

SOUTH BEND LATHES



Catalog No. 83A

SOUTH BEND LATHE WORKS
SOUTH BEND, INDIANA, U. S. A.

SOUTH BEND LATHES

South Bend Lathes

For General Manufacturing

Guarantee

We guarantee each South Bend Lathe to be accurate, mechanically perfect, and to give you entire satisfaction and the service you have a right to expect because you pay for reliable lathe value.

We will ship a lathe anywhere in the United States for a thirty-day trial in your own shop. If you are dissatisfied with the lathe 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

SOUTH BEND LATHES

Metal Working, Screw Cutting Engine Lathes

We recommend South Bend Screw Cutting Engine Lathes for metal working in industry, in manufacturing, in the tool room, in the machine shop, in the mine, in the textile mill, and in all shops where accurate machine work is desired. Our complete line of lathe attachments equips the South Bend Lathe for general all-around service in the working of metal.



CATALOG No. 83

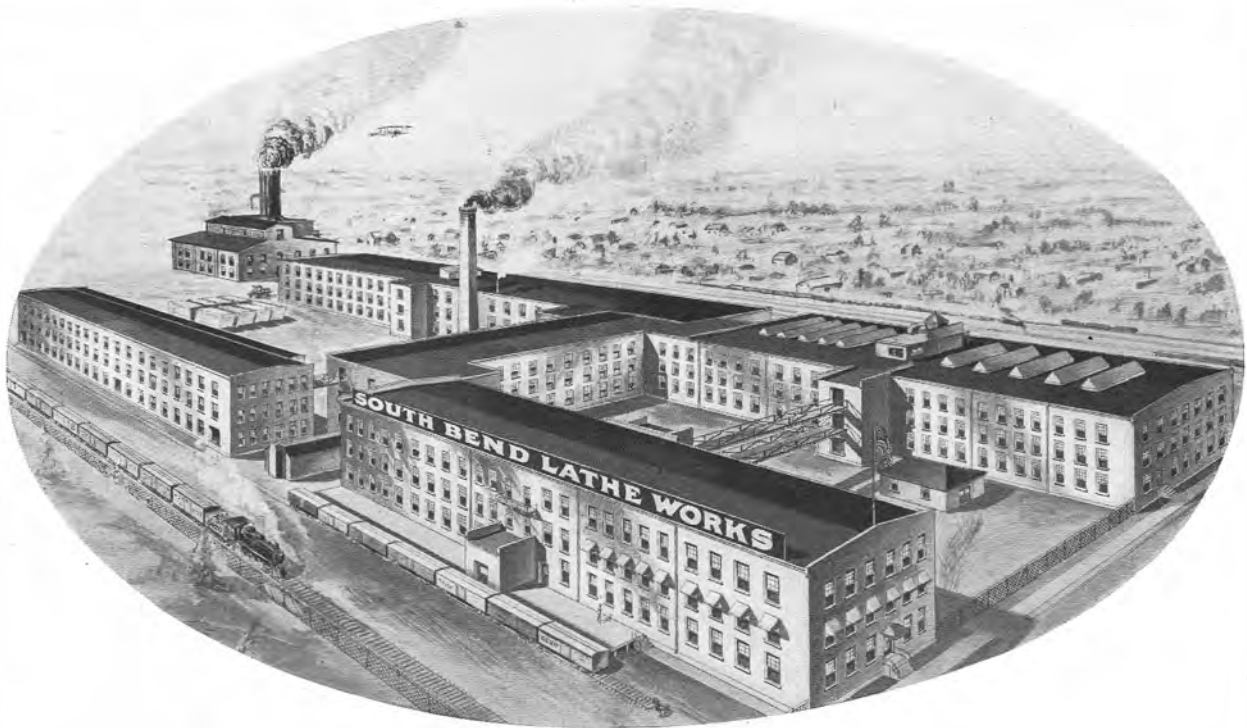
October 15, 1923

CABLE ADDRESS "TWINS" SOUTH BEND. CODES: WESTERN UNION, LIEBER'S A.B.C. and BENTLEY'S

SOUTH BEND LATHE WORKS

425 East Madison St., South Bend, Ind., U.S.A.

NEW YORK SALESROOM:
166 Centre St., New York, N. Y., U.S.A.



Factory of the South Bend Lathe Works

Ground Area, 4½ Acres; Floor Space, 180,000 Square Feet

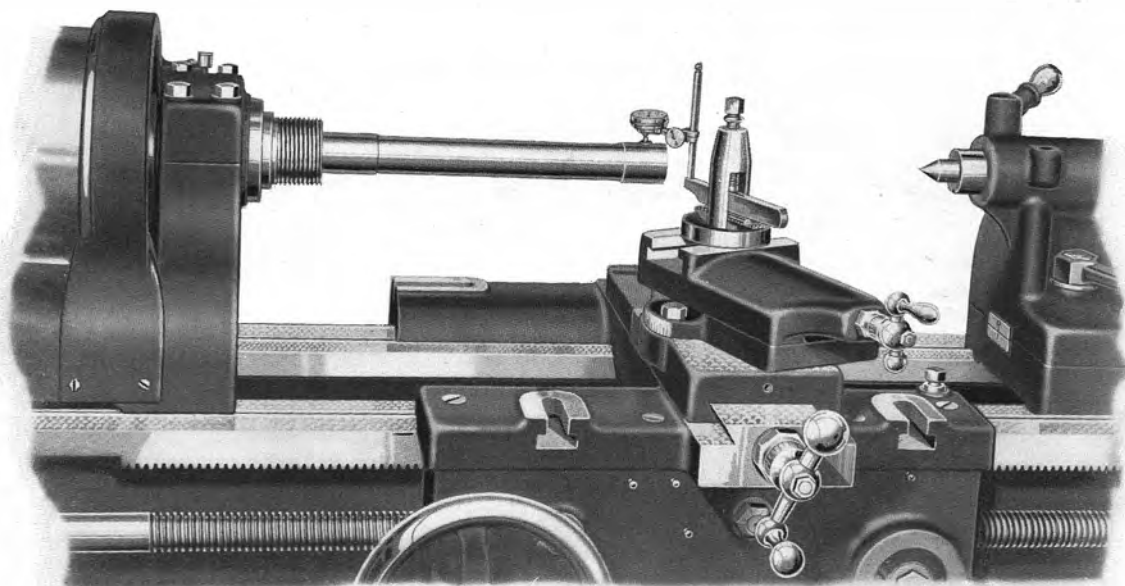
History, Plant Facilities, Quantity Production, and Policy of the South Bend Lathe Works

HISTORY—The South Bend Lathe Works was established in South Bend, Indiana, in 1906 and has been manufacturing Lathes for 17 years. During that time 30,500 South Bend Lathes have been produced and are in use in the United States and 64 foreign countries.

PLANT FACILITIES—Over \$1,000,000.00 is invested in the plant and business of the South Bend Lathe Works. The mechanical equipment consists of special machines, designed and built for the production and manufacture of South Bend Lathes. Special jigs and fixtures are used to insure accuracy and interchangeability of parts. A rigid system of inspection is maintained and important parts are inspected after each operation.

QUANTITY PRODUCTION—Quantity production of South Bend Lathes has made it possible to bring the selling price down without sacrificing quality. Each size Lathe is made up in large lots and the component parts are produced in factory lots of 100 to 1,000. Our business is devoted entirely to the manufacture of South Bend Lathes and the production capacity is normally about 4,000 Lathes per annum.

POLICY—The broad principles on which the business of the South Bend Lathe Works is conducted and upon which it has prospered for 17 years, is to give satisfaction and service to the users of South Bend Lathes.



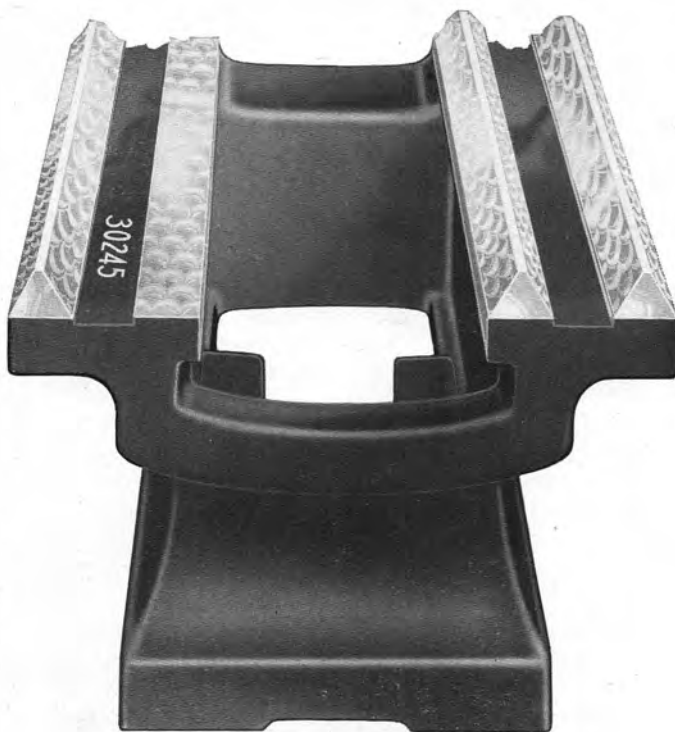
Testing Head Stock Spindle with Test Bar and Test Indicator

One of the Accuracy Tests Given South Bend Lathes



Dial of Test Indicator

The illustration shows the dial of test indicator used in testing South Bend Lathes for accuracy. The circumference of the dial is divided into one hundred equal spaces, each representing a movement of the contact point of one-thousandths of an inch. In testing the head stock spindle as shown in the upper photograph, the hand of the indicator would move one point if the spindle were out of true one-thousandths of an inch. As this type of testing is used thruout the factory, it demonstrates the accuracy of South Bend Lathes.



End View of Bed

The illustration above shows the end view of a 16-inch Lathe bed on which is stamped the serial number 30,245, indicating the number of South Bend Lathes we had shipped. We have been manufacturing South Bend Lathes for seventeen years and have produced more than 30,500, which are in use in the United States and 64 other countries of the world.

The lathe beds are made of semi-steel, and cross ribbed by heavy box braces cast in at short intervals the entire length.

South Bend Lathes, Quick Change Gear, Standard Change Gear and Motor Driven

Prices F. O. B. Cars South Bend, Indiana—Skidded and Crated for Domestic Shipment

Prices of Motor Driven Lathes do not include Motors

Swing over Bed Inches	Length of Bed Feet	Distance between Centers Inches	Size of Hole in Spindle Inches	Motor Drive Lathe			Stand. Change Gear Lathe			Quick Change Gear Lathe			
				Approx. Weight Including Motor	Price Standard Change Motor Dr. Lathe	Price Quick Change Motor Drive Lathe	No.	Code Word	Price Standard Change Gear Lathe	No.	Code Word	Approx. Weight Pounds	Price Quick Change Gear Lathe
9-INCH LATHES													
9 1/4	2 1/2	12	3/4	640	\$282.00	\$312.00	25-X	Dally	\$207.00	61-X	Damp	440	\$237.00
9 1/4	3	18	3/4	660	286.00	316.00	25-Y	Dare	211.00	61-Y	Dirt	460	241.00
9 1/4	4	30	3/4	700	294.00	324.00	25-A	Dell	219.00	61-A	Dust	500	249.00
11-INCH LATHES													
11 1/4	3	14	7/8	825	325.00	365.00	27-Y	Fare	240.00	63-Y	Fact	575	280.00
11 1/4	4	26	7/8	875	333.00	373.00	27-A	Fend	248.00	63-A	Film	625	288.00
11 1/4	5	38	7/8	925	345.00	385.00	27-B	Foam	260.00	63-B	Flax	675	300.00
13-INCH LATHES													
13 1/4	4	18	1	1400	392.00	442.00	34-A	Hail	292.00	65-A	Halt	1000	342.00
13 1/4	5	30	1	1450	404.00	454.00	34-B	Heald	304.00	65-B	Helm	1050	354.00
13 1/4	6	42	1	1500	416.00	466.00	34-C	Hire	316.00	65-C	Hoop	1100	366.00
13 1/4	7	54	1	1550	428.00	478.00	34-D	Home	328.00	65-D	Hump	1150	378.00
13 1/4	8	66	1	1600	444.00	494.00	34-E	Husk	344.00	65-E	Hymn	1200	394.00
15-INCH LATHES													
15 1/4	5	27	1 1/8	1850	480.00	535.00	37-B	Ideal	360.00	67-B	Idle	1400	415.00
15 1/4	6	39	1 1/8	1925	496.00	551.00	37-C	Image	376.00	67-C	Inca	1475	431.00
15 1/4	7	51	1 1/8	2000	512.00	567.00	37-D	Index	392.00	67-D	Iron	1550	447.00
15 1/4	8	63	1 1/8	2075	528.00	583.00	37-E	Iris	408.00	67-E	Isle	1625	463.00
15 1/4	10	87	1 1/8	2225	564.00	619.00	37-G	Issue	444.00	67-G	Itch	1775	499.00
16-INCH LATHES													
16 1/4	6	36	1 5/16	2200	546.00	606.00	40-C	Jamb	406.00	69-C	Jade	1700	466.00
16 1/4	7	48	1 5/16	2280	562.00	622.00	40-D	Jelly	422.00	69-D	Jerk	1780	482.00
16 1/4	8	60	1 5/16	2360	578.00	638.00	40-E	Jinks	438.00	69-E	Jibe	1860	498.00
16 1/4	10	84	1 5/16	2520	610.00	670.00	40-G	Joist	470.00	69-G	Jorn	2020	530.00
16 1/4	12	108	1 5/16	2780	658.00	718.00	40-H	Jute	518.00	69-H	Jump	2280	578.00
18-INCH LATHES													
18 1/4	6	31	1 3/8	2900	723.00	788.00	45-C	Kafir	548.00	71-C	Katy	2300	613.00
18 1/4	7	43	1 3/8	3000	743.00	808.00	45-D	Khond	568.00	71-D	Keel	2400	633.00
18 1/4	8	55	1 3/8	3100	763.00	828.00	45-E	Knack	588.00	71-E	Kilt	2500	653.00
18 1/4	10	79	1 3/8	3300	831.00	896.00	45-G	Kohl	656.00	71-G	Knot	2700	721.00
18 1/4	12	103	1 3/8	3600	891.00	956.00	45-H	Kurd	716.00	71-H	Kris	3000	781.00
21-INCH LATHES													
21 1/4	7	39	1 1/2	4150	995.00	1078.00	47-D	Paint	770.00	73-D	Pate	3400	853.00
21 1/4	8	51	1 1/2	4350	1021.00	1104.00	47-E	Pear	796.00	73-E	Pelt	3600	879.00
21 1/4	10	75	1 1/2	4600	1074.00	1157.00	47-G	Photo	849.00	73-G	Plot	3850	932.00
21 1/4	12	99	1 1/2	4960	1158.00	1241.00	47-H	Pike	933.00	73-H	Port	4210	1016.00
21 1/4	14	123	1 1/2	5180	1224.00	1307.00	47-K	Plate	999.00	73-K	Puff	4430	1082.00
24-INCH LATHES													
24 1/4	8	46	1 3/4	5275	1305.00	1404.00	54-E	Race	1030.00	75-E	Rail	4400	1129.00
24 1/4	10	70	1 3/4	5525	1366.00	1465.00	54-G	Rend	1091.00	75-G	Rein	4650	1190.00
24 1/4	12	94	1 3/4	5925	1463.00	1562.00	54-H	Rise	1188.00	75-H	Rich	5050	1287.00
24 1/4	14	118	1 3/4	6195	1529.00	1628.00	54-K	Roat	1254.00	75-K	Rock	5320	1353.00
24 1/4	16	142	1 3/4	6475	1599.00	1698.00	54-M	Ring	1324.00	75-M	Rude	5600	1423.00

Extras—South Bend Lathes may be supplied at extra cost with Milling and Keyway Attachment, Taper Attachment, Thread Dial, Draw-in Chuck Attachment, Cabinet Legs (13-in. Lathes and larger), Turnstile Turret, Tool Post Turret, Carriage Turret, Pipe Threading Attachment, Gear Cutting Attachment, Relieving Attachment and Grinding Attachments.

For specifications of Export Lathes, see page 41

South Bend Lathes Are Manufactured in the Following Sizes and Patterns

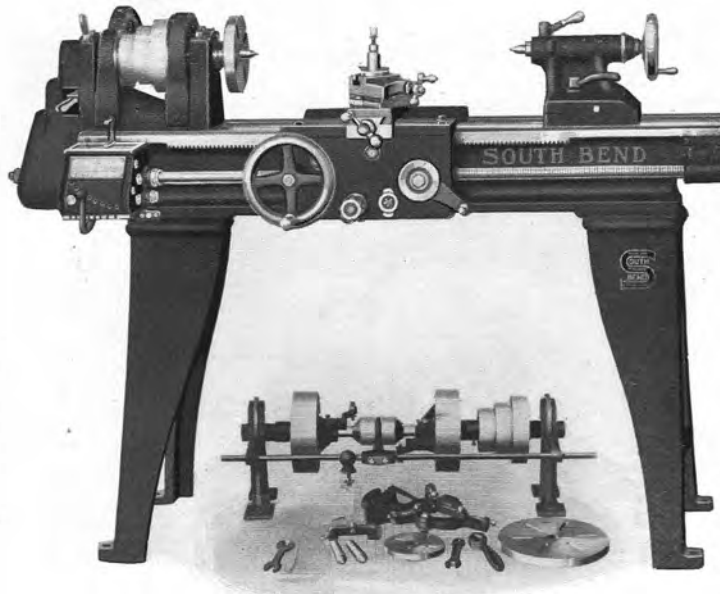
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11-in. Quick Change Gear Lathe		7
13-in. Quick Change Gear Lathe		8
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18-in. Quick Change Gear Lathe		11
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24-in. Quick Change Gear Lathe		13
Standard Change Gear Lathes		
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11-in. Standard Change Gear Lathe		16
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15-in. Standard Change Gear Lathe		18
16-in. Standard Change Gear Lathe		19
18-in. Standard Change Gear Lathe		20
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*The above attachments were designed for South Bend
Lathes only and cannot be fitted to Lathes of other make.*

30,500 South Bend Lathes in Use in 64 Countries Thruout the World

WHERE SOUTH BEND LATHES ARE USED

We recommend South Bend Lathes for use in industry, in manufacturing, in the tool room, in the machine shop, in the mine, in the textile mill, or in any shop where accurate machine work is desired. A complete line of Lathe attachments, specified above, enables the South Bend Lathe to do a variety of special operations, all in the working of metals.



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

No. 61—9-Inch South Bend Quick Change Gear Lathe

The No. 61 Lathe is recommended for small, accurate work.

Bed is 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. Beds are rough machined, seasoned, finished machined, and hand scraped to a perfect bearing. The rack is of steel, cut from solid bar.

Head Stock is equipped with improved latch reverse and patent oilers. Spindle cone has three steps for 1-inch belt which, with back gears, gives six changes of spindle speeds.

Spindle is of special carbon steel, accurately ground; has a 3/4-inch hole its entire length. Bearings are the best phosphor bronze with ample oiling facilities and adjustable for wear. Centers conform to No. 2 Morse taper.

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

Carriage is strong with wide, deep bridge. A convenient locking device secures carriage to bed when using cross-feed. Has automatic cross-feed and automatic longitudinal feed.

Lead screw is 8 pitch Acme standard thread. The cross-feed screw has a micrometer graduated collar reading in one-thousandths of an inch. (See pages 31 and 32.)

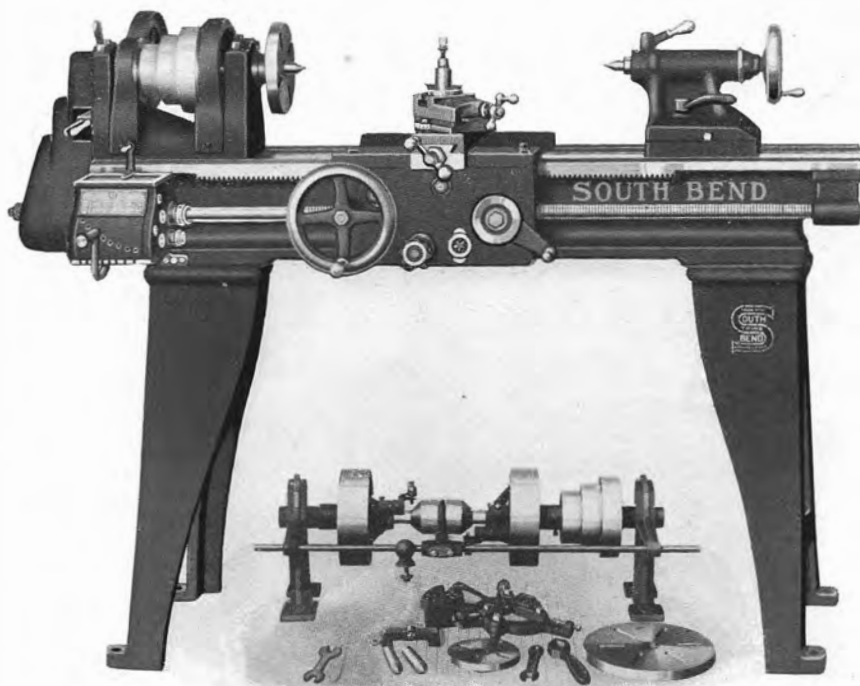
Compound Rest is graduated in 180 degrees, is gibbed throughout, and has large bearing surfaces. The compound rest screw has a graduated collar reading in one-thousandths of an inch. (See page 31.)

Quick Change Gear Box is simple and powerful. All the gears are made from steel forgings. **Forty-eight changes**, for screw cutting and turning feeds, may be obtained without removing a gear. All standard threads right or left from 2 to 112, including 1 1/2 pipe thread, can be cut as shown on the index plate. (See page 14.)

Equipment as shown in cut is included in the price of lathe, and consists of quick change gear box, large and small face plates, compound rest, two steel centers, center rest, follower rest, adjustable stop for screw cutting, one semi-machined chuck-back, necessary wrenches, and double friction countershaft. (See page 30.)

No. of Lathe	Swing over Bed	Length of Bed	Distance between Centers	Swing over Carriage	Hole through Spindle	Opening Tool Post Inches	Counter-shaft Speed	Code Word	Approx. Weight Crated for Dom. Shipment	Price F. O. B. South Bend, Indiana
61-X	9 1/4 in.	2 1/2 ft.	12 in.	6 3/8 in.	3/4 in.	3/8 x 7/8 in.	290 R.P.M.	Damp	440 lbs.	\$237.00
61-Y	9 1/4 in.	3 ft.	18 in.	6 3/8 in.	3/4 in.	3/8 x 7/8 in.	290 R.P.M.	Dirt	460 lbs.	241.00
61-A	9 1/4 in.	4 ft.	30 in.	6 3/8 in.	3/4 in.	3/8 x 7/8 in.	290 R.P.M.	Dust	500 lbs.	249.00

Extras—The No. 61 Lathe may be supplied at extra cost with—Milling and Keyway Cutting Attachment, Taper Attachment, Draw-in Chuck Attachment, Thread Dial, Grinding Attachments, Gear Cutting Attachment, Tool Post Turret, and Turnstile Turret.



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

No. 63—11-Inch South Bend Quick Change Gear Lathe

The No. 63 Lathe is a Precision Tool, practical for light, accurate work.

Bed is 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. Beds are rough machined, seasoned, finished machined, and hand scraped to a perfect bearing. The rack is of steel, cut from solid bar.

Head Stock is equipped with **improved latch reverse** and patent oilers. Spindle cone has three steps for $1\frac{1}{4}$ -inch belt which, with back gears, gives six changes of spindle speeds.

Spindle is of special carbon steel, accurately ground; has a $\frac{7}{8}$ -inch hole its entire length. Bearings are the best **phosphor bronze** with ample oiling facilities and adjustable for wear. Centers conform to No. 2 Morse taper.

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

Carriage is strong with wide, deep bridge. A convenient locking device secures carriage to bed when using cross-feed. Has automatic cross-feed and automatic longitudinal feed.

Lead screw is 8 pitch Acme standard thread. The cross-feed screw has a micrometer graduated collar reading in one-thousandths of an inch. (See pages 31 and 32.)

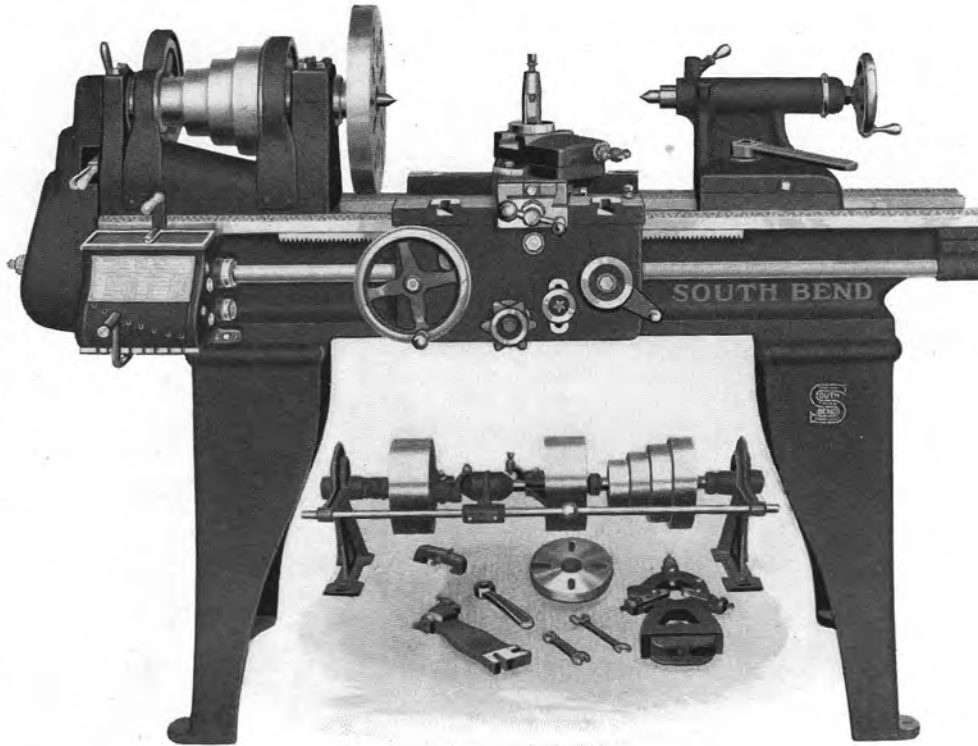
Compound Rest is graduated in **180 degrees**, is gibbed throughout, and has large bearing surfaces. The compound rest screw has a graduated collar reading in **one-thousandths of an inch**. (See page 31.)

Quick Change Gear Box is simple and powerful. All the gears are made from steel forgings. **Forty-eight changes**, for screw cutting and turning feeds, may be obtained without removing a gear. All standard threads right or left from 2 to 112, including $1\frac{1}{2}$ pipe thread, can be cut as shown on the index plate. (See page 14.)

Equipment as shown in cut is included in the price of lathe, and consists of quick change gear box, large and small face plates, compound rest, two steel centers, center rest, follower rest, adjustable stop for screw cutting, one semi-machined chuck-back, necessary wrenches, and double friction countershaft. (See page 30.)

No. of Lathe	Swing over Bed	Length of Bed	Distance between Centers	Swing over Carriage	Hole through Spindle	Opening Tool Post Inches	Counter-shaft Speed	Code Word	Approx. Weight Crated for Dom. Shipment	Price F. O. B. South Bend, Indiana
63-Y	$11\frac{1}{4}$ in.	3 ft.	14 in.	$7\frac{3}{8}$ in.	$\frac{7}{8}$ in.	$\frac{3}{8} \times \frac{1}{8}$ in.	275 R.P.M.	Fact	575 lbs.	\$280.00
63-A	$11\frac{1}{4}$ in.	4 ft.	26 in.	$7\frac{5}{8}$ in.	$\frac{7}{8}$ in.	$\frac{3}{8} \times \frac{1}{8}$ in.	275 R.P.M.	Film	625 lbs.	288.00
63-B	$11\frac{1}{4}$ in.	5 ft.	38 in.	$7\frac{5}{8}$ in.	$\frac{7}{8}$ in.	$\frac{3}{8} \times \frac{1}{8}$ in.	275 R.P.M.	Flax	675 lbs.	300.00

Extras—The No. 63 Lathe may be supplied at extra cost with—Milling and Keyway Cutting Attachment, Taper Attachment, Draw-in Chuck Attachment, Thread Dial, Grinding Attachments, Gear Cutting Attachment, Tool Post Turret, and Turnstile Turret.



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

No. 65—13-Inch South Bend Quick Change Gear Lathe

The No. 65 Lathe is practical for light, accurate work in the manufacturing plant, machine shop, and tool room.

Bed is 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. Beds are rough machined, seasoned, finished machined, and hand scraped to a perfect bearing. The rack is of steel, cut from solid bar.

Head Stock is equipped with improved latch reverse and patent oilers. Spindle cone has four steps for 1 1/2-inch belt which, with back gears, gives eight changes of spindle speeds.

