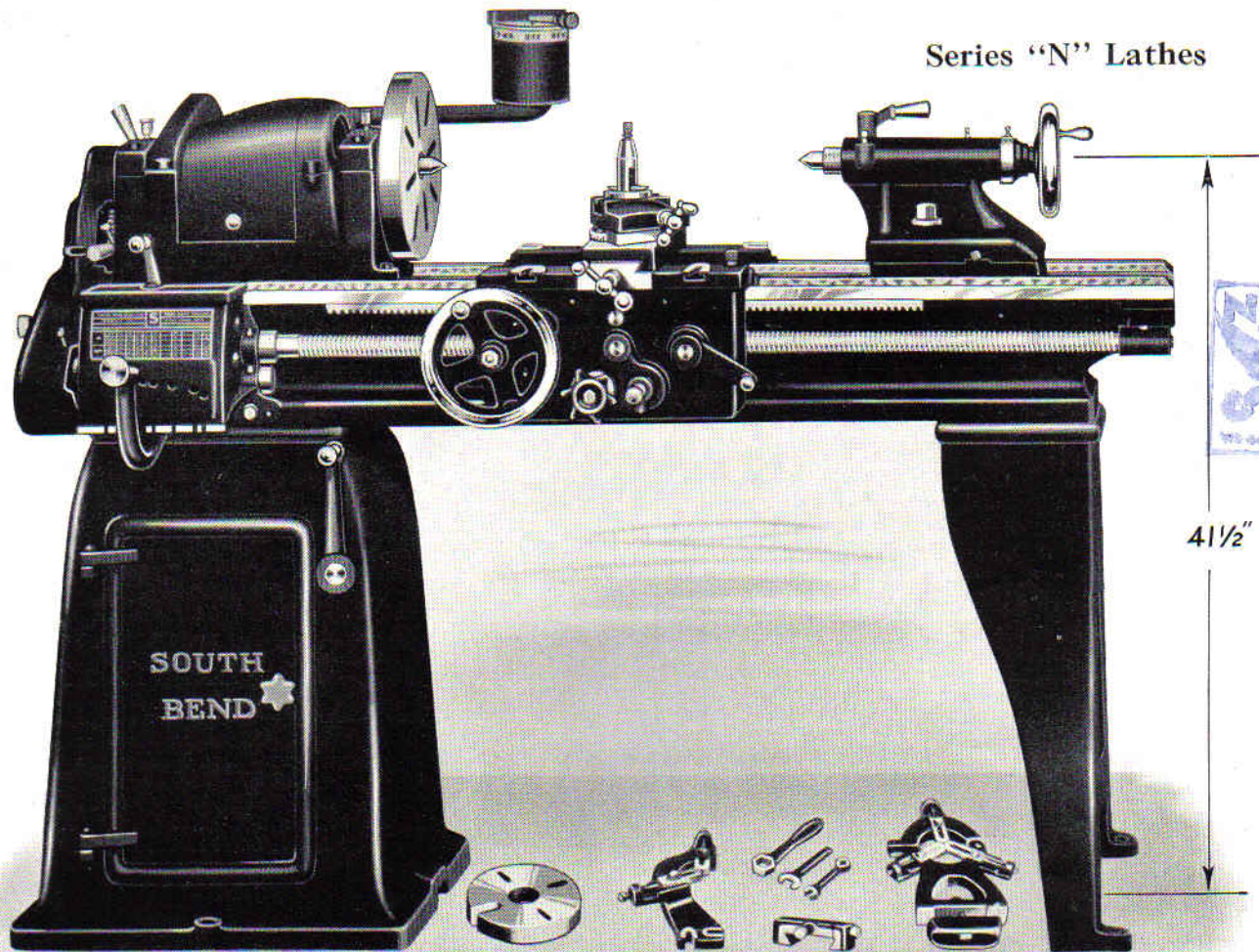


Series "N" Lathes



(Patent Pending)

13-in. x 5-ft. Underneath Belt Motor Driven Quick Change Gear Lathe

Series "N" Underneath Belt Motor Driven South Bend Lathes

Back-Geared, Screw Cutting Precision Lathes

The Series "N" Underneath Belt Motor Driven Lathe is a compact, self-contained unit with motor drive mechanism completely enclosed in the cabinet leg under the headstock. Noiseless operation, clear vision, and no overhead obstruction, are outstanding features of this lathe.

The Series "N" Lathe is designed and built with precision accuracy and is recommended for production work in the manufacturing plant, for fine precision work in the tool room, and for all classes of general machine shop work in modern industrial shops.

The Underneath Belt Motor Drive and other new features of this lathe, including double wall apron, multiple disc friction feed clutch, hardened headstock spindle and improved headstock bearings are illustrated and described on pages 4 to 7 inclusive.

The Electrical and Regular Equipment included in the price of each Series "N" Underneath Belt Motor Driven Lathe consists of: complete motor drive mounted in cabinet

leg; reversing motor, 1200 R.P.M.; reversing switch (drum type); wiring between motor and switch; flexible metal conduit; leather belt and necessary "V" pulley belts; large face plate; small face plate; tool post complete; adjustable thread cutting stop; two lathe centers; spindle sleeve; center rest; follower rest; wrenches, installation plans and book, "How to Run a Lathe."

Net Factory Prices and Specifications of Series "N" Underneath Belt Motor Driven Lathes in quick change gear and standard change gear types are shown on page 8. Prices of Series "N" Underneath Belt Motor Driven Tool Room Lathes are shown on page 3.

For Manufacturing or for Special Classes of Machine Work this lathe can be fitted with turret attachment, double tool slide, oil pan and pump, draw-in collet chuck, taper attachment, tools, chucks and attachments of all kinds. These are fully illustrated and described in our special Attachment Bulletin No. 77, a copy of which will be mailed postpaid on request.

Features of Series "N" Underneath Belt Motor Driven Precision Lathes

- Hardened steel headstock spindle.
- Bronze or cast iron bearings for spindle.
- Felt pad wick oilers for spindle bearings.
- Multiple "V" belt motor drive—adjustable.
- Spindle cone pulley enclosed.
- Double wall apron—all steel gears.
- Apron gears run in oil.
- Automatic cross feed—automatic longitudinal feed.

- Multiple disc friction feed clutch.
- Lathe bed 50% steel.
- Precision lead screw for cutting screw threads.
- Underneath belt drive to the spindle.
- Noiseless operation—no overhead obstructions.
- Elimination of chatter and vibration.
- No exposed belts, pulleys or gears.
- Spindle thrust collar hardened and ground.

Features and Specifications of Series "N" South Bend Lathes

The description below applies to all sizes and types, 9-inch to 18-inch swing

For Prices Refer to Page 3 and to Tabulation on Page 8

The Series "N" Underneath Belt Motor Driven South Bend Back-Gear, Screw Cutting Lathe is illustrated, described and priced in this bulletin. New features include: Hardened Steel Headstock Spindle; Double Wall Apron with steel gears running in oil, Multiple Disc Clutch in Apron; Cast Iron Lathe Bed containing 50% steel, etc. These features are described below and on pages 4 to 7, and apply to each size and type of Series "N" Underneath Belt Motor Driven South Bend Lathe.

