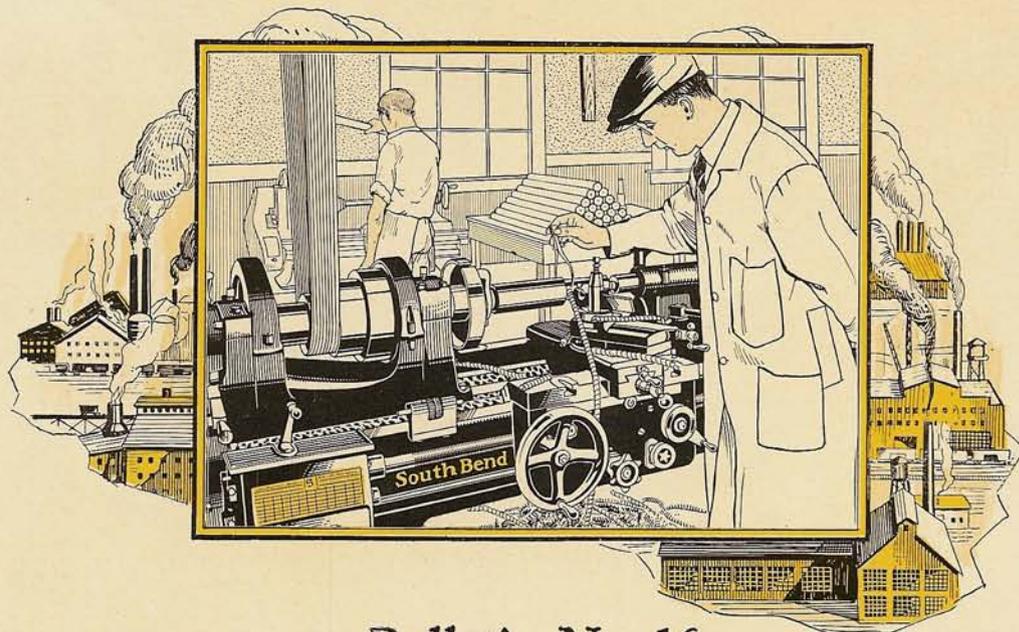


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Bulletin No. 16

Describing the 1930 New Model

16-Inch Lathe

A PRECISION TOOL

for use in the

Manufacturing Plant	Machine Shop
Tool Room	Auto Service Shop
General Repair Shop	Electrical Shop
Engineering Shop	Aeronautical Plant
and Metal Working Industries of all kinds.	

CONTENTS

Quick Change Gear Lathe.....	4
Standard Change Gear Lathe.....	5
Silent Chain Motor Driven Lathe.....	6-7
Tool Room Precision Lathes.....	8-9
Gap Bed Lathes.....	10
Cabinet Leg and Oil Pan Lathes.....	11
Manufacturing Lathe	11
Attachments for 16-inch Lathe.....	11 to 15
Chuck and Tool Assortment.....	15
Features of Lathe.....	2-3 and 12-13

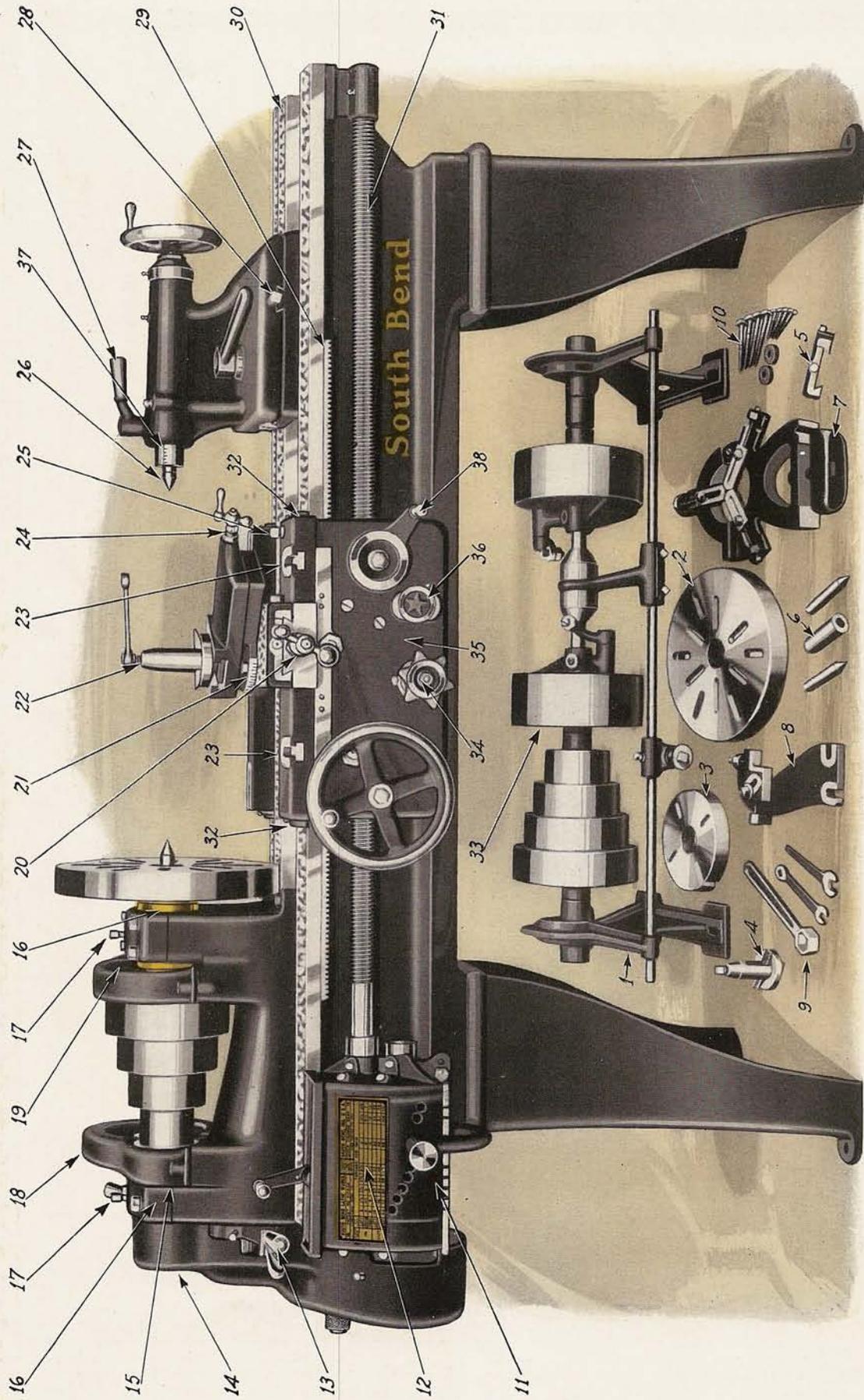
May, 1930

South Bend Lathe Works

416 East Madison St., South Bend, Indiana, U. S. A.

Established 1906

Lathe Builders for 24 Years



The Double Friction Countershaft and Equipment illustrated above is included in the price of all 16-inch Countershaft Driven Lathes. See Page 14.