Spindle is of special carbon steel, accurately ground; has a 1-inch hole its entire length. Bearings are the best phosphor bronze with ample oiling facilities and adjustable for wear. Centers conform to No. 3 Morse taper.

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

Carriage is strong with wide, deep bridge; has T-slots in front and rear for clamping work for milling and boring. A convenient locking device secures carriage to bed when using cross-feed. Has automatic cross-feed and automatic

longitudinal feed. Lead screw is 6 pitch Acme standard thread. The cross-feed screw has a micrometer graduated collar reading in one-thousandths of an inch. (See pages 31 and 32.)

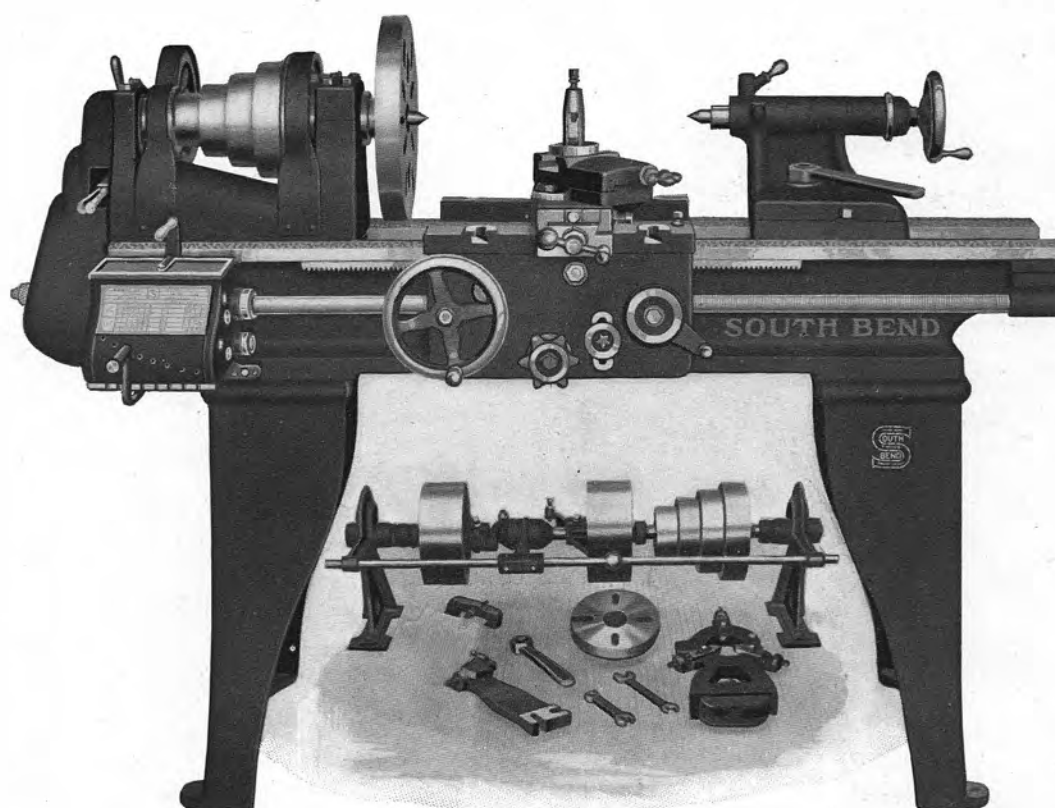
Compound Rest is graduated in 180 degrees, is gibbed throughout, and has large bearing surfaces. The compound rest screw has a graduated collar reading in one-thousandths of an inch. (See page 31.)

Quick Change Gear Box is simple and powerful. All the gears are made from steel forgings. Forty-eight changes, for screw cutting and turning feeds, may be obtained without removing a gear. All standard threads right or left from 2 to 112, including 1 1/2 pipe thread, can be cut as shown on the index plate. (See page 14.)

Equipment as shown in cut is included in the price of lathe, and consists of quick change gear box, large and small face plates, compound rest, two steel centers, center rest, follower rest, adjustable stop for screw cutting, one semi-machined chuck-back, necessary wrenches, and double friction countershaft. (See page 30.)

No. of Lathe	Swing over Bed	Length of Bed	Distance between Centers	Swing over Carriage	Hole through Spindle	Opening Tool Post Inches	Counter-shaft Speed	Code Word	Approx. Weight Crated for Dom. Shipment	Price F. O. B. South Bend, Indiana
65-A	13 1/4 in.	4 ft.	18 in.	9 in.	1 in.	1/2 x 1 1/8 in.	275 R.P.M.	Halt	1000 lbs.	\$342.00
65-B	13 1/4 in.	5 ft.	30 in.	9 in.	1 in.	1/2 x 1 1/8 in.	275 R.P.M.	Helm	1050 lbs.	354.00
65-C	13 1/4 in.	6 ft.	42 in.	9 in.	1 in.	1/2 x 1 1/8 in.	275 R.P.M.	Hoop	1100 lbs.	366.00
65-D	13 1/4 in.	7 ft.	54 in.	9 in.	1 in.	1/2 x 1 1/8 in.	275 R.P.M.	Hump	1150 lbs.	378.00
65-E	13 1/4 in.	8 ft.	66 in.	9 in.	1 in.	1/2 x 1 1/8 in.	275 R.P.M.	Hymn	1200 lbs.	394.00

Extras—The No. 65 Lathe may be supplied at extra cost with—Milling and Keyway Cutting Attachment, Taper Attachment, Draw-in Chuck Attachment, Thread Dial, Grinding Attachments, Gear Cutting Attachment, Pipe Threading Attachment, Cabinet Legs, Tool Post Turret, and Turnstile Turret.



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

No. 67—15-Inch South Bend Quick Change Gear Lathe

The No. 67 Lathe is unsurpassed for manufacturing, and the general machine shop.

Bed is 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. Beds are rough machined, seasoned, finished machined, and hand scraped to a perfect bearing. The rack is of steel, cut from solid bar.

Head Stock is equipped with **improved latch reverse** and patent oilers. Spindle cone has four steps for $1\frac{1}{4}$ -inch belt which, with back gears, gives eight changes of spindle speeds.

Spindle is of special carbon steel, accurately ground; has a $1\frac{1}{8}$ -inch hole its entire length. Bearings are the best **phosphor bronze** with ample oiling facilities and adjustable for wear. Centers conform to No. 3 Morse taper.

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

Carriage is strong with wide, deep bridge; has T-slots in front and rear for clamping work for **milling** and **boring**. A convenient locking device secures carriage to bed when

using cross-feed. Has automatic cross-feed and automatic longitudinal feed. Lead screw is 6 pitch Acme standard thread. The cross-feed screw has a micrometer graduated collar reading in one-thousandths of an inch. (See pages 31 and 32.)

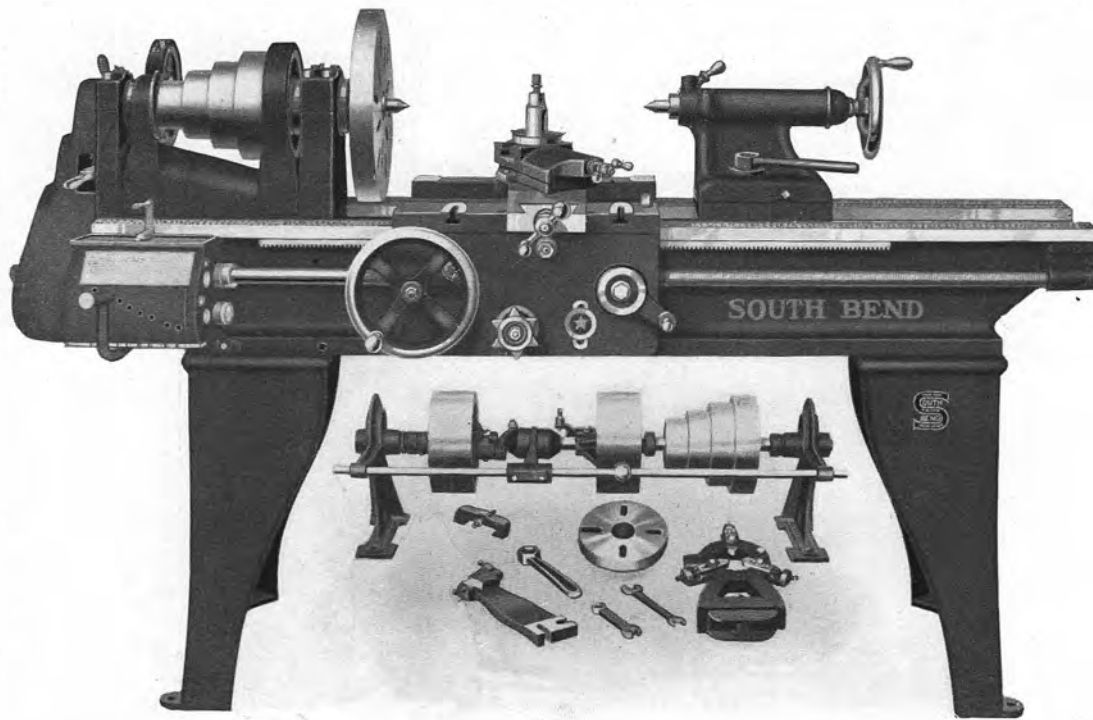
Compound Rest is graduated in 180 degrees, is gibbed throughout, and has large bearing surfaces. The compound rest screw has a graduated collar reading in one-thousandths of an inch. (See page 31.)

Quick Change Gear Box is simple and powerful. All the gears are made from steel forgings. **Forty-eight changes**, for screw cutting and turning feeds, may be obtained without removing a gear. All standard threads right or left from 2 to 112, including $11\frac{1}{2}$ pipe thread, can be cut as shown on the index plate. (See page 14.)

Equipment as shown in cut is included in the price of lathe, and consists of quick change gear box, large and small face plates, compound rest, two steel centers, center rest, follower rest, adjustable stop for screw cutting, one semi-machined chuck-back, necessary wrenches, and double friction countershaft. (See page 30.)

No. of Lathe	Swing over Bed	Length of Bed	Distance between Centers	Swing over Carriage	Hole through Spindle	Opening Tool Post Inches	Counter-shaft Speed	Code Word	Approx. Weight Crated for Dom. Shipment	Price F. O. B. South Bend, Indiana
67-B	15 $\frac{1}{4}$ in.	5 ft.	27 in.	10 $\frac{5}{8}$ in.	1 $\frac{1}{8}$ in.	$\frac{9}{16}$ x 1 $\frac{1}{4}$ in.	250 R.P.M.	Idle	1400 lbs.	\$415.00
67-C	15 $\frac{1}{4}$ in.	6 ft.	39 in.	10 $\frac{5}{8}$ in.	1 $\frac{1}{8}$ in.	$\frac{9}{16}$ x 1 $\frac{1}{4}$ in.	250 R.P.M.	Inca	1475 lbs.	431.00
67-D	15 $\frac{1}{4}$ in.	7 ft.	51 in.	10 $\frac{5}{8}$ in.	1 $\frac{1}{8}$ in.	$\frac{9}{16}$ x 1 $\frac{1}{4}$ in.	250 R.P.M.	Iron	1550 lbs.	447.00
67-E	15 $\frac{1}{4}$ in.	8 ft.	63 in.	10 $\frac{5}{8}$ in.	1 $\frac{1}{8}$ in.	$\frac{9}{16}$ x 1 $\frac{1}{4}$ in.	250 R.P.M.	Isle	1625 lbs.	463.00
67-G	15 $\frac{1}{4}$ in.	10 ft.	87 in.	10 $\frac{5}{8}$ in.	1 $\frac{1}{8}$ in.	$\frac{9}{16}$ x 1 $\frac{1}{4}$ in.	250 R.P.M.	Itch	1775 lbs.	499.00

Extras—The No. 67 Lathe may be supplied at extra cost with—Milling and Keyway Cutting Attachment, Taper Attachment, Draw-in Chuck Attachment, Thread Dial, Grinding Attachments, Gear Cutting Attachment, Pipe Threading Attachment, Cabinet Legs Tool Post Turret, and Turnstile Turret.



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

No. 69—16-Inch South Bend Quick Change Gear Lathe

The No. 69 Lathe is recommended for manufacturing, tool room, for machine shop and general all-around work.

Bed is 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. Beds are rough machined, seasoned, finished machined, and hand scraped to a perfect bearing. The rack is of steel, cut from solid bar.

Head Stock is equipped with improved latch reverse and patent oilers. 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 a $1\frac{1}{8}$ -inch hole its entire length. Bearings are the best phosphor bronze with ample oiling facilities and adjustable for wear. Centers conform to No. 3 Morse taper.

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

Carriage is strong with wide, deep bridge; has T-slots in front and rear for clamping work for milling and boring. A convenient locking device secures carriage to bed when using cross-feed. Has automatic cross-feed and automatic

longitudinal feed. Lead screw is 6 pitch Acme standard thread. The cross-feed screw has a micrometer graduated collar reading in one-thousandths of an inch. (See pages 31 and 32.)

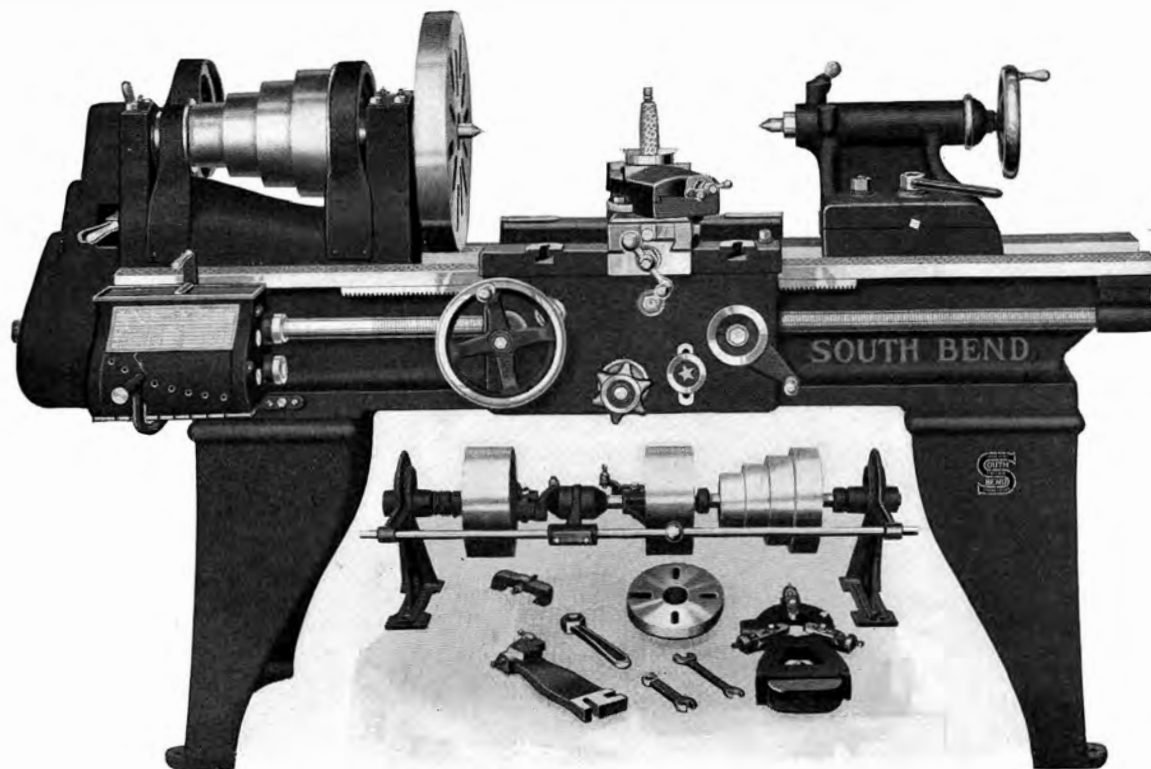
Compound Rest is graduated in 180 degrees, is gibbed throughout, and has large bearing surfaces. The compound rest screw has a graduated collar reading in one-thousandths of an inch. (See page 31.)

Quick Change Gear Box is simple and powerful. All the gears are made from steel forgings. Forty-eight changes, for screw cutting and turning feeds, may be obtained without removing a gear. All standard threads right or left from 2 to 112, including $1\frac{1}{2}$ pipe thread, can be cut as shown on the index plate. (See page 14.)

Equipment as shown in cut is included in the price of lathe, and consists of quick change gear box, large and small face plates, compound rest, two steel centers, center rest, follower rest, adjustable stop for screw cutting, one semi-machined chuck-back, necessary wrenches, and double friction countershaft. (See page 30.)

No. of Lathe	Swing over Bed	Length of Bed	Distance between Centers	Swing over Carriage	Hole through Spindle	Opening Tool Post Inches	Counter-shaft Speed	Code Word	Approx. Weight Crated for Dom. Shipment	Price F. O. B. South Bend, Indiana
69-C	16 $\frac{1}{4}$ in.	6 ft.	36 in.	11 $\frac{1}{8}$ in.	1 $\frac{5}{16}$ in.	$\frac{5}{8}$ x 1 $\frac{3}{8}$ in.	225 R.P.M.	Jade	1700 lbs.	\$466.00
69-D	16 $\frac{1}{4}$ in.	7 ft.	48 in.	11 $\frac{1}{8}$ in.	1 $\frac{5}{16}$ in.	$\frac{5}{8}$ x 1 $\frac{3}{8}$ in.	225 R.P.M.	Jerk	1780 lbs.	482.00
69-E	16 $\frac{1}{4}$ in.	8 ft.	60 in.	11 $\frac{1}{8}$ in.	1 $\frac{5}{16}$ in.	$\frac{5}{8}$ x 1 $\frac{3}{8}$ in.	225 R.P.M.	Jibe	1860 lbs.	498.00
69-G	16 $\frac{1}{4}$ in.	10 ft.	84 in.	11 $\frac{1}{8}$ in.	1 $\frac{5}{16}$ in.	$\frac{5}{8}$ x 1 $\frac{3}{8}$ in.	225 R.P.M.	Jorn	2020 lbs.	530.00
69-H	16 $\frac{1}{4}$ in.	12 ft.	108 in.	11 $\frac{1}{8}$ in.	1 $\frac{5}{16}$ in.	$\frac{5}{8}$ x 1 $\frac{3}{8}$ in.	225 R.P.M.	Jump	2280 lbs.	578.00

Extras—The No. 69 Lathe may be supplied at extra cost with—Milling and Keyway Cutting Attachment, Taper Attachment, Draw-in Chuck Attachment, Thread Dial, Grinding Attachments, Gear Cutting Attachment, Pipe Threading Attachment, Cabinet Legs, Tool Post Turret, and Turnstile Turret. Lathe with 12-foot bed is equipped with center leg.



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

No. 71—18-Inch South Bend Quick Change Gear Lathe

The No. 71 Lathe has the strength for manufacturing and general all-around work in the machine shop.

Bed is 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. Beds are rough machined, seasoned, finished machined, and hand scraped to a perfect bearing. The rack is of steel, cut from solid bar.

Head Stock is equipped with **improved latch reverse** and patent oilers. Spindle cone has four steps for 2½-inch belt which, with back gears, gives eight changes of spindle speeds.

Spindle is of special carbon steel, accurately ground; has a 1⅝-inch hole its entire length. Bearings are the best **phosphor bronze** with ample oiling facilities and adjustable for wear. Centers conform to No. 3 Morse taper.

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

Carriage is strong with wide, deep bridge; has T-slots in front and rear for clamping work for **milling** and **boring**. A convenient locking device secures carriage to bed when using cross-feed. Has automatic cross-feed and automatic

longitudinal feed. Lead screw is 4 pitch Acme standard thread. The cross-feed screw has a micrometer graduated collar reading in one-thousandths of an inch. (See pages 31 and 32.)

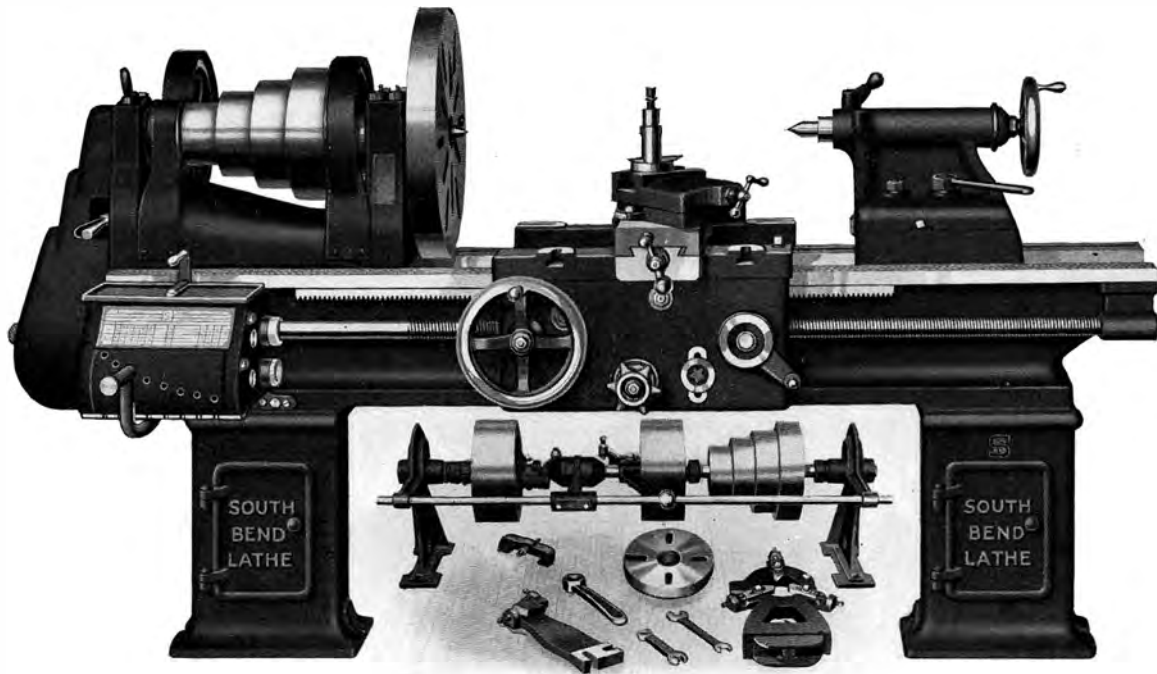
Compound Rest is graduated in **180 degrees**, is gibbed throughout, and has large bearing surfaces. The compound rest screw has a graduated collar reading in **one-thousandths of an inch**. (See page 31.)

Quick Change Gear Box is simple and powerful. All the gears are made from steel forgings. **Forty-eight changes**, for screw cutting and turning feeds, may be obtained without removing a gear. All standard threads right or left from 2 to 112, including 11½ pipe thread, can be cut as shown on the index plate. (See page 14.)

Equipment as shown in cut is included in the price of lathe, and consists of quick change gear box, large and small face plates, compound rest, two steel centers, center rest, follower rest, adjustable stop for screw cutting, one semi-machined chuck-back, necessary wrenches, and double friction countershaft. (See page 30.)

No. of Lathe	Swing over Bed	Length of Bed	Distance between Centers	Swing over Carriage	Hole through Spindle	Opening Tool Post Inches	Counter-shaft Speed	Code Word	Approx. Weight Crated for Dom. Shipment	Price F. O. B. South Bend, Indiana
71-C	18¼ in.	6 ft.	31 in.	12⅝ in.	1⅜ in.	⅝ x 1⅜ in.	200 R.P.M.	Katy	2300 lbs.	\$613.00
71-D	18¼ in.	7 ft.	43 in.	12⅝ in.	1⅜ in.	⅝ x 1⅜ in.	200 R.P.M.	Keel	2400 lbs.	633.00
71-E	18¼ in.	8 ft.	55 in.	12⅝ in.	1⅜ in.	⅝ x 1⅜ in.	200 R.P.M.	Kilt	2500 lbs.	653.00
71-G	18¼ in.	10 ft.	79 in.	12⅝ in.	1⅜ in.	⅝ x 1⅜ in.	200 R.P.M.	Knot	2700 lbs.	721.00
71-H	18¼ in.	12 ft.	103 in.	12⅝ in.	1⅜ in.	⅝ x 1⅜ in.	200 R.P.M.	Kris	3000 lbs.	781.00

Extras—The No. 71 Lathe may be supplied at extra cost with—Milling and Keyway Cutting Attachment. Taper Attachment, Draw-in Chuck Attachment, Thread Dial, Grinding Attachments, Gear Cutting Attachment, Pipe Threading Attachment, Cabinet Legs, Tool Post Turret, and Turnstile Turret. Lathe with 12-foot bed is equipped with center leg.



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

No. 73—21-Inch South Bend Quick Change Gear Lathe

The No. 73 Lathe makes an excellent all-around lathe for the general machine shop.

Bed is 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. Beds are rough machined, seasoned, finished machined, and hand scraped to a perfect bearing. The rack is of steel, cut from solid bar.

Head Stock is equipped with improved latch reverse and patent oilers. Spindle cone has four steps for 3-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. Bearings are the best phosphor bronze with ample oiling facilities and adjustable for wear. Centers conform to No. 4 Morse taper.

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

Carriage is strong with wide, deep bridge; has T-slots in front and rear for clamping work for milling and boring. A convenient locking device secures carriage to bed when using cross-feed. Has automatic cross-feed and automatic

longitudinal feed. Lead screw is 4 pitch Acme standard thread. The cross-feed screw has a micrometer graduated collar reading in one-thousandths of an inch. (See pages 31 and 32.)

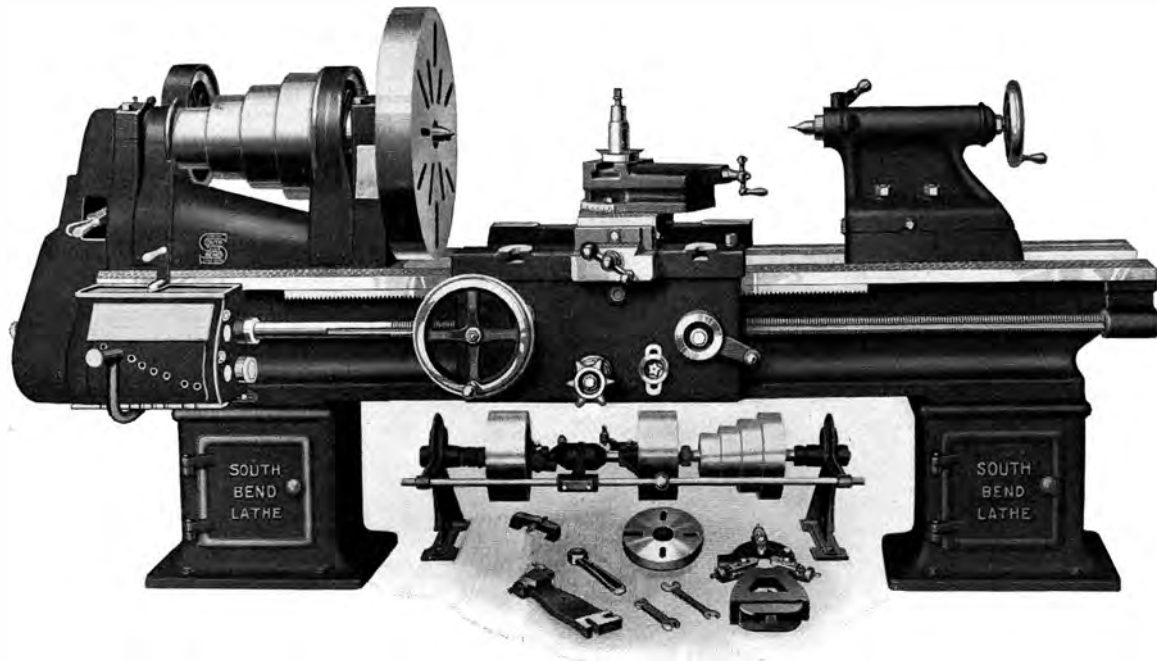
Compound Rest is graduated in 180 degrees, is gibbed throughout, and has large bearing surfaces. The compound rest screw has a graduated collar reading in one-thousandths of an inch. (See page 31.)

Quick Change Gear Box is simple and powerful. All the gears are made from steel forgings. **Forty-eight changes**, for screw cutting and turning feeds, may be obtained without removing a gear. All standard threads right or left from 2 to 112, including 11½ pipe thread, can be cut as shown on the index plate. (See page 14.)

Equipment as shown in cut is included in the price of lathe, and consists of quick change gear box, large and small face plates, compound rest, two steel centers, center rest, follower rest, adjustable stop for screw cutting, one semi-machined chuck-back, necessary wrenches, and double friction countershaft. (See page 30.)