We Recommend the Series "N" Underneath Belt Motor Driven Lathe for production in the manufacturing plant, for the finest class of tool and die work in the modern tool room, and for general machine work of all kinds. These lathes can be fitted with twenty-four different attachments for handling a wide variety of production and tool room work.

The Double Wall Apron has steel gears running in oil and is equipped with a multiple disc friction clutch. For complete description and illustrations see page 5.

The Headstock for the Underneath Belt Motor Drive Lathe is of special design, braced and webbed to insure rigidity and permanent alignment of the spindle bearings. It is fitted with a cover which completely encloses the headstock spindle cone. The headstock is bolted direct to the lathe bed so that slipping is impossible. Back-gears are enclosed in improved, close fitting gear guards.

The Headstock Spindle is hardened and ground and has improved spindle bearings of either bronze or cast iron whichever purchaser desires. For illustration and description see page 6.

The Cone Pulley and Back Gears provide a wide range of spindle speeds as listed below under specifications. Both the cone pulley and the back gears have improved reservoir oiling systems. A quick acting, wrenchless bull gear lock is provided for engaging and disengaging the back gears.

A Spring Latch Reverse on the headstock permits instant changing of the direction of the automatic feeds. It also provides for cutting right or left hand screw threads. A neutral position completely disengages all feeds.

The Lathe Bed is heavily constructed and is reinforced by box braces cast in at short intervals. It is made of a new semi-steel mixture containing 50% steel. This produces a very hard, close grained metal far superior to the ordinary gray iron casting.

The Tailstock is equipped with a graduated spindle for drilling to accurate depths. Improved binding plugs securely lock the tailstock without altering the alignment of lathe centers. The tailstock center is made of tool steel correctly hardened and tempered for long wear and is self-ejecting. The tailstock top may be set over for taper turning, and is off-set to permit the compound rest to swivel over the tailstock base, parallel to the lathe.

The Carriage has a wide deep bridge providing rigid support for the tool rest. "T" slots are provided for clamping work or fixtures on the 13-inch lathe and larger sizes. The carriage is carefully fitted to the lathe bed by improved scraping methods which are more accurate and provide a better bearing surface than ordinary methods. The cross feed screw has Acme thread and is fitted with a micrometer collar reading in thousands of an inch, which may be set at zero at any time. A locking device clamps the carriage to the bed when using the cross feed for cutting off or facing.

The Compound Rest is graduated 180° and swivels all the way around for machining work at any angle. It has an angular travel as listed in specifications below. The compound rest screw has Acme thread and is fitted with a micrometer collar graduated in thousands of an inch, which may be set at zero at any time.

The Lead Screw is made of special quality carbon steel and has coarse pitch Acme thread cut on a special machine equipped with a Pratt and Whitney master lead screw. The thread of the lead screw is used only for cutting screw threads and not for operating the automatic feeds.

The Quick Change Gear Type of Lathe is equipped with full quick change mechanism for automatic feeds and for cutting right or left hand screw threads from 2 to 112 per inch, including 11½ pipe thread as follows: 2, 2¼, 2½, 2¾, 3, 3¼, 3½, 4, 4½, 5, 5½, 5¾, 6, 6½, 7, 8, 9, 10, 11, 11½, 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. See page 7.

The Standard Change Gear Lathe is equipped with change gears for automatic feeds and for cutting right or left hand screw threads from 4 to 40 per inch, including 11½ pipe thread, as follows: 4, 5, 6, 7, 8, 9, 10, 11, 11½, 12, 13, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 36, and 40. Threads other than those enumerated may be cut by compounding the gears furnished with the lathe. A swinging gear guard permits easy access to the gears.

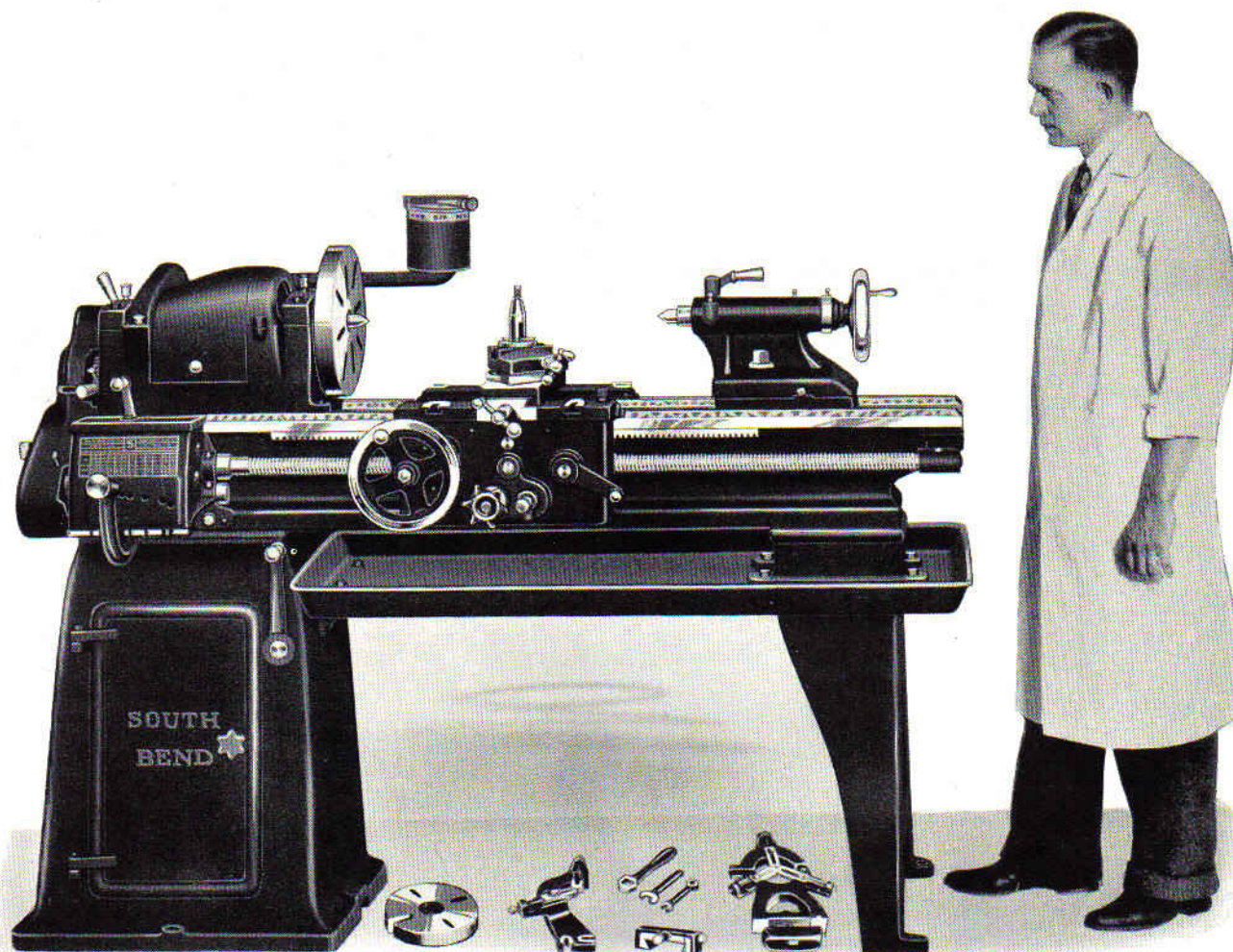
Attachments for special classes of machine work including taper attachment, milling attachment, draw-in collet attachment, transposing attachment for cutting metric threads, grinding attachment, etc. can be supplied at extra cost. A complete line of attachments is fully illustrated, described and priced in our Attachment Bulletin No. 77, copy of which will be mailed on request.

