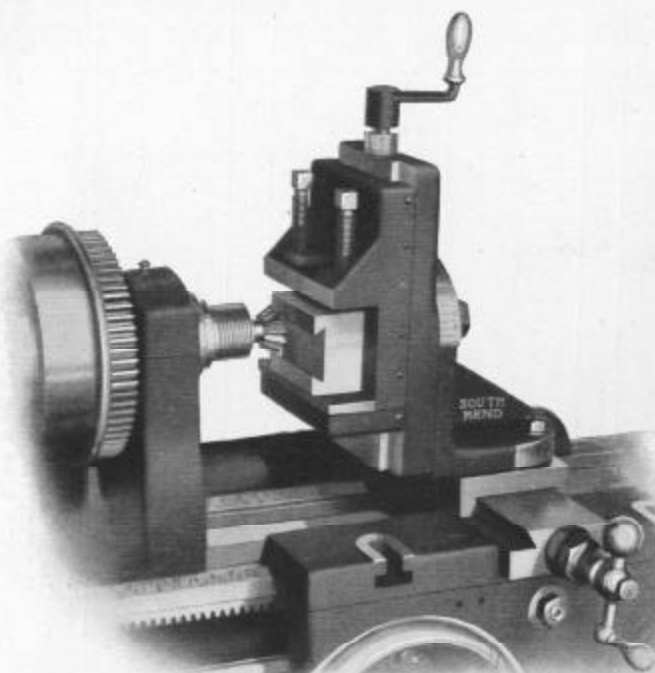
The illustration shows our improved Milling and Key-Way Cutting Attachment fitted to the carriage of a 15-inch South Bend Lathe. The four illustrations shown are of the No. 4 attachment, same size on four different jobs.

The depth of the cut is controlled by the feed of the carriage, the length by the cross feed screw, and the graduated screw at the top takes care of the vertical motion. The attachment swivels all the way around like the compound rest, and is graduated in degrees. In addition it swivels on the upright angle plate 180 degrees, and is graduated. There is a graduated collar on the vertical screw reading in one-thousandths of an inch.

This attachment is designed for South Bend Lathes, but it can also be fitted, by a mechanic, to lathes of other makes, that are equipped with a compound rest.

The regular equipment consists of Milling Attachment, two steel V blocks, one crank handle, one double end wrench, and two bolts and nuts for attaching.

Arbors or cutters are not included in the price of the attachment, but are extra. (See page 26.)



South Bend Milling and Key-Way Cutting Attachment No. 4

Fitted to a No. 37—15" South Bend Lathe. This attachment is practical in the shop because it equips the lathe for doing a great deal of work that otherwise could be done only on the shaper or milling machine.

Size of Attachment	No. 3	No. 4	No. 5	No. 6	No. 7
Size Lathe used on	13"	15"	16", 18"	21"	24"
Vertical Feed.....	5"	6"	7"	8"	10"
Cross Feed.....	6"	7"	8"	9"	10"
Vise will hold....	2 3/4"	3 1/2"	4"	4 1/2"	5"
Depth of Jaws....	1 3/4"	1 3/4"	2"	2 1/4"	2 1/2"
Width of Base....	5"	5 1/2"	6"	7 1/2"	8"
Width of Jaws...	5"	5 1/2"	6"	7 1/2"	8"
Weight.....	40 lbs.	50 lbs.	65 lbs.	80 lbs.	100 lbs.
Price.....	\$35.00	\$37.50	\$40.00	\$50.00	\$60.00
Code.....	Victo	Visit	Volt	Vurry	Vusol

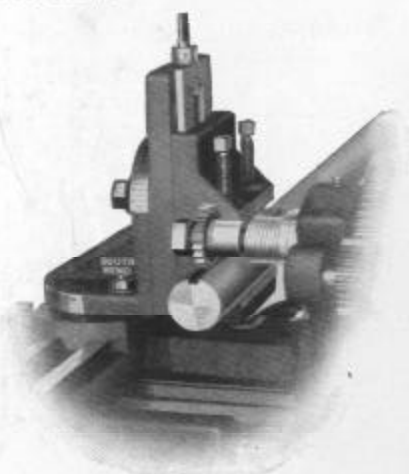


Fig. B—Milling a Key-Way on the Lathe

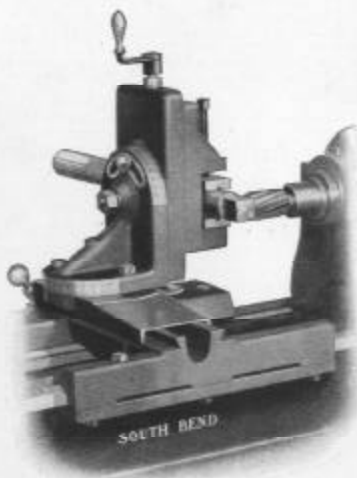


Fig. C—Squaring a Steel Shaft on Lathe

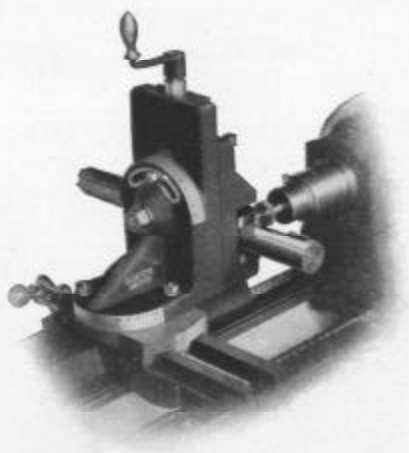


Fig. D—Milling a Key-Way (Woodruff System)

### SOUTH BEND MILLING AND KEY-WAY CUTTING ATTACHMENT FOR LATHES

#### No. 4 Attachment on a No. 37 15" South Bend Lathe

Illustration Fig. B is taken from the back of lathe showing a  $\frac{3}{8}$ -inch key-way being milled in a 2-inch shaft. When shafts are taper where the key-way is to be milled, simply swivel the vertical to the desired angle.

The Arbor and Cutter shown above are further illustrated and described on page 26.

Illustration Fig. C shows a No. 4 Attachment fitted to a lathe squaring a  $1\frac{1}{2}$ -inch steel shaft. A spiral end mill is fitted into the taper of the spindle. The shaft is fed horizontally across the face of the end mill to the desired depth. Then by using the vertical feed you can get a clear sharp corner.

An end mill cutting in the above manner does not need near as much power as if it were cutting on the face, and it makes a much cleaner job.

#### On a No. 37—15" South Bend Lathe

Illustration Fig. D shows the Milling Attachment holding a shaft which is being key-seated for the Woodruff system of keying. The cutter is held in a special B Drilling Chuck, which screws on the nose of lathe spindle.

The Woodruff Key-way Cutter is illustrated on page 26.



Fig. G

### MILLING ARBOR FOR LATHE

The cut shows arbor used in the lathe for holding cutters. See cut Fig. B, page 25. These arbors are made in three sizes,  $\frac{3}{4}$ -inch,  $\frac{1}{2}$ -inch and 1-inch in diameter, capacity between shoulder and nut  $1\frac{1}{2}$ -inch. The 1-inch arbor is the most practical, as most cutters have a 1-inch hole.

In ordering specify both the diameter of arbor and the taper of shank. The price of the arbor is not included in the price of milling attachment, but is extra as shown.

Price of arbor, any size.....\$4.50



No. 16 CUTTER FULL SIZE

### WOODRUFF SYSTEM MILLING CUTTER

The above illustration shows a Key Seat Cutter for Woodruff system of keying. In ordering a key seat cutter of this kind, give the diameter and the width of face of the cutter. Prices of any size cutter on application.

### FACE MILLING CUTTERS



Width of Face Inches	Diam. of Hole Inches	Diameter Inches	Price Each
$\frac{1}{8}$	1	$2\frac{1}{2}$	
$\frac{1}{4}$	1	$2\frac{1}{2}$	
$\frac{3}{8}$	1	$2\frac{1}{2}$	
$\frac{1}{2}$	1	$2\frac{1}{2}$	
$\frac{3}{4}$	1	$2\frac{1}{2}$	
$\frac{7}{8}$	1	$2\frac{1}{2}$	
$\frac{1}{2}$	1	$2\frac{1}{2}$	
$\frac{3}{4}$	1	$2\frac{1}{2}$	
$\frac{7}{8}$	1	$2\frac{1}{2}$	
1	1	$2\frac{1}{2}$	

The milling cutters illustrated above are used with Milling and Key-way Cutting Attachment on a variety of jobs.