No. of Lathe	Swing over Bed	Length of Bed	Distance between Centers	Swing over Carriage	Hole through Spindle	Opening Tool Post Inches	Counter-shaft Speed	Code Word	Approx. Weight Crated for Dom. Shipment	Price F. O. B. South Bend, Indiana
73-D	21¼ in.	7 ft.	39 in.	15½ in.	1½ in.	⅞ x 2 in.	175 R.P.M.	Pate	3400 lbs.	\$ 853.00
73-E	21¼ in.	8 ft.	51 in.	15½ in.	1½ in.	⅞ x 2 in.	175 R.P.M.	Pelt	3600 lbs.	879.00
73-G	21¼ in.	10 ft.	75 in.	15½ in.	1½ in.	⅞ x 2 in.	175 R.P.M.	Plot	3850 lbs.	932.00
73-H	21¼ in.	12 ft.	99 in.	15½ in.	1½ in.	⅞ x 2 in.	175 R.P.M.	Port	4210 lbs.	1016.00
73-K	21¼ in.	14 ft.	123 in.	15½ in.	1½ in.	⅞ x 2 in.	175 R.P.M.	Puff	4430 lbs.	1082.00

Extras—The No. 73 Lathe may be supplied at extra cost with—Milling and Keyway Cutting Attachment, Taper Attachment, Draw-in Chuck Attachment, Thread Dial, Grinding Attachments, Gear Cutting Attachment, Pipe Threading Attachment, Tool Post Turret, and Turnstile Turret. Lathes with 12-foot and 14-foot beds are equipped with center legs.



Regular equipment, as illustrated under Lathe is included in price

No. 75—24-Inch South Bend Quick Change Gear Lathe

The No. 75 Lathe will give excellent service for general all-around work.

Bed is 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. Beds are rough machined, seasoned, finished machined, and hand scraped to a perfect bearing. The rack is of steel, cut from solid bar.

Head Stock is equipped with improved latch reverse and patent oilers. Spindle cone has four steps for 3½-inch belt which, with back gears, gives eight changes of spindle speeds.

Spindle is of special carbon steel, accurately ground; has a 1¼-inch hole its entire length. Bearings are the best phosphor bronze with ample oiling facilities and adjustable for wear. Centers conform to No. 4 Morse taper.

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

Carriage is strong with wide, deep bridge; has T-slots in front and rear for clamping work for milling and boring. A convenient locking device secures carriage to bed when using cross-feed. Has automatic cross-feed and automatic

longitudinal feed. Lead screw is 4 pitch Acme standard thread. The cross-feed screw has a micrometer graduated collar reading in one-thousandths of an inch. (See pages 31 and 32.)

Compound Rest is graduated in 180 degrees, is gibbed throughout, and has large bearing surfaces. The compound rest screw has a graduated collar reading in one-thousandths of an inch. (See page 31.)

Quick Change Gear Box is simple and powerful. All the gears are made from steel forgings. **Forty-eight changes**, for screw cutting and turning feeds, may be obtained without removing a gear. All standard threads right or left from 2 to 112, including 11½ pipe thread, can be cut as shown on the index plate. (See page 14.)

Equipment as shown in cut is included in the price of lathe, and consists of quick change gear box, large and small face plates, compound rest, two steel centers, center rest, follower rest, adjustable stop for screw cutting, one semi-machined chuck-back, necessary wrenches, and double friction countershaft. (See page 30.)

No. of Lathe	Swing over Bed	Length of Bed	Distance between Centers	Swing over Carriage	Hole through Spindle	Opening Tool Post Inches	Counter-shaft Speed	Code Word	Approx. Weight Crated for Dom. Shipment	Price F. O. B. South Bend, Indiana
75-E	24¼ in.	8 ft.	46 in.	17⅞ in.	1¾ in.	⅞ x 2 in.	150 R.P.M.	Rail	4400 lbs.	\$1129.00
75-G	24¼ in.	10 ft.	70 in.	17⅞ in.	1¾ in.	⅞ x 2 in.	150 R.P.M.	Rein	4650 lbs.	1190.00
75-H	24¼ in.	12 ft.	94 in.	17⅞ in.	1¾ in.	⅞ x 2 in.	150 R.P.M.	Rich	5050 lbs.	1287.00
75-K	24¼ in.	14 ft.	118 in.	17⅞ in.	1¾ in.	⅞ x 2 in.	150 R.P.M.	Rock	5320 lbs.	1353.00
75-M	24¼ in.	16 ft.	142 in.	17⅞ in.	1¾ in.	⅞ x 2 in.	150 R.P.M.	Rude	5600 lbs.	1423.00

Extras—The No. 75 Lathe may be supplied at extra cost with—Milling and Keyway Cutting Attachment, Taper Attachment, Draw-in Chuck Attachment, Thread Dial, Grinding Attachments, Gear Cutting Attachment, Pipe Threading Attachment, Tool Post Turret, and Turnstile Turret. Lathes with 12-, 14- and 16-foot beds are equipped with center leg.

SOUTH BEND LATHE WORKS		SOUTH BEND, INDIANA, U. S. A.									
PATENT NO 810634.		JANUARY 23,									
LONGITUDINAL FEEDS 2 3/4		TIMES THREADS PER INCH									
SLIDING GEAR	TOP LEVER	THREADS PER INCH									
IN	LEFT	2	2 1/4	2 1/2	2 3/4	2 7/8		3		3 1/4	3 1/2
	CENTER	4	4 1/2	5	5 1/2	5 3/4		6		6 1/2	7
	RIGHT	8	9	10	11	11 1/2		12		13	14
OUT	LEFT	16	18	20	22	23		24		26	28
	CENTER	32	36	40	44	46		48		52	56
	RIGHT	64	72	80	88	92		96		104	112

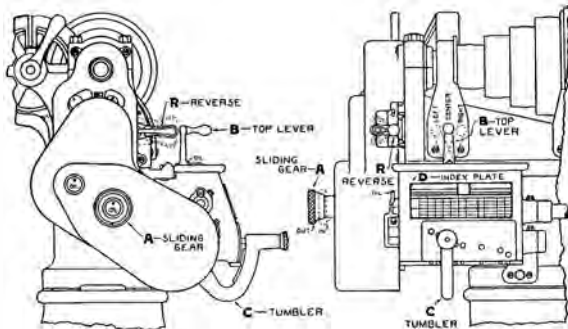
Index Plate for South Bend Quick Change Gear Lathes For Threads and Feeds

A metal thread cutting chart similar to the cut shown above is attached to each South Bend Quick Change Gear Lathe.

48 THREADS OF DIFFERENT PITCH CAN BE CUT WITH THIS QUICK CHANGE GEAR BOX WITHOUT CHANGING A GEAR, AS FOLLOWS: 2, 2 1/4, 2 1/2, 2 3/4, 2 7/8, 3, 3 1/2, 4, 4 1/2, 5, 5 1/2, 5 3/4, 6, 6 1/2, 7, 8, 9, 10, 11, 11 1/2, 12, 13, 14, 16, 18, 20, 22, 23, 24, 26, 28, 32, 36, 40, 44, 46, 48, 52, 56, 64, 72, 80, 88, 92, 96, 104, and 112 per inch. If threads other than the ones enumerated above are to be cut, the addition of one gear will allow another series of 48 threads to be cut.

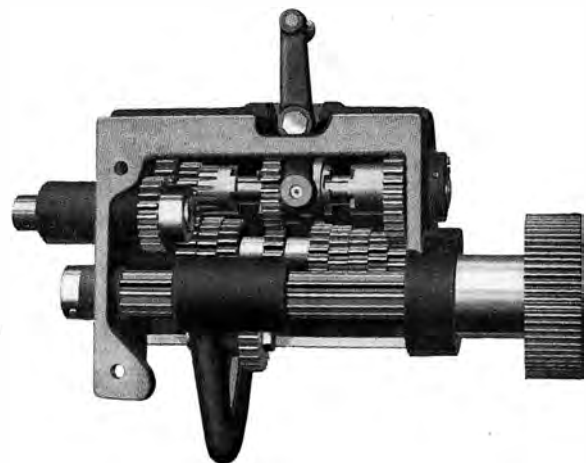
ALL TURNING FEEDS CAN BE OBTAINED INSTANTLY WITHOUT CHANGING A GEAR. The South Bend Quick Change Gear Box (Flather Patent) is a simple, accurate, and reliable Quick Change Gear mechanism that has been used for years on some of the most modern type tool room lathes in this country. It covers a wide range of thread cutting and turning feeds. The gears are made of steel forgings with wide face and coarse pitch and are protected in this box from grit and dirt.

Quick Change Gear Mechanism for Feeds and Threads Flather Patent



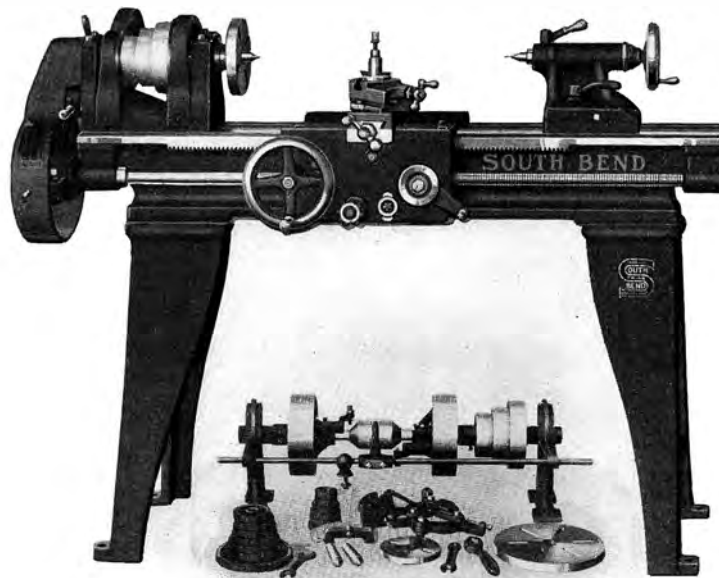
Front and End Elevation of Gear Box

The moving of this lever to three different positions increases the number of changes obtained by the lower lever to twenty-four, which number is doubled, making forty-eight in all, by moving the sliding gear at the end of the lathe.



Interior View of Gear Box

The cone of eight steel gears is mounted upon a shaft, any one of which can be instantly engaged by simply moving the lever in front of the box. On another shaft located above the cone of gears is a double clutch gear, controlled by the small lever on top of the box.



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

No. 25—9-Inch South Bend Standard Change Gear Lathe

The No. 25 Lathe is recommended for small, accurate work.

Bed is 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. Beds are rough machined, seasoned, finished machined, and hand scraped to a perfect bearing. The rack is of steel, cut from solid bar.

Head Stock is equipped with **improved latch reverse** and patent oilers. Spindle cone has three steps for 1-inch belt which, with back gears, gives six changes of spindle speeds.

Spindle is of special carbon steel, accurately ground; has a $\frac{3}{4}$ -inch hole its entire length. Bearings are the best **phosphor bronze** with ample oiling facilities and adjustable for wear. Centers conform to No. 2 Morse taper.

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

Carriage is strong with wide, deep bridge. A convenient locking device secures carriage to bed when using cross-feed.

Has automatic cross-feed and automatic longitudinal feed. Lead screw is 8 pitch Acme standard thread. The cross-feed screw has a micrometer graduated collar reading in one-thousandths of an inch. (See pages 31 and 32.)

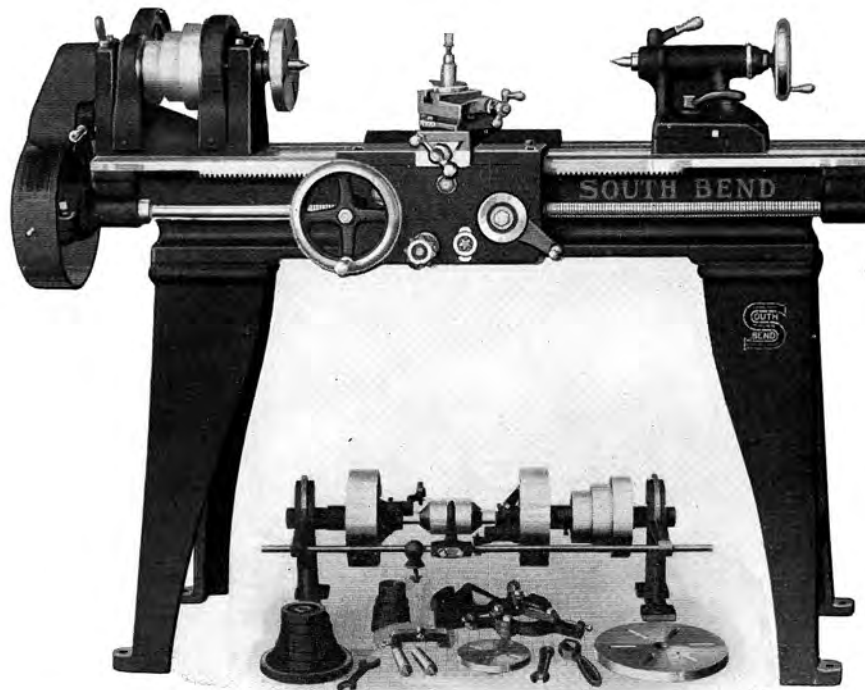
Compound Rest is **graduated in 180 degrees**, is gibbed throughout, and has large bearing surfaces. The compound rest screw has a graduated collar reading in **one-thousandths of an inch**. (See page 31.)

Thread Cutting. The lathe is indexed to cut standard threads from 4 to 40, right or left, including $1\frac{1}{2}$ pipe thread, and, by compounding the gears furnished, many other threads can be cut. (See page 31.)

Equipment as shown in cut is included in the price of lathe, and consists of large and small face plates, compound rest, two steel centers, center rest, follower rest, change gears, adjustable stop for screw cutting, one semi-machined chuck-back, necessary wrenches, and double friction countershaft. (See page 30.)

No. of Lathe	Swing over Bed	Length of Bed	Distance between Centers	Swing over Carriage	Hole through Spindle	Opening Tool Post Inches	Counter-shaft Speed	Code Word	Approx. Weight Crated for Dom. Shipment	Price F. O. B. South Bend, Indiana
25-X	9 $\frac{1}{4}$ in.	2 $\frac{1}{2}$ ft.	12 in.	6 $\frac{3}{8}$ in.	$\frac{3}{4}$ in.	$\frac{3}{8} \times \frac{7}{8}$ in.	290 R.P.M.	Dally	440 lbs.	\$207.00
25-Y	9 $\frac{1}{4}$ in.	3 ft.	18 in.	6 $\frac{3}{8}$ in.	$\frac{3}{4}$ in.	$\frac{3}{8} \times \frac{7}{8}$ in.	290 R.P.M.	Dare	460 lbs.	211.00
25-A	9 $\frac{1}{4}$ in.	4 ft.	30 in.	6 $\frac{3}{8}$ in.	$\frac{3}{4}$ in.	$\frac{3}{8} \times \frac{7}{8}$ in.	290 R.P.M.	Dell	500 lbs.	219.00

Extras—The No. 25 Lathe may be supplied at extra cost with—Milling and Keyway Cutting Attachment, Taper Attachment, Draw-in Chuck Attachment, Thread Dial, Grinding Attachments, Gear Cutting Attachment, Tool Post Turret, and Turnstile Turret.



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

No. 27—11-Inch South Bend Standard Change Gear Lathe

The No. 27 Lathe is a Precision Tool, practical for light, accurate work.

Bed is 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. Beds are rough machined, seasoned, finished machined, and hand scraped to a perfect bearing. The rack is of steel, cut from solid bar.

Head Stock is equipped with improved latch reverse and patent oilers. Spindle cone has three steps for $1\frac{1}{4}$ -inch belt which, with back gears, gives six changes of spindle speeds.

Spindle is of special carbon steel, accurately ground; has a $\frac{1}{8}$ -inch hole its entire length. Bearings are the best phosphor bronze with ample oiling facilities and adjustable for wear. Centers conform to No. 2 Morse taper.

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

Carriage is strong with wide, deep bridge. A convenient locking device secures carriage to bed when using cross-feed.

Has automatic cross-feed and automatic longitudinal feed. Lead screw is 8 pitch Acme standard thread. The cross-feed screw has a micrometer graduated collar reading in one-thousandths of an inch. (See pages 31 and 32.)

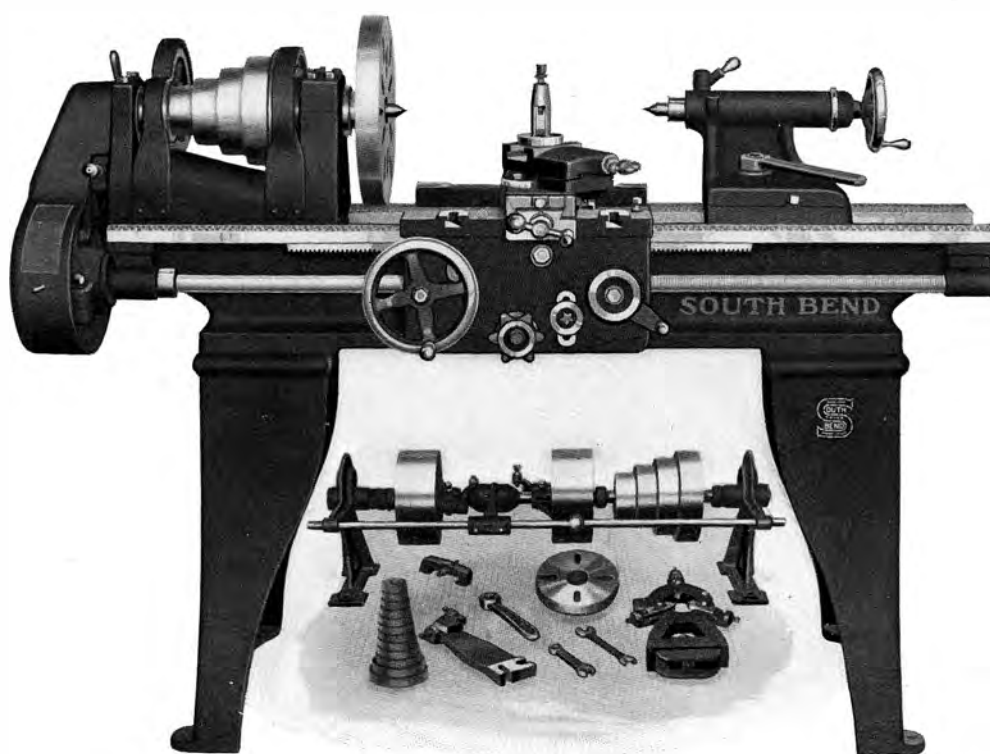
Compound Rest is graduated in 180 degrees, is gibbed throughout, and has large bearing surfaces. The compound rest screw has a graduated collar reading in one-thousandths of an inch. (See page 31.)

Thread Cutting. The lathe is indexed to cut standard threads from 4 to 40, right or left, including $1\frac{1}{2}$ pipe thread, and, by compounding the gears furnished, many other threads can be cut. (See page 31.)

Equipment as shown in cut is included in the price of lathe, and consists of large and small face plates, compound rest, two steel centers, center rest, follower rest, change gears, adjustable stop for screw cutting, one semi-machined chuck-back, necessary wrenches, and double friction countershaft. (See page 30.)

No. of Lathe	Swing over Bed	Length of Bed	Distance between Centers	Swing over Carriage	Hole through Spindle	Opening Tool Post Inches	Counter-shaft Speed	Code Word	Approx. Weight Crated for Dom. Shipment	Price F. O. B. South Bend, Indiana
27-Y	11 $\frac{1}{4}$ in.	3 ft.	14 in.	7 $\frac{5}{8}$ in.	$\frac{7}{8}$ in.	$\frac{3}{8} \times \frac{1}{8}$ in.	275 R.P.M.	Fare	575 lbs.	\$240.00
27-A	11 $\frac{1}{4}$ in.	4 ft.	26 in.	7 $\frac{5}{8}$ in.	$\frac{7}{8}$ in.	$\frac{3}{8} \times \frac{1}{8}$ in.	275 R.P.M.	Fend	625 lbs.	248.00
27-B	11 $\frac{1}{4}$ in.	5 ft.	38 in.	7 $\frac{5}{8}$ in.	$\frac{7}{8}$ in.	$\frac{3}{8} \times \frac{1}{8}$ in.	275 R.P.M.	Foam	675 lbs.	260.00

Extras—The No. 27 Lathe may be supplied at extra cost with—Milling and Keyway Cutting Attachment, Taper Attachment, Draw-in Chuck Attachment, Thread Dial, Grinding Attachments, Gear Cutting Attachment, Tool Post Turret, and Turnstile Turret.



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

No. 34—13-Inch South Bend Standard Change Gear Lathe

The No. 34 Lathe is practical for light accurate work in the manufacturing plant, machine shop and tool room.

Bed is 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. Beds are rough machined, seasoned, finished machined, and hand scraped to a perfect bearing. The rack is of steel, cut from solid bar.

Head Stock is equipped with improved latch reverse and patent oilers. Spindle cone has four steps for 1½-inch belt which, with back gears, gives eight changes of spindle speeds.

Spindle is of special carbon steel, accurately ground; has a 1-inch hole its entire length. Bearings are the best phosphor bronze with ample oiling facilities and adjustable for wear. Centers conform to No. 3 Morse taper.

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

Carriage is strong with wide, deep bridge; has T-slots in front and rear for clamping work for **milling and boring**. A convenient locking device secures carriage to bed when

using cross-feed. Has automatic cross-feed and automatic longitudinal feed. Lead screw is 6 pitch Acme standard thread. The cross-feed screw has a micrometer graduated collar reading in one-thousandths of an inch. (See pages 31 and 32.)

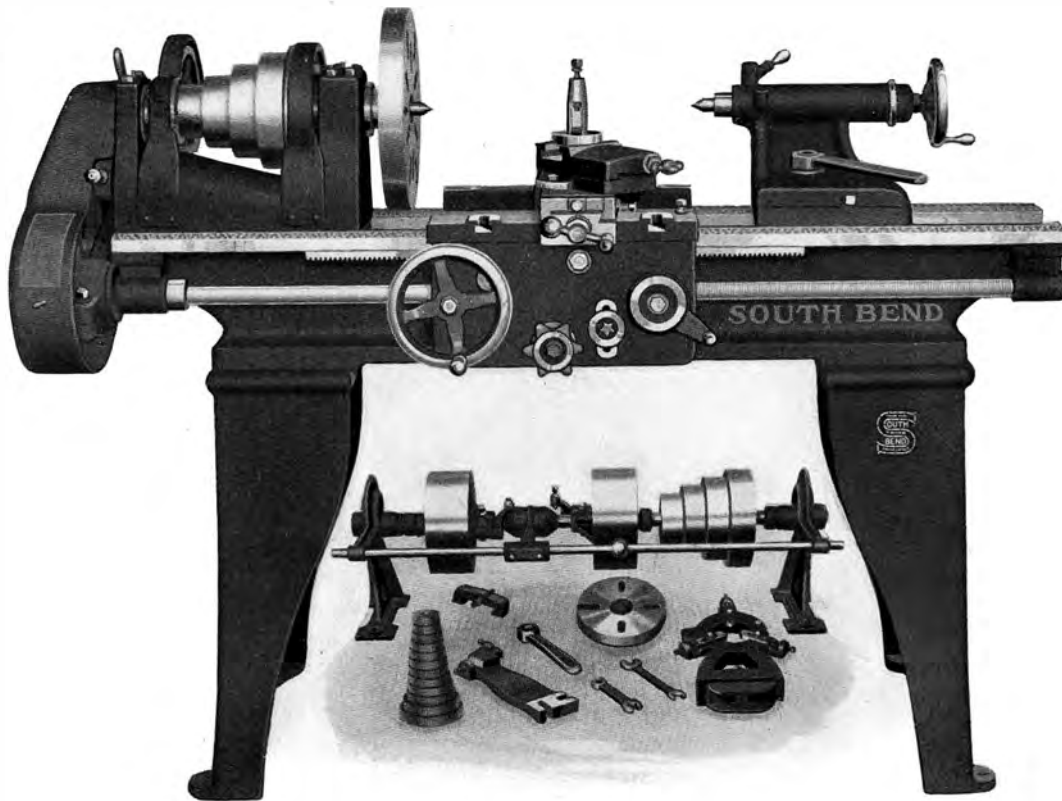
Compound Rest is graduated in 180 degrees, is gibbed throughout, and has large bearing surfaces. The compound rest screw has a graduated collar reading in one-thousandths of an inch. (See page 31.)

Thread Cutting. The lathe is indexed to cut standard threads from 4 to 40, right or left, including 1½ pipe thread, and, by compounding the gears furnished, many other threads can be cut. (See page 31.)

Equipment as shown in cut is included in the price of lathe, and consists of large and small face plates, compound rest, two steel centers, center rest, follower rest, change gears, adjustable stop for screw cutting, one semi-machined chuck-back, necessary wrenches, and double friction countershaft. (See page 30.)

No. of Lathe	Swing over Bed	Length of Bed	Distance between Centers	Swing over Carriage	Hole through Spindle	Opening Tool Post Inches	Counter-shaft Speed	Code Word	Approx. Weight Crated for Dom. Shipment	Price F. O. B. South Bend, Indiana
34-A	13¼ in.	4 ft.	18 in.	9 in.	1 in.	½ x 1⅛ in.	275 R.P.M.	Hail	1000 lbs.	\$292.00
34-B	13¼ in.	5 ft.	30 in.	9 in.	1 in.	½ x 1⅛ in.	275 R.P.M.	Heald	1050 lbs.	304.00
34-C	13¼ in.	6 ft.	42 in.	9 in.	1 in.	½ x 1⅛ in.	275 R.P.M.	Hire	1100 lbs.	316.00
34-D	13¼ in.	7 ft.	54 in.	9 in.	1 in.	½ x 1⅛ in.	275 R.P.M.	Home	1150 lbs.	328.00
34-E	13¼ in.	8 ft.	66 in.	9 in.	1 in.	½ x 1⅛ in.	275 R.P.M.	Husk	1200 lbs.	344.00

Extras—The No. 34 Lathe may be supplied at extra cost with—Milling and Keyway Cutting Attachment, Taper Attachment, Draw-in Chuck Attachment, Thread Dial, Grinding Attachments, Gear Cutting Attachment, Pipe Threading Attachment, Cabinet Legs, Tool Post Turret, Turnstile Turret, and Raising Blocks.



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

No. 37—15-Inch South Bend Standard Change Gear Lathe

The No. 37 Lathe is a reliable tool, recommended for general work.

Bed is 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. Beds are rough machined, seasoned, finished machined, and hand scraped to a perfect bearing. The rack is of steel, cut from solid bar.

Head Stock is equipped with improved latch reverse and patent oilers. Spindle cone has four steps for 1 3/4-inch belt which, with back gears, gives eight changes of spindle speeds.

Spindle is of special carbon steel, accurately ground; has a 1 1/8-inch hole its entire length. Bearings are the best phosphor bronze with ample oiling facilities and adjustable for wear. Centers conform to No. 3 Morse taper.

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

Carriage is strong with wide, deep bridge; has T-slots in front and rear for clamping work for milling and boring.

A convenient locking device secures carriage to bed when using cross-feed. Has automatic cross-feed and automatic longitudinal feed. Lead screw is 6 pitch Acme standard thread. The cross-feed screw has a micrometer graduated collar reading in one-thousandths of an inch. (See pages 31 and 32.)

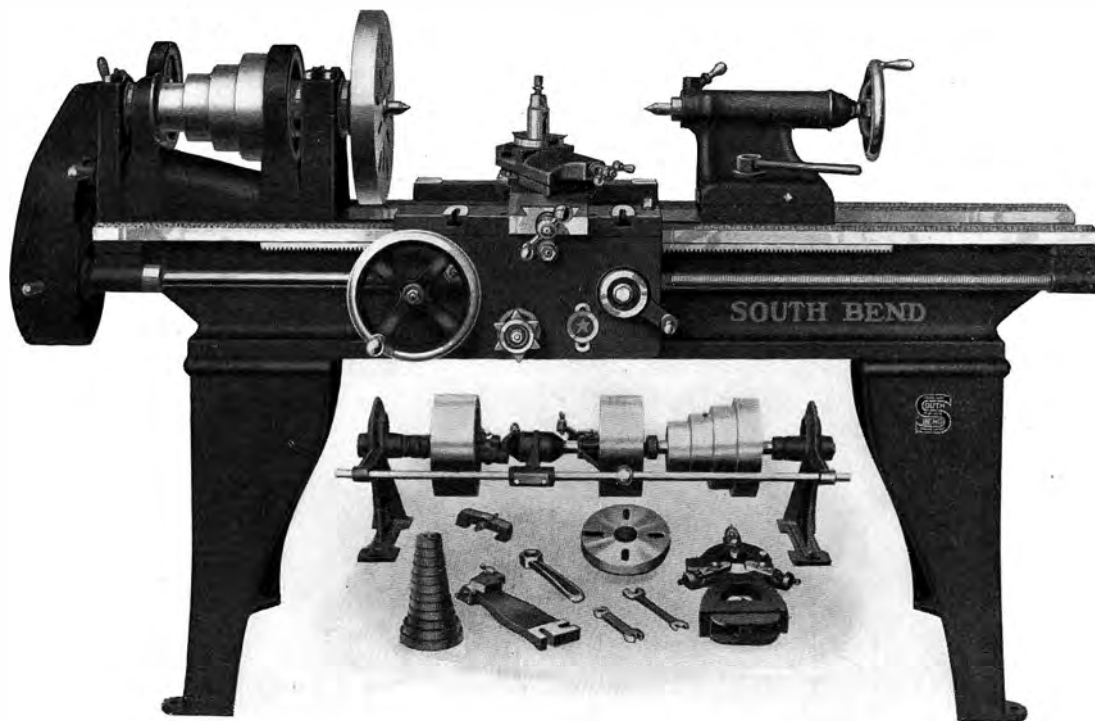
Compound Rest is graduated in 180 degrees, is gibbed throughout, and has large bearing surfaces. The compound rest screw has a graduated collar reading in one-thousandths of an inch. (See page 31.)