Accuracy Tests are made often during the process of manufacture of the different parts and before being assembled sixty-four different tests are made. After being assembled the lathe undergoes a series of final inspection tests under its own power. A record card showing the results of these tests is filed in our office.

These Specifications Apply to the Lathes Illustrated and Listed on Pages 1, 3 and 8.

Size of Lathe	9-Inch	11-Inch	13-Inch	15-Inch	16-Inch	18-Inch
Swing over bed	9¼ in.	11¼ in.	13¼ in.	15¼ in.	16¼ in.	18¼ in.
Swing over carriage	6¾ in.	7¾ in.	9 in.	10¾ in.	11¾ in.	12¾ in.
Height of centers from floor	41 in.	41 in.	41½ in.	41½ in.	42 in.	42 in.
Hole through spindle	¾ in.	¾ in.	1 in.	1 in.	1¾ in.	1¾ in.
Spindle speed range R. P. M.	45-683	42-633	25-665	21-593	17-574	17-413
Width of cone pulley belt	1¼ in.	1½ in.	1¾ in.	2 in.	2¼ in.	2½ in.
Spindle nose diameter and thread	1½ in. 8	1½ in. 8	1½ in. 8	2 in. 6	2½ in. 6	2½ in. 6
Lathe centers Morse taper No.	2	2	3	3	3	3
Collet capacity maximum	¾ in.	¾ in.	¾ in.	¾ in.	¾ in.	1 in.
Lead screw Acme thread	¾ in. diam. 8 threads	¾ in. diam. 8 threads	1 in. diam. 6 threads	1½ in. diam. 6 threads	1½ in. diam. 6 threads	1½ in. diam. 4 threads
Angular travel compound rest top	1½ in.	2½ in.	3 in.	3½ in.	3½ in.	4½ in.
Tool cross slide travel	7½ in.	8½ in.	9 in.	10 in.	10½ in.	14½ in.
Travel of tailstock spindle	2½ in.	3 in.	4 in.	5 in.	6 in.	7 in.
Size of motor used	¼ H.P.	½ H.P.	¾ H.P.	1 H.P.	1 H.P.	2 H.P.
Size of lathe tool shank	1½ x 1½ in.	¾ x ¾ in.	1½ x 1½ in.	1½ x 1½ in.	¾ x 1½ in.	¾ x 1½ in.
Size of turning tool cutter bits	¾ in. sq.	¾ in. sq.	¾ in. sq.	¾ in. sq.	¾ in. sq.	¾ in. sq.

For weights of lathes see tabulation on page 8.



13-in. x 5-ft. Underneath Belt Motor Driven Tool Room Lathe

Series "N" South Bend Tool Room Precision Lathes

Made in 9", 11", 13", 15", 16" and 18" Swing—Underneath Belt Motor Drive

The Series "N" Tool Room Precision Lathe with Underneath Belt Motor Drive is capable of turning out the finest tool room work with precision accuracy. It is practical for making precision taps, master thread gauges, special screws, dies, etc., to meet the demands of the expert mechanic on the most accurate work. The Tool Room Lathe has the same specifications as shown on the preceding page and in addition is equipped with special attachments for tool room work.

The Underneath Belt Motor Drive Tool Room Lathe will be found very desirable by the tool maker for doing fine accurate tool work. Noiseless in operation, no vibration, the belt drive to the spindle from underneath increases precision and accuracy in tool room work of all kinds. We recommend this lathe to the plant that desires a high grade, modern tool room lathe.

Tool Room Attachments for the lathe are listed and priced separately so that the customer may select only those required for his work. The Collet Chuck, Taper Attachment, Thread Dial, Carriage Stop, etc., are illustrated and described in our special Attachment Bulletin No. 77, copy of which will be mailed on request.

The Electrical and Regular Lathe Equipment included in the price of each size Series "N" Underneath Belt Motor Driven Tool Room Lathe consists of: Complete motor drive mounted in cabinet leg; reversing motor 1200 R.P.M.; reversing switch (drum type); full quick change gear mechanism for threads and feeds; large face plate; small face plate; tool post complete; adjustable thread cutting stop; two lathe centers; spindle sleeve; center rest; follower rest; wrenches; installation plans and book, "How to Run a Lathe."

Net Factory Prices Series "N" South Bend Underneath Belt Motor Driven Tool Room Precision Lathes

Prices Include Regular Lathe Equipment, 3-Phase, 60-Cycle A. C. Reversing Motor, 1200 R. P. M., Reversing Switch and Leather Belt

Series "N" Underneath Belt Motor Driven Tool Room Quick Change Gear Lathe with 3-Phase, 60-Cycle A. C. Reversing Motor, 1200 R. P. M., Reversing Switch (drum type), and Regular Lathe Equipment but without Tool Room Attachments.

TOOL ROOM ATTACHMENTS

Hand Wheel Draw-in Collet Chuck with One Collet, Any Size.
One Extra Collet Any Size up to Capacity of Lathe.
Taper Attachment.
Thread Indicator.
Oil Pan.
Micrometer Carriage Stop.
Collet Cabinet and Bracket.

Total Prices of Underneath Belt Motor Driven Tool Room Lathes, Complete with Tool Room Attachments as Listed Above.