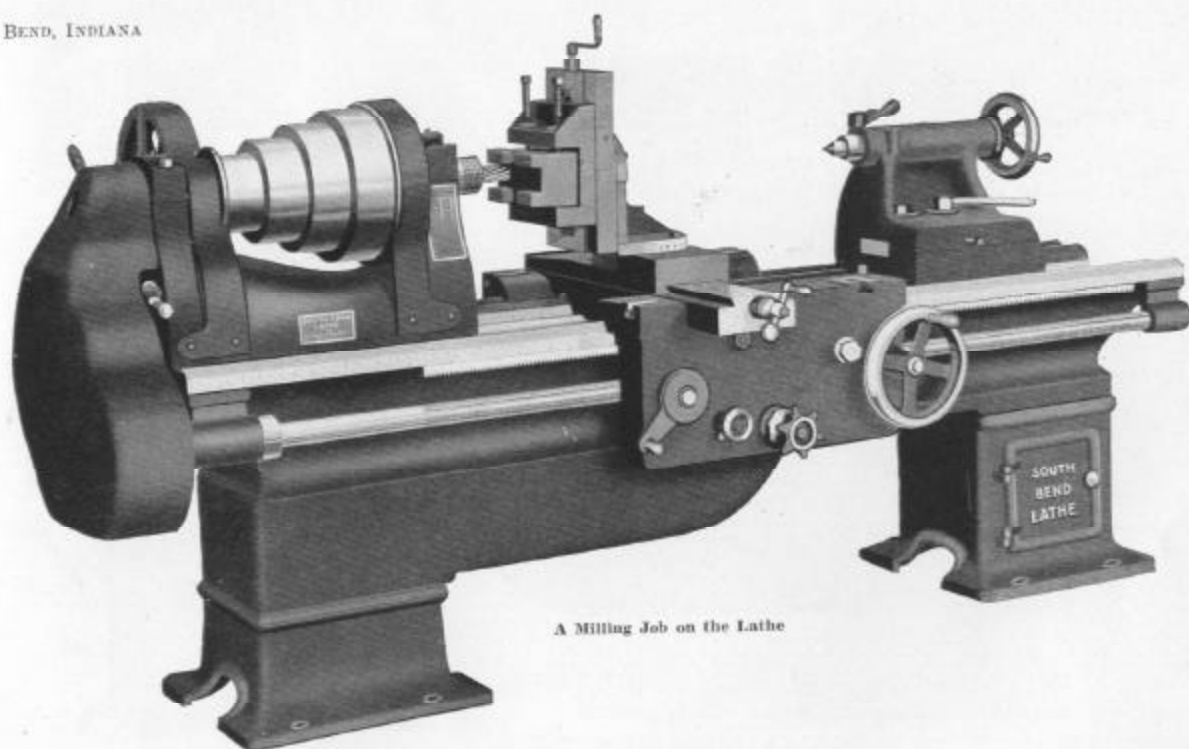


### END MILL FOR LATHE SPINDLE

The End Mill shown above fits into the head spindle of lathe, as shown in Figure "C," page 25. These end mills can be supplied with a cutting edge from  $\frac{1}{2}$ -inch to 3-inch in diameter, and fitted with either No. 3 or No. 4 Morse taper. Prices on application.

These cutters are not included in the price of the Milling and Key-way Attachment, but are extra. Prices on other standard cutters on application.

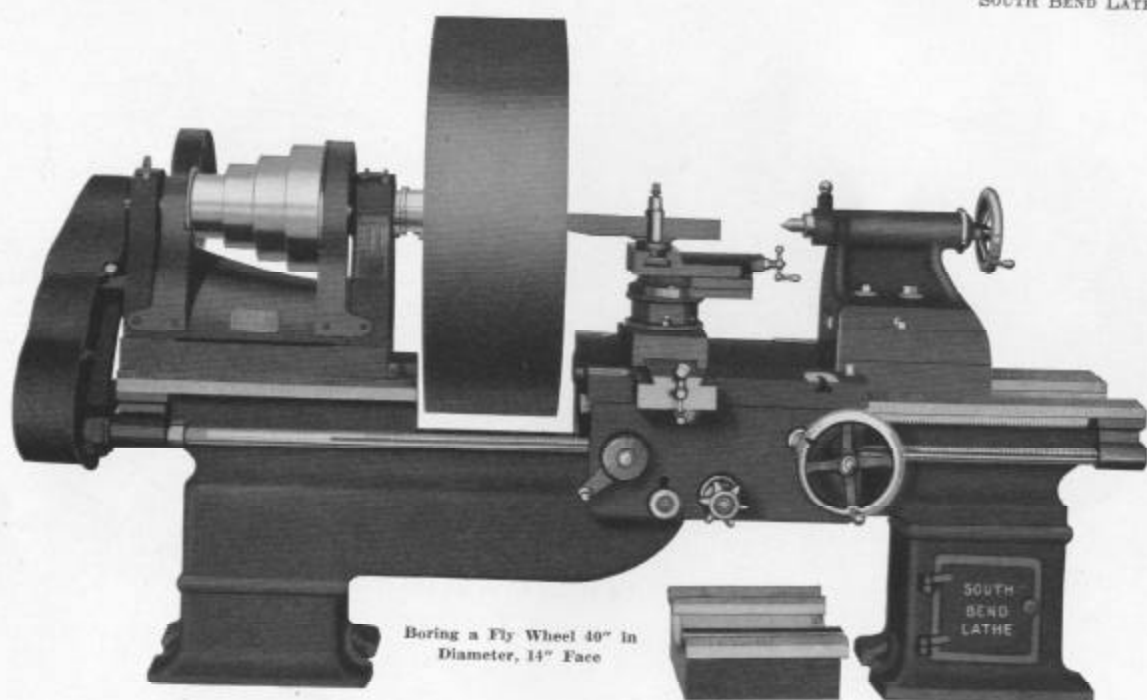




A Milling Job on the Lathe

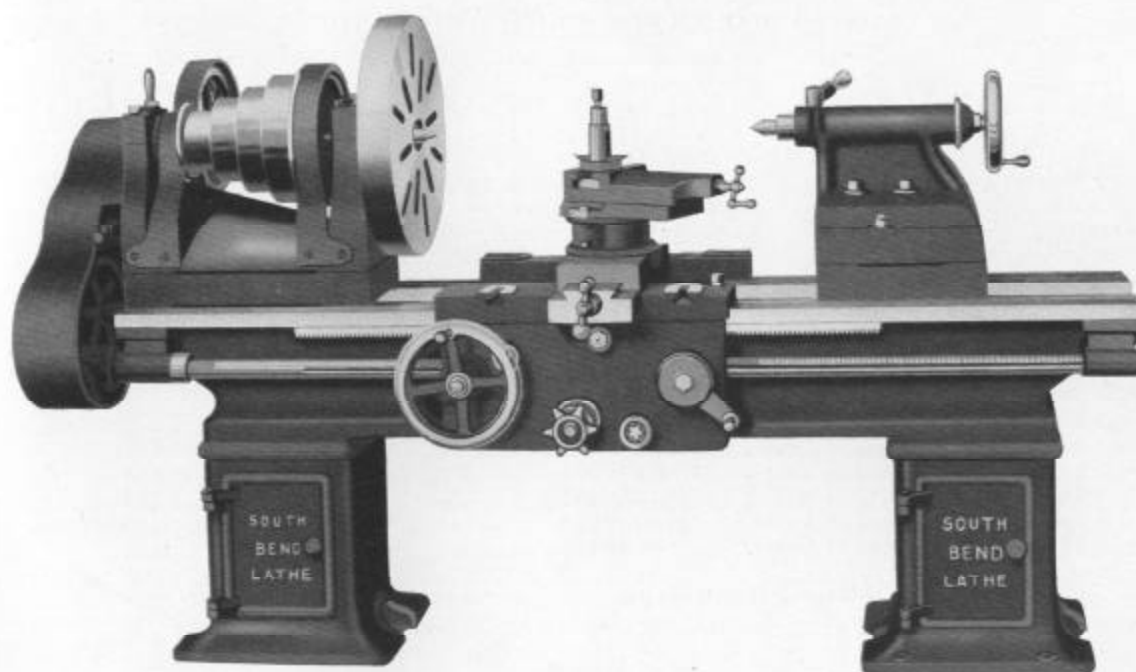
**24-INCH GAP BED LATHE WITH BRIDGE IN PLACE**

The above illustration shows the No. 7 South Bend Milling and Key-Way Cutting Attachment on a 24-inch South Bend Lathe. The Milling Attachment is more fully described on pages 24 and 25.



### 24-INCH GAP BED LATHE EQUIPPED WITH RAISING BLOCKS

For prices and dimensions of raising blocks fitted to gap bed lathes, see page 30.