Thread Cutting. The lathe is indexed to cut standard threads from 4 to 40, right or left, including 1 1/2 pipe threads and, by compounding the gears furnished, many other thread, can be cut. (See page 31.)

Equipment as shown in cut is included in the price of lathe, and consists of large and small face plates, compound rest, two steel centers, center rest, follower rest, change gears, adjustable stop for screw cutting, one semi-machined chuck-back, necessary wrenches, and double friction countershaft. (See page 30.)

No. of Lathe	Swing over Bed	Length of Bed	Distance between Centers	Swing over Carriage	Hole through Spindle	Opening Tool Post Inches	Counter-shaft Speed	Code Word	Approx. Weight Crated for Dom. Shipment	Price F. O. B. South Bend, Indiana
37-B	15 1/4 in.	5 ft.	27 in.	10 5/8 in.	1 1/8 in.	9/16 x 1 1/4 in.	250 R.P.M.	Ideal	1400 lbs.	\$360.00
37-C	15 1/4 in.	6 ft.	39 in.	10 5/8 in.	1 1/8 in.	9/16 x 1 1/4 in.	250 R.P.M.	Image	1475 lbs.	376.00
37-D	15 1/4 in.	7 ft.	51 in.	10 5/8 in.	1 1/8 in.	9/16 x 1 1/4 in.	250 R.P.M.	Index	1550 lbs.	392.00
37-E	15 1/4 in.	8 ft.	63 in.	10 5/8 in.	1 1/8 in.	9/16 x 1 1/4 in.	250 R.P.M.	Iris	1625 lbs.	408.00
37-G	15 1/4 in.	10 ft.	87 in.	10 5/8 in.	1 1/8 in.	9/16 x 1 1/4 in.	250 R.P.M.	Issue	1775 lbs.	444.00

Extras—The No. 37 Lathe may be supplied at extra cost with—Milling and Keyway Cutting Attachment, Taper Attachment, Draw-in Chuck Attachment, Thread Dial, Grinding Attachments, Gear Cutting Attachment, Pipe Threading Attachment, Cabinet Legs Tool Post Turret, Turnstile Turret, and Raising Blocks.



Regular equipment, as illustrated under Lathe is included in price

No. 40—16-Inch South Bend Standard Change Gear Lathe

The No. 40 Lathe is recommended for manufacturing, for the Tool Room and general all-around work.

Bed is 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. Beds are rough machined, seasoned, finished machined, and hand scraped to a perfect bearing. The rack is of steel, cut from solid bar.

Head Stock is equipped with improved latch reverse and patent oilers. Spindle cone has four steps for 2-inch wheel, with back gears, gives eight changes of spindle speeds.

Spindle is of special carbon steel, accurately ground; has a $1\frac{5}{16}$ -inch hole its entire length. Bearings are the best phosphor bronze with ample oiling facilities and adjustable for wear. Centers conform to No. 3 Morse taper.

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

Carriage is strong with wide, deep bridge; has T-slots in front and rear for clamping work for milling and boring.

A convenient locking device secures carriage to bed when using cross-feed. Has automatic cross-feed and automatic longitudinal feed. Lead screw is 6 pitch Acme standard thread. The cross-feed screw has a micrometer graduated collar reading in one-thousandths of an inch. (See pages 31 and 32.)

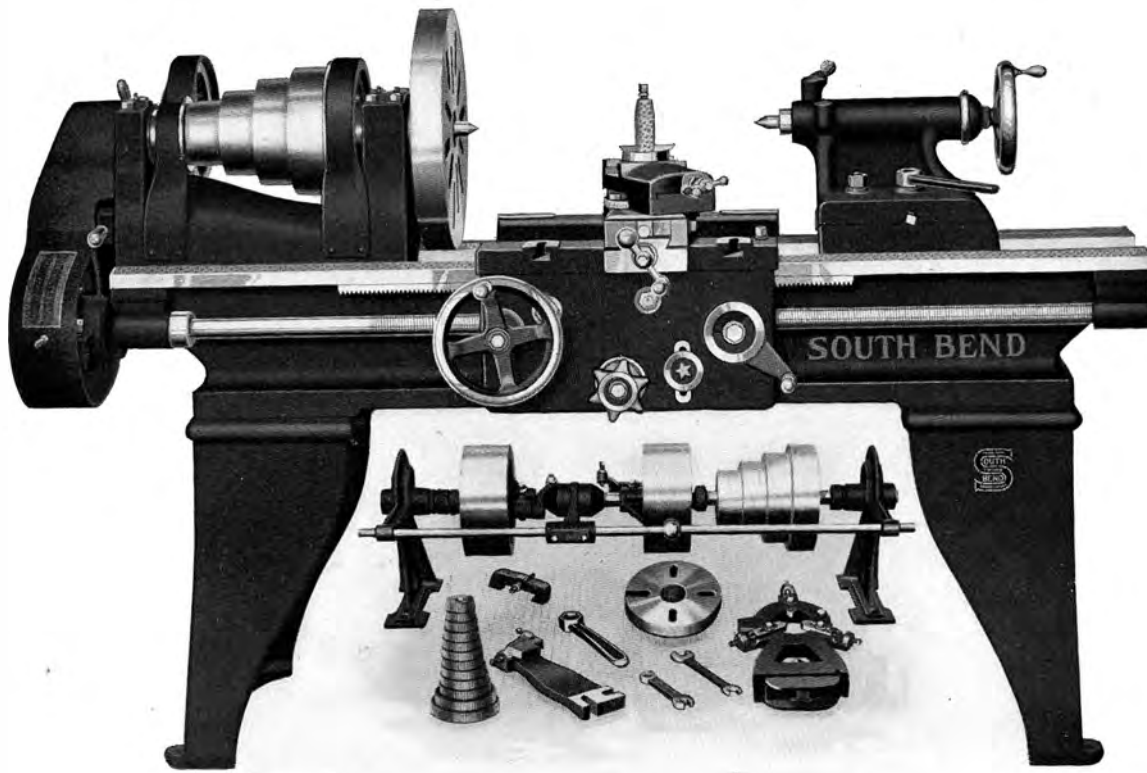
Compound Rest is graduated in 180 degrees, is gibbed throughout, and has large bearing surfaces. The compound rest screw has a graduated collar reading in one-thousandths of an inch. (See page 31.)

Thread Cutting. The lathe is indexed to cut standard threads from 4 to 40, right or left, including $1\frac{1}{2}$ pipe thread, and, by compounding the gears furnished, many other threads can be cut. (See page 31.)

Equipment as shown in cut is included in the price of lathe, and consists of large and small face plates, compound rest, two steel centers, center rest, follower rest, change gears, adjustable stop for screw cutting, one semi-machined chuck-back, necessary wrenches, and double friction countershaft. (See page 30.)

No. of Lathe	Swing over Bed	Length of Bed	Distance between Centers	Swing over Carriage	Hole through Spindle	Opening Tool Post Inches	Counter-shaft Speed	Code Word	Approx. Weight Crated for Dom. Shipment	Price F. O. B. South Bend, Indiana
40-C	$16\frac{1}{4}$ in.	6 ft.	36 in.	$11\frac{1}{8}$ in.	$1\frac{5}{16}$ in.	$\frac{5}{8} \times 1\frac{3}{8}$ in.	225 R.P.M.	Jamb	1700 lbs.	\$406.00
40-D	$16\frac{1}{4}$ in.	7 ft.	48 in.	$11\frac{1}{8}$ in.	$1\frac{5}{16}$ in.	$\frac{5}{8} \times 1\frac{3}{8}$ in.	225 R.P.M.	Jelly	1780 lbs.	422.00
40-E	$16\frac{1}{4}$ in.	8 ft.	60 in.	$11\frac{1}{8}$ in.	$1\frac{5}{16}$ in.	$\frac{5}{8} \times 1\frac{3}{8}$ in.	225 R.P.M.	Jinks	1860 lbs.	438.00
40-G	$16\frac{1}{4}$ in.	10 ft.	84 in.	$11\frac{1}{8}$ in.	$1\frac{5}{16}$ in.	$\frac{5}{8} \times 1\frac{3}{8}$ in.	225 R.P.M.	Joist	2020 lbs.	470.00
40-H	$16\frac{1}{4}$ in.	12 ft.	108 in.	$11\frac{1}{8}$ in.	$1\frac{5}{16}$ in.	$\frac{5}{8} \times 1\frac{3}{8}$ in.	225 R.P.M.	Jute	2280 lbs.	518.00

Extras—The No. 40 Lathe may be supplied at extra cost with—Milling and Keyway Cutting Attachment, Taper Attachment, Draw-in Chuck Attachment, Thread Dial, Grinding Attachments, Gear Cutting Attachment, Pipe Threading Attachment, Cabinet Legs, Tool Post Turret, Turnstile Turret, and Raising Blocks. Lathe with 12-foot bed is equipped with center leg.



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

No. 45—18-Inch South Bend Standard Change Gear Lathe

The No. 45 Lathe has the strength for manufacturing and general all-around work in the machine shop.

Bed is 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. Beds are rough machined, seasoned, finished machined, and hand scraped to a perfect bearing. The rack is of steel, cut from solid bar.

Head Stock is equipped with improved latch reverse and patent oilers. Spindle cone has four steps for 2½-inch speeds.

Spindle is of special carbon steel, accurately ground; has a 1⅝-inch hole its entire length. Bearings are the best phosphor bronze with ample oiling facilities and adjustable for wear. Centers conform to No. 3 Morse taper.

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

Carriage is strong with wide, deep bridge; has T-slots in front and rear for clamping work for milling and boring.

A convenient locking device secures carriage to bed when using cross-feed. Has automatic cross-feed and automatic longitudinal feed. Lead screw is 4 pitch Acme standard thread. The cross-feed screw has a micrometer graduated collar reading in one-thousandths of an inch. (See pages 31 and 32.)

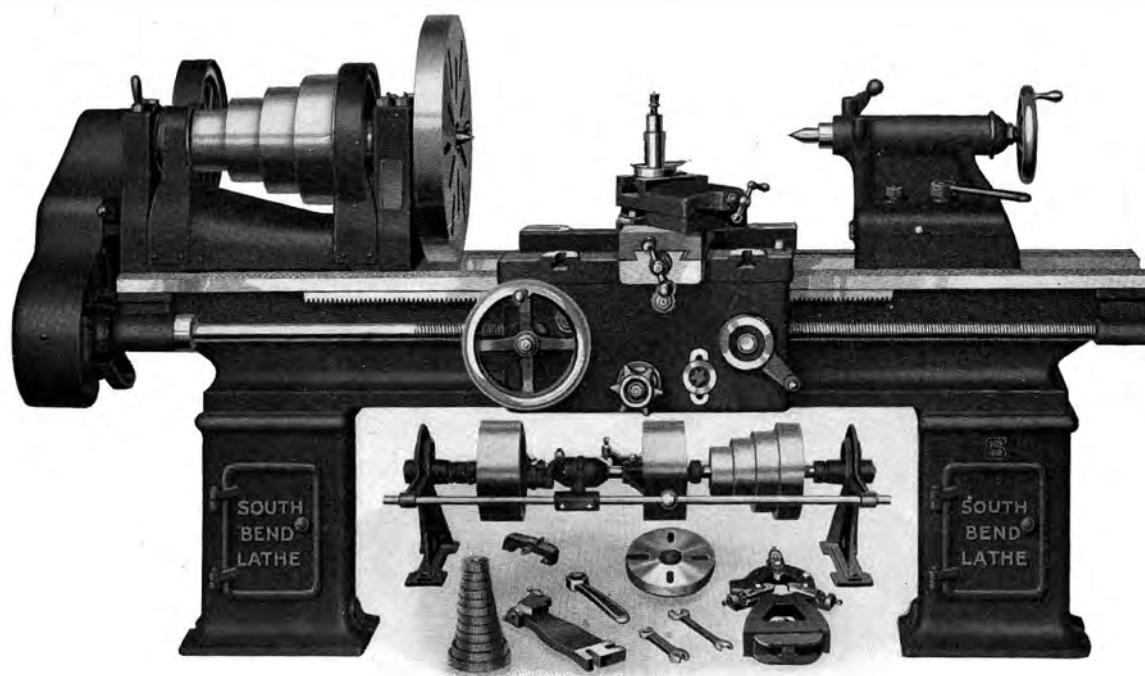
Compound Rest is graduated in 180 degrees, is gibbed throughout, and has large bearing surfaces. The compound rest screw has a graduated collar reading in one-thousandths of an inch. (See page 31.)

Thread Cutting. The lathe is indexed to cut standard threads from 2 to 40, right or left, including 11½ pipe-thread, and, by compounding the gears furnished, many other threads can be cut. (See page 31.)

Equipment as shown in cut is included in the price of lathe, and consists of large and small face plates, compound rest, two steel centers, center rest, follower rest, change gears, adjustable stop for screw cutting, one semi-machined chuck-back, necessary wrenches, and double friction countershaft. (See page 30.)

No. of Lathe	Swing over Bed	Length of Bed	Distance between Centers	Swing over Carriage	Hole through Spindle	Opening Tool Post Inches	Counter-shaft Speed	Code Word	Approx. Weight Crated for Dom. Shipment	Price F. O. B. South Bend, Indiana
45-C	18¼ in.	6 ft.	31 in.	12⅝ in.	1⅜ in.	⅝ x 1⅜ in.	200 R.P.M.	Kafir	2300 lbs.	\$548.00
45-D	18¼ in.	7 ft.	43 in.	12⅝ in.	1⅜ in.	⅝ x 1⅜ in.	200 R.P.M.	Khond	2400 lbs.	568.00
45-E	18¼ in.	8 ft.	55 in.	12⅝ in.	1⅜ in.	⅝ x 1⅜ in.	200 R.P.M.	Knack	2500 lbs.	588.00
45-G	18¼ in.	10 ft.	79 in.	12⅝ in.	1⅜ in.	⅝ x 1⅜ in.	200 R.P.M.	Kohl	2700 lbs.	656.00
45-H	18¼ in.	12 ft.	103 in.	12⅝ in.	1⅜ in.	⅝ x 1⅜ in.	200 R.P.M.	Kurd	3000 lbs.	716.00

Extras—The No. 45 Lathe may be supplied at extra cost with—Milling and Keyway Cutting Attachment, Taper Attachment, Draw-in Chuck Attachment, Thread Dial, Grinding Attachments, Gear Cutting Attachment, Pipe Threading Attachment, Cabinet Legs, Tool Post Turret, Turnstile Turret, and Raising Blocks. Lathe with 12-foot bed is equipped with center leg.



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

No. 47—21-Inch South Bend Standard Change Gear Lathe

The No. 47 Lathe makes an excellent all-around lathe for the general machine shop.

Bed is 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. Beds are rough machined, seasoned, finished machined, and hand scraped to a perfect bearing. The rack is of steel, cut from solid bar.

Head Stock is equipped with improved latch reverse and patent oilers. Spindle cone has four steps for 3-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. Bearings are the best phosphor bronze with ample oiling facilities and adjustable for wear. Centers conform to No. 4 Morse taper.

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

Carriage is strong with wide, deep bridge; has T-slots in front and rear for clamping work for milling and boring.

A convenient locking device secures carriage to bed when using cross-feed. Has automatic cross-feed and automatic longitudinal feed. Lead screw is 4 pitch Acme standard thread. The cross-feed screw has a micrometer graduated collar reading in one-thousandths of an inch. (See pages 31 and 32.)

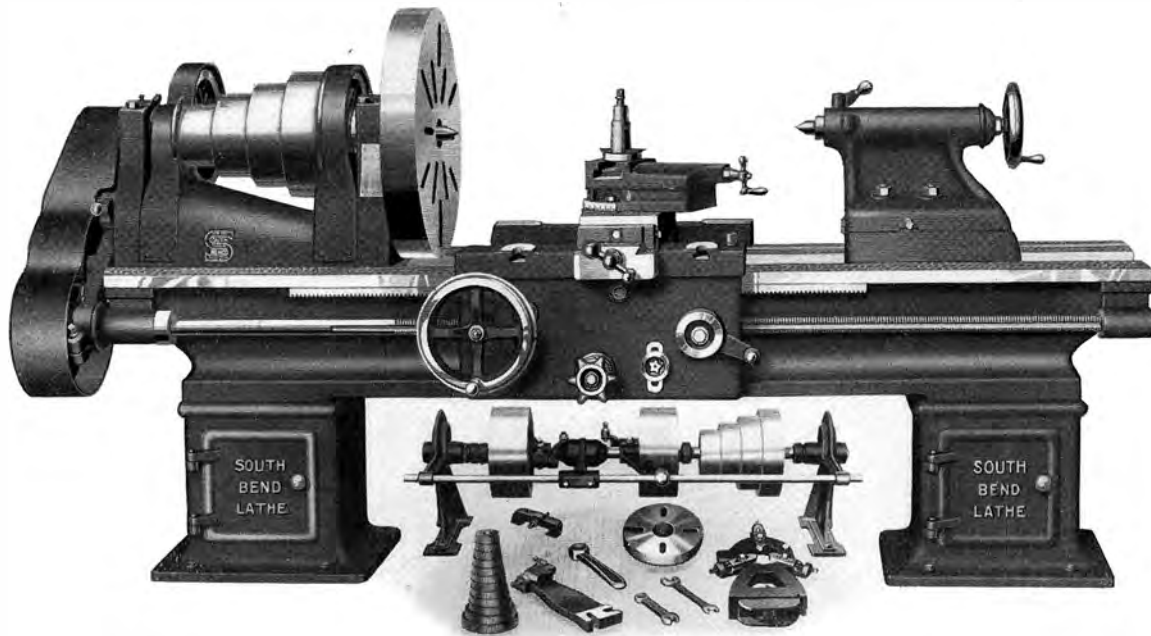
Compound Rest is graduated in 180 degrees, is gibbed throughout, and has large bearing surfaces. The compound rest screw has a graduated collar reading in one-thousandths of an inch. (See page 31.)

Thread Cutting. The lathe is indexed to cut standard threads from 2 to 40, right or left, including 11½ pipe thread, and, by compounding the gears furnished, many other threads can be cut. (See page 31.)

Equipment as shown in cut is included in the price of lathe, and consists of large and small face plates, compound rest, two steel centers, center rest, follower rest, change gears, adjustable stop for screw cutting, one semi-machined chuck-back, necessary wrenches, and double friction countershaft. (See page 30.)

No. of Lathe	Swing over Bed	Length of Bed	Distance between Centers	Swing over Carriage	Hole through Spindle	Opening Tool Post Inches	Counter-shaft Speed	Code Word	Approx. Weight Crated for Dom. Shipment	Price F. O. B. South Bend, Indiana
47-D	21¼ in.	7 ft.	39 in.	15⅞ in.	1½ in.	⅞ x 2 in.	175 R.P.M.	Paint	3400 lbs.	\$770.00
47-E	21¼ in.	8 ft.	51 in.	15⅞ in.	1½ in.	⅞ x 2 in.	175 R.P.M.	Pear	3600 lbs.	796.00
47-G	21¼ in.	10 ft.	75 in.	15⅞ in.	1½ in.	⅞ x 2 in.	175 R.P.M.	Photo	3850 lbs.	849.00
47-H	21¼ in.	12 ft.	99 in.	15⅞ in.	1½ in.	⅞ x 2 in.	175 R.P.M.	Pike	4210 lbs.	933.00
47-K	21¼ in.	14 ft.	123 in.	15⅞ in.	1½ in.	⅞ x 2 in.	175 R.P.M.	Plate	4430 lbs.	999.00

Extras—The No. 47 Lathe may be supplied at extra cost with—Milling and Keyway Cutting Attachment, Taper Attachment, Draw-in Chuck Attachment, Thread Dial, Grinding Attachments, Gear Cutting Attachment, Pipe Threading Attachment, Tool Post Turret, Turnstile Turret, and Raising Blocks. Lathes with 12-foot and 14-foot beds are equipped with center leg.



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

No. 54—24-Inch South Bend Standard Change Gear Lathe

The No. 54 Lathe will give excellent service for general all-around work.

Bed is 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. Beds are rough machined, seasoned, finished machined, and hand scraped to a perfect bearing. The rack is of steel, cut from solid bar.

Head Stock is equipped with improved latch reverse and patent oilers. Spindle cone has four steps for 3½-inch belt which, with back gears, gives eight changes of spindle speeds.

Spindle is of special carbon steel, accurately ground; has a 1¼-inch hole its entire length. Bearings are the best phosphor bronze with ample oiling facilities and adjustable for wear. Centers conform to No. 4 Morse taper.

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

Carriage is strong with wide, deep bridge; has T-slots in front and rear for clamping work for milling and boring. A convenient locking device secures carriage to bed when

using cross-feed. Has automatic cross-feed and automatic longitudinal feed. Lead screw is 4 pitch Acme standard thread. The cross-feed screw has a micrometer graduated collar reading in one-thousandths of an inch. (See pages 31 and 32.)

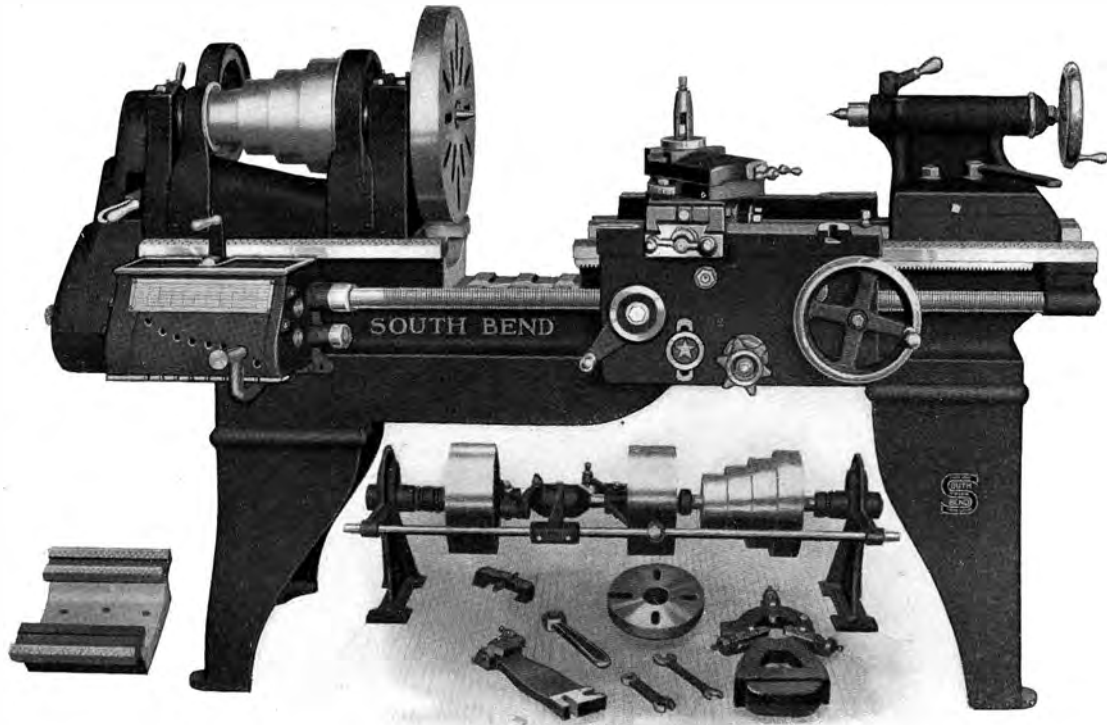
Compound Rest is graduated in 180 degrees, is gibbed throughout, and has large bearing surfaces. The compound rest screw has a graduated collar reading in one-thousandths of an inch. (See page 31.)

Thread Cutting. The lathe is indexed to cut standard threads from 2 to 40, right or left, including 1½ pipe thread, and, by compounding the gears furnished, many other threads can be cut. (See page 31.)

Equipment as shown in cut is included in the price of lathe, and consists of large and small face plates, compound rest, two steel centers, center rest, follower rest, change gears, adjustable stop for screw cutting, one semi-machined chuck-back, necessary wrenches, and double friction countershaft. (See page 30.)

No. of Lathe	Swing over Bed	Length of Bed	Distance between Centers	Swing over Carriage	Hole through Spindle	Opening Tool Post Inches	Counter-shaft Speed	Code Word	Approx. Weight Crated for Dom. Shipment	Price F. O. B. South Bend, Indiana
54-E	24¼ in.	8 ft.	46 in.	17¾ in.	1¾ in.	⅞ x 2 in.	150 R.P.M.	Race	4400 lbs.	\$1030.00
54-G	24¼ in.	10 ft.	70 in.	17¾ in.	1¾ in.	⅞ x 2 in.	150 R.P.M.	Rend	4650 lbs.	1091.00
54-H	24¼ in.	12 ft.	94 in.	17¾ in.	1¾ in.	⅞ x 2 in.	150 R.P.M.	Rise	5050 lbs.	1188.00
54-K	24¼ in.	14 ft.	118 in.	17¾ in.	1¾ in.	⅞ x 2 in.	150 R.P.M.	Roat	5320 lbs.	1254.00
54-M	24¼ in.	16 ft.	142 in.	17¾ in.	1¾ in.	⅞ x 2 in.	150 R.P.M.	Ring	5600 lbs.	1324.00

Extras—The No. 54 Lathe may be supplied at extra cost with—Milling and Keyway Cutting Attachment, Taper Attachment, Draw-in Chuck Attachment, Thread Dial, Grinding Attachments, Gear Cutting Attachment, Pipe Threading Attachment, Tool Post Turret, Turnstile Turret, and Raising Blocks. Lathes with 12-, 14- and 16-foot beds equipped with center leg.



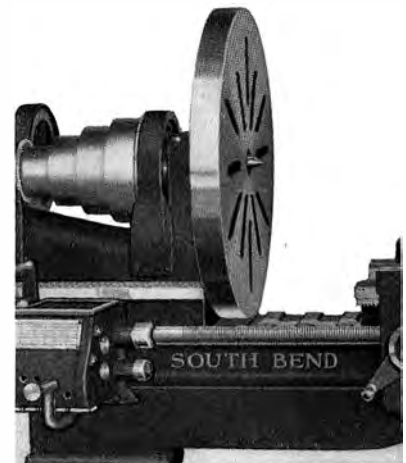
South Bend Lathes with Gap Bed and Bridge

Any Gap Lathe, Standard Change Gear, or Quick Change Gear can be supplied in Motor Driven Type.

Illustration shows the 16-24 inch No. 169 Quick Change Gear Lathe fitted with gap bed and bridge. The bridge has been removed from the bed and rests on the floor. The illustration also shows carriage mechanism transposed. This allows the carriage to pass over the gap without letting down. For description of gap bed Lathes, see that of straight bed Lathes, as the only difference is the bridge, and gap construction of bed and apron, which requires more strength.

Bridge is used to close up the gap so that the Lathe may be used as a straight bed. 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 above is included in the price of the Lathe, and consists of large and small face plates, graduated compound rest, two steel centers, center rest, follower rest, adjustable stop for screw cutting, gear guards, semi-machined chuck-back, necessary wrenches, double friction countershaft, and bridge.