Cat. No. 1864-A 11" x 4'		Cat. No. 1866-B 13" x 5'		Cat. No. 1868-C 15" x 6'		Cat. No. 1872-C 16" x 6'	
Code Word	Price	Code Word	Price	Code Word	Price	Code Word	Price
Cisab	\$ 528.00	Bogoc	\$ 643.00	Ciwaf	\$ 770.00	Colez	\$ 835.00
Abode	33.00	About	37.00	Above	42.00	Adore	48.00
Cello	3.50	Chose	4.00	Civit	4.25	Clear	4.75
Devor	60.00	Digit	75.00	Doted	80.00	Dress	90.00
Acres	8.00	Advis	10.00	Aesop	10.00	Afrot	12.00
Bonul	19.00	Bonga	27.00	Boplo	34.00	Boplo	35.00
Ceded	12.00	Chain	13.00	Cigar	14.00	Climb	15.00
Crome	12.00	Cnoke	12.00	Cnarl	15.00	Cadro	15.00
Cubux	\$675.50	Bomge	\$821.00	Cudix	\$969.25	Cufob	\$1054.75

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Features of the New Underneath Belt Motor Drive

Used on All Sizes of Series "N" Underneath Belt Motor Driven South Bend Lathes

1. Multiple "V" driving belts from motor—adjustable.
2. Underneath belt drive to lathe spindle.
3. Independent adjustments for belt tension.
4. Reversing motor and reversing switch.
5. Silent in operation, no chatter, no vibration.
6. Spindle Cone Pulley completely enclosed.
7. No overhead obstruction, clear vision.
8. No exposed belts, pulleys or gears.
9. Increased power and efficiency.
10. Lower operating cost.
11. Wide range of spindle speeds.
12. Safety Devices on Working Units.

The Underneath Belt Motor Drive is a complete self contained unit enclosed in the cabinet leg under the headstock. The general construction and design of the Underneath Belt Motor Drive Unit is the same for all sizes and types of lathes, 9 inch to 18 inch swing.

The Underneath Belt Motor Drive will be appreciated by the engineer and mechanic in industry, because it enables the operator of the lathe to secure any power required for his work. This power is secured by adjusting the tension of the flat leather belt that drives the spindle cone. The adjustment is controlled by a cam in the cabinet leg directly in back of the belt adjusting lever.

There is also an independent adjustment between the motor and jackshaft, for the "V" belts.

To Shift the Belt is a very simple operation. Place the switch in neutral, raise the headstock cover and give the belt release lever at the front of the leg, a half turn to the left. This moves the lower cone pulley in the leg vertically two and one half inches. Place the belt on any desired step of the spindle cone and the lower end of the belt will swing automatically under the corresponding step of the lower cone pulley. Now close the headstock cover, return belt tension lever to its original position and start the lathe.

The Underneath Belt Motor Driven Lathe is Safe because motor and drive mechanism are fully enclosed. There are no moving parts exposed. Safety devices prevent accidents to the working units making the lathe practically 100% accident proof.

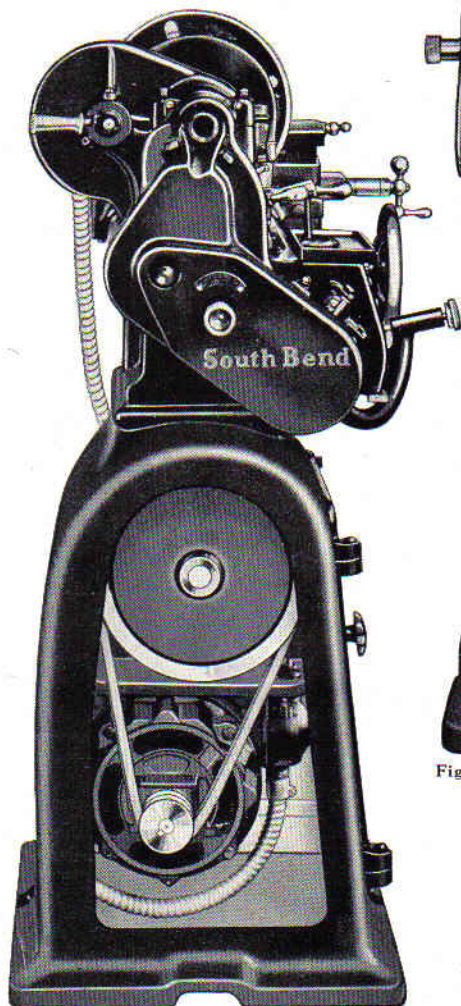


Fig. 1. End view of lathe with end plate removed to show multiple "V" belt drive from motor.

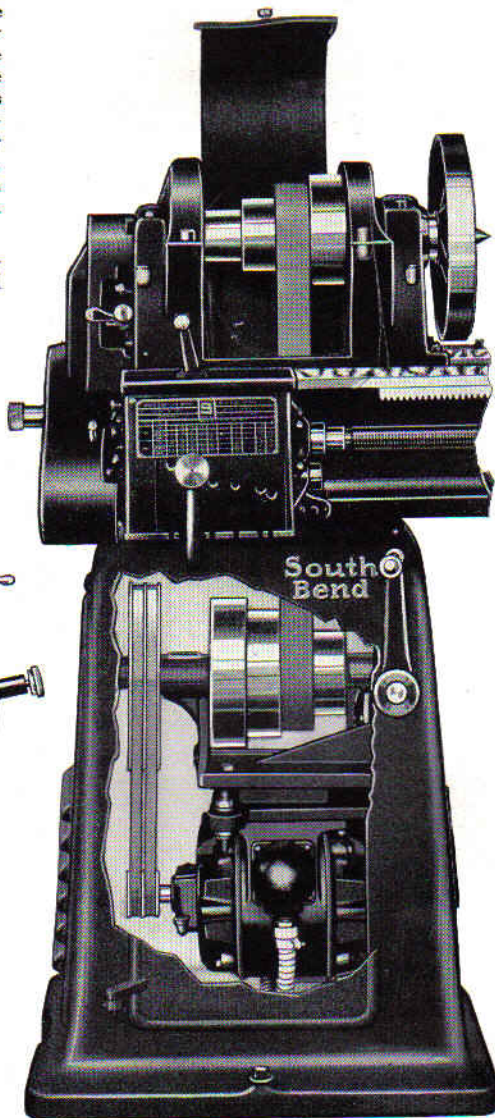


Fig. 2. Front view of lathe with door cut away showing arrangement of driving mechanism.

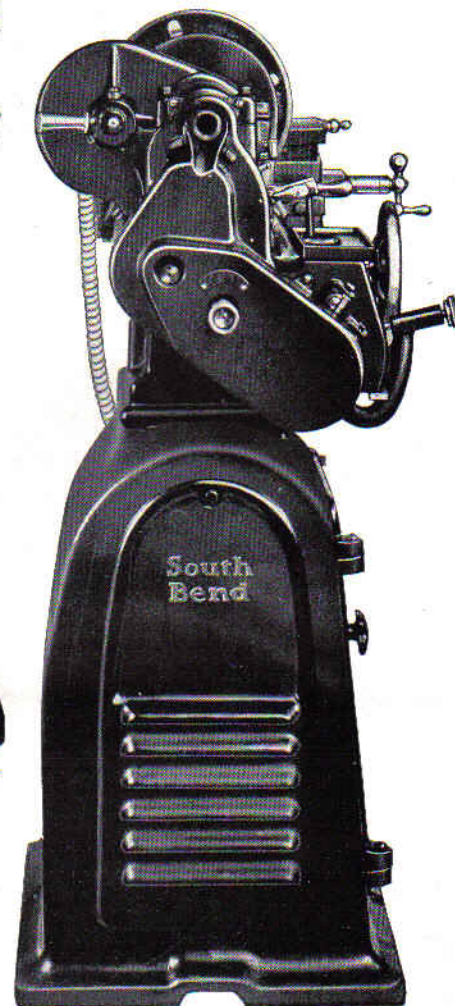


Fig. 3. End view of underneath belt motor drive lathe showing removable ventilated end plate.