The 16-inch 1930 New Model South Bend Back Geared Screw Cutting Precision Lathe

The Illustration Above Shows the Basic Design and Principal Features of All Types of 16-inch Lathes

- 11—Quick Change Gear Box.
- 12—Index Plate for Threads and Feeds.
- 13—Quick-acting Latch Reverse.
- 14—Quick-acting Latch Reverse.
- 15—Hardened and Ground Steel Thrust Collar.
- 16—Large Phosphor Bronze Bearings.
- 17—Patent Oil Cups.
- 18—Back Gears well guarded.
- 19—Wrenchless Bull Gear Clamp.
- 20—Micrometer Collar on Cross Feed Screw.
- 21—Compound Rest Adjustable in 60 degrees.
- 22—F-17 Slot for clamping work on Carriage.
- 23—F-17 Slot for clamping work on Carriage.
- 24—Micrometer Collar on Compound Rest Screw.

- 25—Carriage Lock for facing.
- 26—Tool Steel Lathe Centers.
- 27—Tailstock Spindle Lock.
- 28—Set-over Tailstock for taper turning.
- 29—Set-over Tailstock for taper turning.
- 30—Semi-steel resonated Lathe Bed.
- 31—Precision Lead Screw, Acme Thread.

- 32—Felt Shear Wipers and Oilers.
- 33—Double Friction Countershaft. See Page 14.
- 34—Automatic Friction Feed Clutch.
- 35—Safety Device for Threads and Feeds.
- 36—Cone for Automatic Feed.
- 37—Cone for Automatic Feed.
- 38—Half-nut Lever for Thread Cutting.

The 16-inch 1930 New Model South Bend Precision Lathe

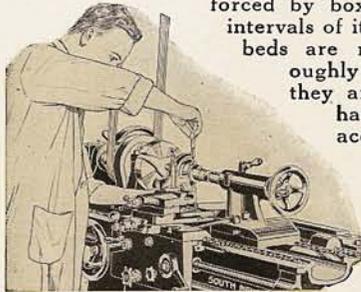
A Back Geared Screw Cutting Lathe for the Machining of Metals

We recommend the 16-inch New Model South Bend Back Geared Screw Cutting Lathe for the working of metals in the manufacturing plant, tool room, general repair shop, engineering shop, machine shop, auto service shop, electrical shop, laboratory and in metal working industries of all kinds.

The 16-inch New Model South Bend Lathe is a development of 23 years' experience in lathe building. Each of the 352 parts of the lathe has been improved. Today this lathe is used by the leading industries because they have found it an accurate, reliable, economical and high grade tool.

Features of the 16-inch New Model South Bend Precision Lathe

The Lathe Bed is a close grained casting of gray iron and steel mixture containing 18 per cent steel to give it strength and wearing qualities. The bed is reinforced by box braces cast in at short intervals of its entire length. The lathe beds are rough planed then thoroughly seasoned. After seasoning they are finish planed and then hand scraped which insures accuracy. The bed has three prismatic "V" ways and one flat way for aligning the carriage, headstock and tailstock.



The Headstock Unit is ruggedly constructed and scientifically braced to insure perfect alignment of the spindle bearings. It is equipped with a Quick Acting Reverse Lever for changing the direction of the automatic feeds. See page 12.

The Four-Step Spindle Cone is used on the 16-inch New Model Lathe. It provides a wide range of spindle speeds suitable for manufacturing and general machine work. The Cone Pulley and Bull Gear are accurately balanced so that the lathe can be operated at high speed with the open belt on the small steps, without danger of vibration, for finish turning work of small diameter, filing, drilling, polishing and machining brass, aluminum, etc. The larger steps provide additional speeds for general work. The back gears furnish the slow speeds and power for heavy roughing cuts.

The Headstock Spindle is made of a special alloy spindle steel. It has a hole its entire length for machining rods and bars through the lathe chuck and draw-in collet chuck. Both of the spindle bearings are ground and fitted in phosphor bronze boxes of unusual strength. The steel thrust collar is hardened and ground. See page 12.

The Phosphor Bronze Bearings for the headstock spindle are designed for heavy duty work and are adjustable for wear. They are hand scraped to the spindle. Patent oil cups and felt wicks lubricate the spindle and protect bearings from dust and grit. See page 12.

The Tailstock is heavy and has a long bearing on the lathe bed. It has a 1-inch set-over for taper turning. It allows the compound rest to swivel parallel to the bed. The tailstock spindle is graduated. The binding lever locks the tailstock spindle without disturbing alignment of centers.

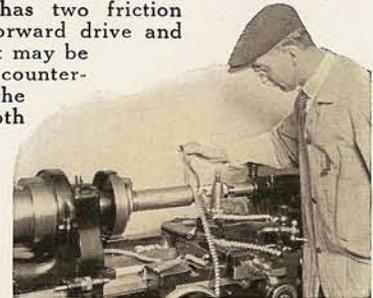
The Carriage has a wide bridge and a long bearing on the "V" ways of the bed. It has "T" slots for clamping work for boring and reaming. The carriage is hand scraped to the lathe bed. The cross feed screw has Acme Thread and a micrometer graduated collar reading in 1/1000 of an inch. A locking device fastens the carriage to the bed when using the cross feed. Felt shear wipers are attached to the carriage to keep the "V" ways clean and oiled.

The Apron has automatic friction cross feed and automatic friction longitudinal feed mechanism. It is also provided with half-nuts which are used only when cutting screw threads, and not for driving either of the automatic feeds. An automatic safety interlock prevents the half-nuts and automatic feeds from being engaged at the same time.

The Precision Lead Screw is 1 1/8-inch in diameter, made of special steel and has Acme Thread—6 per inch—cut on a special machine equipped with a Pratt & Whitney master lead screw. The lead screw is tested for form of thread and accuracy of lead and is guaranteed to meet the most exacting requirements for cutting the finest precision thread gauges, master taps, dies, etc. The lead screw is splined which permits it to serve as a feed rod for operating the automatic friction feeds. The threads of the Lead Screw are used only for cutting screw threads and not for operating the automatic feeds. The threads of the lead screw should last a lifetime.

The Compound Rest is graduated in degrees from 0 to 90° from center to each extremity of the arc. It swivels on a central stud and can be clamped and operated at any angle. It has an angular travel of 3 3/4-inches. The Compound Rest Screw has Acme Thread and a micrometer collar graduated 1/1000 of an inch. See page 12.

The New Model Double Friction Countershaft is practical and powerful and is balanced for operating at high speed without vibration. It has two friction drive pulleys, one for forward drive and the other for reverse. It may be arranged as a two-speed countershaft by eliminating the reverse and driving both clutch pulleys forward, using pulleys of different diameters on the lineshaft. This arrangement gives eight higher speeds for machining brass, bronze, aluminum, copper, babbitt, etc.