**21-INCH LATHE FITTED WITH RAISING BLOCKS**

Above illustration shows lathe blocked to swing 27 inches over the bed.  
For prices and dimensions of raising blocks, see page 30.

## RAISING BLOCKS FOR SOUTH BEND LATHES

Both Straight and Gap Bed

Illustrations on pages 28 and 29 show the general appearance of South Bend Lathes with raising blocks attached, which increases the swing of the lathe for turning and boring, etc., but not for thread cutting at the increased swing. Raising blocks may be ordered and shipped with the lathe, or they may be ordered and attached any time thereafter, as they are machined in jigs and are interchangeable.

The raising block equipment, either on gap bed lathes or straight bed lathes, includes blocks for head stock, tail stock, tool rest, center rest and the necessary screws and nuts for attaching blocks to the lathe.

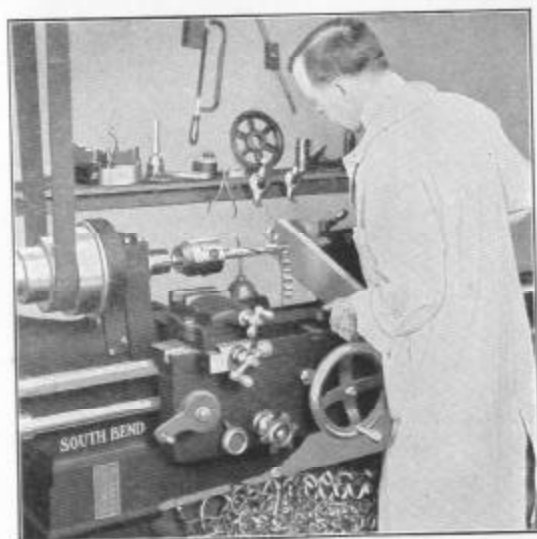
We furnish at extra cost, gear bracket and extra gear so that threads may be cut at the increased swing, and an end gear guard so that all change gears may be covered at the increased swing.

### PRICES AND DIMENSIONS OF RAISING BLOCKS FITTED TO STRAIGHT BED LATHES

			Price Raising Blocks	Extra for Gear Bracket and Gear for Thread Cutting at Increased Swing	Extra End Gear Guard for Increased Swing
No. 34	13-inch Lathe swings over bed 13 inches.	Blocks to swing 18 inches.....	\$25.00	\$ 6.00	\$5.00
No. 37	15-inch Lathe swings over bed 15 inches.	Blocks to swing 20 inches.....	27.00	7.00	5.00
No. 40	16-inch Lathe swings over bed 16 inches.	Blocks to swing 22 inches.....	30.00	8.00	6.00
No. 44	18-inch Lathe swings over bed 18 inches.	Blocks to swing 24 inches.....	35.00	9.00	6.00
No. 47	21-inch Lathe swings over bed 21 inches.	Blocks to swing 27 inches.....	50.00	10.00	7.00
No. 54	24-inch Lathe swings over bed 24 inches.	Blocks to swing 30 inches.....	70.00	12.00	8.00

### PRICES AND DIMENSIONS OF RAISING BLOCKS FITTED TO GAP LATHES

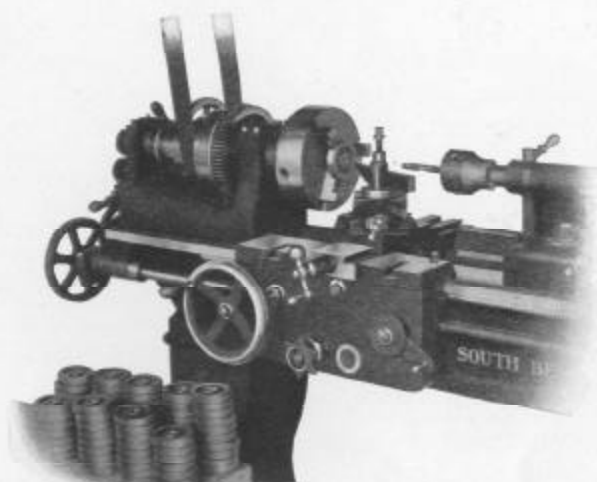
			Price Raising Blocks	Extra for Gear Bracket and Gear for Thread Cutting at Increased Swing	Extra End Gear Guard for Increased Swing
No. 134	13-inch Lathe swings over gap 19 inches.	Blocks to swing over gap 24 ins....	\$25.00	\$ 6.00	\$5.00
No. 137	15-inch Lathe swings over gap 22 inches.	Blocks to swing over gap 27 ins....	27.00	7.00	5.00
No. 140	16-inch Lathe swings over gap 24 inches.	Blocks to swing over gap 30 ins....	30.00	8.00	6.00
No. 144	18-inch Lathe swings over gap 26 inches.	Blocks to swing over gap 32 ins....	35.00	9.00	6.00
No. 147	21-inch Lathe swings over gap 30 inches.	Blocks to swing over gap 36 ins....	50.00	10.00	7.00
No. 154	24-inch Lathe swings over gap 36 inches.	Blocks to swing over gap 42 ins....	70.00	12.00	8.00



### USING THE LATHE AS A DRILL PRESS

The illustration shows a 1-inch drill boring through a piece of steel 1 inch thick on a 16-inch South Bend Lathe, the feed being operated by the hand wheel of tail stock. The back gears are in mesh, the power delivered at the point of the drill is equal to that of a 24-inch back gear drill press.

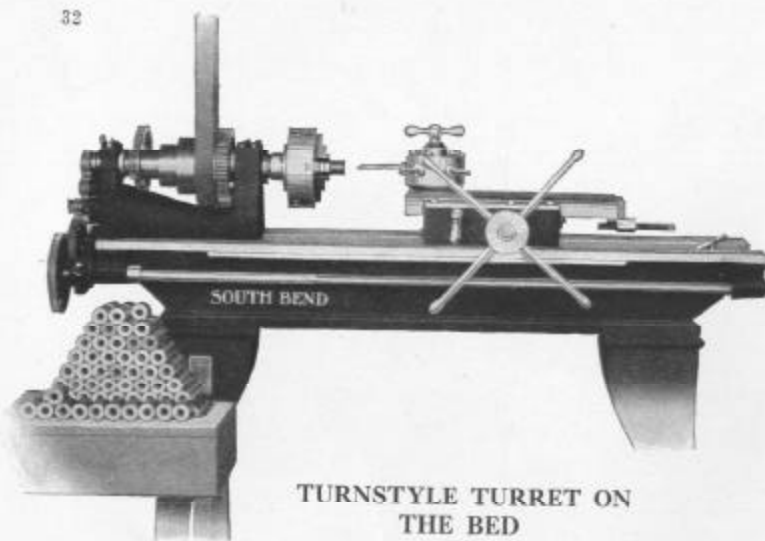
Many drilling jobs that can be done on the drill press may also be done on the lathe, ranging in size of hole from  $\frac{1}{8}$ -inch to 2 inches in diameter.



### DRILLING AND FACING OPERATION

The illustration above shows a number of steel discs that have been drilled and faced and reamed in one chucking on a No. 40 16-inch South Bend Lathe. A Universal chuck is fitted to the spindle nose, and a drill chuck fitted to the tail spindle of the lathe.

A lathe can be rigged up with a few simple attachments to turn out a great many jobs at a productive cost equal to a high-priced special type machine, while the cost of the lathe is perhaps only one-fourth of that of the special machine, and when the job is finished you may use your engine lathe for general machine work.

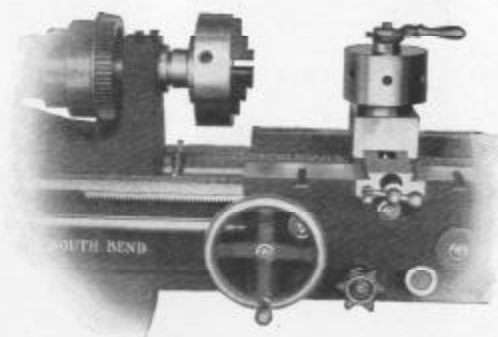


**TURNSTYLE TURRET ON  
THE BED**

The illustration shows a 16-inch South Bend Lathe fitted with a semi-automatic turnstyle turret on bed. Turret has six holes for tools, as shown above in the manufacturing operation of drilling, tapping and reaming a steel sleeve. The turret base rests on the inside V and flat way of lathe bed which guide the head and tail stocks. The turret slide may be used in conjunction with the lathe carriage if required. The lathe carriage and tail stock have both been removed from the lathe for convenience.

Turret should be fitted to lathe at factory.