Features of the New Double Wall South Bend Apron

Used on All Sizes and Types of Series "N" South Bend Lathes

The new South Bend Apron is correctly designed for strength and durability. The double wall construction of the apron assures permanent rigidity and provides a substantial support for both ends of the gear shafts. The gears are of steel and run in oil.

Convenient and Easy to Operate

A single clutch knob operates the automatic cross feed and the automatic longitudinal feed. Change of the automatic feeds is obtained by means of a sliding gear transmission. The gear shift knob has two positions, "In" for longitudinal feed and "Out" for cross feed.

Automatic Feeds Same Ratio

The automatic cross feed and automatic longitudinal feed are both the same ratio making feed gear changes unnecessary when changing from one feed to the other. The thread cutting index chart may be used with the automatic cross feed for accurate scroll cutting as the feeds are exactly four times as fine as the threads.

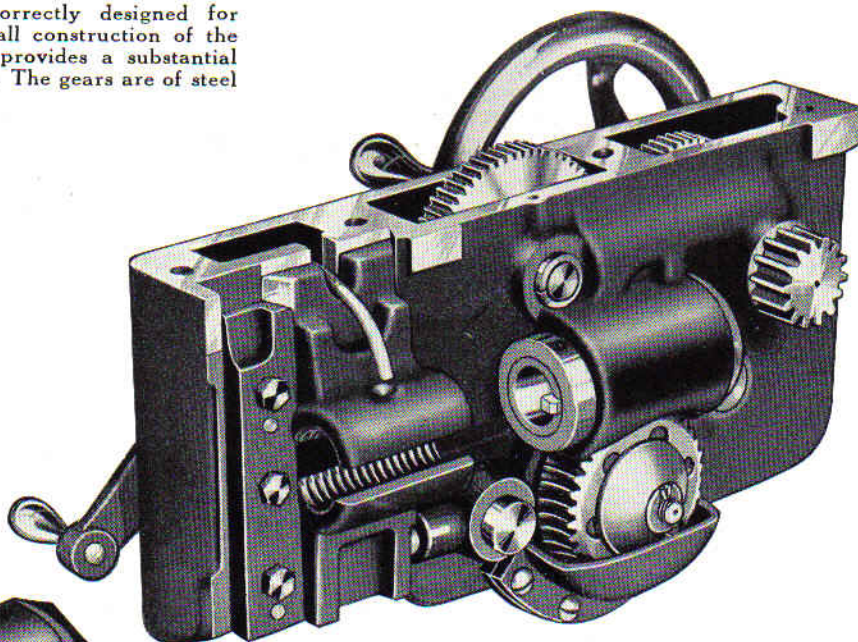


Fig. 4. Back view of new double wall apron.

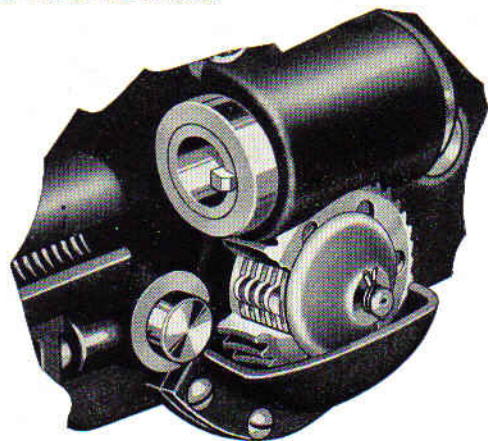


Fig. 6. Close-up showing construction of the multiple disc clutch and worm drive for automatic feeds. A part of the worm gear has been cut away to show the discs.

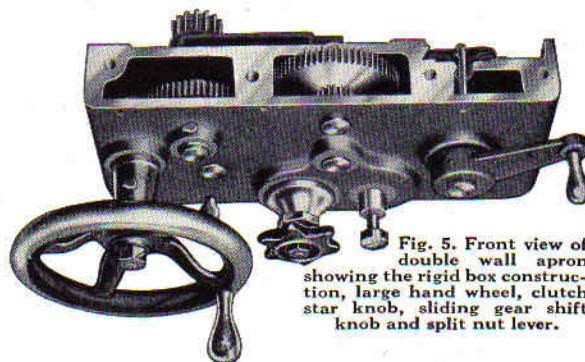


Fig. 5. Front view of double wall apron showing the rigid box construction, large hand wheel, clutch star knob, sliding gear shift knob and split nut lever.

Multiple Disc Clutch for Automatic Feeds

The new South Bend Multiple Disc Clutch shown in Figure 6 is powerful and efficient. A slight turn of the clutch knob will engage or disengage the automatic feeds. The clutch will not slip under the heaviest cuts and can be released instantly. The clutch discs are made of steel and run in oil. Alternate discs are keyed to the clutch shaft and worm wheel respectively.

Automatic Safety Device

An Automatic Safety device in the Apron prevents the Automatic Longitudinal Feed from being placed in action while the split nut is clamped on the lead screw for cutting screw threads. Vice versa, it prevents the split nut from being clamped on the lead screw while the Automatic Longitudinal Feed is in action. When one feed is engaged the other is locked.

ANNOUNCEMENT

We Manufacture South Bend Lathes in two Series: Series "N" and Series "O"

SERIES "N" LATHES

Series "N" South Bend Lathes are built in Overhead Countershaft Drive and Silent Chain Motor Drive in addition to the Underneath Belt Motor Drive type shown in this bulletin. All Series "N" Lathes are equipped with Hardened Steel Spindle in Headstock, new Double Wall Apron with steel gears running in oil, and Multiple Disc Friction Clutch. Series "N" Lathes in Countershaft Drive and Silent Chain Motor Drive types are illustrated in Bulletin No. 200, copy of which will be mailed postpaid on request.

SERIES "O" LATHES

Series "O" South Bend Lathes which are lower in price than Series "N" Lathes, are built in Overhead Countershaft Drive, Silent Chain Motor Drive and Underneath Belt Motor Drive. The Series "O" Underneath Belt Motor Driven Lathe is illustrated and described in Bulletin No. 101. Other types of Series "O" Back-Geared, Screw Cutting Lathes, which we have manufactured for more than twenty-five years, are illustrated and described in Catalog No. 91-A. Copies of the catalog and bulletin will be mailed postpaid on request.