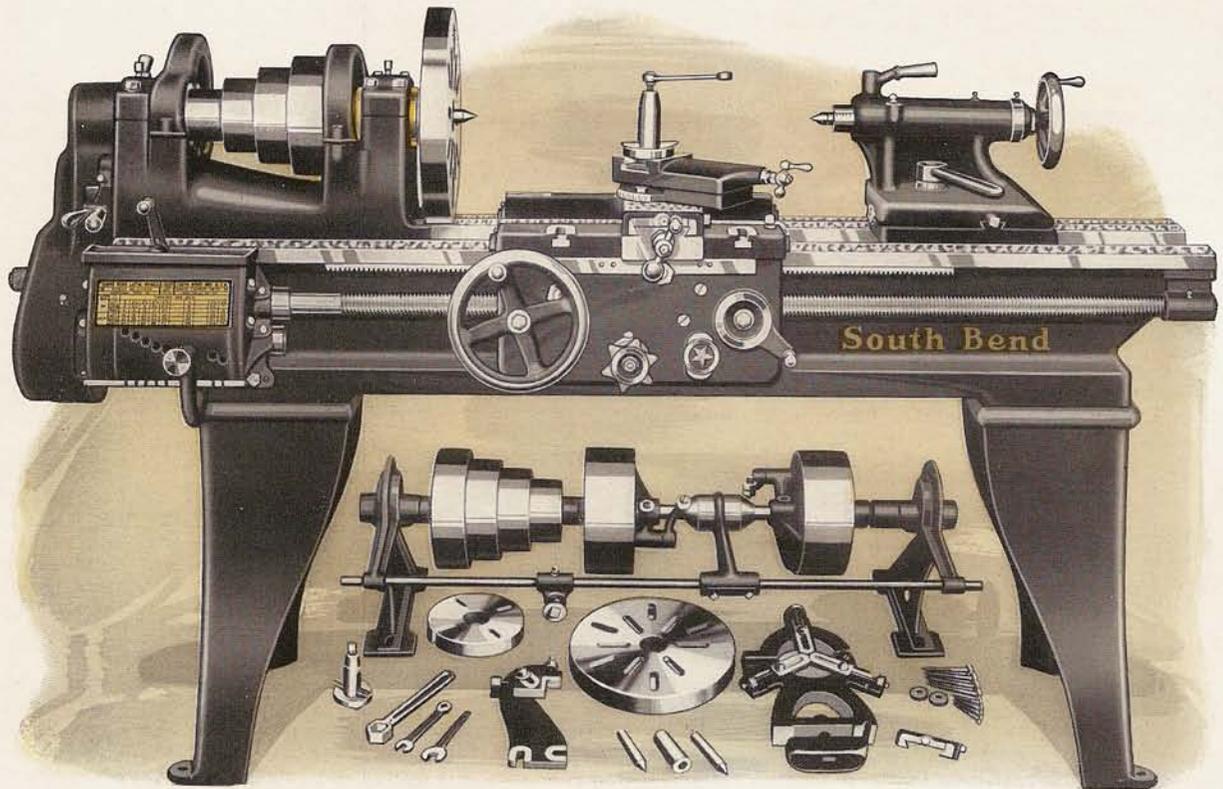


Lathe Features

- Back geared headstock gives 8 spindle speeds.
- Automatic cross feed, automatic longitudinal feed.
- Spring latch reverse for feeds and threads.
- Phosphor bronze bearings for headstock spindle.
- Graduated compound rest swivels to any angle.
- Tailstock is arranged for set-over for taper turning.
- Graduated collar on cross feed and compound rest screw.
- Precision lead screw for cutting accurate threads.
- Graduated tailstock spindle.
- 3 prismatic "V" ways and 1 flat way on lathe bed.
- Felt wipers to oil and clean bed "V" ways.
- "T" slots on carriage for clamping work.
- Automatic safety interlock in apron.
- Improved binding lever for tailstock spindle.
- Improved double friction countershaft.
- Adjustable thread cutting stop for regulating cut.
- Spindle thrust collar hardened and ground.
- Quick acting bull gear clamp.

Lathe Specifications

Swing over bed	16 1/4 in.
Swing over carriage	11 1/8 in.
Hole through spindle	1 1/8 in.
Spindle speeds	20, 30, 50, 75, 140, 225, 360, 610 R.P.M.
Countershaft speed	225 R.P.M.
Countershaft friction clutch pulleys	10 in. x 3 5/8 in.
Width of cone pulley belt	2 1/4 in.
Size of spindle nose	2 5/8 in. diam., 6 threads
Head and tail spindle centers	No. 3 Morse taper
Collet capacity	1 1/4 in. to 7/8 in.
Lead screw acme thread	6 threads per inch
Angular travel of compound rest top	3 3/4 in.
Travel of tailstock spindle	6 in.
Tool cross travel	10 3/4 in.
H.P. motor required	1 H.P.
Size of lathe tool shank	5/8 in. x 1 3/8 in.
Size of turning tool cutter bits	3/8 in. x 3/8 in.



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

16-inch Quick Change Gear New Model South Bend Precision Lathe Back Geared, Screw Cutting Lathe, Countershaft Drive

The New Model 16-inch South Bend Quick Change Back Geared Screw Cutting Lathe is designed for the machining of metal. It is recommended for use in the Manufacturing Plant for rapid production work, for the Tool Room because of its accuracy, and for the Machine Shop because its power and rigidity enable it to handle a wide variety of general machine work that comes up in the modern shop.

The 16-inch New Model Lathe is a popular size especially in the six-foot and eight-foot bed lengths. It can be fitted with various chucks, tools, and attachments which are illustrated and described on pages 11, 13 and 15 of this bulletin.

The Headstock, Tailstock, Carriage, Lead Screw and other features and specifications for this lathe are illustrated and described on pages 2, 3, 12 and 13. The description applies to all types of 16-inch lathes shown in this bulletin, because they are built from identical units.

The New Model Double Friction Countershaft is simple, practical and powerful. All parts are balanced for operation at high speeds. The two friction pulleys are equipped with rim grip expansion clutches. Oil Reservoirs equipped with large felt wicks, distribute oil for lubricating hubs of clutch pulleys and countershaft bearings.

The Regular Equipment included with each 16-inch Quick Change Gear Lathe consists of: Double Friction Countershaft, Large Face Plate, Small Face Plate, Tool Post Complete, Adjustable Thread Cutting Stop, Two Lathe Cen-

ters and Spindle Sleeve, Center Rest, Follower Rest and Wrenches. Also Installation Plans, Floor Plans, and book, "How to Run a Lathe." See page 14.

The Quick Change Gear for cutting right or left 2 to 112 per inch with and also provides for a wide range of automatic cross and longitudinal feeds. The index plate shows the arrangement for cutting the following threads: 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, 36, 40, 44, 46, 48, 52, 56, 64, 72, 80, 88,