Size Lathe.....	13"	15"	16"	18"	21"	24"
Turnstyle Turret on Bed—Prices on application						



**TURRET ON CARRIAGE**

*Semi-Automatic Turret Head*

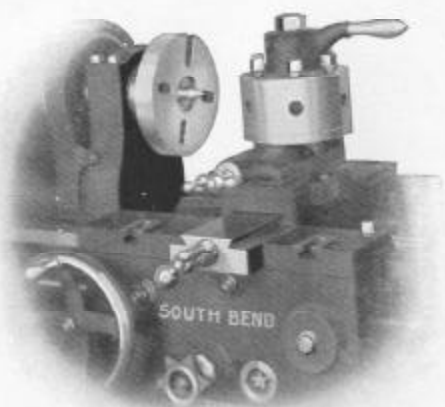
This 6-hole turret, semi-automatic turret head, can be attached to the carriage of South Bend Lathes. A taper pin is provided for locking through the base of turret into the carriage, which locates the turret hole in exact alignment with the lathe spindle.

The pin can be withdrawn when it is desired to face up work with the turret. Price of carriage turret fitted and bored for tools is furnished on application.

Turret should be fitted at factory.

Size Lathe.....	13"	15"	16"	18"	21"	24"
Price of Turret on Carriage—Prices on application						





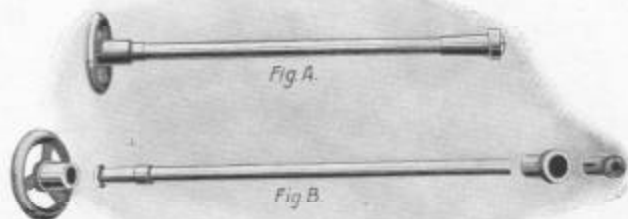
### TOOL POST TURRETS

Immediate Delivery on 15", 16" and 18" Sizes

Above illustration shows the F-P-M Turret designed for inside work, such as drilling, boring, reaming, etc. Quickly attached directly to compound rest same as ordinary tool post. Indexing plunger actuated automatically with loosening and tightening of clamping handle. Furnished with six holes unless otherwise ordered. In ordering give size number, exact vertical distance from top of compound rest to lathe centers, and width of T slots at both top and bottom. Cannot be furnished for lathes whose center height is less than  $1\frac{1}{8}$  inch.

#### PRICE LIST — STYLE E

Size No.	Dia. of Turret	Dia. of Holes	Price Each with Wrench
E-6	$6\frac{1}{2}$ "	1 inch	\$50.00

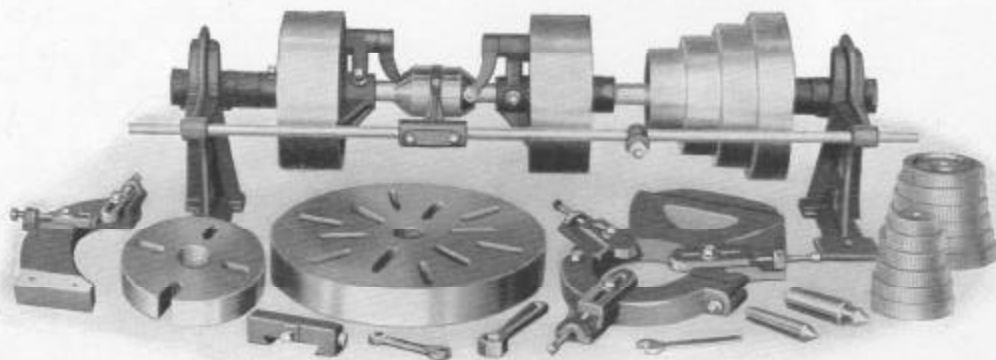


### DRAW-IN CHUCK ATTACHMENT

In the illustration above, Fig. A shows an assembled draw-in chuck attachment that may be used on all size South Bend Lathes. Fig. B shows the attachment unassembled, consisting of a draw-in tube, a hand wheel, a taper sleeve for collet and one split collet. A threaded hood is also supplied which acts as a spindle guard and a knock-off nut for removing taper sleeve.

In order to get  $\frac{1}{2}$ -inch split collet capacity on the 13-inch lathe, we attach a nipple to the spindle nose and fit the split collet to this nipple instead of to the taper sleeve as illustrated above, as we can get only  $12\frac{1}{32}$ -inch collet capacity on the 13-inch lathe using the regular equipment.

Size of Lathe	13"	15"	16"	18"	21"	24"
Capacity of						
Collet up to	$1\frac{1}{8}$ "- $1\frac{1}{2}$ "	$1\frac{1}{8}$ "- $5\frac{1}{8}$ "	$1\frac{1}{8}$ "- $3\frac{1}{4}$ "	$1\frac{1}{8}$ "- $3\frac{1}{4}$ "	$1\frac{1}{8}$ "- $7\frac{7}{8}$ "	$1\frac{1}{8}$ "-1"
Price of Attachment						
Including one Collet	\$30.00	\$35.00	\$40.00	\$40.00	\$45.00	\$50.00
Price extra per Collet	4.50	5.00	5.00	5.00	6.00	9.00



**EQUIPMENT OF DETACHED PARTS ILLUSTRATED ABOVE ARE INCLUDED  
IN PRICE OF SOUTH BEND LATHES**

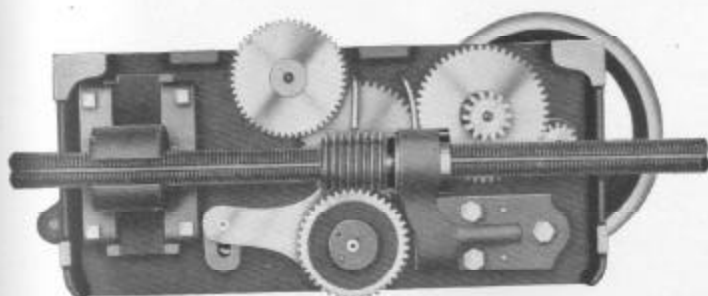
**Friction Pulleys and Countershaft Boxes Have Wick Oiling Device**

**Equipment**—In illustration above we show countershaft, large face plate, small face plate, center rest, follower rest, change gears, adjustable thread gauge, centers, and necessary wrenches, all of which are included in the regular equipment covered by the prices quoted on South Bend lathes. Tool post is also included in equipment.

The cut shows our improved double friction, rim grip countershaft, simple in design, easy in adjustment, powerful in grip, nothing to get out of order. It is one of the most efficient countershafts on the market.

**Dimensions of Pulleys and Speed of Countershaft**

Size of Lathe	Sizes of Friction Pulleys	Speed of Countershaft
13 in.	8 x 2½ in.	275 R. P. M.
15 in.	9 x 3 in.	250 R. P. M.
16 in.	10 x 3½ in.	225 R. P. M.
18 in.	10 x 3½ in.	200 R. P. M.
21 in.	12 x 4½ in.	175 R. P. M.
24 in.	14 x 5 in.	150 R. P. M.



### FEED MECHANISM OF AUTOMATIC APRON

Illustration shows the inside view of the automatic apron of all sizes of South Bend Lathes. Note that the lead screw is splined for driving the worm which operates both the automatic cross feed and the automatic longitudinal feed. This arrangement allows the thread of the lead screw to be used for screw cutting only. In screw cutting we use only the split half-nuts. For this reason a splined lead screw on the South Bend Lathe should last a lifetime, as the thread of the screw is not used to drive either the automatic longitudinal feed or the automatic cross feed, but is used only when cutting threads.

Another improved feature in this apron is that the automatic cross feed and the automatic longitudinal feed can be operated only one at a time, so that it is impossible for one feed to drop in while the other feed is in operation. The importance of this feature will be appreciated by the mechanic.

### THREAD CUTTING CHART

The chart shows the arrangement of gears for cutting all standard threads from 4 to 40, including 11½ pipe thread, on a 16" South Bend Lathe. One of these metal charts is attached to each lathe. Many threads other than shown may be cut on the lathe by compounding gears.

#### FEED GEARS

Compound feed gears are included in the equipment without extra cost. These gears are not shown in chart.

#### METRIC THREADS

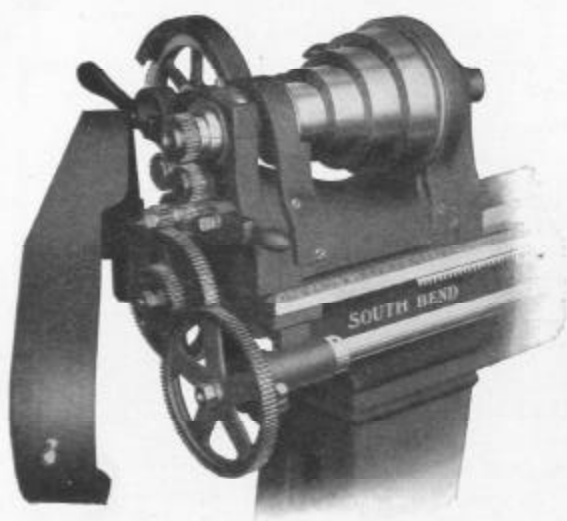
Metric Threads may be cut on South Bend Lathes with the standard English lead screw by using transposing gears, furnished at extra cost.