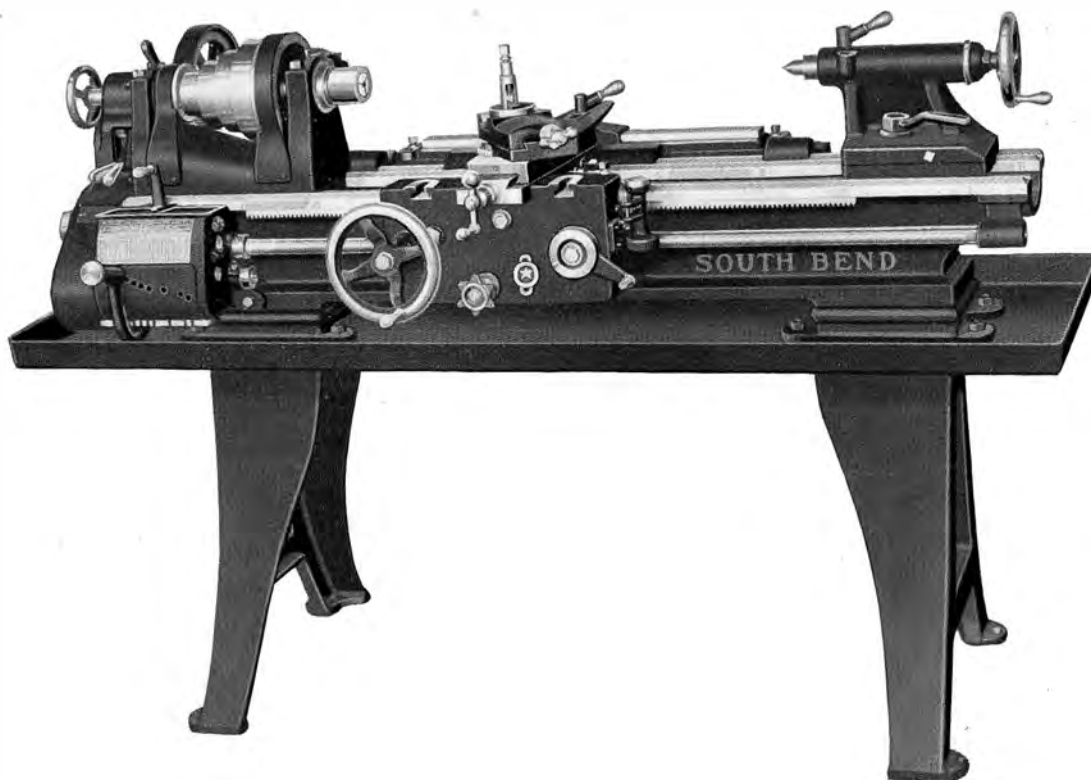


Price of Gap Bed, Bridge and Extra Large Face Plate

Extra Large Face Plate for Full Swing Over Gap

No. of Gap Lathe Standard Change Gear	No. of Gap Lathe Quick Change Gear	Swing over Straight Bed	Swing over Gap	Width of Gap	Length of Bed in Feet	Extra Weight of Gap Beds	Price Extra for Gap and Bridge	Price of Extra Large Face Plate, Full Swing over Gap
127	163	11¼ in.	15 in.	5 in.	3, 4, 5,	50 lbs.	\$ 25.00	\$12.00
134	165	13¼ in.	19 in.	7 in.	4, 5, 6, 7, 8	100 lbs.	30.00	18.00
137	167	15¼ in.	22 in.	8 in.	5, 6, 7, 8, 10	125 lbs.	36.00	25.00
140	169	16¼ in.	24 in.	8¾ in.	6, 7, 8, 10, 12	140 lbs.	40.00	28.00
145	171	18¼ in.	26 in.	10 in.	6, 7, 8, 10, 12	170 lbs.	50.00	35.00
147	173	21¼ in.	30 in.	12 in.	7, 8, 10, 12, 14	250 lbs.	100.00	45.00
154	175	24¼ in.	36 in.	15 in.	8, 10, 12, 14, 16	350 lbs.	150.00	55.00

Extras—The Gap-Bed Lathe may be supplied at extra cost with—Milling and Keyway Cutting Attachment, Draw-in Chuck Attachment, Grinding Attachments, Gear Cutting Attachment, Taper Attachment, Turret Attachment, and Thread Dial. When ordering Lathe with Gap bed, place the figure (1) before the number of straight bed lathe, or add the word "GAP" to the code word.



The South Bend Tool Room Lathe

The Tool Room Lathe is recommended for all classes of precision work.

The illustration above shows a **South Bend Tool Room Lathe** equipped for the most accurate work in the tool room of the manufacturing plant where the finest gauges, taps, precision screws, dies and tools are to be made.

Equipment. The regular equipment that is included in each South Bend Quick Change Gear Lathe is also included in the price of the Tool Room Lathe, altho it is not shown in the illustration. The special equipment shown on the above illustration is Taper Attachment, Draw-in Chuck Attachment, Thread Dial and Steel Oil Pan.

Taper Attachment shown on this Tool Room Lathe is illustrated and described on page 35. It is graduated on one end in inches and on the other end in degrees so that in turning or boring taper the operator can set the attachment to any desired angle. This taper attachment is used on fine, accurate tool and die work.

Draw-in Chuck Attachment fitted to the Tool Room Lathe is illustrated and described on page 35. This attachment is practical for making small duplicate parts. It can be fitted with hardened steel collets that are ground true and will take round work from one-sixteenth inch up to its capacity in steps of one thirty-second of an inch.

Thread Dial that is shown on the Tool Room Lathe is further described on page 36. It is used in thread cutting.

When a thread dial is used, it allows the operator to unclamp split nut from the lead screw when the end of the thread chip is reached. He can then return the carriage quickly, by hand, to the starting of the next chip. The Thread Dial will indicate when to clamp the split nut on the lead screw so that the threading tool will follow in the proper groove for the next chip.

Relieving Attachment. The Relieving or Backing Off Attachment is not shown on the above lathe, but is illustrated on page 36. This attachment is used for the relieving or backing off of reamers, cutters, taps, etc.

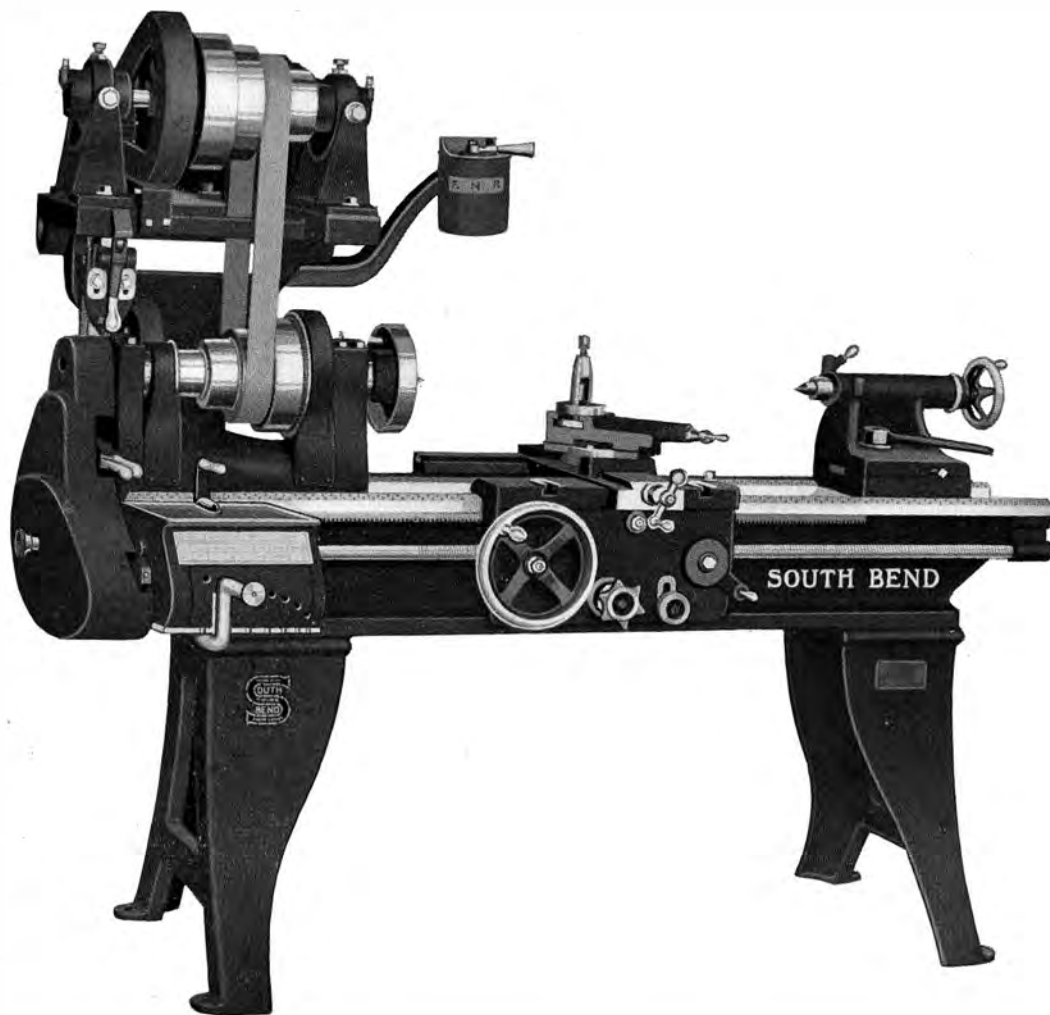
Quick Change Gear Box on the above lathe is the famous Flather patent for cutting threads and turning feeds. Standard Threads from 2 to 112, right or left, may be cut without changing a gear. All turning feeds, fine or coarse, can be instantly obtained without changing a gear. This Gear Box has no superior on any lathe built.

Oil Pan shown in the above illustration is a steel pan with 1½-inch flange all around. The purpose of this pan is to hold chips so that they will not drop on the floor. An Oil Pan is also used to collect oil or lubricant which is sometimes used on special work.

Sizes of Tool Room Lathe. The most practical size Tool Room Lathes are the 13-inch Lathe with a 5-or 6-ft. bed, the 15-inch lathe with a 6-ft. bed, the 16-inch lathe with a 6-or 8-foot bed and the 18-inch lathe with 8-foot bed.

Capacity of Draw-in-Chuck Collets on Tool Room Lathes

Size of Lathe.....	13 in.	15 in.	16 in.	18 in.
Collet Capacity.....	1/16 in. to 1/8 in.	1/16 in. to 3/4 in.	1/16 in. to 7/8 in.	1/8 in. to 1 in.



South Bend Silent Chain Motor Driven Lathes

Made in quick change or standard change gear patterns, with straight or gap bed.

Silent Chain Drive is a positive drive and prevents loss of time by having the tension always taken up between the motor and drive shaft.

The Reversing Switch is located in a convenient place so that the operator has complete control of the lathe, as he can start, stop, and reverse the spindle instantaneously.

The Tilting Table on which the motor sets is operated by a small lever which allows the table to tilt and the belt to be shifted while the lathe is in operation. The small bracket carrying the lever admits of an independent adjustment for the taking up of the belt.

Motor is placed above the lathe so there is no danger of chips falling into the armature and field coils to interfere with the motor's efficient operation. On account of the design of the **South Bend Motor Driven Lathe**, a General Electric or Westinghouse Motor, having a speed of 1150 to 1200 R.P.M., is recommended.

Motor manufacturers carry a large stock of motors at South Bend, so we are able to secure prompt shipment and quote the regular market prices. In ordering motor driven Lathes, it is advisable to let us furnish the motors as our

prices are low and there will be no delay in making shipment on the motor driven Lathe you select.

It is necessary that the motor be fitted to the electric drive lathe in our shop.

Equipment included in the price of the motor driven lathe consists of reversing switch, belt, large and small face plates, graduated compound rest, two steel centers, center rest, follower rest, adjustable stop for screw cutting, necessary wrenches, gear guards, and chuck-back threaded to fit the spindle nose.

The price of motor is not included as regular equipment, because of the variation of prices on direct current and alternating motors. Approximate prices of motors are shown on page 26.

In placing an order for a Motor Drive Lathe, please give the following specifications:

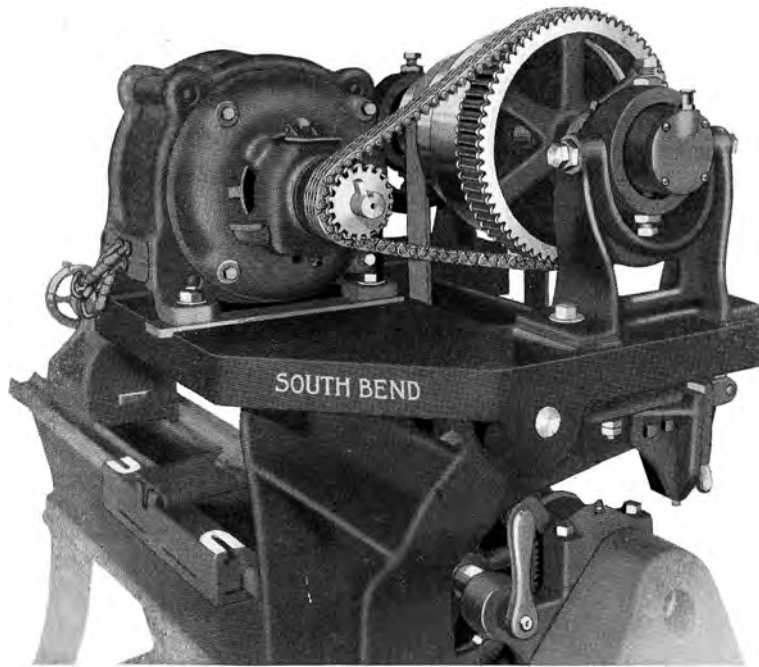
Current, whether alternating or direct.

If alternating, state voltage, phase and cycle.

If direct, state voltage.

Horsepower of Motors Required for Driving South Bend Lathes

Size of Lathe	9 in.	11 in.	13 in.	15 in.	16 in.	18 in.	21 in.	24 in.
Horsepower of Motor	$\frac{1}{4}$	$\frac{1}{2}$	1	1	1	2	3	3
Speed of Motor, R.P.M.	1150 to 1200	1150 to 1200	1150 to 1200	1150 to 1200	1150 to 1200	1150 to 1200	1150 to 1200	1150 to 1200



The South Bend Silent Chain Motor Drive

With Gear Guards Removed

The illustration is from a photograph of South Bend Silent Chain Motor Driven mechanism with the gear guard removed. The motor and countershaft are symmetrically balanced on top of the tilting table and directly over the lathe. The drive is direct from the armature shaft of the motor to the countershaft. The silent chain makes it as positive as though it were direct geared, but has the advantage of being more silent than gears. The countershaft is equipped with self-aligning bearings which are immersed in oil.

Note that the motor is placed above the Lathe so there is no danger of chips falling into the armature and field coils to interfere with the motor's efficient operation.

The South Bend Motor-Driven Lathe is designed to be equipped with General Electric or Westinghouse reversing motors having a speed of 1150 to 1200 R.P.M.

Motor manufacturers carry a large stock of motors at South Bend, so we are able to secure prompt shipment and quote the regular market prices. In ordering motor-driven lathes, it is advisable to let us furnish the motors as our prices are low and there will be no delay in making shipment on the motor-driven Lathe you select.

Prominent electrical engineers who are very familiar with various electric drive methods on machine tools say this is the very best they have seen. We have been making this electric drive now for over eight years, and its success has been remarkable.

The engineers of one of the largest manufacturers of electric motors in the United States who has been using this silent-chain electric-motor drive in their shops for over seven years, say that the South Bend Motor Drive for lathes has no superior.

Price of Silent Chain Motor Drive and Motor Is Extra as Shown Below

Prices of Motors are subject to change without notice.

Extra for Silent Chain Motor Drive Including Reversing Switch			EXTRA FOR REVERSING MOTOR AND AUTOMATIC STARTING BOX			
Size of Lathe	Price	Horsepower	Alternating Current, 60 Cycle 110-220 Volts, 1200 R.P.M.		Direct Current 115-230 Volts 1200 R.P.M.	Automatic Starting Box for D. C. Motors Only
			Single Phase	Three Phase		
9 in.	\$ 75.00	$\frac{1}{4}$	\$ 39.00		\$ 26.00	Not Required
11 in.	85.00	$\frac{1}{2}$	58.00	\$53.00	39.00	Not Required
13 in.	100.00	1	105.00	61.00	71.50	\$50.00
15 in.	120.00	1	105.00	61.00	71.50	50.00
16 in.	140.00	1	105.00	61.00	71.50	50.00
18 in.	175.00	2	140.00	75.00	110.00	50.00
21 in.	225.00	3	175.00	89.00	148.50	50.00
24 in.	275.00	3	175.00	89.00	148.50	50.00

When using Direct Current, an Automatic Starting Box is recommended for 13-inch lathes and larger.

South Bend Silent-Chain Motor-Driven Lathes



9-Inch x 4-Foot Motor-Driven Lathe

The illustration shows a 9-inch by 4-foot Standard Change Gear Silent-Chain Motor-Driven Lathe. Power is supplied by a $\frac{1}{4}$ H.P. A.C. Motor, connected directly to an ordinary lighting socket. The lathe is shown reducing a $1\frac{1}{2}$ -inch steel shaft to $\frac{3}{4}$ -inch diameter in one chip, and the lateral feed exceeds $\frac{1}{4}$ -inch per revolution of the lathe spindle. Note location of the reversing switch just above the work, where the operator has complete control—starting, stopping, and reversing, instantaneously.

The Quick Change Gear Lathes can also be furnished in the silent-chain motor-driven pattern.

The 9-inch Motor-Driven Lathe is recommended for light manufacturing and repair work in the manufacturing plant, machine shop, repair shop, and all shops where fine, accurate workmanship is required.

When Motor-Driven Lathe is shipped, motor is wired to the reversing switch and all wires are protected with flexible steel conduit.

To install Motor-Driven Lathe, level properly and have an electrician connect with current, following wiring diagram which will be found on the inside of reversing switch.

In ordering a 9-inch Motor-Driven Lathe, please give the following motor specifications:

- Current, whether alternating or direct.
- If alternating, state voltage, phase, and cycle.
- If direct, state voltage.

Portable Motor-Driven Lathes

The illustration shows a 16-inch Portable South Bend Silent-Chain Motor-Driven Lathe.

This equipment is used in power-plants, elevators, and in repairing locomotives in railway shops.

Where lathe is taken to the work, an eccentric shaft carrying the two wheels under head-stock leg can be turned by a lever and locked, raising the wheels 1 inch and allowing the lathe to rest firmly on its own legs.

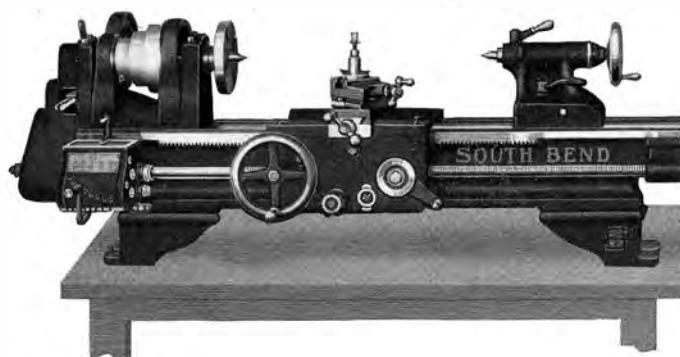
Prices of Portable Motor-Driven Lathes on application.



Portable Motor-Driven Lathe

Horsepower of Motor Required for Driving South Bend Lathes

Size of Lathe.....	9 in.	11 in.	13 in.	15 in.	16 in.	18 in.	21 in.	24 in.
Horsepower of Motor...	$\frac{1}{4}$	$\frac{1}{2}$	1	1	1	2	3	3
Speed of Motor, R.P.M.	1150 to 1200	1150 to 1200	1150 to 1200	1150 to 1200	1150 to 1200	1150 to 1200	1150 to 1200	1150 to 1200



No. 63—AB 11-Inch x 4-Foot South Bend Quick Change Gear Bench Lathe

Automatic Longitudinal Feed, Automatic Cross Feed, Graduated Compound Rest and Quick Change Gear Box.

The illustration shows an 11-inch by 4-foot South Bend Quick Change Gear Lathe equipped with bench legs in lieu of long legs. While no equipment is shown with the lathe, the regular equipment as shown under cut of 11-inch lathe with long legs is also included in the price of the bench lathe.

South Bend Bench Lathes are our 9-inch, 11-inch and 13-inch lathes with long legs removed. (For description see 9-inch, 11-inch, and 13-inch lathes.) Bench Lathes can also be furnished in the standard change gear pattern, silent-chain motor-drive pattern, and gap bed pattern.

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.

Thread-Cutting and Turning Feeds. Threads from 2 to 112 per inch can be cut, and all Turning Feeds, fine or coarse, can be obtained in this Complete Gear Box without changing a gear.

Equipment of Bench Lathes includes quick change gear box, large and small face plates, compound rest, two steel centers, center rest, follower rest, adjustable stop for screw cutting, gear guards, semi-machined chuck-back, necessary wrenches, and double friction countershaft.

Specifications of Bench Lathes

No. of Lathe	Swing over Bed	Length of Bed	Distance between Centers	Swing over Carriage	Hole through Spindle	Taper in Spindle Morse	Counter-Shaft Speed	Code Word	Approx. Wt. Crated for Domestic Shipment	Price F.O.B. South Bend, Indiana
9-Inch Standard Change Gear Bench Lathe										
25XB	9¼ in.	2½ ft.	12 in.	6⅜ in.	¾ in.	No. 2	290 R.P.M.	Dallybench	375 lbs.	\$197.00
25YB	9¼ in.	3 ft.	18 in.	6⅜ in.	¾ in.	No. 2	290 R.P.M.	Darebench	400 lbs.	201.00
25AB	9¼ in.	4 ft.	30 in.	6⅜ in.	¾ in.	No. 2	290 R.P.M.	Dellbench	450 lbs.	209.00
11-Inch Standard Change Gear Bench Lathe										
27YB	11¼ in.	3 ft.	14 in.	7⅝ in.	⅞ in.	No. 2	275 R.P.M.	Farebench	525 lbs.	230.00
27AB	11¼ in.	4 ft.	26 in.	7⅝ in.	⅞ in.	No. 2	275 R.P.M.	Fendbench	600 lbs.	238.00
27BB	11¼ in.	5 ft.	38 in.	7⅝ in.	⅞ in.	No. 2	275 R.P.M.	Foambench	650 lbs.	250.00
13-Inch Standard Change Gear Bench Lathe										
34AB	13¼ in.	4 ft.	18 in.	9 in.	1 in.	No. 3	275 R.P.M.	Hailbench	950 lbs.	282.00
34BB	13¼ in.	5 ft.	30 in.	9 in.	1 in.	No. 3	275 R.P.M.	Healdbench	1000 lbs.	294.00
34CB	13¼ in.	6 ft.	42 in.	9 in.	1 in.	No. 3	275 R.P.M.	Hirebench	1050 lbs.	306.00
9-Inch Quick Change Gear Bench Lathe										
61XB	9¼ in.	2½ ft.	12 in.	6⅜ in.	¾ in.	No. 2	290 R.P.M.	Dampbench	375 lbs.	227.00
61YB	9¼ in.	3 ft.	18 in.	6⅜ in.	¾ in.	No. 2	290 R.P.M.	Dirtbench	400 lbs.	231.00
61AB	9¼ in.	4 ft.	30 in.	6⅜ in.	¾ in.	No. 2	290 R.P.M.	Dustbench	450 lbs.	239.00
11-Inch Quick Change Gear Bench Lathe										
63YB	11¼ in.	3 ft.	14 in.	7⅝ in.	⅞ in.	No. 2	275 R.P.M.	Factbench	525 lbs.	270.00
63AB	11¼ in.	4 ft.	26 in.	7⅝ in.	⅞ in.	No. 2	275 R.P.M.	Filmbench	600 lbs.	278.00
63BB	11¼ in.	5 ft.	38 in.	7⅝ in.	⅞ in.	No. 2	275 R.P.M.	Flaxbench	650 lbs.	290.00
13-Inch Quick Change Gear Bench Lathe										
65AB	13¼ in.	4 ft.	18 in.	9 in.	1 in.	No. 3	275 R.P.M.	Haltbench	950 lbs.	332.00
65BB	13¼ in.	5 ft.	30 in.	9 in.	1 in.	No. 3	275 R.P.M.	Helmbench	1000 lbs.	344.00
65CB	13¼ in.	6 ft.	42 in.	9 in.	1 in.	No. 3	275 R.P.M.	Hoopbench	1050 lbs.	356.00

Extras—Bench Lathes may be supplied at extra cost with Milling and Keyway Cutting Attachment, Draw-in Chuck Attachment, Gear Cutting Attachment, Grinding Attachments, Taper Attachment, and Thread Dial.

Double Back Gear Head Stock



The illustration shows a 16-inch double back gear head stock with gear guards removed. The double back gear head stock can be furnished on the 15-inch, 16-inch, and 18-inch South Bend quick change gear Lathes—standard change gear Lathes, motor driven Lathes, and gap Lathes.

Spindle Speeds: Nine changes of spindle speeds are obtainable with the double back gear head stock, but this head stock eliminates the fourth or small step of the cone which is the most important of all the steps. This step is used more than any other step for general work, such as polishing, filing, drilling, etc., etc.

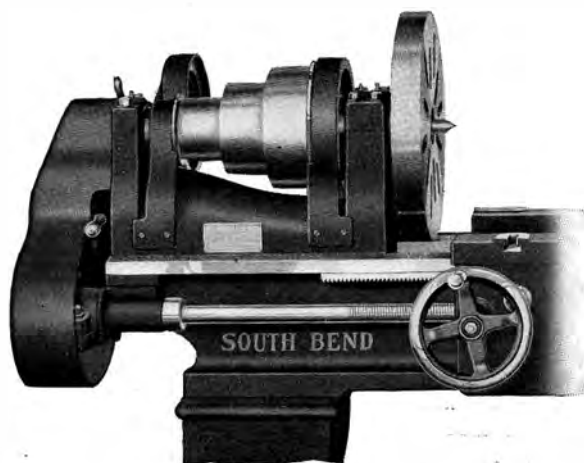
The double back geared Lathe is usually used for intensive manufacturing operations. It is practical for this class of work, but, for the average machine shop work where jobs of every kind come up, we recommend the single back geared Lathe as more serviceable for general use. On the single back geared Lathe, eight changes of spindle speeds are obtained and the fourth, or the small step of the cone, is retained which greatly increases the efficiency of a small Lathe.

The double back gear is only an intermediate power between the single back gear and the open belt.

Extra Price for Double Back Gear Head Stock

Size of Lathe	15 inch	16 inch	18 inch
Price Extra	\$65.00	\$75.00	\$85.00

Single Purpose Lathe, 3-Step Cone

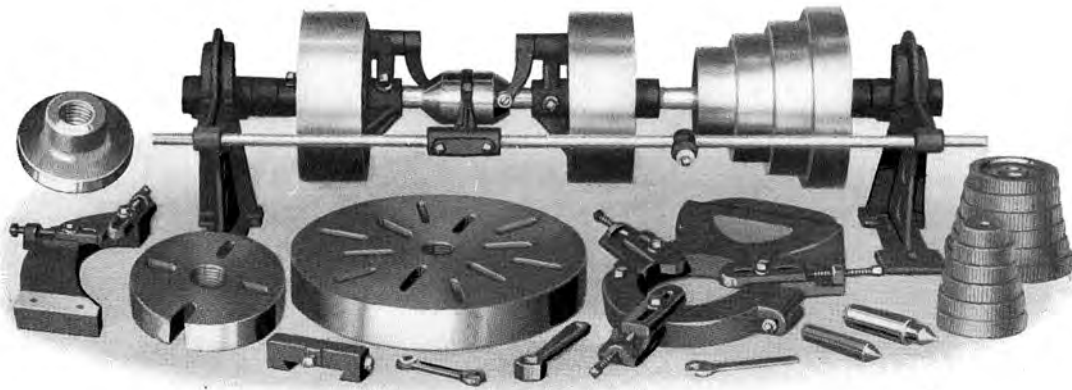


A Single Purpose Production Lathe for manufacturing.

The Single Purpose Lathe can be furnished in quick change gear, standard change gear, motor driven and gap bed Lathe patterns.

Some mechanics prefer an excessively wide belt when using a lathe for single purpose work. For this reason, we are prepared to furnish the 13-inch, 15-inch, 16-inch, and 18-inch lathes with the 3-step cone in place of the 4-step cone. The width of each step is increased proportionately, so that the over-all length of the cone pulley remains unchanged.

Size of Lathe	13 inch	15 inch	16 inch	18 inch
Width of Belt on Cone .	2 inch	2¼ inch	2¾ inch	3¼ inch



Countershaft and Regular Equipment

For South Bend Lathes

Regular Equipment

Countershaft and the regular equipment, as shown in illustration above, is included in the price of each South Bend Lathe and consists of double friction countershaft, large face plate, small face plate, center rest, follower rest, thread stop, tool post, ring and wedge, two 60-degree centers, necessary wrenches, and semi-machined chuck plate threaded to fit spindle nose, all of which are included in the price quoted on South Bend Lathes.

Countershaft

The South Bend improved double friction countershaft is very efficient, but simple and practical. The friction pulleys have the rim grip friction clutch, which is powerful, but simple. It is equipped for fine adjustment. We recommend this countershaft as one of the most efficient on the market.

In designing the countershaft for South Bend Lathes we have made it practical but simple, because it is attached to the ceiling where it is not easy to get at for oiling and adjustment.

South Bend countershaft requires a minimum of care—wick oilers being provided on both the countershaft bearings and the friction pulleys. The working parts have been reduced to the fewest number so that it is simple and practical and without a superior.

Gear Box for Quick Change Gear Lathes

The gear box is included as regular equipment on all Quick Change Gear Lathes. Complete description and illustrations of the Quick Change Gear Box are shown on page 14.

Change Gears for Standard Change Gear Lathes

The two stacks of gears at the right of cut are change gears used for thread cutting on the Standard Change Gear Lathes.