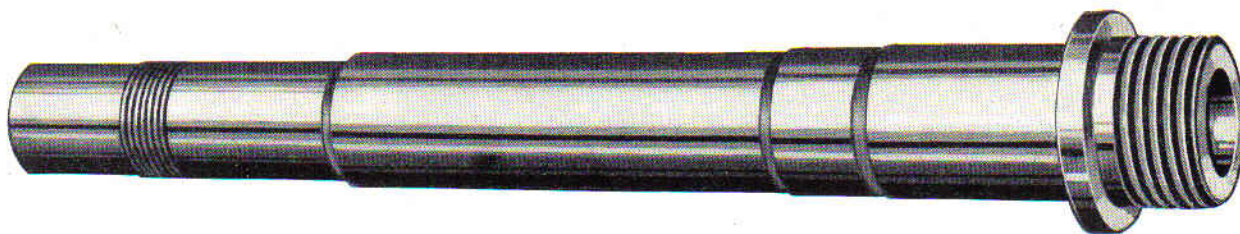


Fig. 7. The illustration above shows the Headstock Spindle of the 13-inch Lathe.

Hardened Alloy Steel Headstock Spindle

Used on All Sizes of Series "N" South Bend Lathes

Hardened Spindle.—Is made of a high quality spindle steel of high carbon content and alloyed with Chromium, Nickel, Molybdenum and Tungsten. The spindle is cut from a solid bar, turned down to size, heat treated, carbonized, hardened and drawn for maximum strength and durability. It is then finished ground to size all over. The scleroscope hardness is from 80 to 90. The spindle on the Series "N" South Bend Lathe will be found most practical for the finest work on account of its perfect alignment, and for production work because of its strength and rigidity.

Ground Taper Hole.—The taper hole at the threaded end of the headstock spindle is also hardened and drawn in an electric furnace. It is finished by grinding in a special machine with the spindle running on its own journals to assure perfect alignment. Each spindle is thoroughly tested for accuracy and perfect alignment before it is assembled in the headstock. A ground taper reducing sleeve is fitted to the ground taper hole for receiving the headstock center. This permits a larger hole through the spindle for machining bars and tubes; also the use of large capacity draw-in chuck attachment and spring collets.

Threaded Spindle Nose.—The threads on the spindle nose are cut to master precision thread gauges and are uniform in size so that chucks or face plates may be fitted accurately. The shoulder back of the threads is hardened and ground so that chucks and face plates will seat accurately. The spindle nose is of large diameter and has a coarse pitch thread. These features provide the strength and rigidity required when taking heavy cuts and insure the accuracy of the lathe for many years to come.

Hardened Thrust Collar.—A hardened and ground thrust collar is fitted to each spindle. The face of the collar is lapped smooth and bears against the front end of the rear bearing for the headstock spindle. Two felt wick oilers provide ample lubrication of the bearing. An adjustable spindle take-up nut and fibre washer are provided for eliminating end play in the spindle. Thrust is taken at the rear where the headstock casting is unusually heavy and rigid. Adjustment of the thrust collar can be made quickly and easily. Due to the efficient lubrication system used, there is seldom need for adjustment.

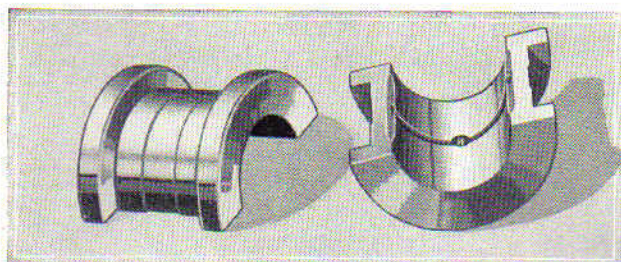


Fig. 8. Rear Bearing of Spindle.

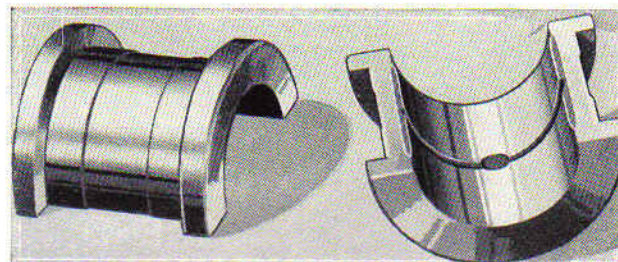


Fig. 9. Front Bearing of Spindle.

Bearings for Headstock Spindle

Two Types Optional

The bearings for the spindle are accurately fitted into the housing in the headstock then line bored and lapped to size and place. This is the most accurate method known for handling this job and is the latest practice in fitting spindles accurately to their bearings. Perfect lubrication is provided by an improved felt pad oiling system arrangement so that a film of oil is kept constantly on the bearing surface. Two types of bearings are provided, phosphor bronze and cast iron as an optional feature without additional cost.

Bronze Bearings

A high quality phosphor bronze has been used in the bearings of South Bend Lathes for many years. Adjustment is provided in these bearings for taking up the wear as may be needed. Laminated shims are used. Due to the efficient lubrication system used, the bearings should last a life time with but little adjustment for wear. The method described above is used for fitting both the phosphor bronze and cast iron bearings. We will continue to furnish the same high quality phosphor bronze bearings on all South Bend Lathes unless otherwise specified.

Cast Iron Bearings

As a special feature and without additional cost, we will furnish any size South Bend Lathe with cast iron bearings instead of phosphor bronze bearings. Cast iron being porous absorbs a portion of the oil, giving perfect lubrication to the hardened steel spindle. There is practically no wear on a cast iron bearing, altho we provide laminated shims to make adjustment if necessary. Cast iron has long been considered the ideal bearing for lathe spindle use and through long continued use the surface of the cast iron bearing remains smooth and true.

Full Quick Change Gear Equipment for Lathe

Direct Reading Index Chart for Threads

Quick Change Gear Box Provides 48 Changes

The quick change gear box provides 48 changes for cutting right or left hand screw threads from 2 to 112 per inch without removing a gear. This same quick change mechanism also provides 48 different automatic cross feeds and automatic longitudinal feeds.

The index plate attached to the gear box is direct reading and shows the arrangement of the levers for cutting right or left hand screw threads including 1 1/2 pipe thread, as follows: 2, 2 1/4, 2 1/2, 2 3/4, 2 7/8, 3, 3 1/4, 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.

Range of Automatic Feeds

The automatic feeds provided through the quick change gear box are exactly four times the threads per inch. For example, if the gear box is set to cut ten threads per inch, the automatic cross feed and the longitudinal feed would be equivalent to four times ten or forty turns of the spindle per inch of feed.

Screw Cutting Threads

Arranging the Gear Box for Thread Cutting is a simple matter. For example, to obtain 24 threads per inch the index plate shows that the sliding gear knob at the end of the lathe (not shown in the illustration) is pulled out, the top lever at the top of gear box is pushed to the left, and the plunger is placed in the hole, directly under the column in which the figure 24 appears.