SOUTH BEND LATHE WORKS MANUFACTURERS OF SOUTH BEND LATHES			
THREAD	SPINDLE	SCREW	
4	48	24	
5	48	36	
6	48	48	
7	48	54	
8	48	60	
9	48	66	
10	48	72	
11	24	33	
11 1/2	48	60	
12	24	36	
13	24	39	
14	24	42	
15	24	45	
16	24	48	
18	24	54	
20	24	60	
22	24	1-2	33
24	24	1-2	36
25	24	1-2	40
26	24	1-2	42
28	24	1-2	48
30	24	1-2	54
32	24	1-2	60
36	24	1-2	72
40	24	1-2	80
SOUTH BEND, IND. U.S.A.			

Index Chart

### LEAD SCREW

The lead screws on South Bend Lathes are guaranteed to be accurate. The finest precision screw gauges, master taps, special screws, etc., can be cut on a South Bend Lathe to meet the most accurate requirements. We do not make our own lead screws but purchase them from large and well-known manufacturers who have special machinery for the manufacture of lead screws exclusively, and who supply lathe manufacturers with standard guaranteed lead screws. (See page 3.)

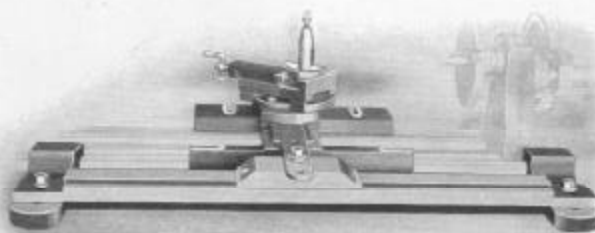


Hinged Guard Partly Open

### GEAR GUARDS

The above cut shows the head of the South Bend Lathe with gear guards attached.

The fixed guards cover the back gears. The hinge guard covers the reverse and change gears on the end of the lathe. They are made of cast iron and when closed completely cover all gears.



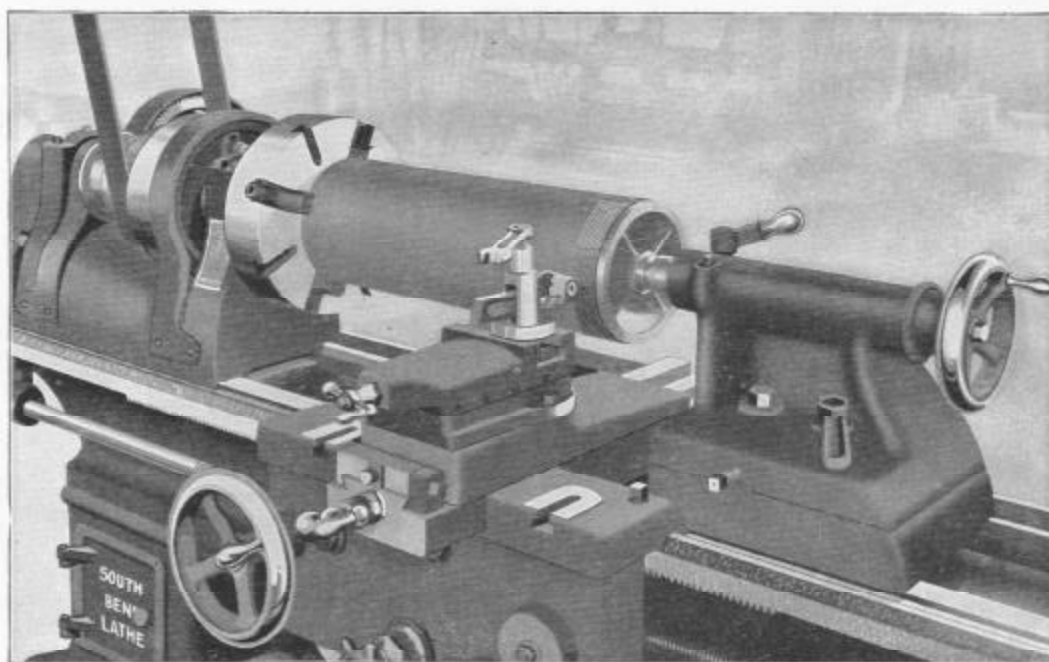
### TAPER ATTACHMENT

Fitted to a 15-inch South Bend Lathe

The illustration shows our improved taper attachment fitted to a 15-inch South Bend Lathe. The attachment is fitted to the lathe bed proper, attached by two clamps to the rear V of the bed. This arrangement admits of the adjustment of the taper attachment along the entire length of the lathe.

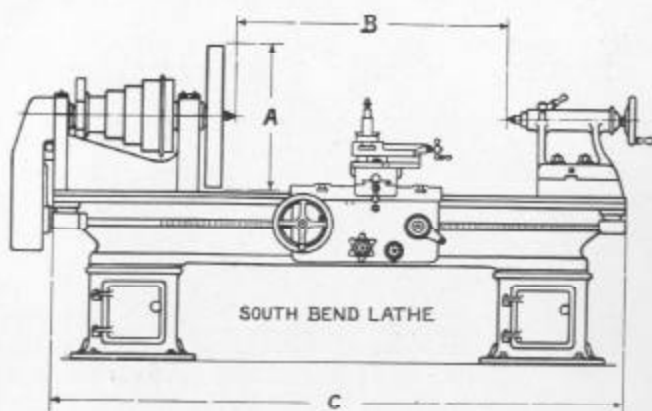
This attachment may be fitted to any size lathe and should be fitted before the lathe leaves the factory.

Size of Lathe.....	13"	15"	16"	18"	21"	24"
Price of Attachment....	\$40.00	\$43.00	\$45.00	\$50.00	\$65.00	\$75.00



### THREADING AN 8-INCH PIPE ON THE LATHE

The above cut shows a piece of 8-inch pipe being threaded on a 24-inch South Bend Lathe. One end of the pipe is held in the chuck, the other end is held in position by a pipe center in the tail stock. The Pipe Center is further illustrated and described on page 41. These pipe centers may be used on any size South Bend Lathe.

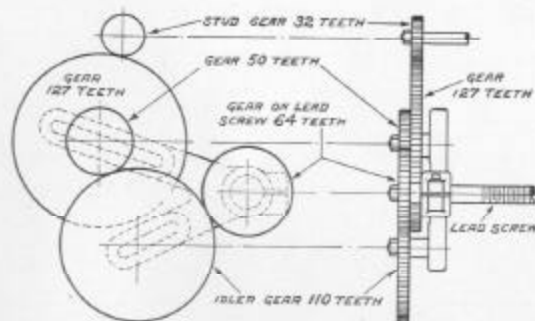


### SIZE OF LATHE

The size of an Engine Lathe is determined by the SWING OVER BED and LENGTH OF BED.

- A**—SWING OVER BED  
**B**—DISTANCE BETWEEN CENTERS  
**C**—LENGTH OF BED

The Europeans determine the size of a lathe by its radius or center distance, for example: An 8-inch center lathe is a lathe having a radius of 8 inches. What the European calls an 8-inch center lathe, we call a 16-inch swing lathe.



### TRANSPOSING GEARS

Used for Cutting Metric Threads on an English Lead Screw

To cut Metric Threads on a South Bend Lathe equipped with Standard English lead screw, use the compound Idler or connecting gears 50 and 127, the No. 127 Gear to mesh with spindle stud. Use an idler to connect the 50-tooth gear with Gear on Lead Screw.