Chuck Plate

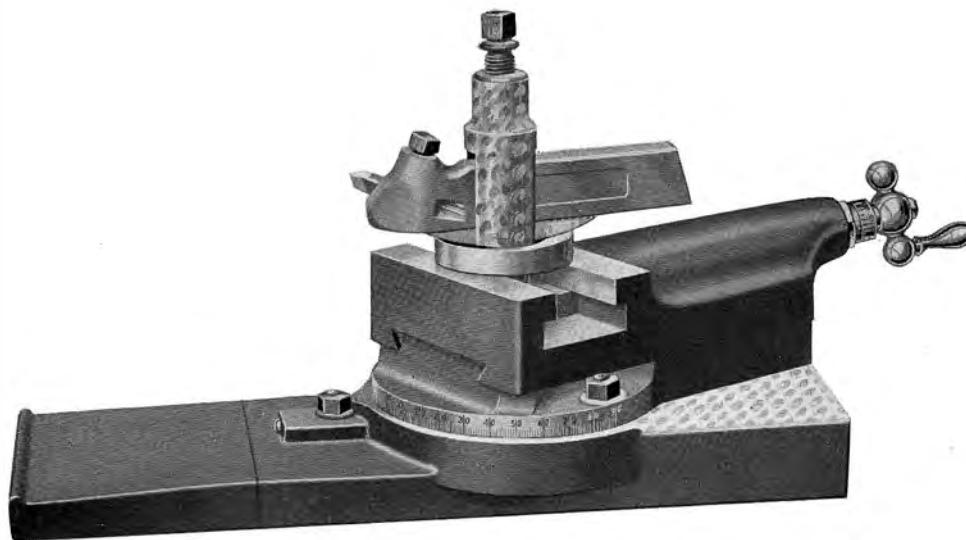
We furnish free a chuck plate with each Lathe. This chuck plate is threaded to fit spindle nose and has a flange large enough to be machined to fit the recess of the average size chuck required on the Lathe.

Erecting and Operating the Lathe Instruction Book

We furnish a 64-page instruction book with each Lathe, which gives instructions on levelling the Lathe, attaching the line shafting, horsepower motor required, size of line shaft pulleys, speed and diameter of line shafting, cutting speeds for different metals, and other valuable information. A foundation plan is also furnished with each Lathe, which gives specifications on the installation of the Lathe and attaching the countershaft.

Specifications of Countershafts for South Bend Lathes

Size of Lathe	Size of C. S. Friction Pulleys	Speed of Countershaft
9 in.	6 $\frac{7}{8}$ x 2 $\frac{3}{8}$ in.	290 R.P.M.
11 in.	6 $\frac{7}{8}$ x 2 $\frac{3}{8}$ in.	275 R.P.M.
13 in.	8 x 2 $\frac{3}{8}$ in.	275 R.P.M.
15 in.	10 x 3 $\frac{5}{8}$ in.	250 R.P.M.
16 in.	10 x 3 $\frac{5}{8}$ in.	225 R.P.M.
18 in.	12 x 4 $\frac{1}{2}$ in.	200 R.P.M.
21 in.	12 x 4 $\frac{1}{2}$ in.	175 R.P.M.
24 in.	14 x 5 in.	150 R.P.M.



Improved Graduated Compound Rest

The illustration shows the new compound rest which is equipped with graduated collar on the compound rest cross-feed screw and graduated base.

The collar is graduated to read in one-thousandths of an inch and is a feature which the mechanic will appreciate when doing fine, accurate tool work and thread cutting.

The base of the compound rest is graduated in degrees ranging from 0 to 180 degrees, so that any angle desired may be obtained. The compound rest base is scraped in and fitted to the saddle with a gib that is adjusted by set screws. The swivel is fastened to the base by two "T" bolts which hold it securely at any angle desired.



Micrometer Graduated Collar on Cross Feed Screw of Carriage

The illustration above shows micrometer graduated collar, which is attached to the cross-feed screw on all size South Bend Lathes. This collar is graduated to read in one-thousandths of an inch, and is adjustable so that the operator may start at zero if it is desired.

The micrometer graduations on the cross-feed screw are practical, as they enable the operator to do fine, accurate work such as thread cutting, finished turning, gauge-making, etc.

Both the cross-feed screw of carriage and compound rest cross-feed screw are equipped with graduated collars.

Thread Cutting Chart for Standard Change Gear Lathe

The chart shows the arrangement of gears for cutting all standard threads, from 4 to 40, including 11½ pipe thread, on 15-in. and 16-in. South Bend Standard Change Gear Lathes. One of these metal charts is attached to each lathe. Many threads other than shown may be cut on the lathe by compounding gears. The 9-in., 11-in., 13-in., 15-in., and 16-in. Standard Change Gear Lathes are geared to cut from four to forty threads per inch.

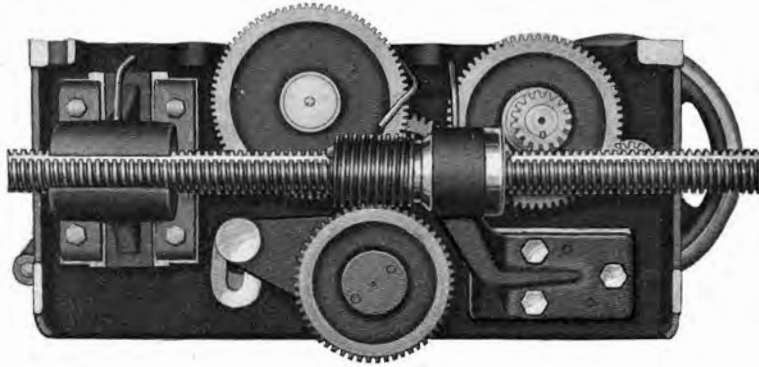
The 18-, 21-, and 24-inch Standard Change Gear Lathes are geared to cut from two to forty threads per inch, including 11½ pipe thread.

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

SOUTH BEND ENGINE LATHES		
15-16		
THREAD	SPINDLE	SCREW
4	48	24
5	48	30
6	48	36
7	48	42
8	48	48
9	48	54
10	48	60
11	24	33
11 1-2	48	63
12	24	36
13	24	39
14	24	42
16	24	48
18	24	54
20	24	60
22	24-1-2	33
24	24-1-2	36
26	24-1-2	39
28	24-1-2	42
30	24-1-2	45
32	24-1-2	48
36	24-1-2	54
40	24-1-2	60

MADE ONLY BY
SOUTH BEND LATHE WORKS
SOUTH BEND, IND. U.S.A.

Thread-Cutting Chart for South Bend Standard Change Gear Lathes

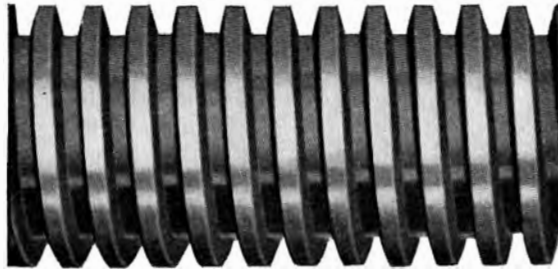


Feed Mechanism of Automatic Apron For South Bend Lathes

Illustration shows the inside view of the automatic apron of all sizes for South Bend Lathes. Note, the **lead screw is splined for driving the worm** which operates both the automatic cross-feed and the automatic longitudinal-feed. The arrangement allows the thread of the lead screw to be used for **thread-cutting only**. In thread-cutting we use only the split half nuts. For this reason, the 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**.

The half nuts seen at the left of the apron in above cut are strong, substantial, have a wide, deep bearing and are carefully hand scraped and fitted. Also note that there is an oil tube which extends to the front of the apron through which the half nuts can be oiled.

The automatic longitudinal-feed and automatic cross-feed mechanism is simple but powerful. The steel worm and the worm bearing both are oiled from the front of apron as there are oil tubes which distribute the oil to the proper place.



Section of Lead Screw of 18-Inch Lathe

Accurate Lead Screws

The lead screws on South Bend Lathes are guaranteed to be accurate. They are made of the highest quality steel. The thread is Acme Standard, large in diameter, and coarse pitch. Each lead screw is splined and acts as a feed rod for driving the worm which operates both the automatic cross-feed and the automatic longitudinal-feed. These lead screws are cut in a special machine having a standard master lead screw, and are guaranteed for accuracy and should last a lifetime.

Precision Screws. The finest precision screw gauges, master taps, special screws, etc., can be cut on South Bend Lathes to meet the most accurate requirements.

The Pitch of Lead Screws for South Bend Lathes

The 9-inch and 11-inch Lathes have 8 pitch lead screws. The 13-inch, 15-inch, and 16-inch Lathes have 6 pitch lead

screws; and the 18-inch, 21-inch, and 24-inch Lathes have 4 pitch lead screws.

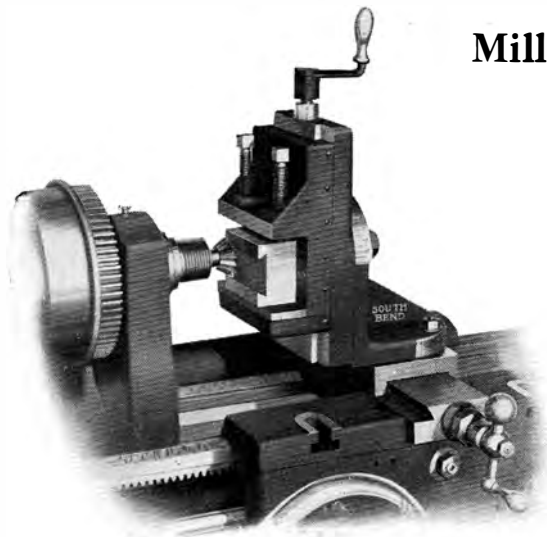
Metric Lead Screws for Standard Change Gear Lathes Only

All the Standard Change Gear Lathes can be supplied, at an additional cost, with metric lead screws in lieu of English lead screws. Metric lead screws must be fitted to the Lathe here at the factory. Quick Change Gear Lathes cannot be fitted with metric lead screws.

Transposing Gears

All South Bend Quick Change Gear and Standard Change Gear Lathes can be equipped with transposing gears for cutting metric thread on an English lead screw. Prices of transposing gears furnished on application.

Milling and Keyway Cutting Attachment for South Bend Lathes



South Bend Milling and Keyway Cutting Attachment No. 5

Fitted to a 16-Inch 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.

The illustration shows our improved Milling and Keyway Cutting Attachment fitted to the carriage of a 16-inch South Bend Lathe.

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 which is graduated in 180 degrees. There is a graduated collar on the vertical screw reading in one-thousandths of an inch.

This attachment is designed for South Bend Lathes, all patterns and sizes.

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.

Specifications of Milling Attachment

	No. 1	No. 2	No. 3	No. 4	No. 5	No. 5½	No. 6	No. 7
Size of Lathe.....	9 in.	11 in.	13 in.	15 in.	16 in.	18 in.	21 in.	24 in.
Vertical Feed.....	2½ in.	3 in.	5 in.	6 in.	7 in.	7 in.	8 in.	10 in.
Cross Feed.....	3 in.	4 in.	8 in.	11 in.	11 in.	14 in.	15 in.	20 in.
Vise will hold.....	1½ in.	1½ in.	2¾ in.	3½ in.	4 in.	4 in.	4½ in.	5 in.
Depth of Jaws.....	1 in.	1 in.	1⅝ in.	1¾ in.	2 in.	2 in.	2¼ in.	2½ in.
Width of Base.....	3¼ in.	3⅞ in.	5 in.	5½ in.	6 in.	6½ in.	7½ in.	8 in.
Width of Jaws.....	3 in.	3½ in.	5 in.	5½ in.	6 in.	6 in.	7½ in.	8 in.
Weight.....	25 lbs.	30 lbs.	40 lbs.	50 lbs.	65 lbs.	75 lbs.	80 lbs.	100 lbs.
Price.....	\$36.00	\$40.00	\$45.00	\$50.00	\$55.00	\$65.00	\$80.00	\$90.00
Code.....	Vag	Vale	Victo	Visit	Volt	Vox	Vurry	Vusel

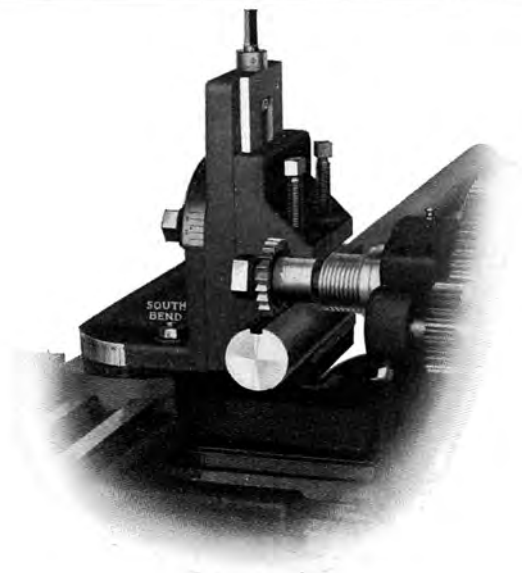


Fig. B.—Milling a Keyway on the Lathe

No. 5 Attachment on a 16-Inch South Bend Lathe

Illustration Fig. B is taken from the back of lathe showing a ⅜-inch keyway being milled in a 2-inch shaft. When shafts are tapered where the keyway is to be milled, simply swivel the vertical to the desired angle.

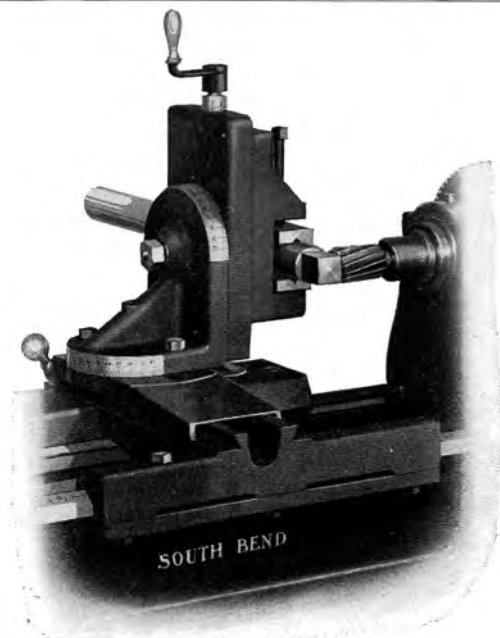


Fig. C.—Squaring a Steel Shaft on Lathe

Illustration Fig. C shows a No. 5 Attachment fitted to a lathe squaring a 1½-inch steel shaft. A spiral end-mill with taper shank is fitted into the taper of the spindle.

Milling and Keyway Cutting Attachment, Arbors, and Cutters

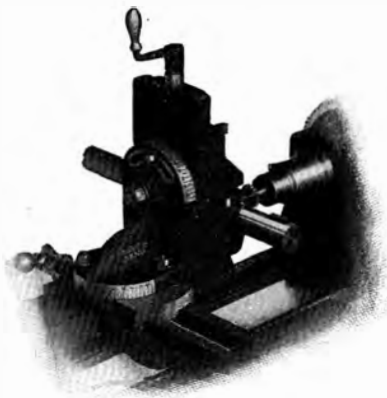


Fig. D. Milling a Woodruff Keyway in a Shaft on the Lathe

Illustration Fig. D shows the No. 5 Milling Attachment holding a shaft which is being key-seated for the Woodruff system of keying. The cutter is held in a special Blacksmith Drill Chuck.

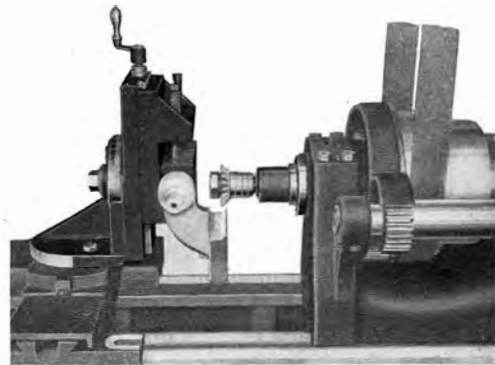


Fig. E. Milling a Special Bracket on Lathe

Illustration Fig. E shows a Special Bracket being milled in a No. 5 Milling Attachment. The regular Milling arbor which fits into the spindle of the lathe is holding the 45° cutter.



Fig. G. Milling Arbor for Lathe

The cut shows arbor used in the lathe for holding cutters. (See cut Fig. B, page 33.) These arbors are made 1 inch in diameter, capacity between shoulder and nut, 1 3/8 in. 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, No. 2 Taper for 9", 11" Lathes \$6.00
 Price of arbor, No. 3 Taper for 13", 15", 16", 18" Lathes 7.00
 Price of arbor, No. 4 Taper for 21" and 24" Lathes . . . 8.00



No. 16 Woodruff System Milling Cutter (Full Size)

Prices on Application

Milling Cutters

Width of Face Inches	Diam. of Hole Inches	Diameter Inches
3/16	1	2 1/2
1/4	1	2 1/2
5/16	1	2 1/2
3/8	1	2 1/2
1/2	1	2 1/2
5/8	1	2 1/2
3/4	1	2 1/2
7/8	1	2 1/2
1	1	2 1/2

Face Milling Cutters

Side Milling Cutters

Prices on Application.

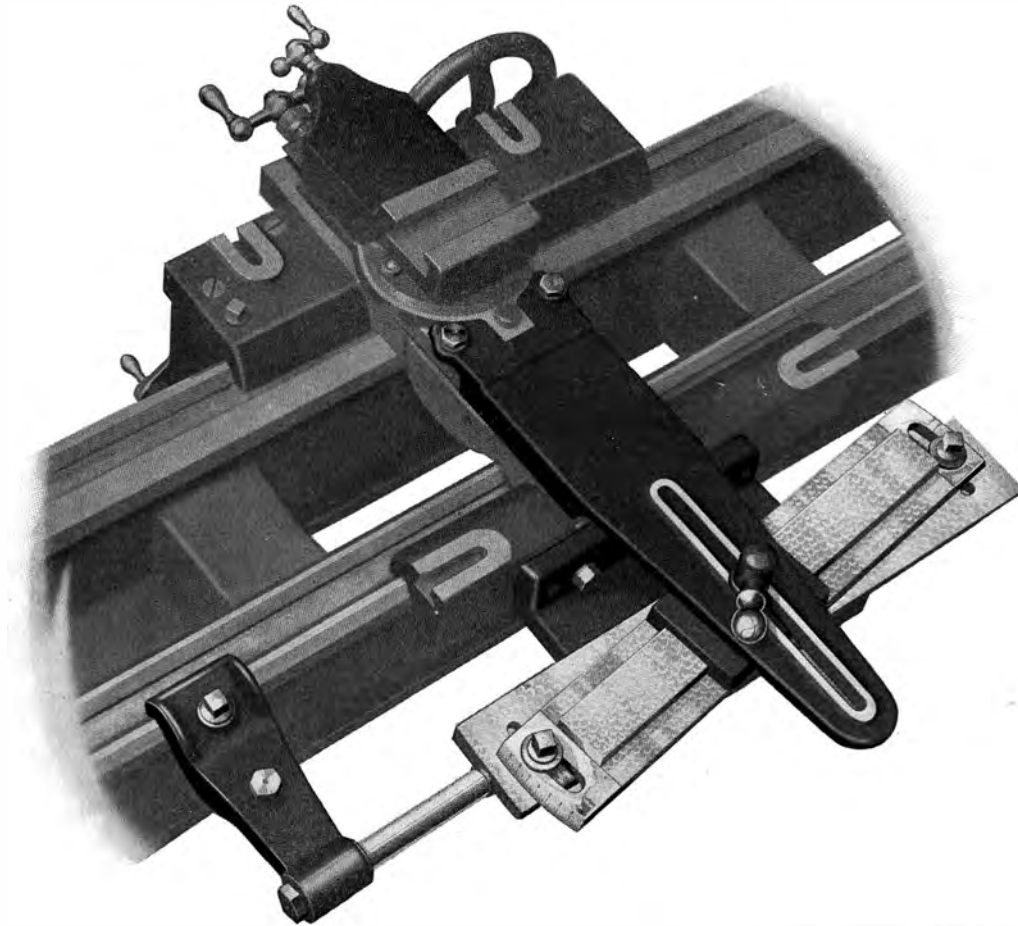


End Mill for Lathe Spindle Morse Taper

Prices of Spiral End Mills

No. 2 Taper		No. 3 Taper		No. 4 Taper	
3/16 in. Dia . .	\$2.50	3/4 in. Dia . .	\$3.15	1 1/4 in. Dia . .	\$3.85
1/2 in. Dia . .	2.70	7/8 in. Dia . .	3.25	1 3/8 in. Dia . .	4.10
5/8 in. Dia . .	2.70	1 in. Dia . .	3.25	1 1/2 in. Dia . .	4.40
3/4 in. Dia . .	2.70	1 1/8 in. Dia . .	3.50	.....	.....
7/8 in. Dia . .	2.90	1 1/4 in. Dia . .	3.75	.....	.....
1 in. Dia . .	3.10	1 3/8 in. Dia . .	4.00	.....	.....
.....	.....	1 1/2 in. Dia . .	4.40	.....	.....

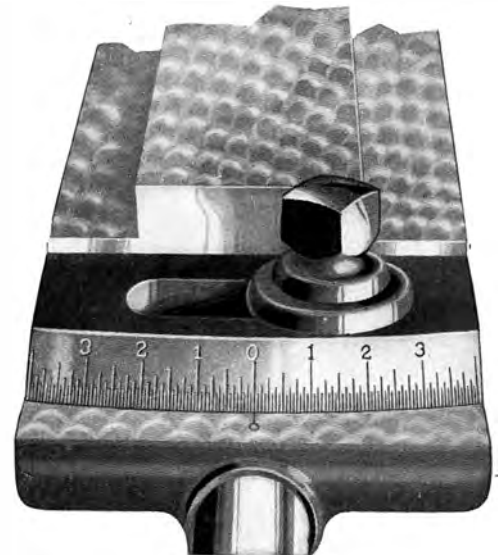
Milling cutters, arbors, etc., that we show here are standard and can be obtained from Brown & Sharpe, Starrett, or any other tool supply company. The tapers are of standard Morse, and the holes in the cutters are standard.



Graduated Taper Attachment

The above illustration shows the improved graduated taper attachment fitted to a 16-in. South Bend Lathe. The upper part of the attachment swivels on the base and is graduated — one end in degrees and the other end in inches. The attachment can be set for any taper. The taper attachment can be fitted in customer's shop, but it is advisable to order it with the Lathe so it can be fitted at the factory.

In the close-up view the end of the swivel attachment that is graduated in inches is shown, the opposite end is graduated in degrees.

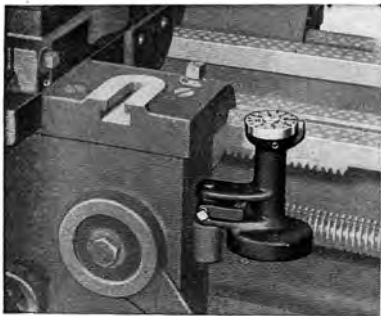


Close Up of Graduation

Price of Taper Attachment

Size of Lathe	9 in.	11 in.	13 in.	15 in.	16 in.	18 in.	21 in.	24 in.
Price of Attachment	\$50	\$60	\$65	\$70	\$75	\$80	\$100	\$115

Thread Dial for South Bend Lathes



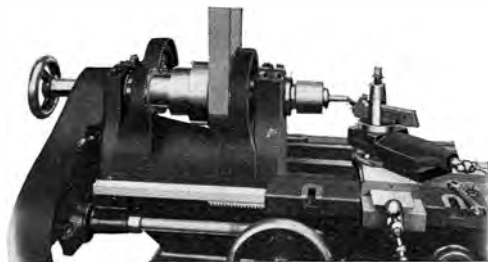
The illustration shows a thread dial fitted to the South Bend Lathe for the purpose of enabling the operator to cut threads on the lathe without reversing the carriage automatically.

Where there are a great many threads to be cut, a Thread Dial is used, as it allows the operator

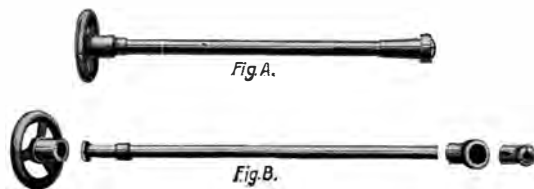
to unclamp split nut from the lead screw when the end of the thread chip is reached. He can then return the carriage quickly, by hand, to the starting of the next chip. The thread Dial will indicate when to clamp the split nut on the lead screw so that the threading tool will follow in the proper groove for the next chip.

Size of Lathe	9, 11, 13 in.	15 in.	16 in.	18 in.	21 in.	24 in.
Price of Dial	\$8.00	\$10.00	\$11.00	\$12.00	\$13.00	\$14.00

Draw-in Chuck Attachment



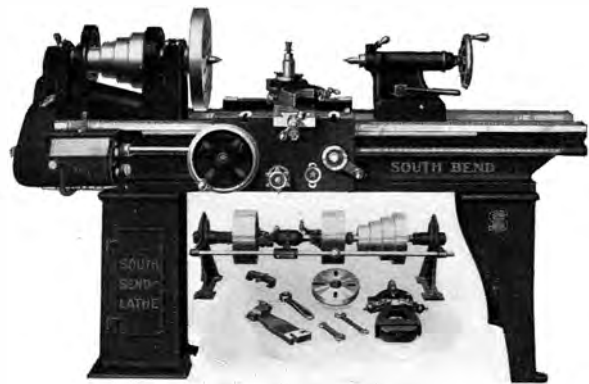
Parts of the Draw-In Chuck Attachment



The draw-in chuck attachment illustrated above is very practical for manufacturing light, accurate work. Where duplicate parts are required, collets of different sizes can be furnished to handle work of various diameter. Collet capacity for various size lathes is listed below.

Size of Lathe	9 in.	11 in.	13 in.	15 in.	16 in.	18 in.	21 in.	24 in.
Capacity of Collet from $\frac{1}{8}$ in. up to	$\frac{1}{2}$ in.	$\frac{3}{8}$ in.	$\frac{1}{2}$ in.	$\frac{3}{4}$ in.	$\frac{7}{8}$ in.	1 in.	$1\frac{1}{8}$ in.	$1\frac{3}{8}$ in.
Price of Attachment Including One Collet	\$30.00	\$37.00	\$40.00	\$45.00	\$50.00	\$55.00	\$70.00	\$80.00
Price of Extra Collets	3.00	3.25	4.50	5.00	5.50	6.00	6.50	7.50

South Bend Lathe Fitted with One Cabinet Leg

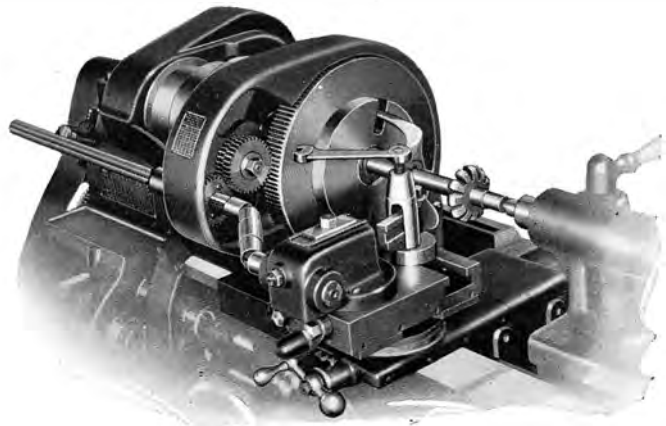


The illustration shows a 16-in. South Bend Quick Change Gear Lathe fitted with one cabinet leg under head stock. This leg has two shelves for holding tools.

Cabinet leg can be furnished at an additional cost in lieu of the regular leg on the 13-in., 15-in., 16-in. and 18-in. Lathes. Cabinet legs under each end of Lathe may be ordered, if desired.

Size of Lathe	13 in.	15 in.	16 in.	18 in.
Price One Cabinet Leg Fitted to Lathe	\$13.00	\$15.00	\$16.00	\$18.00
Price One Cabinet Leg When Ordered Separate	\$26.00	\$30.00	\$32.00	\$36.00

Relieving Attachment for South Bend Lathes

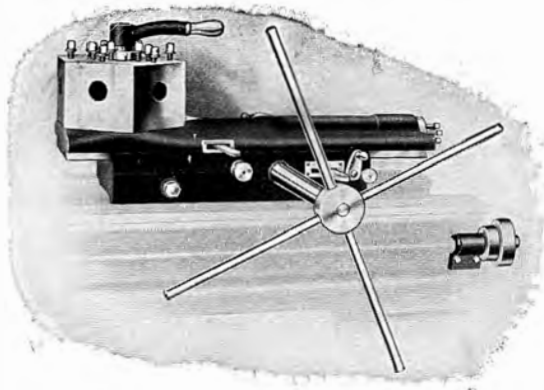


The illustration shows the relieving attachment in use on the Lathe for relieving a formed cutter. No machine work or special parts are required to fit the relieving attachment to any size South Bend Lathe listed below.

A graduated scale on the top of the cam hood permits the operator to set for any desired depth or relief.