Box provides 48 changes hand screw threads from out removing a gear

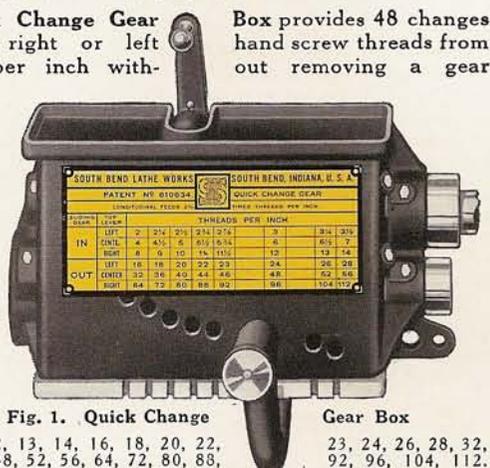


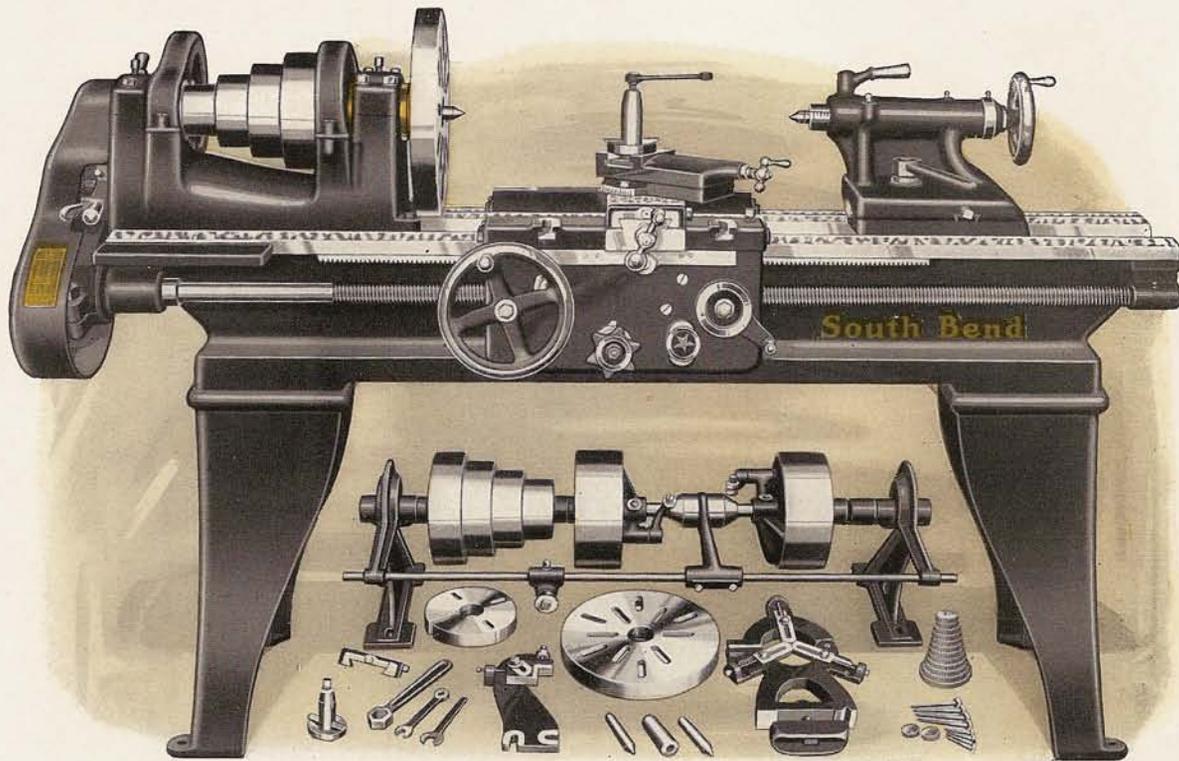
Fig. 1. Quick Change Gear Box
23, 24, 26, 28, 32, 92, 96, 104, 112.

Transposing Gears for cutting Metric threads may be fitted to the 16-inch Quick Change Gear Lathes as additional equipment. Complete information and prices on application.

Net Factory Prices 16-inch Quick Change Gear Lathe Including Overhead Countershaft and Equipment

No. of Lathe	Swing Over Bed	Length of Bed	Between Centers	Hole Thru Spindle	Swing Over Carriage	Power Required	Weight Crated	Code Word	Price F.O.B. South Bend
92-C	16 1/4 in.	6 ft.	34 in.	1 3/8 in.	11 1/8 in.	1 H.P.	1875 lbs.	Malta	\$598.00
92-D	16 1/4 in.	7 ft.	46 in.	1 3/8 in.	11 1/8 in.	1 H.P.	1955 lbs.	Melbo	618.00
92-E	16 1/4 in.	8 ft.	58 in.	1 3/8 in.	11 1/8 in.	1 H.P.	2035 lbs.	Mitre	638.00
92-G	16 1/4 in.	10 ft.	82 in.	1 3/8 in.	11 1/8 in.	1 H.P.	2195 lbs.	Movir	682.00
*92-H	16 1/4 in.	12 ft.	106 in.	1 3/8 in.	11 1/8 in.	1 H.P.	2355 lbs.	Muday	745.00

*Lathe with 12-foot bed is equipped with center leg which is included in the price of the lathe.



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

16-inch Standard Change Gear New Model South Bend Precision Lathe Back Geared, Screw Cutting Lathe, Countershaft Drive

The New Model 16-inch South Bend Standard Change Back Geared Screw Cutting Lathe is similar in every detail to the 16-inch Quick Change Gear Lathe shown on page 4, except that the Standard Change Gear Lathe is equipped with Independent Change Gears for cutting screw threads and for operating the automatic feeds, whereas the Quick Change Gear Lathe is equipped with a gear box.

The Standard Change Gear Lathe is practical for use on simple production work where very few gear changes are necessary and where there is very little demand for the cutting of screw threads. Various chucks, tools and attachments which are illustrated and described on pages 11, 13 and 15 of this bulletin can be fitted to this lathe to equip it for production work.

Features and Specifications of the 16-inch Standard Change Gear Lathe are identical with those of the 16-inch Quick Change Gear Lathe shown on pages 2, 3, 4, 12 and 13, except this lathe is equipped with Independent Change Gears instead of the Quick Change Gear Box.

The New Model Double Friction Countershaft is simple, practical and powerful. All parts are balanced for operating at high speed. It may be arranged as a two speed countershaft by using a pulley of large diameter on the line shaft regularly used for the reverse. This arrangement gives eight higher speeds to the lathe spindle for machining brass, bronze, aluminum, etc., in production work. See page 14.

The Regular Equipment included with each 16-inch Standard Change Gear Lathe consists of: Double Friction Countershaft, Set of Independent Change Gears, Large Face Plate, Small Face Plate, Tool Post Complete, Adjustable Thread Cutting Stop, Two Lathe Centers and Spindle Sleeve, Center Rest, Follower Rest and Wrenches. Also Installation Plans, Floor Plans, and book, "How to Run a Lathe." For illustration and description see page 14.

A Set of Independent Change Gears is furnished with the 16-inch New Model Standard Change Gear Lathe for thread cutting and for the automatic feeds. A metal index plate, illustrated at the right, is attached to the lathe and shows the proper change gears to use for cutting the following standard screw threads per inch, right or left hand, including $1\frac{1}{2}$ pipe thread: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, $11\frac{1}{2}$, 12, 13, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 36 and 40. Threads other than the ones enumerated can be cut by compounding the gears furnished with the lathe. A swinging gear guard permits easy access to these gears.

Special Change Gears for cutting threads not shown on the index plate may be obtained for the lathe. Prices on application.