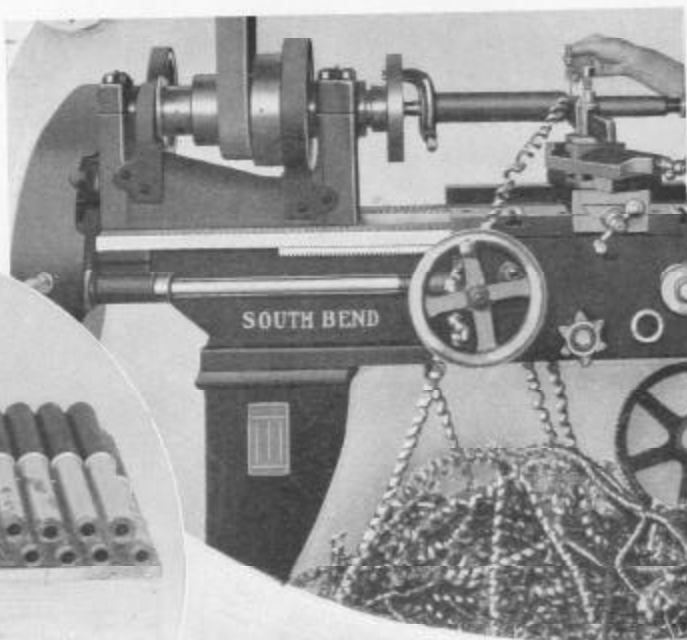
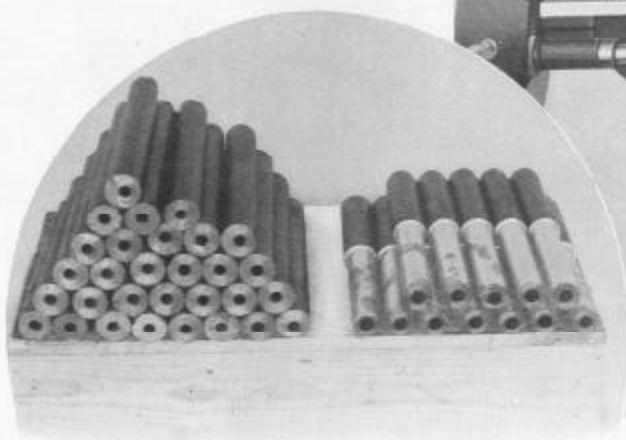
Arrangement of gearing to cut 16 thread per centimeter on a No. 34 South Bend Lathe.

When Metric Threads are to be cut on an English lead screw, Index Chart of lathe may be used in selecting gears for the different pitches. Read the chart as so many threads per centimeter, instead of so many threads per inch. Transposing gears are not included in the equipment, but are extra.

Transposing gears are extra; for prices see price sheet.

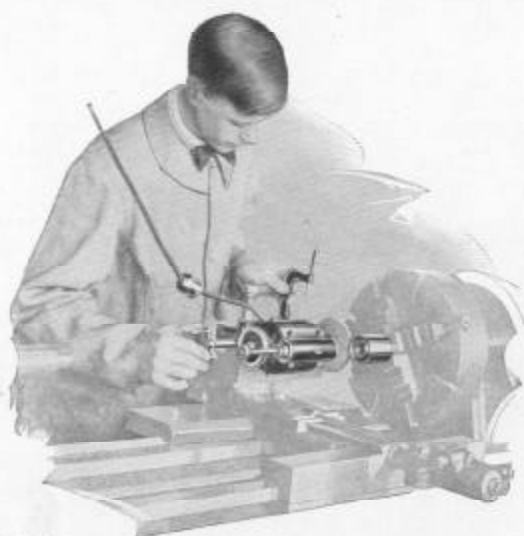
### TAKING A CHIP ON A STEEL SHAFT

The illustration shows a manufacturing operation in the No. 40 16-inch South Bend Lathe. The pieces being machined are steel sleeves. They are first bored, then turned and finished complete in very good time. The steel sleeve in the lathe is being reduced from  $2\frac{1}{2}$ -inch to  $1\frac{3}{4}$ -inch in diameter in one cut. The cutting tool is an inserted bit that is of extra quality high speed steel. Note the depth of cut and the coarseness of the chip.



THE No. 40—16-INCH SOUTH BEND LATHE ON A MANUFACTURING OPERATION



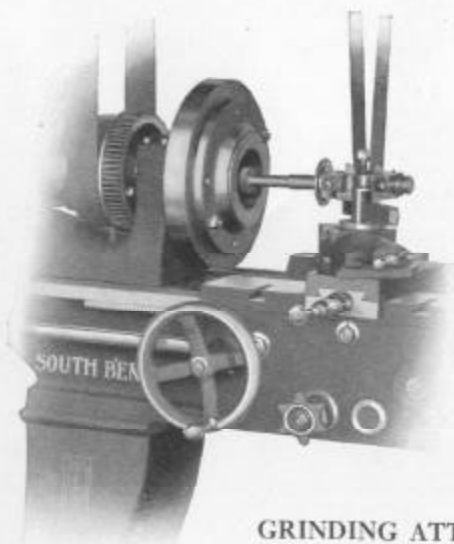


### DUMORE ELECTRIC TOOL POST GRINDERS

Dumore Tool Post Grinders have no equal for tool and die work. The high speeds at which they run (10,000 and 30,000 R. P. M.), give the wheels the correct cutting speeds, operated by an ordinary electric lamp socket.

The armatures are dynamically balanced, eliminating vibration and chatter marks on work. Equipped with S. K. F. ball bearings. An extension arm, with 10-inch reach, can be furnished to handle deep internal work.

Dumore Grinder, as illustrated.....	\$80.00
Extension Arm B (10-inch reach).....	35.00



### GRINDING ATTACHMENT FOR LATHE

The above illustration shows the application of a Grinding Attachment held in the tool post of an engine lathe. The emery wheel is driven by a wooden drum overhead that is usually from 10 to 14 inches in diameter, and from 3 to 4 feet long. This drum is in turn driven from countershaft of lathe.

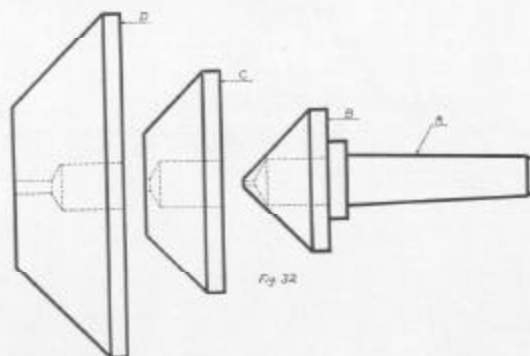
We do not manufacture this Grinding Attachment, as the requirements of different shops vary so. Most shops prefer to build an attachment that is suitable for the work that they have on hand, such as grinding rolls for printing machinery, or grinding engine cylinders, valve stems, etc.

## CENTERS, DRILL PADS AND ARBORS

A number of accessories which are very useful for various classes of lathe work. These parts are machined and fitted to both head and tail spindles of the various size lathes. They are finished complete and ready for use.

	Size of Lathe	12"	15"	16-18"	21-24"
	Drill Pad.....	\$1.50	\$1.50	\$1.50	\$2.00
	Crotch Center....	1.50	1.50	1.50	2.00
	60-degree Lathe Center...ea.	1.25	1.25	1.25	1.75
	Semi-Machined Drill Chuck Arbor..... fitted to lathe spindle.	1.00	1.00	1.00	1.50
	Drill Chuck Arbor..... finished	1.25	1.25	1.50	2.00

Any drill chuck fitted with finished arbor, for head spindle of the lathe, will also fit the tail spindle, because the tapers are the same size.



## PIPE CENTERS FOR LATHE

The above drawing shows a practical pipe center for the engine lathe. The taper shank "A" fits into the head or tail stock spindle. The conical disc "B" fits loosely and revolves on taper shank "A."

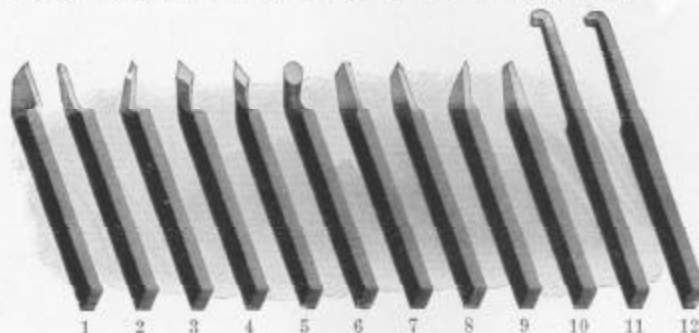
If a pipe is to be machined or threaded in the lathe, hold one end of the pipe in the chuck, and the other end on the pipe center in the tail stock. (See page 37.)

Price of Taper Shank "A".....	\$3.50
Disc "B" takes from 1/2" to 3" Pipe. Price.....	2.00
Disc "C" takes from 3" to 5" Pipe. Price.....	2.50
Disc "D" takes from 5" to 8" Pipe. Price.....	3.00

### FORGED STEEL LATHE TOOLS

An equipment of Lathe Tools is necessary for a lathe. Owing to long experience, we are in a position to furnish lathe tools, made of a good quality carbon tool steel, carefully forged, hardened, tempered and ground, ready for use. All are made in suitable sizes to fit South Bend Lathes.

This set of twelve lathe tools is selected as the most suitable for all-around lathe work.