Size of Lathe	13 in.	15 in.	16 in.	18 in.
Price of Relieving Attachment	\$250.00	\$255.00	\$255.00	\$270.00

Turnstile Turret, Carriage Turret, and Tool Post Turret



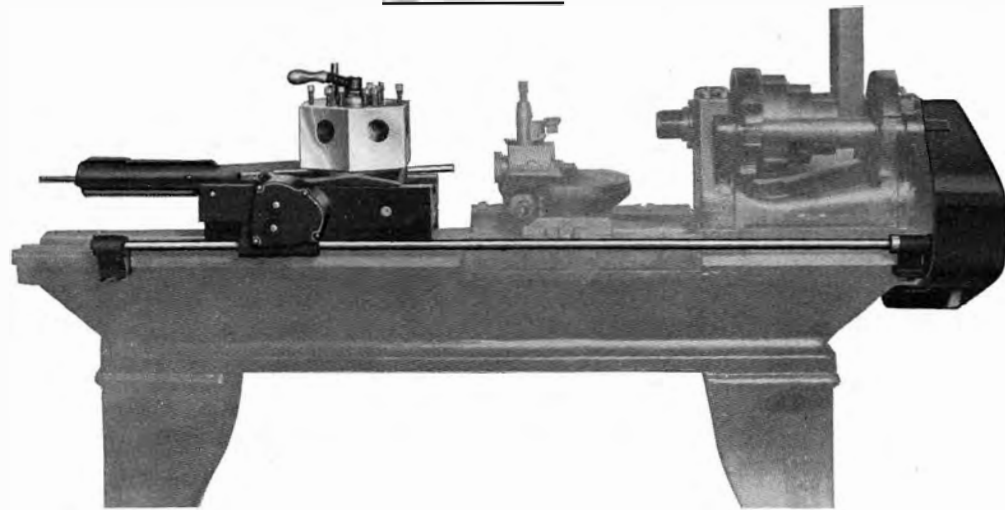
Turnstile Turret on Bed

Turnstile Turret on Bed

The illustration shows a semi-automatic turnstile turret on bed of lathe used for the manufacture of duplicate parts. Turret has six holes for tools. The turret base rests on the inside V and flat way of lathe bed which guide the head and tail stock. The turret slide may be used in conjunction with the lathe carriage if required.

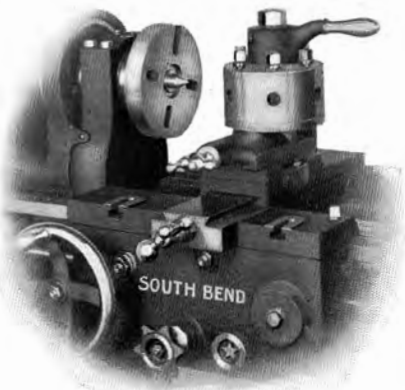
Turret should be fitted to lathe at factory.

Size of Lathe	9 in.	11 in.	13 in.	15 in.	16 in.	18 in.
Turnstile Turret	\$160.00	\$160.00	\$210.00	\$210.00	\$210.00	\$300.00



Power Feed Turnstile Turret on Bed

All South Bend Lathes can be equipped with the power feed turnstile turret on bed. Prices on Application



Tool Post Turrets

Illustration shows the style E Turret. Quickly attached directly to Compound Rest same as ordinary tool post. Furnished with 6 holes, unless otherwise ordered. Diameter of holes 1 inch to 1 1/4 inches.

Size of Lathe	11 in.	13 in.	15 in.	16 in.	18 in.
Tool Post Turret	\$45.00	\$55.00	\$70.00	\$70.00	\$70.00



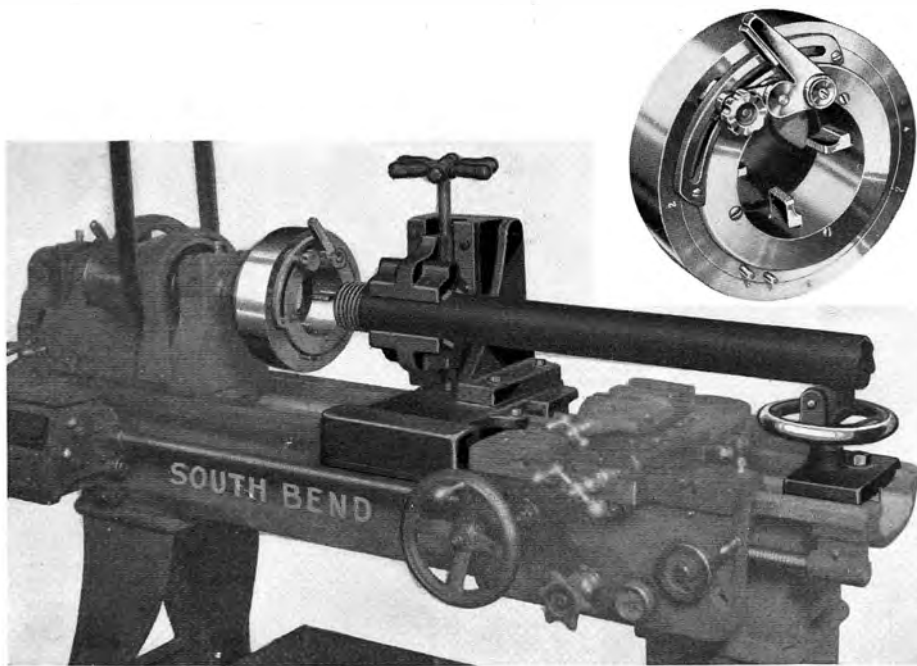
Turret on Carriage

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. Turret should be fitted at factory.

Size of Lathe	13 in.	15 in.	16 in.	18 in.
Turret on Carriage	\$105.00	\$105.00	\$120.00	\$120.00



Curtis Pipe Threading Attachment for South Bend Lathes

Showing close-up of die head.

The above illustration shows the South Bend Lathe equipped with the Curtis Self-opening Die Head for the threading of wrought iron, steel and cast-iron pipe of any length in the Lathe.

The pipe is held in a vise that is attached to the Lathe saddle, and is centered so that the pipe will enter the threading dies properly. On large pipe, where heavy cuts are required, gear the Lathe to the pitch of the thread to be cut and feed the pipe to the threading dies automatically. This helps the dies to hold their lead. When the pipe thread is cut to the proper length an automatic stop releases the dies and the pipe may be withdrawn quickly without reversing the die head.

The die head is adjustable so that each set of dies or chasers will thread several sizes of pipe without changing. During the thread cutting operation, plenty of oil should be used on the dies or chasers, especially when the larger pipe is to be threaded.

When a shop has not enough work for a special pipe threading machine, but still has considerable pipe threading to do, the Screw Cutting Engine Lathe is the practical machine upon which to do this work. The Curtis Pipe Threading Machine has been in use for forty years, but it is only recently that the die head design was changed in order that it could also be used for threading pipe in a Lathe.

A Screw Cutting Lathe is an ideal machine for the threading of pipe, because the back gearing gives the power, the

steps of the spindle cone supplies the variable speed, and the gearing of the lead screw and carriage provides the desired feed. When the job is done you may remove the pipe threading attachment in five minutes and use your Lathe for general all-around machine work.

Equipment of the Pipe Threading Attachment consists of: Self-opening threading die head fitted to the Lathe spindle, complete with the necessary threading dies or chasers to cut the range of pipe sizes listed; an adjustable self-centering vise for holding pipe, an adjustable pipe rest and a gallon can of threading oil.

Briggs Standard Pipe Threads

In the United States we follow the Briggs Standard in pipe threads for wrought iron pipe, which is as follows: From 1-in. to 2-in., 11½ threads per inch, 2½-in. to 6-in., 8 threads per inch. The British Standard Pipe Threads from 1-in. to 6-in. pipe is 11 threads per inch. The metric system standard from 1-in. to 4-in. pipe is 11 threads per inch. In ordering pipe threading attachment specify which standard you wish to follow.

The Lathe can be used occasionally for cutting off pipe. Fasten one end of the pipe in the Lathe chuck, use the center rest as a center support on which the pipe will revolve. Let the other end of the pipe rest on some outside support. Use the cutting-off tool in the tool post.

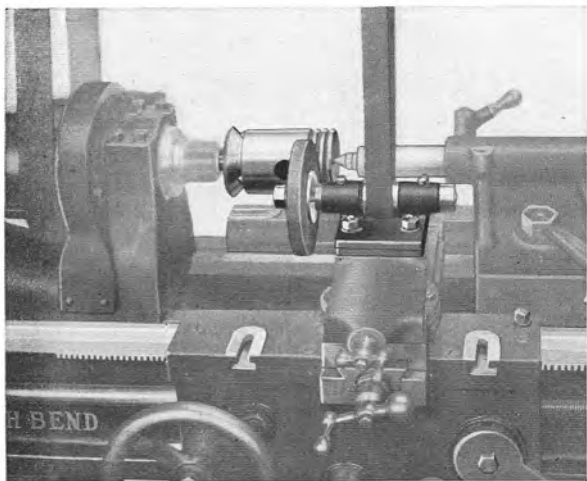
Prices Pipe Threading Attachments Fitted to Lathe

No. 1 Die Head — range ¼ in. to 2 in. Both right- and left-hand	16-in. Lathe . . .	\$160.00
No. 6 Die Head — range 1 in. to 4 in. Right-hand	18-in. and 21-in. Lathes . . .	210.00
No. 8 Die Head — range 1 in. to 4 in. Right- and left-hand	18-in. and 21-in. Lathes . . .	290.00
No. 10 Die Head — range 2½ in. to 6 in. Right-hand	24-in. Lathe . . .	390.00

The Pipe Threading Attachment is designed for South Bend Lathes only and should be fitted to the Lathe at the factory.

Grinding Attachments for South Bend Lathes

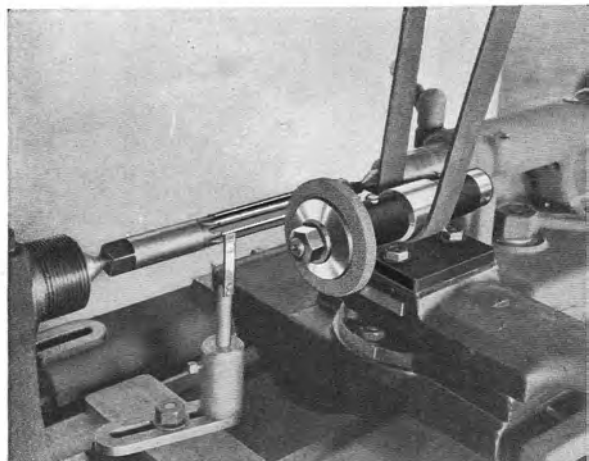
No. 10 Grinding Attachment



The illustration shows a semi-machined piston being ground to finish size on a 16-in. South Bend Lathe, equipped with the No. 10 Grinding Attachment.

The Grinder is operated from an overhead drum on an extra countershaft. This grinder and countershaft can be used on any size South Bend Lathe.

Prices of the Grinder, Countershaft, and Adapters are shown below.



Grinding a Reamer in the Lathe

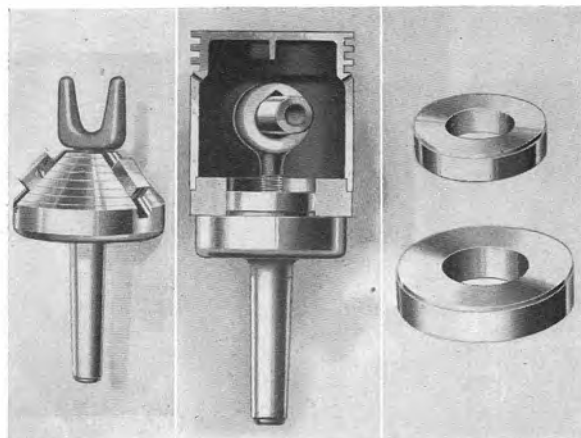
The above illustration shows an expansion reamer being ground to size on a South Bend Tool Room Lathe equipped with No. 10 Grinding Attachment.

Taper reamers, spiral reamers and many cutters can be ground or backed off with this attachment.

Specifications of No. 10 Grinder

- Emery Wheel 6-in. Dia. $\frac{3}{4}$ -in. Face, $\frac{5}{8}$ -in. hole.
- Spindle Speed 3200 R.P.M.
- Periphery Speed of Emery Wheel 5000 ft. per Min.
- Countershaft Speed 500 R.P.M.
- Size of Drum on Countershaft 12-in Dia., 10-in. Face.
- Width of Drum Belt $1\frac{1}{2}$ in.
- Width of Countershaft Drive Belt 2 in.

Adapters for Pistons



Style A

Style C—With Three Rings

The above illustrations show the two styles of adapters used on South Bend Lathes for driving pistons when machining or grinding.

Style A—Cone adapter with three adjustable jaws for pistons from $2\frac{1}{2}$ in. to 5 in. in diameter.

Style C—Ring adapter with three rings, and eye bolt fastener for pistons without centers. Slip the wrist pin thru the piston and the eye bolt, turn the piston to the right and the bolt will screw into the shank and hold the piston rigidly.

In both methods the wrist pin should be in the piston while it is being machined or ground, as the wrist pin makes the piston much stiffer.

Note: Rings on the Style C adapter can be turned to fit any size piston. The forked driver shown on style A can be used on style C adapter.



No. 16 Internal Grinder

The illustration shows a bushing being ground on a South Bend Lathe equipped with No. 16 Internal Grinding Equipment.

An Extension Arm, Steel Base and Cast-Iron Drive Pulley are used in connection with No. 10 Grinder Frame.

The extension arm is equipped with a set of five grinding wheels and has a speed of approximately 10,000 to 11,000 R.P.M.

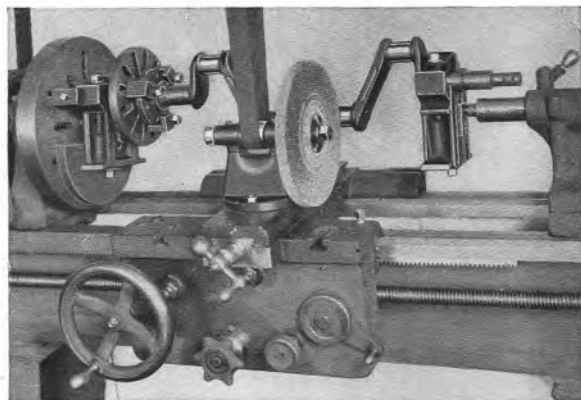
Prices of Grinder, Countershaft and Adapters

No. 10 Grinding Attachment with 6-in. Emery Wheel	\$25.00
No. 16 Extension Arm, Base and Pulley	50.00
Drum Counter shaft for Grinder for South Bend Lathe	25.00

Prices of Adapters

Style A—Cone Adapter with 3 Adjustable Jaws	\$15.00
Style C—Ring Adapter with three rings and eye bolt fastener for pistons without centers	12.00

Grinding Attachments for South Bend Lathes



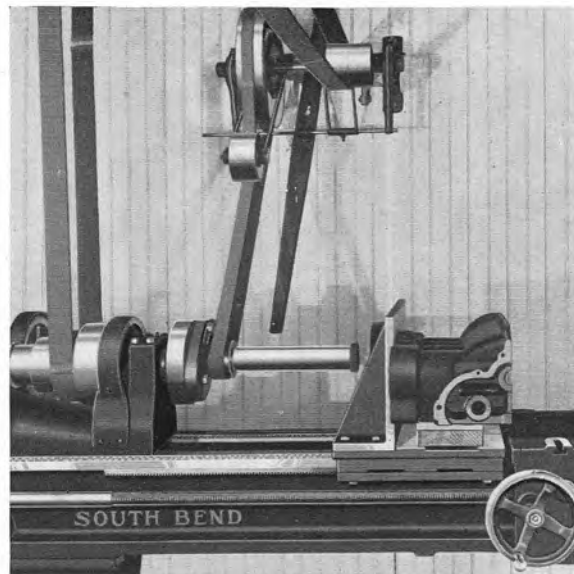
No. 12 Crankshaft Grinding Attachment

The illustration shows crankshaft grinder fitted to an 18-in. South Bend Lathe. The crankshaft grinder and adjustable throw-centers can be fitted only to 16-in. Lathes and larger.

Price of No. 12 Crankshaft Grinder Frame, including grinding wheel and wheel guard.....\$ 50.00

Price of Adjustable Throw-Centers including V block, counterbalance and adapter for flange end crankshafts..... 100.00

Drum Countershaft to operate Crankshaft Grinder 25.00



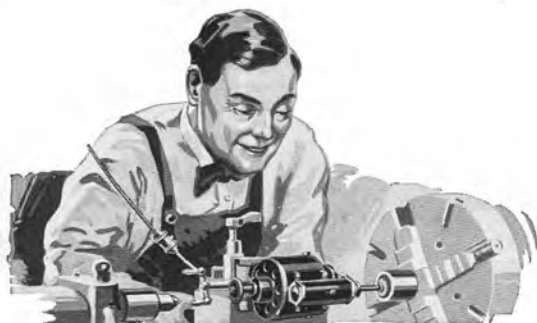
Cylinder Re-Grinding Attachment

The cylinder grinding attachment is practical in the small shop in isolated districts where there is no central grinding plant.

Prices of Cylinder Re-Grinding Attachment

Size of Lathe.....	16 in.	18 in.	21 in.	24 in.
Price of attachment complete	\$275.00	\$285.00	\$295.00	\$315.00

Price of attachment complete consists of Acme Grinder Spindle Head, Angle Plate, Centering Plug, Base and Countershaft with Idler. F. O. B. Cars, South Bend.



Electric Grinders

Electric Tool Post Grinders are very practical attachments for use in the machine or repair shop, as they are operated by an ordinary electric lampsocket. They can be used on the lathe for both internal and external grinding.

Prices of Electric Grinders

Size of Lathe.....	9 in.	11 in.	13 in.	15 in.	16 in.	18 in.	21 in.	24 in.
Electric Grinder for Tool Room Work, D. C. or A. C.....	\$40.00	\$40.00	\$80.00	\$80.00	\$80.00	\$80.00	\$80.00	\$80.00
Motor.....	1/8 H.P.	1/8 H.P.	1/8 H.P.	1/8 H.P.	1/8 H.P.	1/8 H.P.	1/8 H.P.	1/8 H.P.
Electric Grinder for Piston Grinding.....	D. C.	.....	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00	\$48.00
.....	A. C.	.....	\$54.00	\$54.00	\$54.00	\$54.00	\$54.00	\$54.00
Motor.....	.....	.....	1/4 H.P.	1/4 H.P.	1/4 H.P.	1/4 H.P.	1/4 H.P.	1/4 H.P.

Raising Blocks for South Bend Standard Change Gear Lathes

Raising blocks can be furnished for all South Bend standard change gear Lathes, which increases the swing of the Lathe for turning and boring. Raising blocks cannot be fitted on quick change gear Lathes.

Straight Bed Lathes		Gap Bed Lathes		Price Raising Blocks	Extra for Equipment for Thread Cutting at Increased Swing
Swing over Bed	Swing over Bed with Raising Blocks	Swing over Gap	Swing over Gap with Raising Blocks		
11 in.	14 in.	16 in.	19 in.	\$25.00	\$ 8.00
13 in.	18 in.	19 in.	24 in.	30.00	10.00
15 in.	20 in.	22 in.	27 in.	35.00	12.00
16 in.	22 in.	24 in.	30 in.	40.00	12.00
18 in.	24 in.	26 in.	32 in.	45.00	15.00
21 in.	27 in.	30 in.	36 in.	55.00	18.00
24 in.	30 in.	36 in.	42 in.	70.00	23.00

Specifications of South Bend Lathes for Export

Dimensions of cases in inches and gross weight in pounds of South Bend Standard and Quick Change Gear Lathes boxed for export, both straight and gap bed lathes

Lathe Swing over Bed	Length of Bed	STANDARD CHANGE GEAR LATHES				QUICK CHANGE GEAR LATHES				Code Word	
		Dimensions of Cases Straight Beds	Wt. Boxed for Export Straight Beds Pounds	Dimensions of Cases Gap Beds	Wt. Boxed for Export Gap Beds Pounds	Dimensions of Cases Straight Beds	Wt. Boxed for Export Straight Beds Pounds	Dimensions of Cases Gap Beds	Wt. Boxed for Export Gap Beds Pounds	Standard Change Gear Lathe	Quick Change Gear Lathe
9-INCH SOUTH BEND LATHE											
9 $\frac{1}{4}$ in.	2 $\frac{1}{2}$ ft.	41 x 26 x 25	500	.....	.....	43 x 30 x 25	500	.....	.....	Dally	Damp
9 $\frac{1}{4}$ in.	3 ft.	48 x 26 x 25	530	.....	.....	50 x 30 x 25	530	.....	.....	Dare	Dirty
9 $\frac{1}{4}$ in.	4 ft.	58 x 26 x 25	570	.....	.....	60 x 30 x 25	570	.....	.....	Dell	Dust
11-INCH SOUTH BEND LATHE											
11 $\frac{1}{4}$ in.	3 ft.	59 x 29 x 26	765	59 x 31 x 26	800	61 x 33 x 26	765	61 x 31 x 26	800	Fare	Fact
11 $\frac{1}{4}$ in.	4 ft.	71 x 29 x 26	835	71 x 31 x 26	870	73 x 33 x 26	835	73 x 31 x 26	870	Fend	Film
11 $\frac{1}{4}$ in.	5 ft.	71 x 29 x 26	905	71 x 31 x 26	940	73 x 33 x 26	905	73 x 31 x 26	940	Foam	Flax
13-INCH SOUTH BEND LATHE											
13 $\frac{1}{4}$ in.	4 ft.	71 x 29 x 28	1230	71 x 31 x 28	1330	73 x 31 x 28	1230	73 x 31 x 28	1330	Hail	Halt
13 $\frac{1}{4}$ in.	5 ft.	71 x 29 x 28	1300	71 x 31 x 28	1400	73 x 31 x 28	1300	73 x 31 x 28	1400	Heald	Helm
13 $\frac{1}{4}$ in.	6 ft.	82 x 29 x 28	1360	82 x 31 x 28	1460	84 x 31 x 28	1360	84 x 31 x 28	1460	Hire	Hoop
13 $\frac{1}{4}$ in.	7 ft.	94 x 29 x 28	1430	94 x 31 x 28	1530	96 x 31 x 28	1430	96 x 31 x 28	1530	Home	Hump
13 $\frac{1}{4}$ in.	8 ft.	107 x 29 x 28	1500	107 x 31 x 28	1600	109 x 31 x 28	1500	109 x 31 x 28	1600	Husk	Hymn
15-INCH SOUTH BEND LATHE											
15 $\frac{1}{4}$ in.	5 ft.	70 x 30 x 30	1650	70 x 31 x 30	1775	72 x 33 x 30	1650	72 x 31 x 30	1775	Ideal	Idle
15 $\frac{1}{4}$ in.	6 ft.	82 x 30 x 30	1735	82 x 31 x 30	1860	84 x 33 x 30	1735	84 x 31 x 30	1860	Image	Inca
15 $\frac{1}{4}$ in.	7 ft.	94 x 30 x 30	1830	94 x 31 x 30	1955	96 x 33 x 30	1830	96 x 31 x 30	1955	Index	Iron
15 $\frac{1}{4}$ in.	8 ft.	106 x 30 x 30	1925	106 x 31 x 30	2050	108 x 33 x 30	1925	108 x 31 x 30	2050	Iris	Isle
15 $\frac{1}{4}$ in.	10 ft.	129 x 30 x 30	2125	129 x 31 x 30	2250	131 x 33 x 30	2125	131 x 31 x 30	2250	Issue	Itch
16-INCH SOUTH BEND LATHE											
16 $\frac{1}{4}$ in.	6 ft.	82 x 30 x 31	1970	82 x 30 x 34	2110	84 x 32 x 31	1970	84 x 30 x 34	2110	Jamb	Jade
16 $\frac{1}{4}$ in.	7 ft.	94 x 30 x 31	2070	94 x 30 x 34	2210	96 x 32 x 31	2070	96 x 30 x 34	2210	Jelly	Jerk
16 $\frac{1}{4}$ in.	8 ft.	106 x 30 x 31	2180	106 x 30 x 34	2320	108 x 32 x 31	2180	108 x 30 x 34	2320	Jinks	Jibe
16 $\frac{1}{4}$ in.	10 ft.	129 x 30 x 31	2390	129 x 30 x 34	2530	131 x 32 x 31	2390	131 x 30 x 34	2530	Joist	Jorn
16 $\frac{1}{4}$ in.	12 ft.	152 x 30 x 31	2750	152 x 30 x 34	2890	154 x 32 x 31	2750	154 x 30 x 34	2890	Jute	Jump
18-INCH SOUTH BEND LATHE											
18 $\frac{1}{4}$ in.	6 ft.	82 x 30 x 31	2600	82 x 30 x 37	2770	84 x 32 x 31	2600	84 x 30 x 37	2770	Kafir	Katy
18 $\frac{1}{4}$ in.	7 ft.	94 x 30 x 31	2730	94 x 30 x 37	2900	96 x 32 x 31	2730	96 x 30 x 37	2900	Khond	Keel
18 $\frac{1}{4}$ in.	8 ft.	106 x 30 x 31	2860	106 x 30 x 37	3030	108 x 32 x 31	2860	108 x 30 x 37	3030	Knack	Kilt
18 $\frac{1}{4}$ in.	10 ft.	129 x 30 x 31	3210	129 x 30 x 37	3380	131 x 32 x 31	3210	131 x 30 x 37	3380	Kohl	Knot
18 $\frac{1}{4}$ in.	12 ft.	152 x 30 x 31	3520	152 x 30 x 37	3690	154 x 32 x 31	3520	154 x 30 x 37	3690	Kurd	Kris
21-INCH SOUTH BEND LATHE											
21 $\frac{1}{4}$ in.	7 ft.	94 x 40 x 37	4050	94 x 42 x 40	4300	96 x 43 x 37	4050	96 x 42 x 40	4300	Paint	Pate
21 $\frac{1}{4}$ in.	8 ft.	106 x 40 x 37	4350	106 x 42 x 40	4600	108 x 43 x 37	4350	108 x 42 x 40	4600	Pear	Pelt
21 $\frac{1}{4}$ in.	10 ft.	130 x 40 x 37	4725	130 x 42 x 40	4975	132 x 43 x 37	4725	132 x 42 x 40	4975	Photo	Plot
21 $\frac{1}{4}$ in.	12 ft.	154 x 40 x 37	5200	154 x 42 x 40	5450	156 x 43 x 37	5200	156 x 42 x 40	5450	Pike	Port
21 $\frac{1}{4}$ in.	14 ft.	178 x 40 x 37	5500	178 x 42 x 40	5750	180 x 43 x 37	5500	180 x 42 x 40	5750	Plate	Puff
24-INCH SOUTH BEND LATHE											
24 $\frac{1}{4}$ in.	8 ft.	106 x 40 x 40	5200	106 x 46 x 40	5550	108 x 43 x 40	5200	108 x 46 x 40	5550	Race	Rail
24 $\frac{1}{4}$ in.	10 ft.	130 x 40 x 40	5600	130 x 46 x 40	5950	132 x 43 x 40	5600	132 x 46 x 40	5950	Rend	Rein
24 $\frac{1}{4}$ in.	12 ft.	154 x 40 x 40	6100	155 x 46 x 40	6450	156 x 43 x 40	6100	157 x 46 x 40	6450	Rise	Rich
24 $\frac{1}{4}$ in.	14 ft.	178 x 40 x 40	6500	178 x 46 x 40	6850	180 x 43 x 40	6500	180 x 46 x 40	6850	Roat	Rock
24 $\frac{1}{4}$ in.	16 ft.	203 x 40 x 40	6900	203 x 46 x 40	7250	205 x 43 x 40	6900	205 x 46 x 40	7250	Ring	Rude

For Export Shipment Use Code Word

When ordering Lathe for export always use the code word.

For Gap bed Lathe add the word GAP to the code word.

For Electric drive Lathe add the word ELECTRIC to the code word.

Examples: For 16-in. 8-ft. Quick Change Gear GAP Lathe use code words Jibe Gap.

For 16-in. 8-ft. Quick Change Gear Gap Electric Drive Lathe use code words Jibe Gap Electric.

South Bend Lathes for Export

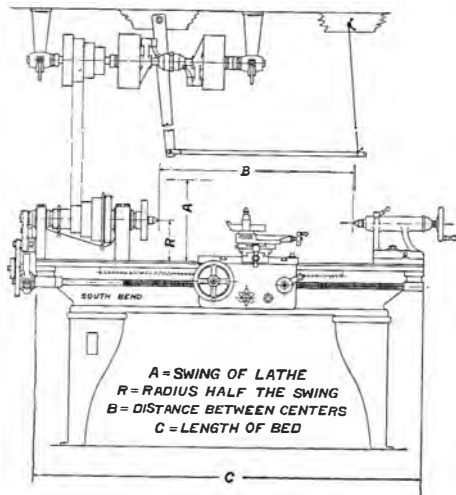


Boxing for Export

In preparing a South Bend Lathe for export, the parts are knocked down as much as possible, and all machined parts greased and oiled. Each lathe is covered with oil paper to prevent rust from dampness, and carefully packed complete in one case which is bound on the outside by steel bands.

On page 41 will be found the dimensions of cases and weights boxed for export on both straight and gap bed lathes.

From years of experience in boxing for the export trade, we know just how important it is that the lathe should be packed and boxed to withstand the rough handling that it receives, especially when being loaded and unloaded from an ocean steamer. We assure you that our **export packing and boxing** will be done in such a way that you will have no complaint.



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.

For illustration of the serial number which is stamped on each lathe bed, see page 3.