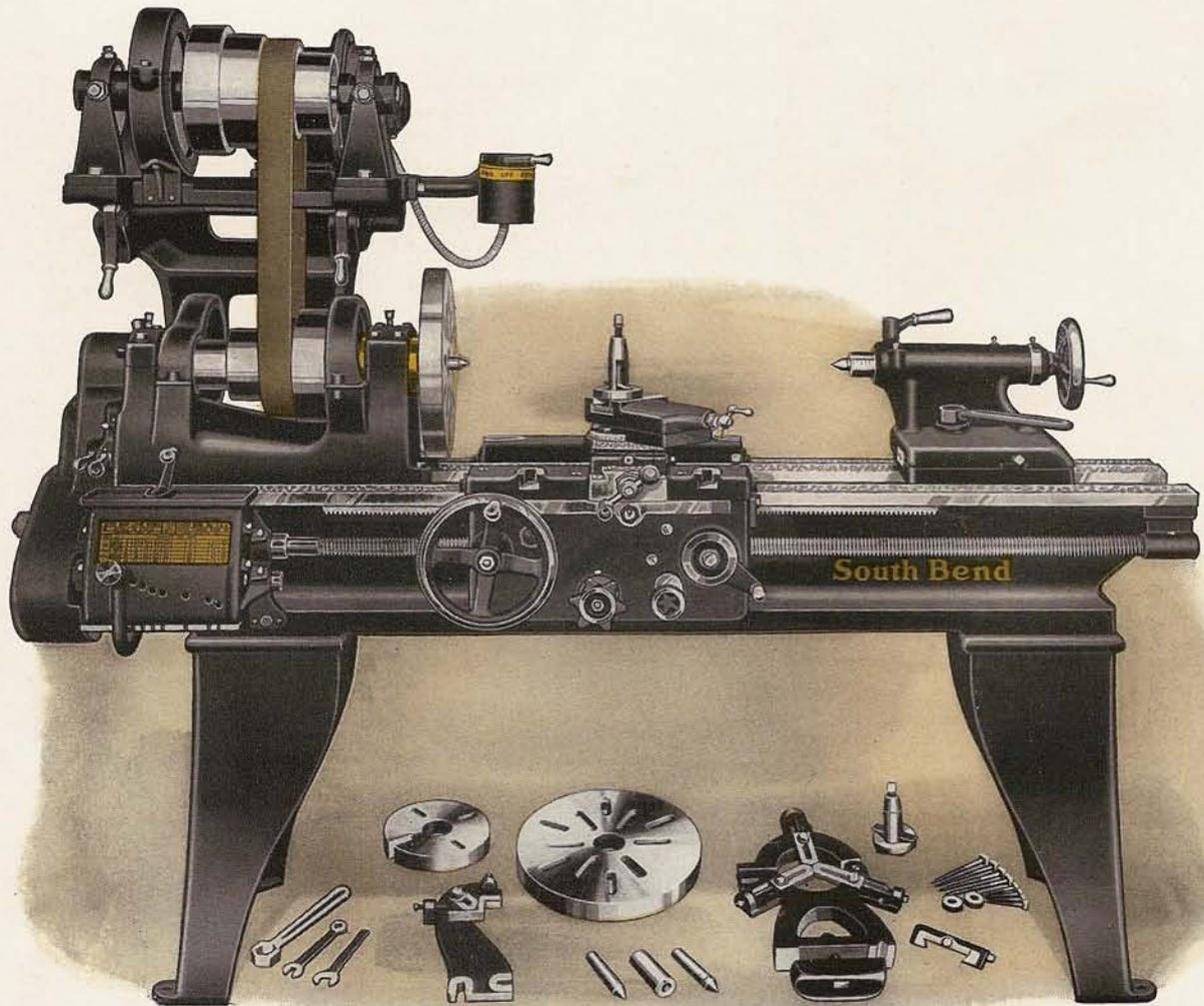
Transposing Gears for cutting Metric threads may be fitted to the 16-inch Standard Change Gear Lathes. Price on application.

Fig. 2. Index Plate for Standard Change Lathes

Net Factory Prices 16-inch Standard Change Gear Lathe Including Overhead Countershaft and Equipment

No. of Lathe	Swing Over Bed	Length of Bed	Between Centers	Hole Thru Spindle	Swing Over Carriage	Power Required	Weight Crated	Code Word	Price F.O.B. South Bend
41-C	16 $\frac{1}{4}$ in.	6 ft.	34 in.	1 $\frac{3}{8}$ in.	11 $\frac{1}{8}$ in.	1 H.P.	1840 lbs.	Mater	\$518.00
41-D	16 $\frac{1}{4}$ in.	7 ft.	46 in.	1 $\frac{3}{8}$ in.	11 $\frac{1}{8}$ in.	1 H.P.	1920 lbs.	Medow	538.00
41-E	16 $\frac{1}{4}$ in.	8 ft.	58 in.	1 $\frac{3}{8}$ in.	11 $\frac{1}{8}$ in.	1 H.P.	2000 lbs.	Milky	558.00
41-G	16 $\frac{1}{4}$ in.	10 ft.	82 in.	1 $\frac{3}{8}$ in.	11 $\frac{1}{8}$ in.	1 H.P.	2160 lbs.	Money	602.00
*41-H	16 $\frac{1}{4}$ in.	12 ft.	106 in.	1 $\frac{3}{8}$ in.	11 $\frac{1}{8}$ in.	1 H.P.	2320 lbs.	Mules	665.00

*Lathe with 12-foot bed is equipped with center leg which is included in price of lathe.



Lathe equipment shown above, Reversing Motor and Reversing Switch are included in price of the Silent Chain Motor Driven Lathe

The 16-inch New Model Silent Chain Motor Driven Precision Lathe Back Geared Screw Cutting Lathe, Quick Change and Standard Change Gear Types

The 16-inch New Model South Bend Silent Chain Motor Driven Lathe is efficient and practical for use in the Manufacturing Plant, Tool Room, and General Machine Shop. The lathe is a complete unit requiring no extra driving equipment of any kind. It occupies only the same amount of floor space as the regular countershaft driven lathe and is ready to operate as soon as it is connected to the electric current.

Motor Drive for All Types. All types of 16-inch New Model South Bend Lathes can be supplied with the Silent Chain Motor Drive in either Quick Change Gear or Standard Change Gear types. The same features, specifications and descriptions applying to the Countershaft Driven Lathes shown on pages 4 and 5 also apply to the Silent Chain Motor Driven Lathes. See pages 2, 3, 12 and 13.

Electrical Equipment Included in the Price of the 16-inch Silent Chain Motor Driven Lathe, both Quick Change Gear 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, and Leather Belt.

The Regular Lathe Equipment included with each 16-inch New Model South Bend Silent Chain Motor Driven Lathe consists of: Large Face Plate, Small Face Plate, Tool Post Complete, Adjustable Thread Cutting Stop, Two Lathe Centers and Spindle Sleeve, Center Rest, Follower Rest, Wrenches, and a set of Independent Change Gears with Standard Change Gear Lathe. Also Installation Plans, Floor Plans, and book, "How to Run a Lathe."

Net Factory Prices 16-inch New Model South Bend Silent Chain Motor Driven Lathe
Prices Include Lathe Equipment, Reversing Motor, Reversing Switch and Leather Belt

Swing Over Bed	Length of Bed	Distance Between Centers	Size of Motor	Approx. Weight Crated	Quick Change Gear Motor Driven Lathes					Standard Change Gear Motor Driven Lathes				
					Catalog Number of Lathe	Code Word	With 3 Phase 60 Cycle A.C. Motor	With Single Phase 60 Cycle A.C. Motor	With Direct Current Motor	Catalog Number of Lathe	Code Word	With 3 Phase 60 Cycle A.C. Motor	With Single Phase 60 Cycle A.C. Motor	With Direct Current Motor
16 1/4 in.	6 ft.	34 in.	1 H.P.	2310 lbs.	392-C	Madge	\$747.00	\$776.00	\$825.00	341-C	Mirac	\$667.00	\$696.00	\$745.00
16 1/4 in.	7 ft.	46 in.	1 H.P.	2390 lbs.	392-D	Magpi	767.00	796.00	845.00	341-D	Moats	687.00	716.00	765.00
16 1/4 in.	8 ft.	58 in.	1 H.P.	2470 lbs.	392-E	Mears	787.00	816.00	865.00	341-E	Moral	707.00	736.00	785.00
16 1/4 in.	10 ft.	82 in.	1 H.P.	2630 lbs.	392-G	Metro	831.00	860.00	909.00	341-G	Musie	751.00	780.00	829.00
16 1/4 in.	12 ft.	106 in.	1 H.P.	2890 lbs.	392-H	Mires	894.00	923.00	972.00	341-H	Mybeu	814.00	843.00	892.00

For Prices of Silent Chain Motor Driven Lathes with Gap Bed Add \$85.00 to Above Prices.