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

For 13" Lathes.....	Size of steel, $\frac{1}{2}$ " x 1"	.....Length 7"	.....Price each.....	\$1.00	Set of 12.....	\$10.00	Torno
For 15" Lathes.....	Size of steel, $\frac{5}{8}$ " x $1\frac{1}{4}$ "	.....Length 9"	.....Price each.....	1.50	Set of 12.....	16.00	Torse
For 16" Lathes.....	Size of steel, $\frac{5}{8}$ " x $1\frac{1}{4}$ "	.....Length 9"	.....Price each.....	1.50	Set of 12.....	16.00	Tory
For 18" Lathes.....	Size of steel, $\frac{5}{8}$ " x $1\frac{1}{4}$ "	.....Length 9"	.....Price each.....	1.50	Set of 12.....	16.00	Toll
For 21" Lathes.....	Size of steel, $\frac{3}{4}$ " x $1\frac{1}{2}$ "	.....Length 12"	.....Price each.....	3.00	Set of 12.....	32.00	Toast
For 24" Lathes.....	Size of steel, $\frac{3}{4}$ " x $1\frac{1}{2}$ "	.....Length 12"	.....Price each.....	3.00	Set of 12.....	32.00	Turly

## PATENT LATHE TOOLS

### TURNING TOOLS

Each Tool is carefully packed in a cardboard box, and price includes one Drop Forged Wrench and one High Speed Steel Cutter, ground to shape.



Size of Lathe	No. L. Hand	No. R. Hand	No. Straight	Size of Shank	Size of Cutter	Price Complete
13", 15"	1-L	1-R	1-S	$\frac{1}{2}$ x $1\frac{1}{8}$ x 6"	$\frac{1}{8}$ in. sq.	\$2.15
16", 18"	2-L	2-R	2-S	$\frac{5}{8}$ x $1\frac{3}{8}$ x 7"	$\frac{3}{8}$ in. sq.	2.70
21", 24"	3-L	3-R	3-S	$\frac{3}{4}$ x $1\frac{1}{2}$ x 8"	$\frac{1}{2}$ in. sq.	3.60

### CUTTING-OFF TOOLS

Price List — Complete with Drop Forged Wrench and one High Speed Cutter.

Size of Lathe	Right-Hand Off-Set	Size of Shank	Size of Blades	Price Complete
13", 15"	No. 31-R	$\frac{1}{2}$ x $1\frac{1}{8}$ "	$\frac{1}{8}$ x $\frac{3}{4}$ "	\$2.15
16", 18"	No. 32-R	$\frac{5}{8}$ x $1\frac{3}{8}$ "	$\frac{1}{8}$ x $\frac{5}{8}$ "	2.75
21", 24"	No. 33-R	$\frac{3}{4}$ x $1\frac{1}{2}$ "	$\frac{1}{8}$ x 1"	3.60

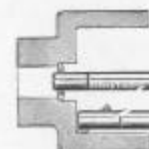


### BORING TOOLS

Each set is carefully packed in a cardboard box. It consists of Holder and Bar, with straight and 45-degree End Caps, two High Speed Cutters (ground for boring) and a Double End Wrench.



Size of Lathe	No.	Size of Shank	Size of Bar	Size of Cutter	Price Complete
13", 15"	9	$\frac{1}{2}$ x $1\frac{1}{8}$ "	$\frac{3}{4}$ " dia.	$\frac{1}{4}$ " sq.	\$3.85
16", 18"	10	$\frac{5}{8}$ x $1\frac{3}{8}$ "	$\frac{1}{2}$ " dia.	$\frac{1}{4}$ " sq.	5.10
21", 24"	11	$\frac{3}{4}$ x $1\frac{1}{2}$ "	$1\frac{1}{8}$ " dia.	$\frac{3}{8}$ " sq.	7.25



## LATHE DOGS

These lathe dogs are heavy malleable iron with hardened tool steel set screw.



	Size	Price Each
No. 1	1/4"....	.30
No. 2	1/2"....	.40
No. 3	3/4"....	.50
No. 4	1"....	.55
No. 5	1 1/4"....	.65
No. 6	1 1/2"....	.75
		\$3.15

Set of 6A  
\$3.00

No. 7	1 3/4"....	.85
No. 8	2"....	.90
No. 9	2 1/2"....	1.10
No. 10	3"....	1.20
No. 11	3 1/2"....	1.35
No. 12	4"....	1.60
		\$7.00

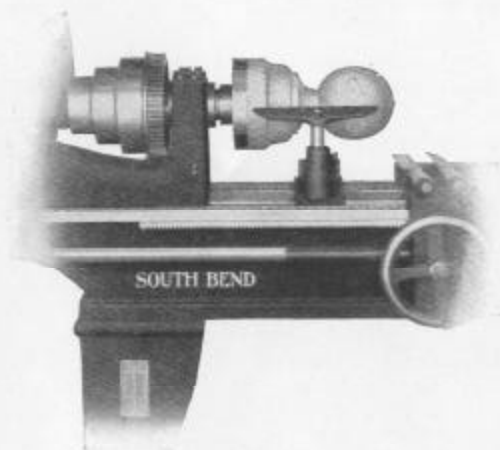
Set of 6B  
\$6.50

Set of 12—6A and 6B.....\$9.00



Woodruff Key-Way

The drawing herewith shows a shaft that has been milled for a Woodruff key, with key inserted. "X" equals the thickness of key. The key should project above the shaft one-half its thickness. (See page 26.)



### PATTERN MAKING, WOOD TURNING AND HAND REST

South Bend Lathes may also be used for wood turning, as the necessary high speed may be obtained through the countershaft.

For wood turning on straight work the operator may fasten the cutting tool in the tool post and operate the lathe carriage by the automatic feed. For irregular work a hand rest may be fastened in the tool post, or we can supply a hand rest like the above. Price of special hand rest complete, including two T rests and bolts for attaching to any size lathe, \$4.00.

### CHUCK FITTED TO LATHE AT FACTORY

When ordering a lathe with chuck included, the chuck should be fitted to the lathe before it leaves the factory, because it is a difficult job for one to fit a chuck accurately, especially without the proper tools for doing this work.

We have a special equipment for threading chuck plates and fitting chucks to lathes, charging only the actual cost of the labor and material. We do this as an accommodation to the customer, so that the chuck will fit the lathe accurately and run true.

### SEMI-MACHINED CHUCK PLATE



No. 301

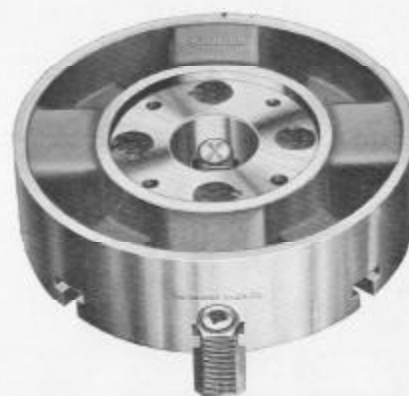
Fig. 301 shows a cast iron semi-machined chuck plate; semi-machined because it has been bored, faced, and threaded to fit the spindle nose of various sizes of South Bend Lathes.

For fitting Lathe Chuck to lathe spindle, see book "How to Run a Lathe" (page 48), where this subject is explained in detail.

### SIZE OF CHUCKS FOR A LATHE

Size of Lathe Chuck most practical for South Bend Lathes, viz:

13-inch Lathe.....	5" to 9" chuck inclusive
15-inch Lathe.....	6" to 10" chuck inclusive
16-inch Lathe.....	6" to 12" chuck inclusive
18-inch Lathe.....	8" to 14" chuck inclusive
21-inch Lathe.....	10" to 15" chuck inclusive
24-inch Lathe.....	12" to 18" chuck inclusive



No. 302

View of Back of Lathe Chuck

The recess on the back of the chuck is to receive the semi-machined chuck plate. For fitting chuck backs to chuck, see book "How to Run a Lathe" where this subject is fully explained.

### PRICE OF SEMI-MACHINED CHUCK PLATE AND FITTING CHUCK TO LATHE

The price of the semi-machined chuck plate, and the fitting of chuck to lathe complete is not included in the price of the lathe or chuck, but is extra as shown herewith.