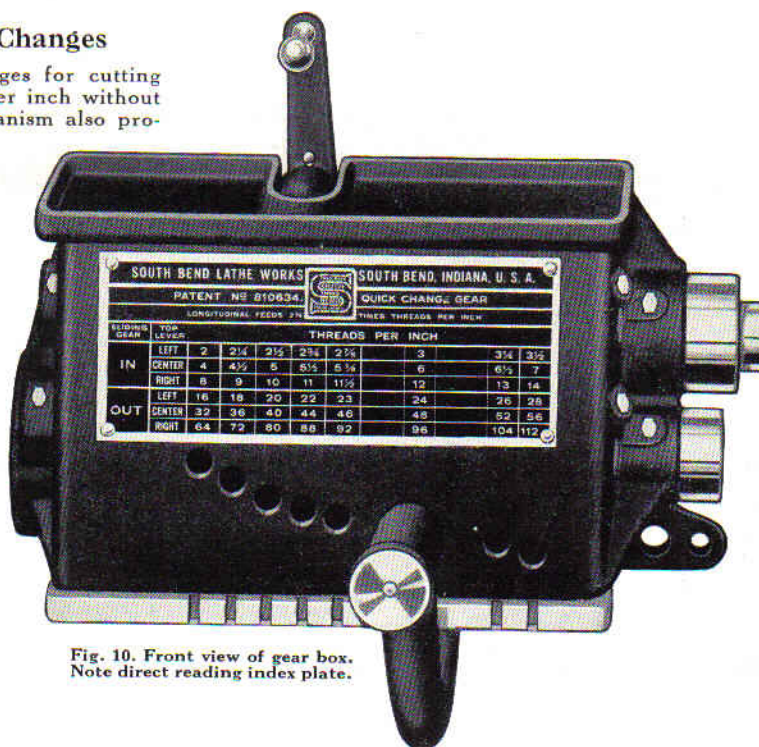


Fig. 10. Front view of gear box. Note direct reading index plate.

Easy to Operate

The quick change gear box of the New South Bend Lathe is one of the most complete, compact and best designed on the market. It is simple, accurate, durable and easy to operate. The operation of the quick change gear box is fully explained in the book entitled "How to Run a Lathe" which is included with the lathe.

Interior View of Gear Box

A group of eight steel gears is mounted on the center shaft, any one of which can be instantly engaged with the Lead Screw. The tumbler lever and the small top lever enable the operator to obtain 24 changes. By sliding the knob at the end of the lathe the number of changes is doubled, making 48 in all.

Metric Transposing Gears

Transposing gears for cutting metric threads may be fitted to the quick change gear box as additional equipment. The Metric Transposing Gear Attachment permits the lathe to be used for cutting the following International Standard Metric Threads: .5, .75, 1., 1.25, 1.5, 1.75, 2., 2.5, 3., 3.5, 4., 4.5, 5., 5.5, 6., 6.5, 7., 7.5, 8 m/m pitch. Complete information and prices on application.

Acme Thread Precision Lead Screw

The Lead Screw is made of a special quality steel, and has Acme standard threads. The threads are cut with precision accuracy on a machine built especially for that purpose and equipped with a Pratt and Whitney master lead screw. Each South Bend lead screw is guaranteed to be accurate and to meet the most exacting requirements in making the finest precision thread gauges, master taps, etc.

Thread of Lead Screw Used for Thread Cutting Only

The splined lead screw is used with the split half-nuts in the apron for cutting all sizes and types of screw threads. The spline in the lead screw is used to drive a worm and gearing which operates the automatic cross feed and automatic longitudinal feed. The threads of the lead screw are used only when cutting threads. This is the most modern and up-to-date design as it does away with the delicate mechanism that was used in our older type of lathe that was equipped with separate rod feeds.

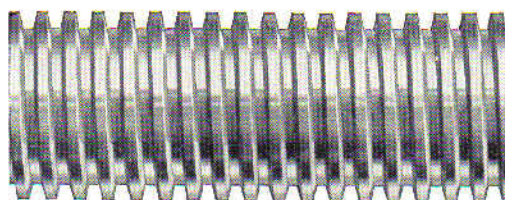


Fig. 12. Section of lead screw, actual diameter, used on the 13-inch South Bend Lathe.

Each Lead Screw is tested for accuracy of lead, form of thread and pitch diameter, and is guaranteed to meet the most exacting requirements in precision thread cutting.

Series "N" Underneath Belt Motor Driven Lathes

Lathe Equipment Included in Price

The regular lathe equipment included in the price of each Series "N" Underneath Belt Motor Driven South Bend Lathe consists of: Cabinet Leg Under Headstock, Large and Small Face Plates, Tool Post complete, Adjustable Thread Cutting Stop, (Change Gears, with Standard Change Gear Lathes) and two Lathe Centers and Spindle Sleeve, Center Rest, Follower Rest, Wrenches, Installation Plans, and book, "How to Run a Lathe."

Electrical Equipment Included in Price

The electrical equipment included in the price of each Series "N" Underneath Belt Motor Driven South Bend Lathe, both Quick Change and Standard Change Gear Types, consists of: A 1200 R.P.M. Reversing Motor (Westinghouse, General Electric or equal make), Reversing Switch (Drum Type), Wiring between Motor and Switch, Flexible Metal Conduit, Wiring Diagram, one Flat Leather Belt and the necessary "V" Belts.

Net Factory Prices of Series "N" Underneath Belt Motor Driven South Bend Lathes Crated For Domestic Shipment