NOTE: New prices shown above are approximately 4% lower than old.

Bul. 16, P. 6-11-25-31

Description of Silent Chain Motor Drive Unit

Used on 16-inch New Model Silent Chain Motor Driven Lathes

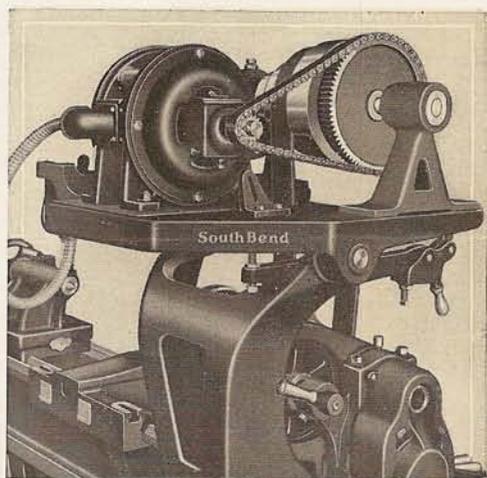


Fig. 3. Silent Chain Mechanism with Gear Guard Removed Showing How the Motor Drives the Spindle Cone

The Method of Driving the Silent Chain Motor Driven Lathe accounts for its remarkable success. This drive is the ideal electric drive for the screw cutting lathe, as it is powerful and eliminates vibration and noise. Power is delivered from the motor through the Silent Chain and then by belt to the lathe spindle. This means that the turning tool will always leave a smooth, even surface on the work.

The Motor Table which supports the motor and driving cone is held by a heavy bracket mounted directly on the lathe bed. Small levers convenient to the operator allow the motor table to tilt forward and relieve the belt tension for easy shifting. An independent adjustment is provided for taking up the stretch in belt.

The Reversing Motor is mounted above the lathe on the tilting table and balanced, where it is free from dirt and chips. A flexible metal conduit encases wiring from motor to switch and meets the requirements of Underwriter's specifications. The linked silent chain which connects the motor with the upper cone is provided with a felt wick oiler and is entirely enclosed by an improved guard.

Motors for the 16-inch Motor Driven Lathe should be furnished and fitted at the factory so that the unit may be properly fitted, operated and tested before shipment. A complete stock of reversing motors is carried at our plant so that prompt delivery can be made. When customers wish to supply their own motors an extra charge will be made for fitting the motor to the lathe.

For illustration, description and prices of 16-inch Silent Chain Motor Driven Gap Lathe, see page 10.

Information on Ordering Silent Chain Motor Driven Lathes

When Ordering a 16-inch Silent Chain Motor Driven Lathe, any type, give the following information regarding the electric current to be used, so that the proper style and type of reversing motor can be fitted to the lathe:

—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.

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

Reversing Switch

The Drum Type Reversing Control Switch is the most practical switch for the efficient operation of a screw cutting lathe. This type switch has a rotary motion which is so necessary on a Motor Driven Screw Cutting Lathe because of the continual starting, stopping, and reversing of the lathe spindle.

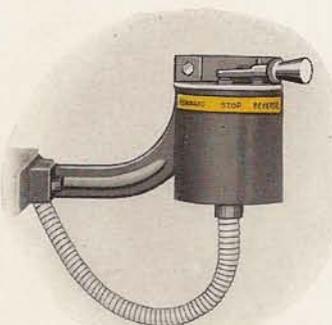


Fig. 4. Reversing Switch (Drum Type)

Start, Stop and Reverse positions are provided on the switch. Moving the switch handle to the left runs lathe spindle forward, to the right reverses the motion of the spindle, and center is the neutral or stop position.

The 16-inch Silent Chain Motor Driven Lathe is Tested before shipping. We connect the motor and switch, test and inspect the wiring, then operate and inspect the lathe under its own power.

Reversing Motors of odd current, such as 25 cycle, 30 cycle, 40 cycle, 50 cycle, A. C., and 32-volt D. C., motors are not carried in stock, but can be secured on short notice. Push button control, using magnetic reversing switches instead of the drum type switch can be furnished at extra cost. However, we recommend the drum type reversing switch for use on all South Bend Silent Chain Motor Driven Lathes.

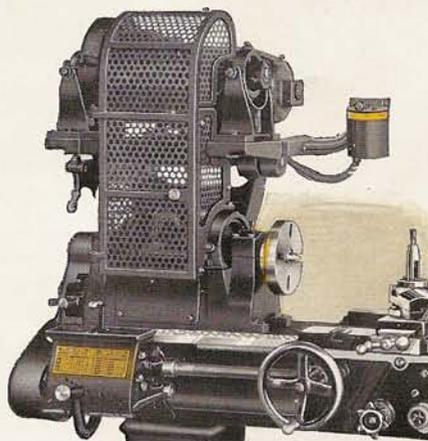


Fig. 5. Belt Guard for Silent Chain Motor Drive

The Special Belt Guard shown above can be furnished on all 16-inch Silent Chain Motor Driven Lathes as additional equipment. The guard completely covers the driving cone, belting and spindle cone. Price \$18.00.

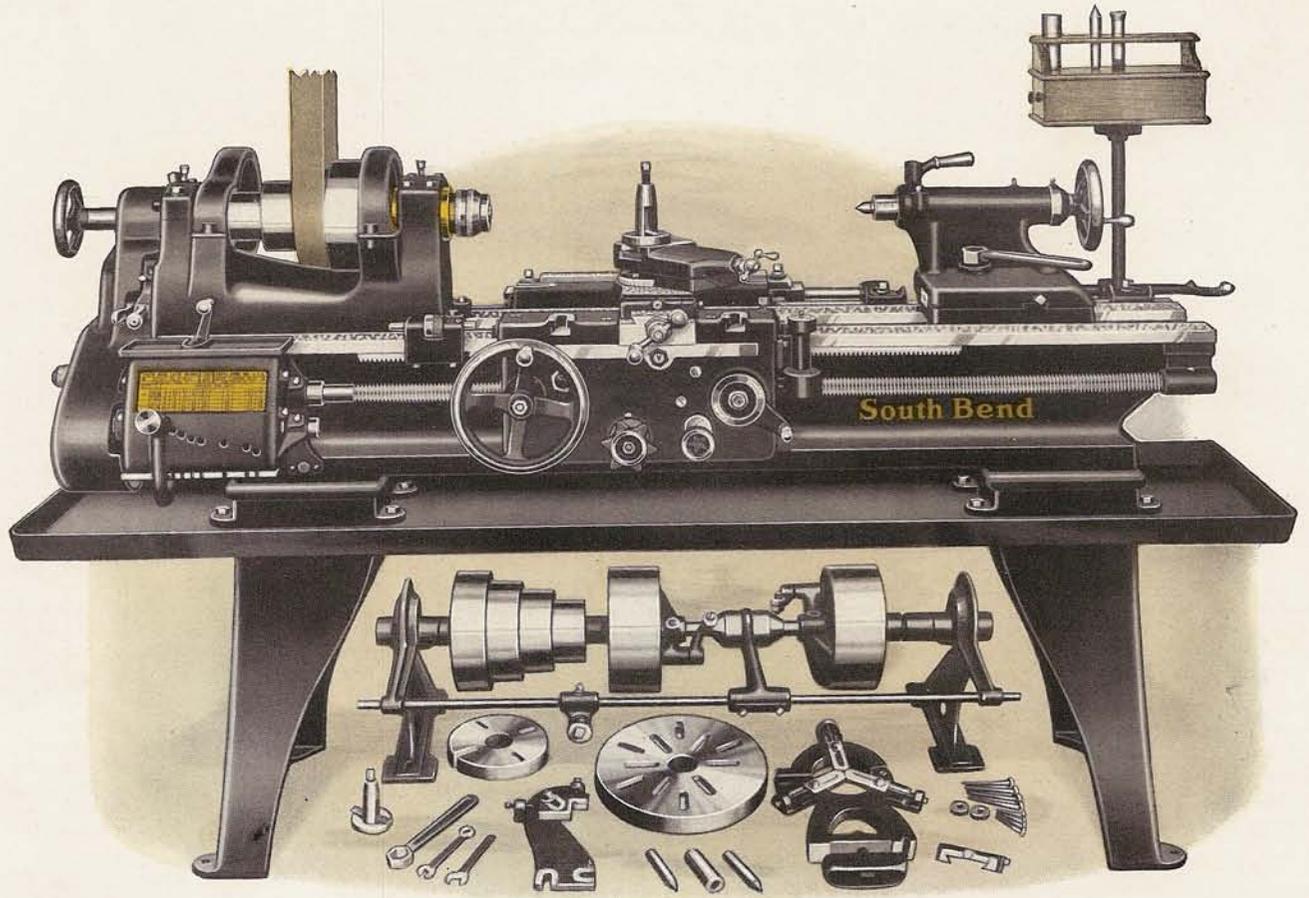
Code Words. When ordering motor driven lathes by telegram or cablegram use code words shown below. If your motor specifications differ from those that we list, give exact voltage, phase and cycle when placing your order by telegram or cablegram.