South Bend Lathes have been built for more than 17 years. We have been exporting them for more than 13 years, and there are now more than 30,500 South Bend Lathes in use in 64 countries throughout the world, including the United States.

South Bend Lathes may be purchased for export in standard change gear or the quick change gear type, both in straight bed and gap bed, and any size or type with electric motor drive.

The Standard Change Gear South Bend Lathe may be equipped with the metric lead screws or the English lead screws and transposing gears for the cutting of metric threads. The quick change gear lathe cannot be equipped with the metric lead screws, but can be equipped with the transposing gears for the cutting of metric threads.

Packing for Mule-Back Transportation

Any South Bend Lathe can be boxed in several cases suitable for mule-back transportation at a small additional cost. The bed, however, must be boxed in one case, as it is cast in one piece.

Raising Blocks can be furnished in the standard change gear lathe with either the straight or gap bed. They cannot be furnished on the quick change gear lathe with either the straight or gap bed or on any size of the silent-chain motor-driven lathe.

Metric Lead Screws for South Bend Standard Change Gear Lathes (Only)

South Bend Standard Change Gear Lathes may be fitted with metric lead screw in lieu of the English lead screw, if Lathes are wanted for countries where metric threads only are used. A metric lead screw must be fitted to the Lathe here in the factory.

We herewith show a metric thread index plate that is attached to the 18-inch, 21-inch, and 24-inch South Bend Standard Change Gear Lathes that are fitted with a metric lead screw. The chart shows an arrangement of gears for cutting standard metric threads from .5-millimeter pitch to .8-millimeter pitch. Many threads other than shown may be cut on the Lathe by compounding gears.

When a Lathe is ordered with metric lead screw in lieu of English lead screw we make an extra charge.

South Bend Quick Change Gear Lathes cannot be fitted with Metric Lead Screws.

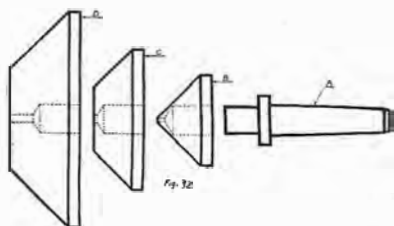
Transposing Gears for Metric Threads

All South Bend Lathes, Quick Change Gear and Standard Change Gear can be supplied at a slight additional cost, with Transposing Gears for cutting Metric Threads on an English Lead Screw.

SOUTH BEND — LATHE — M/M THREAD METRIC LATHE			
THREAD	SPINDLE	SCREW	
.50	20	1-2	120
.75	—	30-1-2	—120
1.00	30	1-2	90
1.25	—	30-1-2	—72
1.50	30	—	120
2.00	—	30	—90
2.50	30	—	72
3.00	—	30	—60
3.50	42	—	72
4.00	—	42	—63
4.50	45	—	60
5.00	—	45	—54
5.50	55	—	60
6.00	—	55	—55
6.50	52	—	48
7.00	—	42	—36
7.50	45	—	36
8.00	—	48	—36

SOUTH BEND LATHE WORKS
SOUTH BEND, IND., U.S.A.

Metric Thread Chart for Standard Change Gear Lathes

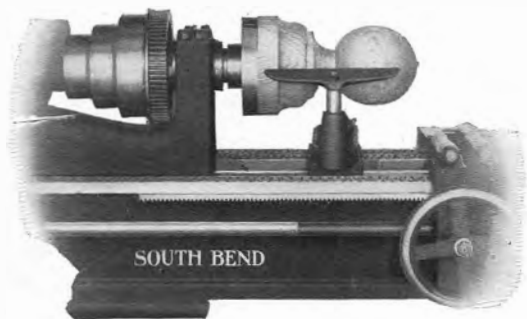


Pipe Centers for Lathe

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

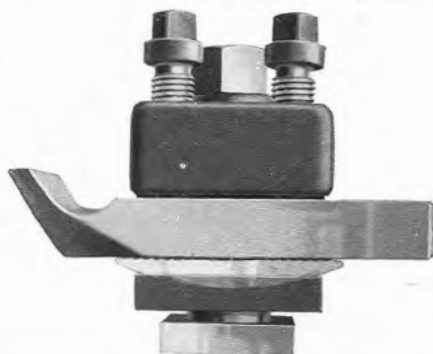
	Size of Lathe	Price
Taper Shank "A"	11 in.	\$ 3.00
Taper Shank "A"	13 in.	4.00
Taper Shank "A"	15 in.-16 in.-18 in.	4.50
Taper Shank "A"	21 in.-24 in.	6.00
Disc "B" takes from	1/2-in. to 3-in. Pipe	6.00
Disc "C" takes from	3-in. to 5-in. Pipe	9.00
Disc "D" takes from	5-in. to 8-in. Pipe	15.00

Pattern Making and Wood Turning



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 special hand rest like the one shown above.



European Tool Post

We can furnish European Tool Posts as shown here for any size South Bend Standard or Quick Change Gear Lathe at a slight additional cost.

Size of Lathe	13 in.	15 in.	16 in.	18 in.	21 in.	24 in.
Price	\$8.00	\$9.00	\$10.00	\$11.00	\$12.00	\$13.00

Lathe Dogs



These lathe dogs are heavy, malleable iron with hardened tool steel set-screw. We can furnish forged steel dogs at higher prices if desired.

Set 6A		Price Each	Set 6B		Price Each
No.	Size		No.	Size	
No. 1,	1/4 in.	.40	No. 11,	1 3/4 in.	\$1.10
No. 2,	1/2 in.	.50	No. 12,	2 in.	1.20
No. 4,	3/4 in.	.60	No. 14,	2 1/2 in.	1.45
No. 6,	1 in.	.70	No. 15,	3 in.	1.60
No. 8,	1 1/4 in.	.80	No. 16,	3 1/2 in.	1.80
No. 10,	1 1/2 in.	.95	No. 17,	4 in.	2.10
		\$3.95			\$9.25
Set of 6A		\$3.50	Set of 6B		\$8.50
Set of 12—6A and 6B... \$11.00					



Extra Large Steady Rests

We can furnish extra large steady rests when desired.

	Cap. of Reg. Steady Rests	Cap. of Spec. Extra Large Steady Rests	Price Each
13-in. Lathe	0 to 3 3/4 in.	3 3/4 to 8 3/4 in.	\$16.00
15-in. Lathe	0 to 4 3/4 in.	4 3/4 to 10 1/2 in.	19.00
16-in. Lathe	0 to 4 3/4 in.	4 3/4 to 10 3/4 in.	24.00
18-in. Lathe	0 to 5 3/4 in.	5 3/4 to 12 1/2 in.	30.00
21-in. Lathe	0 to 6 3/4 in.	6 3/4 to 15 in.	35.00
24-in. Lathe	0 to 8 3/4 in.	8 3/4 to 17 in.	40.00

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.

Hard 60-degree Lathe Center for tail stock is marked with ring groove to distinguish from soft Lathe Center in head spindle.

	Size of Lathe	9 in.	11 in.	13 in.	15 in.	16-18 in.	21-24 in.
Drill Pad		\$3.00	\$3.00	\$4.00	\$4.00	\$4.00	\$5.00
Crotch Center		\$3.00	\$3.00	\$4.00	\$4.00	\$4.00	\$5.00
60-Degree Lathe Center		\$2.00	\$2.00	\$2.50	\$2.50	\$2.50	\$3.50
Drill Chuck Arbor Finished		\$1.75	\$1.75	\$2.00	\$2.00	\$2.00	\$2.50
Blacksmith Chuck		\$3.00	\$3.00	\$4.00	\$4.00	\$4.00	\$5.00

Patent Lathe 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.			Size of Shank	Size of Cutter	Price Each
	L. Hand	R. Hand	Straight			
9 in.	00-L	00-R	00-S	5/16 x 3/4 x 1/2 in.	3/16 in. sq.	\$2.70
11 in.	0-L	0-R	0-S	3/8 x 7/8 x 5/8 in.	1/4 in. sq.	2.85
13 in., 15 in.	1-L	1-R	1-S	1/2 x 1 1/8 x 6/8 in.	3/8 in. sq.	3.25
16 in., 18 in.	2-L	2-R	2-S	5/8 x 1 3/8 x 7/8 in.	1/2 in. sq.	4.00
21 in., 24 in.	3-L	3-R	3-S	3/4 x 1 5/8 x 8/8 in.	3/4 in. sq.	5.40

Turning Tools

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 Each
9 in.	No. 29-R	5/16 x 3/4 in.	5/8 x 1 1/2 in.	\$2.85
11 in.	No. 30-R	3/8 x 7/8 in.	3/2 x 5/8 in.	3.00
13 in., 15 in.	No. 31-R	1/2 x 1 1/8 in.	1/8 x 3/4 in.	3.60
16 in., 18 in.	No. 32-R	5/8 x 1 3/8 in.	1/8 x 7/8 in.	4.50
21 in., 24 in.	No. 33-R	3/4 x 1 5/8 in.	3/8 x 1 in.	6.00



Threading Tools



Size of Lathe	No.	Size of Holder, Inches	Price Each
9 in.	00-T	5/16 x 3/4 x 5	\$4.15
11 in.	50	3/8 x 7/8 x 5	4.15
13 in., 15 in.	51	1/2 x 1 1/8 x 5	5.00
16 in., 18 in.	52	5/8 x 1 3/8 x 7	6.40
21 in., 24 in.	53	3/4 x 1 5/8 x 8	8.25

Patent Boring Tools

Size of Lathe	No.	Size of Shank	Size of Bar	Size of Cutter	Price Each
9 in.	00-B	5/16 x 3/4 in.	1/2 in. dia.	3/16 in. sq.	\$ 4.90
11 in.	8	3/8 x 7/8 in.	9/16 in. dia.	3/16 in. sq.	4.90
13 in., 15 in.	9	1/2 x 1 1/8 in.	3/4 in. dia.	1/4 in. sq.	5.80
16 in., 18 in.	10	5/8 x 1 3/8 in.	7/8 in. dia.	3/8 in. sq.	7.65
21 in., 24 in.	11	3/4 x 1 5/8 in.	1 1/8 in. dia.	3/8 in. sq.	10.85



Forged Steel Lathe Tools

We are in a position to furnish lathe tools, made of a good quality carbon tool steel, carefully forged, hardened and tempered.

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



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

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

	Price Each	Set of 12
For 9 in. Lathes	\$.50	\$ 5.00
For 11 in. Lathes	.65	6.50
For 13 in. Lathes	1.00	10.00
For 15 in. Lathes	1.50	15.00
For 16 in. Lathes	1.50	15.00
For 18 in. Lathes	1.50	15.00
For 21 in. Lathes	2.50	25.00
For 24 in. Lathes	2.50	25.00



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 1/4	1 3/16	\$ 6.00
42	.0 to 3/8	1 1/8	6.50
43	.0 to 1/2	2 3/16	7.00
44	.0 to 3/4	2 7/8	8.00
45	.0 to 1	3 7/16	10.00



Size of Lathe	9 in.	11 in.	13 in.	15 in.	16, 18 in.	21, 24 in.
Drill Chuck Arbor Finished	\$1.75	\$1.75	\$2.00	\$2.00	\$2.00	\$2.50

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. T slots are furnished only on chucks 12 inches and larger.

Rared Size of Chuck, Inches	No.	Will Hold About, Inches	Price
4½	299	.6	\$20.00
6	301	.7½	22.00
7½	302	.8¾	25.00
8	302½	.9½	26.00
9	303	1.1½	28.00
10	304	1.2½	30.00
12	305	1.4½	35.00
14	306	1.6½	40.00
15	307	1.8	43.00
16	307½	1.9	46.00
18	308	2.1	54.00

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 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.

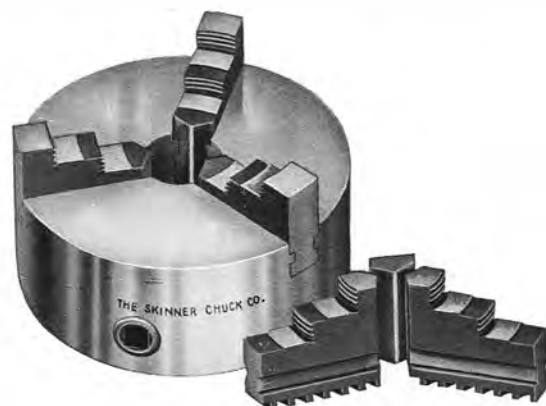
The price of fitting chuck to lathe complete is not included in the price of the lathe or chuck, but is extra, as shown herewith.

Prices for Fitting Chucks to Lathes

Size of Lathe	Price for fitting chuck, using the semi-machined chuck plate included in lathe equipment	Price for fitting extra chuck including extra chuck plate	Price of extra semi-machined chuck plates fitted to spindle nose
9 in.	\$3.00	\$ 5.00	\$2.50
11 in.	3.25	6.00	2.75
13 in.	3.50	7.00	3.00
15 in.	4.00	8.00	3.50
16 in.	4.50	9.00	4.00
18 in.	5.00	10.00	4.50
21 in.	5.50	11.00	5.00
24 in.	6.00	15.00	6.00

Universal Geared Scroll Chuck

With Two Sets of Jaws



This style 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
3	199	\$20.00	
4	200	22.00	
5	201	24.00	
6	203	28.00	
7½	204	32.00	
9	205	38.00	
10½	206	44.00	
12	207	52.00	
15	208	70.00	

View of Back of Lathe Chuck



No. 302

The recess on the back of the chuck is to receive the chuck plate. For fitting chuck plate to chuck, see book, "How To Run a Lathe," described on Page 48, where this subject is fully explained.

We list below the size of lathe chuck that we recommend as most practical for each size lathe for general all-around work. For example, on a 16-inch lathe we recommend from a 6-inch to 12-inch chuck. If a Universal Chuck is to be used, one should stay nearer the size given in the first column; if an Independent Chuck is to be used, select one shown in the second column, but not larger than that specified.

Size of Chucks for a Lathe

9-inch Lathe, size of chuck	4½ in. to 6 in. inclusive
11-inch Lathe, size of chuck	4½ in. to 7 in. inclusive
13-inch Lathe, size of chuck	5 in. to 9 in. inclusive
15-inch Lathe, size of chuck	5 in. to 10 in. inclusive
16-inch Lathe, size of chuck	6 in. to 12 in. inclusive
18-inch Lathe, size of chuck	8 in. to 14 in. inclusive
21-inch Lathe, size of chuck	10 in. to 16 in. inclusive
24-inch Lathe, size of chuck	12 in. to 18 in. inclusive

Practical Machine Shop Equipments

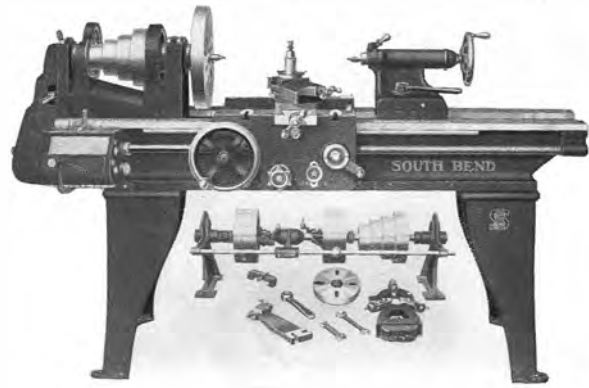
The following five Machine Shop Equipments have been found to be practical for the general machine and repair work.
The chucks and tools specified are the most practical sizes for the various size lathes for general use

No. 4-X, Machine Shop Equipment (For 16-inch Lathe)

1 No. 69-E, 16-in. x 8-ft. SOUTH BEND QUICK CHANGE GEAR LATHE, takes between centers 60 inches, complete with Flather patent quick change gear box, graduated compound rest, automatic cross-feed, automatic longitudinal feed, large and small face plates, two steel centers, center rest, follower rest, gear guards, adjustable stop for screw cutting, necessary wrenches, semi-machined chuck plate, and double friction countershaft. Price:

F. O. B. cars South Bend	\$498.00
1 10-in. 4-jaw Independent Lathe chuck	30.00
Fitting chuck to Lathe including semi-machined chuck plate	4.50
1 Standard Drill Chuck 1-in. capacity	10.00
1 Drill Chuck Arbor	2.00
1 Set (9) Lathe Dogs 1/2-in. to 3-in., inclusive	8.50
1 No. 2-S Patent Turning Tool	4.00
1 No. 32-R Cutting Off Tool	4.50
1 No. 52 Threading Tool	6.40
1 No. 10 Boring Tool	7.65

Total F. O. B. South Bend



16-in. x 8-ft. South Bend Quick Change Gear Lathe

No. 1-X, Machine Shop Equipment (For 11-inch Lathe)

1 No. 63-A, 11-in. x 4-ft. SOUTH BEND QUICK CHANGE GEAR LATHE, with regular equipment as described under Shop Equipment No. 4-X. Price:

F. O. B. cars South Bend	\$288.00
1 6-in. 4-jaw Independent Lathe chuck	22.00
Fitting chuck to Lathe including semi-machined chuck plate	3.25
1 Standard Drill Chuck 1/2-in. capacity	7.00
1 Drill Chuck Arbor	1.75
1 Set (6-A) Lathe Dogs 1/4-in. to 1 1/2-in., inclusive	3.50
1 No. O-S Patent Turning Tool	2.85
1 No. 30-R Cutting Off Tool	3.00
1 No. 50 Threading Tool	4.15
1 No. 8 Boring Tool	4.90

Total F. O. B. South Bend

No. 2-X, Machine Shop Equipment (For 13-inch Lathe)

1 No. 65-B, 13-in. x 5-ft. SOUTH BEND QUICK CHANGE GEAR LATHE, with regular equipment as described under Shop Equipment No. 4-X. Price:

F. O. B. cars South Bend	\$354.00
1 7 1/2-in. 4-jaw Independent Lathe chuck	25.00
Fitting chuck to Lathe including semi-machined chuck plate	3.50
1 Standard Drill Chuck 1/2-in. capacity	7.00
1 Drill Chuck Arbor	2.00
1 Set (6-A) Lathe Dogs 1/4-in. to 1 1/2-in., inclusive	3.50
1 No. 1-S Patent Turning Tool	3.25
1 No. 31-R Cutting Off Tool	3.60
1 No. 51 Threading Tool	5.00
1 No. 9 Boring Tool	5.80

Total F. O. B. South Bend

No. 3-X, Machine Shop Equipment (For 15-inch Lathe)

1 No. 67-C, 15-in. x 6-ft. SOUTH BEND QUICK CHANGE GEAR LATHE, with regular equipment as described under Shop Equipment No. 4-X. Price:

F. O. B. cars South Bend	\$431.00
1 9-in. 4-jaw Independent Lathe chuck	28.00
Fitting chuck to Lathe including semi-machined chuck back	4.00
1 Standard Drill Chuck 3/4-in. capacity	8.00
1 Drill Chuck Arbor	2.00
1 Set (7) Lathe Dogs 1/2-in. to 2-in., inclusive	5.50
1 No. 1-S Patent Turning Tool	3.25
1 No. 31-R Cutting Off Tool	3.60
1 No. 51 Threading Tool	5.00
1 No. 9 Boring Tool	5.80

Total F. O. B. South Bend

No. 5-X, Machine Shop Equipment (For 18-inch Lathe)

1 No. 71-G, 18-in. x 10-ft. SOUTH BEND QUICK CHANGE GEAR LATHE, with regular equipment as described under Shop Equipment No. 4-X. Price:

F. O. B. cars South Bend	\$721.00
1 12-in. 4-jaw Independent Lathe chuck	35.00
Fitting chuck to Lathe including semi-machined chuck plate	5.00
1 Set (9) Lathe Dogs 1/2-in. to 3-in., inclusive	8.50
1 No. 2-S Patent Turning Tool	4.00
1 No. 32-R Cutting Off Tool	4.50
1 No. 52 Threading Tool	6.40
1 No. 10 Boring Tool	7.65

Total F. O. B. South Bend

Some of the Accuracy Tests Given South Bend Lathes



Testing Alignment of Head Stock Spindle and Tail Stock Spindle, Using Test Indicator



Testing Cross Slide of Saddle with Master Gauge, Using Test Indicator

SOUTH BEND LATHE	
TEST AND	INSPECTION
Date Tested	<i>July 17, 1923</i>
Size	<i>16" X 8 ft</i> <input checked="" type="checkbox"/> Quick Change <input type="checkbox"/> Standard
Catalog No	<i>67E</i> Serial No. <i>30245</i>
Head Spindle Test	<i>Less than .0005</i>
Tail Spindle Test	<i>Perfect</i>
Center Test	<i>Perfect</i>
Saddle Test	<i>Perfect</i>
Face Plate Test	<i>Less than .0005</i>
Countershaft Test	<i>Perfect</i>
Chuck Test	<i>.001</i>
Tested By <i>H. J. Brenner</i>	
Inspected By <i>R. S. Young</i>	
Lathe Shipped To <i>South Bros. Mfg. Co. Chicago, Ill.</i>	
Date Shipped <i>July 21, 1923</i>	

Test and Inspection Tag

Two-Test and Inspection Tags

One Tag Accompanies the Lathe for Customer's Information

After the Lathe is assembled it is placed under belt, and final tests made of the head stock spindle, tail stock spindle, saddle, lead screw, face plate, countershaft, and chucks. The result of these tests is recorded on the test and inspection tags. There are two of these tags; one accompanies the Lathe when shipped to customer and the other is filed in our office for future reference.

To secure this accuracy the Lathe must be level. Instructions on levelling the lathe will be found on the reverse side of the above test tag.



Test Indicator

The illustration shows the dial of a test indicator used in making tests on South Bend Lathes. A complete description of the test indicator is shown on page 3.

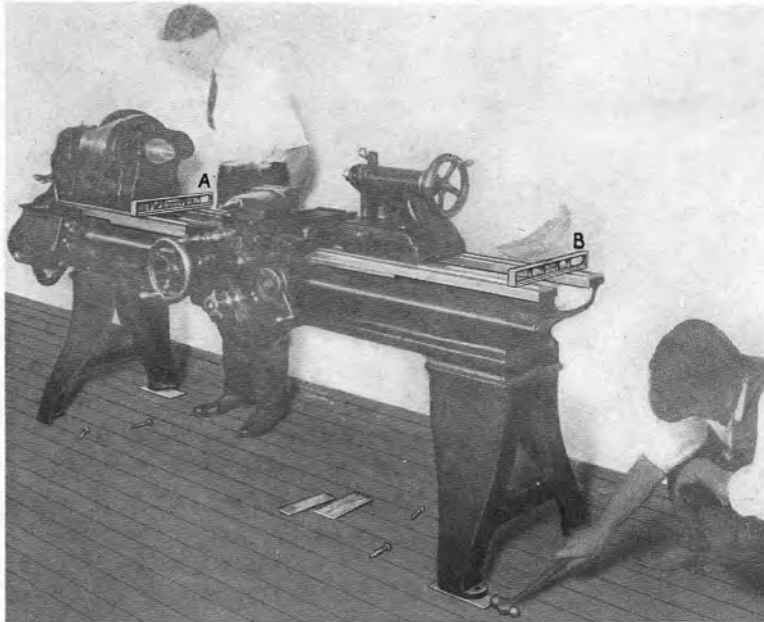


Testing Face Plate, Using Test Indicator

Precision Work

The finest precision work that comes up in the tool room, the manufacturing plant, and machine shop can be machined on South Bend Lathes to meet the most accurate requirements.

Each size South Bend Lathe is equal in accuracy. The small, medium, and the large Lathes are tested in exactly the same manner, and the inspection is just as rigid on the smaller size Lathe as it is on the larger. Any size South Bend Lathe should give you perfect satisfaction.



Levelling the Lathe

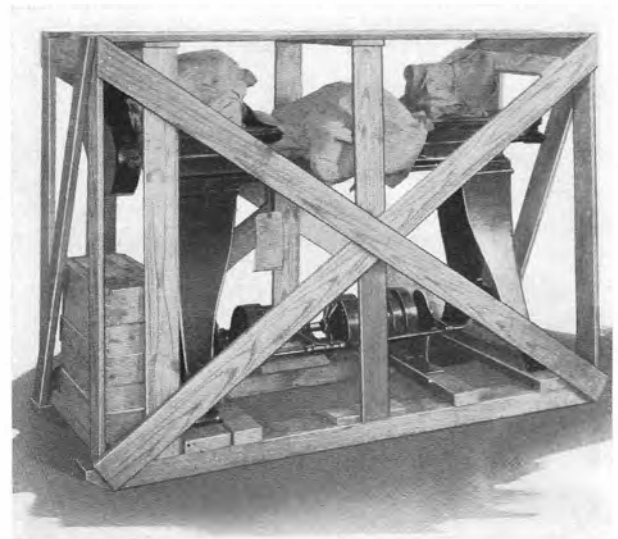
It is very important that the Lathe should be level in order to do accurate work. To level the Lathe use an accurate machinist level at least 18 inches long. Do not use a carpenter level, as it is not accurate enough.

Place the level across the V ways of the bed in front of the head stock, repeat this operation across the V ways near the tail stock end of the Lathe. Also place the level lengthwise on both the front and rear ways at the head end and tail end. Shim underneath the legs with shingles, fibre or other suitable material until the bed is level, then fasten securely to the floor with lag screws. Test the Lathe bed with the level again to be sure that fastening the Lathe to the floor has not forced it out of level.

South Bend Lathes Crated for Domestic Shipment

The illustration shows a Lathe and complete equipment skidded and crated for domestic shipment. The Lathe is securely bolted by lag screws to wide, heavy skids and is protected on all sides by heavy crating. This substantial crate prevents the Lathe from being damaged while in transit.

The loose parts are removed from the Lathe and packed in a box which is shown nailed to the skids. This box also contains floor plans, test tag, instructions on setting up, levelling, and operating the Lathe. The countershaft is bolted securely to the skids. The bright parts of the Lathe are covered with grease in order to prevent rusting.



"How To Run a Lathe"

A Partial List of Contents

Speed and diameter of line shaft.
 Horsepower required to drive lathe.
 Rules for figuring size of pulleys.
 Milling and Keyseating in the lathe.
 Rule for gearing any lathe for thread cutting.
 How to fit a lathe chuck to lathe.
 Cutting speeds for different metals.
 How to make a boring bar for the lathe.
 Cutting a keyway in the lathe.
 Application and use of lathe tools.
 Boring in the lathe.
 Turning taper in the lathe.
 Grinding in the lathe.
 And 100 other subjects.
 "How To Run a Lathe" also printed in Spanish and Portuguese languages.

"How To Run a Lathe"

A copy of this valuable little 80-page book will be sent, post paid, to any address on receipt of 10c. Coin or stamps of any country accepted. This book is useful to apprentices in the shop. A copy included with the equipment of each lathe.



A Few Users of South Bend Lathes

Westinghouse Electric Manufacturing Co.	Pittsburgh, Pennsylvania
Ford Motor Co.	Detroit, Michigan
Hercules Powder Co.	Several Places
Victor Talking Machine Co.	Camden, New Jersey
Union Pacific Railroad	Omaha, Nebraska
Bethlehem Steel Co.	Bethlehem, Pennsylvania
Colts Pat. Fire Arms Manufacturing Co.	Hartford, Connecticut
Singer Sewing Machine Co.	Several Places
New York Central Railroad	Elkhart, Indiana
Packard Motor Company	Several Places
Wagner Electric Co.	St. Louis, Missouri
Studebaker Corporation	Several Places
Air Reduction Co.	Several Places
Haynes Motor Car Co.	Kokomo, Indiana
National Biscuit Co.	Chicago, Illinois
Libby, McNeal & Libby	Chicago, Illinois
Union Metallic Cartridge Co.	Weehawken, New Jersey
Brown, Lipe and Chapin Co.	Syracuse, New York
Amoskeag Textile Mill	Manchester, New Hampshire
Allis Chalmers Manufacturing Co.	Milwaukee, Wisconsin
U. S. Military Academy	West Point, New York
Pennsylvania Railroad	Pittsburgh, Pennsylvania
Thomas A. Edison	Orange, New Jersey
Chenango Silk Co.	Binghamton, New York
Remington Arms U. M. Co.	Hoboken, New Jersey
New York Ship Building Co.	Several Places
National Lamp Works	Cleveland, Ohio
International Harvester Co.	Detroit, Michigan
Whiting Paper Co.	Holyoke, Massachusetts
American Can Co.	New York, New York
General Electric Co.	Several Places
United States Government	Several Places
Standard Oil Co.	Several Places
U. S. Cold Storage Co.	Chicago, Illinois
Southern Mills Corporation	Oxford, Alabama
Chicago Flexible Shaft Co.	Chicago, Illinois
Lincoln Motor Co.	Detroit, Michigan
Lillybrook Coal Co.	Lillybrook, West Virginia
E. I. du Pont de Nemours Co.	Several Places
Edison Lamp Works	Harrison, New Jersey
N. Y. New Haven & H. Railroad	Several Places
Island Creek Coal Co.	Several Places
Atchison, Topeka & Santa Fe R. R.	Topeka, Kansas

30,500 South Bend Lathes are in service in manufacturing plants, tool rooms and machine shops in the United States and 64 other countries thruout the world.