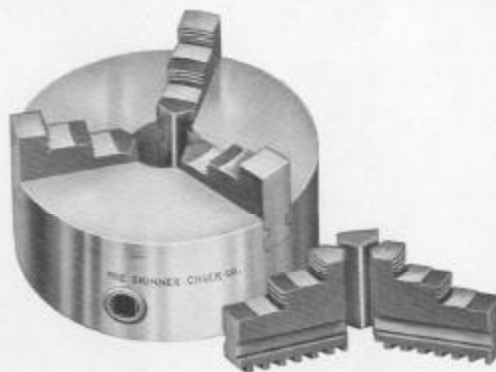
Size of Lathe	13"	15"	16", 18"	21"	24"
Price Semi-Machined Chuck Plate .....	\$2.00	\$2.25	\$2.50	\$3.50	\$4.50
Price Fitting Chucks to Lathes, including S. M. Chuck Plate....	3.00	3.50	4.00	5.00	7.00

**"STANDARD" DRILL CHUCK**

It is very powerful and guaranteed to hold true and not injure the shanks of the drills. It holds round and square work. The jaws and screws are made from cast steel carefully tempered. The hole in the hub is made to fit taper arbor, which will fit both head and tail spindle of lathe. Price includes wrench.

No.	Capacity, Inches	Diameter, Inches	Price Each
41.....	0 to $\frac{1}{4}$ .....	$1\frac{3}{8}$ .....	\$ 6.00
42.....	0 to $\frac{3}{8}$ .....	$1\frac{1}{2}$ .....	6.50
43.....	0 to $\frac{1}{2}$ .....	$2\frac{3}{8}$ .....	7.00
44.....	0 to $\frac{3}{4}$ .....	$2\frac{7}{8}$ .....	8.00
45.....	0 to 1.....	$3\frac{1}{2}$ .....	10.00

For fitting Drill Chucks to lathe, see bottom of page 41.

**UNIVERSAL GEARED SCROLL CHUCK**

With Two Sets of Jaws

This style of Chuck is used for holding round pieces. It is strictly a universal chuck, the jaws being moved simultaneously by the scroll threaded plate. Price includes wrench.

Normal Size Inches	No.	3-Jaw Price 2 Sets Jaws
4.....	200.....	\$22.00
5.....	201.....	24.00
6.....	203.....	28.00
$7\frac{1}{2}$ .....	204.....	32.00
9.....	205.....	38.00
$10\frac{1}{2}$ .....	206.....	44.00
12.....	207.....	52.00
15.....	208.....	70.00

For fitting Chuck to lathe, see page 45.



SOUTH BEND, INDIANA



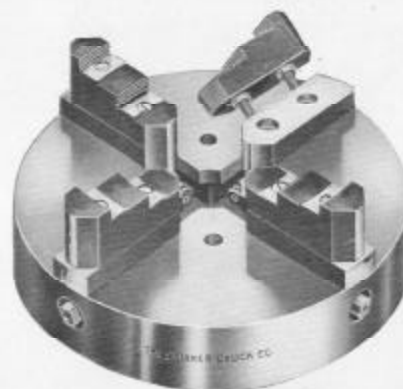
### INDEPENDENT LATHE CHUCK

With Four Independent Reversible Jaws

This Chuck has four solid jaws with half nut, reversible by running out of Chuck at the periphery, and turning end for end. The jaws are hardened, have raised and ground steps. The face of Chuck is ground true to straight edge and is accurately graduated in inches. T slots are furnished only on chucks 12 inches and larger. They are all made with **Hardened Steel Bearings** for the screws. Price includes wrench.

Rated Size of Chuck, Inches	No.	Will Hold About, Inches	Price
6"	301	7½"	\$22.00
7½"	302	8¾"	25.00
8"	302½	9½"	26.00
9"	303	11½"	28.00
10"	304	12½"	30.00
12"	305	14½"	35.00
14"	306	16½"	40.00
15"	307	18"	43.00
16"	307½	18"	46.00
18"	308	21"	54.00

For fitting Chuck to lathe, see page 45.



### COMBINATION CHUCK, GEARED SCREW

With Patent Reversible Jaws

Rated Size Inches	No.	Will Hold Approximately Inches	Price, 4 Jaws
4"	420	4½"	\$ 36.00
5"	421	5¾"	39.00
6"	422	7¼"	42.00
8"	423	8½"	50.00
9"	424	9½"	54.00
12"	425	12½"	66.00
15"	426	16½"	82.00

A Combination Chuck is a combination of a Universal and an Independent Chuck. The jaws work universally to and from the center, but by shifting a stud on the back of chuck, throwing gears out of mesh, the jaws work independently. Price includes wrench.

For fitting Chuck to lathe, see page 45.



A book included with each lathe equipment.

A copy of this valuable little 64-page book will be sent postpaid to any address on receipt of 10c. Coin or stamps of any country accepted.

## "HOW TO RUN A LATHE"

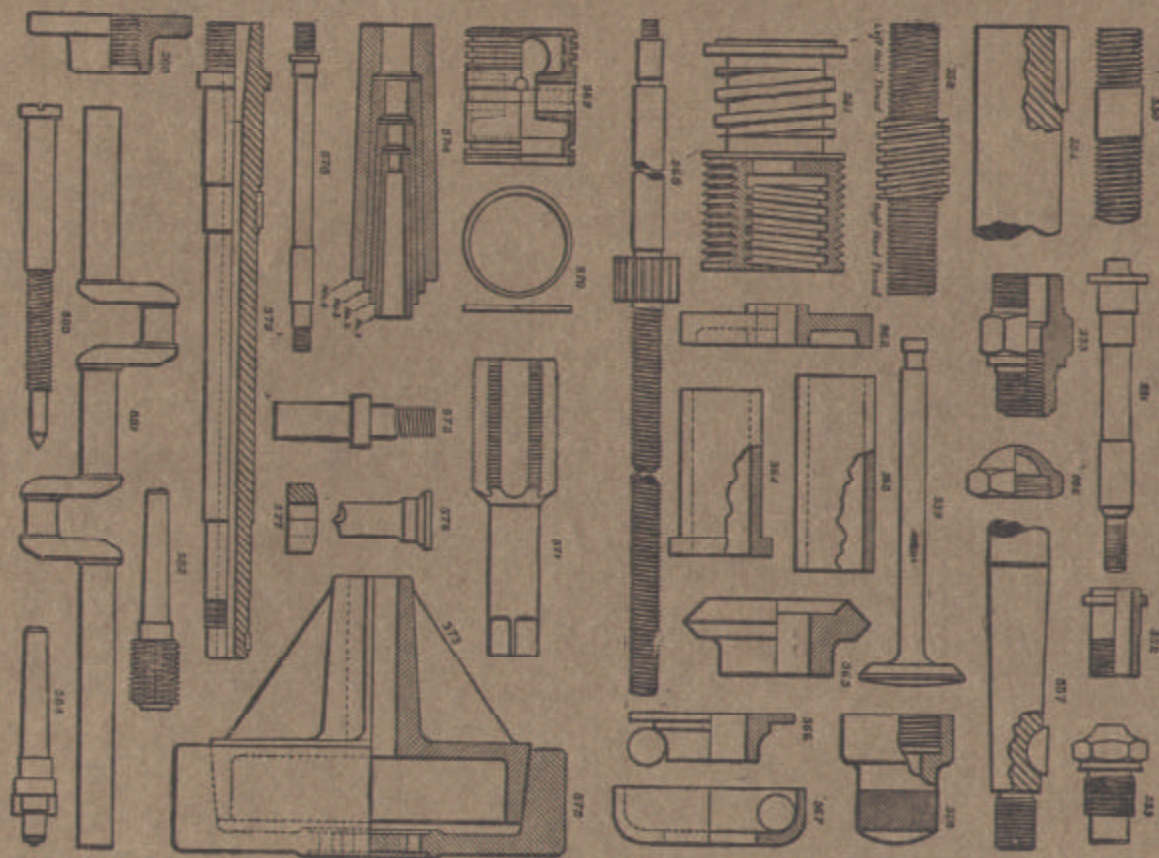
### A Partial List of Contents

Layout for a small machine shop.  
 Speed and diameter of line shaft.  
 Horse power required to drive a lathe.  
 Rules for figuring size of pulleys.  
 How to find the pitch of a screw.  
 Milling and keyseating in the lathe.  
 How to case-harden a piece of mild steel.  
 How to harden and temper a lathe tool.  
 Rule for gearing any lathe for thread cutting.  
 How to fit a lathe chuck to a lathe.  
 Cutting speeds for different metals.  
 How to make a boring bar for the lathe.  
 Cutting a key-way in the lathe.  
 Application and use of lathe tools.  
 Boring in the lathe.  
 Turning taper in the lathe.  
 How to reseal a valve in the lathe.  
 Grinding in the lathe.

The book also contains a number of complete drawings, and instruction sheets on various jobs that the repair shop is likely to meet with, viz:

Making and fitting of piston rings.  
 Making of ball race and cone.  
 Hardening, tempering and annealing steel.  
 Case hardening, etc., etc.

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A Few of the Many Pieces that can be Produced on a South Bend Lathe



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