SPECIFICATIONS OF LATHE						SERIES "N" UNDERNEATH BELT MOTOR DRIVEN LATHES									
						QUICK CHANGE GEAR					STANDARD CHANGE GEAR				
Swing Over Bed	Length of Bed	Between Centers	Hole Thru Spindle	Swing Over Carriage	Size of Motor	Catalog No. of Lathe	Weight Crated	With 3-Phase 60 Cycle A.C. Motor	With 1-Phase 60 Cycle A.C. Motor	With Direct Current Motor	Catalog No. of Lathe	Weight Crated	With 3-Phase 60 Cycle A.C. Motor	With 1-Phase 60 Cycle A.C. Motor	With Direct Current Motor
Inches	Feet	Inches	Inches	Inches	H.P.		Pounds					Pounds			
9-inch Series "N" Underneath Belt Motor Driven South Bend Lathes															
9 1/4	2 1/2	9 3/8	5/8	6 3/8	1/4	160-X	785	\$ 413.00	\$ 417.00	\$ 415.00	136-X	775	\$ 373.00	\$ 377.00	\$ 375.00
9 1/4	3	16 3/8	5/8	6 3/8	1/4	160-Y	810	423.00	427.00	425.00	136-Y	800	383.00	387.00	385.00
9 1/4	3 1/2	21 3/8	5/8	6 3/8	1/4	160-Z	835	433.00	437.00	435.00	136-Z	825	393.00	397.00	395.00
9 1/4	4	27 3/8	5/8	6 3/8	1/4	160-A	860	443.00	447.00	445.00	136-A	850	403.00	407.00	405.00
9 1/4	4 1/2	34 3/8	5/8	6 3/8	1/4	160-R	885	453.00	457.00	455.00	136-R	875	413.00	417.00	415.00
11-inch Series "N" Underneath Belt Motor Driven South Bend Lathes															
11 1/4	3	12	7/8	7 3/8	1/2	164-Y	920	\$ 504.00	\$ 524.00	\$ 512.00	138-Y	905	\$ 461.00	\$ 484.00	\$ 472.00
11 1/4	3 1/2	18	7/8	7 3/8	1/2	164-Z	950	516.00	536.00	524.00	138-Z	935	476.00	496.00	484.00
11 1/4	4	24	7/8	7 3/8	1/2	164-A	980	528.00	548.00	536.00	138-A	965	488.00	508.00	496.00
11 1/4	5	36	7/8	7 3/8	1/2	164-B	1050	540.00	560.00	548.00	138-B	1035	500.00	520.00	508.00
11 1/4	5 1/2	42	7/8	7 3/8	1/2	164-S	1085	552.00	572.00	560.00	138-S	1070	512.00	532.00	520.00
13-inch Series "N" Underneath Belt Motor Driven South Bend Lathes															
13 1/4	4	16	1	9	3/4	166-A	1475	\$ 628.00	\$ 649.00	\$ 633.00	146-A	1455	\$ 578.00	\$ 599.00	\$ 588.00
13 1/4	5	28	1	9	3/4	166-B	1525	643.00	651.00	653.00	146-B	1505	593.00	614.00	603.00
13 1/4	6	40	1	9	3/4	166-C	1575	658.00	679.00	663.00	146-C	1555	608.00	629.00	618.00
13 1/4	7	52	1	9	3/4	166-D	1630	675.00	696.00	685.00	146-D	1610	625.00	646.00	635.00
13 1/4	8	64	1	9	3/4	166-E	1690	694.00	715.00	704.00	146-E	1670	644.00	665.00	654.00
15-inch Series "N" Underneath Belt Motor Driven South Bend Lathes															
15 1/4	5	24 1/2	1 1/8	10 3/8	1	168-B	2020	\$ 752.00	\$ 786.00	\$ 834.00	148-B	1995	\$ 697.00	\$ 731.00	\$ 779.00
15 1/4	6	36 1/2	1 1/8	10 3/8	1	168-C	2095	770.00	804.00	852.00	148-C	2070	715.00	749.00	797.00
15 1/4	7	48 1/2	1 1/8	10 3/8	1	168-D	2170	788.00	822.00	870.00	148-D	2145	733.00	767.00	815.00
15 1/4	8	60 1/2	1 1/8	10 3/8	1	168-E	2250	808.00	842.00	890.00	148-E	2225	753.00	787.00	835.00
15 1/4	10	84 1/2	1 1/8	10 3/8	1	168-G	2415	852.00	886.00	934.00	148-G	2390	797.00	831.00	879.00
16-inch Series "N" Underneath Belt Motor Driven South Bend Lathes															
16 1/4	6	34	1 1/8	11 1/8	1	172-C	2350	\$ 835.00	\$ 869.00	\$ 917.00	150-C	2315	\$ 775.00	\$ 809.00	\$ 857.00
16 1/4	7	46	1 1/8	11 1/8	1	172-D	2430	855.00	889.00	937.00	150-D	2395	795.00	829.00	877.00
16 1/4	8	58	1 1/8	11 1/8	1	172-E	2510	875.00	909.00	957.00	150-E	2475	815.00	849.00	897.00
16 1/4	10	82	1 1/8	11 1/8	1	172-G	2670	919.00	953.00	1001.00	150-G	2635	859.00	893.00	941.00
16 1/4	12	106	1 1/8	11 1/8	1	172-H	2900	932.00	1016.00	1064.00	150-H	2835	922.00	956.00	1004.00
18-inch Series "N" Underneath Belt Motor Driven South Bend Lathes															
18 1/4	6	29 1/2	1 1/2	12 3/8	2	174-C	3150	\$1015.00	\$1080.00	\$1114.00	152-C	3110	\$ 945.00	\$1010.00	\$1044.00
18 1/4	7	41 1/2	1 1/2	12 3/8	2	174-D	3250	1040.00	1105.00	1139.00	152-D	3210	970.00	1035.00	1069.00
18 1/4	8	53 1/2	1 1/2	12 3/8	2	174-E	3350	1065.00	1130.00	1164.00	152-E	3310	995.00	1060.00	1094.00
18 1/4	10	77 1/2	1 1/2	12 3/8	2	174-G	3550	1119.00	1184.00	1218.00	152-G	3510	1049.00	1114.00	1148.00
18 1/4	12	101 1/2	1 1/2	12 3/8	2	174-H	3850	1197.00	1262.00	1296.00	152-H	3810	1127.00	1192.00	1226.00
18 1/4	14	125 1/2	1 1/2	12 3/8	2	174-K	4075	1259.00	1324.00	1358.00	152-K	4035	1189.00	1254.00	1288.00

Lathes with 12 foot and 14 foot bed are equipped with center legs which are included in price of lathe.

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Information on Ordering Lathes

When Ordering a Series "N" Underneath Belt Motor Driven South Bend Lathe give the following information regarding electric current to be used so that the proper style and type of reversing motor can be fitted to the lathe.

You Can Secure your current specifications from your electric meter or from the electric power company furnishing your current.

—If Alternating Current state exact voltage, phase, cycle, and number of wires.

—If Direct Current state exact voltage only.

When Giving Voltage state whether 110 volt motor or 220 volt motor is wanted. Do not specify 110-220 volt motor as we cannot furnish motors for double voltage rating.

Pressed Steel Oil Pan

Series "N" Underneath Belt Motor Driven Lathes can be supplied with oil pan if desired. Oil pans furnished are of heavy one piece steel construction. Prices below are for oil pan fitted to lathe as shown on page 3.

Size of Lathe	Cat. No.	LENGTH OF LATHE BED							
		3'	3 1/2'	4'	4 1/2'	5'	5 1/2'	6'	8'
0 in.	134	\$14.00	\$15.00	\$16.00	\$17.00				
11 in.	135	17.00	18.00			\$21.00	\$22.00		
13 in.	136			24.00		27.00		\$30.00	\$33.00
15 in.	137					30.00		34.00	38.00
16 in.	138							35.00	40.00
18 in.	139							37.00	42.00
Code Words		Bonmy	Bonok	Bonul	Bopah	Bonga	Bopik	Boplo	Bopny

South Bend Lathe Works

427 East Madison St.

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

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