Code Word

Zapin
Zbras
Zingo
Zompe
Zurik
Zuwel

Current Specifications

1-phase, 60 cycle, 110-volt, A. C. Motor
1-phase, 60 cycle, 220-volt, A. C. Motor
3-phase, 60 cycle, 110-volt, A. C. Motor
3-phase, 60 cycle, 220-volt, A. C. Motor
115-volt D. C. Motor
230-volt D. C. Motor



Equipment illustrated under Lathe is included in price of Lathe

16-inch New Model Tool Room Precision Lathe Overhead Countershaft Drive

The 16-inch New Model Tool Room Precision Lathe is recommended for fine tool work. It is widely used in the tool rooms of many of the largest manufacturing plants in the United States because it is capable of turning out the finest tool work with precision and accuracy. This lathe is practical for making precision master taps, thread gauges, special screws, dies, fixtures and tools to meet the most exacting requirements. It will meet the demands of the expert mechanic on the most accurate work.

For Features, Specifications and detailed description of the 16-inch Tool Room Lathe see pages 2, 3, 12 and 13. The major units of the Tool Room Lathe are identically the same as those of the 16-inch Quick Change Gear Lathe illustrated on page 4. This lathe differs only in that it is fitted with special attachments for tool room work.

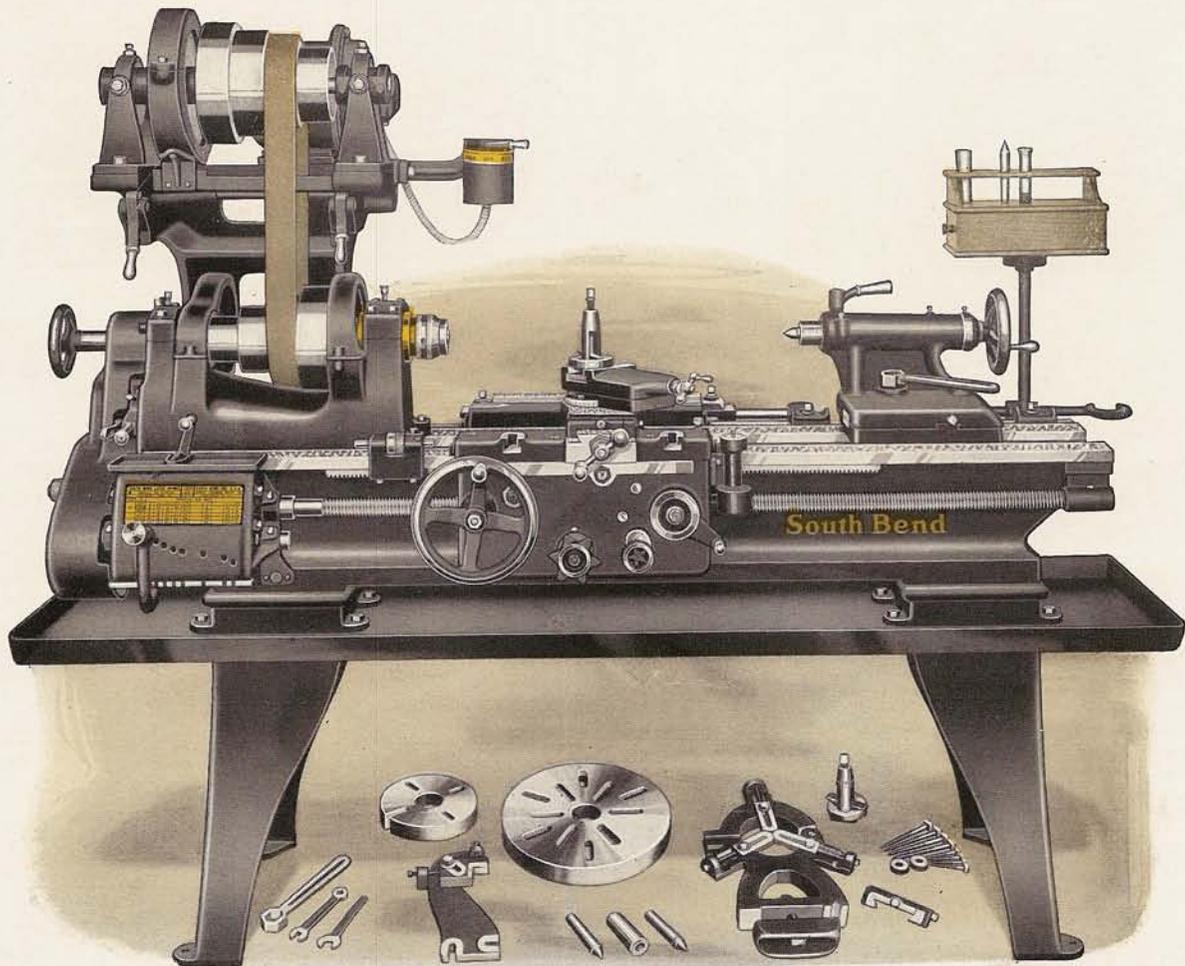
Tool Room Attachments. We list and price each attachment separately so that the customer may select only those required for his work. Collet Chucks, Taper Attachment, Thread Dial, Carriage Stop, etc., are illustrated and described on pages 13 and 15.

The Regular Lathe Equipment included in the price of each 16-inch South Bend Tool Room Lathe consists of: Double Friction Countershaft, Large Face Plate, Small Face Plate, Tool Post Complete, Adjustable Thread Cutting Stop, two Lathe Centers and Spindle Sleeve, Center Rest, Follower Rest and Wrenches. Also Installation Plans, Floor Plans and book, "How to Run a Lathe." See page 14.

Cabinet Legs may be used on the 16-inch Tool Room Lathe instead of the regular legs if desired. For illustration and prices of cabinet legs see page 11.

Net Factory Prices 16-inch New Model South Bend Tool Room Lathe—Countershaft Drive Each Attachment Is Priced Individually So That Only Those Needed May Be Selected

Size and Catalog Number.....	No. 892-C—16"x6'		No. 892-D—16"x7'		No. 892-E—16"x8'	
	Code Word	Price	Code Word	Price	Code Word	Price
16-inch Tool Room Lathe, Countershaft Drive, with Regular Equipment but without Tool Room Attachments....	Malta	\$598.00	Melbo	\$618.00	Mitre	\$638.00
TOOL ROOM ATTACHMENTS						
Hand Wheel Draw-in Collet Chuck with One Collet.....	Adore	56.00	Adore	56.00	Adore	56.00
Extra Collets $\frac{1}{16}$ -inch up to $\frac{3}{8}$ -inch capacity by 64ths. Each.....	Clear	6.00	Clear	6.00	Clear	6.00
Taper Attachment	Dress	90.00	Dress	90.00	Dress	90.00
Thread Indicator	Aflot	12.00	Aflot	12.00	Aflot	12.00
Oil Pan	Okres	50.00	Olean	55.00	Omens	60.00
Micrometer Carriage Stop	Climb	15.00	Climb	15.00	Climb	15.00
Collet Cabinet and Bracket.....	Cadro	15.00	Cadro	15.00	Cadro	15.00
Net Factory Prices Tool Room Lathe, Countershaft Drive, Complete with Tool Room Attachments as Illustrated Above.....	Mufat	\$842.00	Myajo	\$867.00	Myron	\$892.00



Equipment illustrated under Lathe is included in price of Lathe

16-inch New Model Tool Room Precision Lathe Silent Chain Motor Drive

The 16-inch New Model Tool Room Precision Lathe Silent Chain Motor Drive is recommended for fine tool work. It is widely used in the tool rooms of many of the largest manufacturing plants in the United States because it is capable of turning out the finest tool work with precision and accuracy. This lathe is practical for making precision master taps, screw gauges, special screws, dies, fixtures and tools to meet the most exacting requirements. It will meet the demands of the expert mechanic on the most accurate work. For description of features and specifications see pages 2, 3, 12 and 13. For motor drive unit see page 7.

Tool Room Attachments. We list and price each attachment separately so that the customer can select only those required for his work. Collet Chucks, Taper Attachment, Thread Dial, Carriage Stop, etc., are illustrated and described on pages 13 and 15.

Electrical Equipment Included in the Price of the 16-inch Silent Chain Motor Driven Tool Room Lathe consists of a 1 H. P. Reversing Motor, 1200 R.P.M. (Westinghouse, General Electric or equal make), Reversing Switch (Drum Type), Wiring between Motor and Switch, Flexible Metal Conduit, Wiring Diagram and a Leather Belt.

Regular Lathe Equipment included in the price of the 16-inch Motor Driven Tool Room Lathe consists of: Large Face Plate, Small Face Plate, Tool Post Complete, Adjustable Thread Cutting Stop, Two Lathe Centers, Spindle Sleeve, Center Rest, Follower Rest and Wrenches. Also Installation Plans, Floor Plans and book "How to Run a Lathe."

When Ordering the 16-inch Silent Chain Motor Driven Tool Room Lathe be sure to give the required information on electric current as specified on page 7.

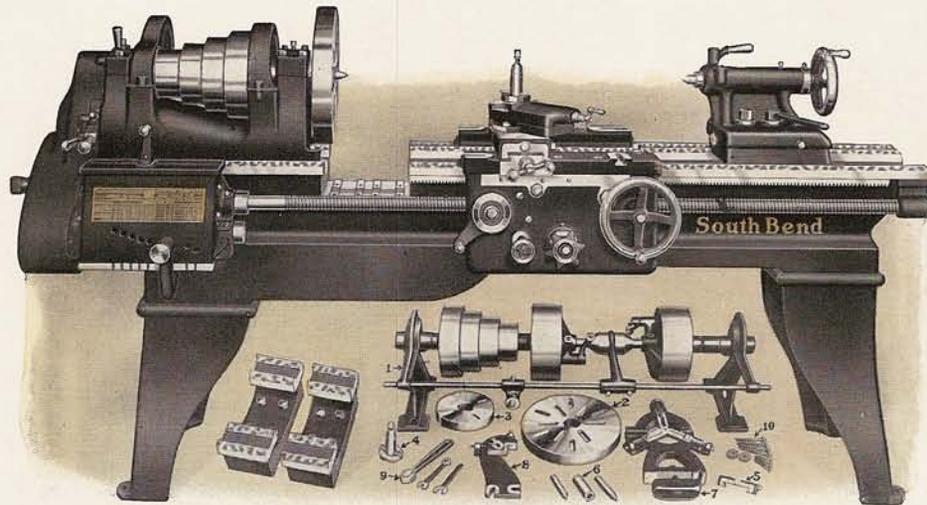
Net Factory Prices 16-inch New Model South Bend Tool Room Lathe—Silent Chain Motor Drive Each Attachment is Priced Individually so That Only Those Needed May be Selected

Catalog No. 3892-C—16" x 6' Tool Room Lathe, Silent Chain Motor Drive, with Regular Equipment but without Tool Room Attachments	With 3 Phase-60 Cycle A. C. Motor		With 1 Phase-60 Cycle A. C. Motor		With Direct Current Motor	
	Code Word	Price	Code Word	Price	Code Word	Price
Room Attachments	Madge	\$747.00	Madge	\$776.00	Madge	\$825.00
TOOL ROOM ATTACHMENTS						
Hand Wheel Draw-in Collet Chuck with One Collet.....	Adore	56.00	Adore	56.00	Adore	56.00
Extra Collets $\frac{1}{8}$ -inch up to $\frac{3}{8}$ -inch capacity by 64ths. Each.....	Clear	6.00	Clear	6.00	Clear	6.00
Taper Attachment	Dress	90.00	Dress	90.00	Dress	90.00
Thread Indicator	Aflot	12.00	Aflot	12.00	Aflot	12.00
Oil Pan	Okres	50.00	Okres	50.00	Okres	50.00
Micrometer Carriage Stop.....	Climb	15.00	Climb	15.00	Climb	15.00
Collet Cabinet and Bracket.....	Cadro	15.00	Cadro	15.00	Cadro	15.00
Net Factory Prices Tool Room Lathe, Silent Chain Motor Drive, Complete with Tool Room Attachments as Illustrated Above..	Mxate	\$991.00	Mrode	\$1,020.00	Myuse	\$1,069.00

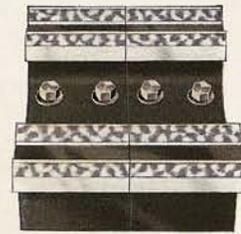
For prices of Tool Room Lathe with 7 ft. bed add \$25.00 to above price. For 8 ft. bed add \$50.00.

NOTE: New prices shown above are approximately 4% lower than old.

Bul. 16, P. 9—11-25-31



Regular equipment as illustrated under Lathe is included in the price



Double Bridge

The Double Bridge is made up of two sections, each 4 1/4 inches wide, both of which completely fill the gap in the bed. Bridges are carefully finished and hand scraped to the Lathe Bed to insure accuracy. Either one or both bridges may be quickly removed to accommodate the work to be machined. Total width of Gap 8 1/2 inches.

16-inch New Model South Bend Precision Gap Lathe with Double Bridge

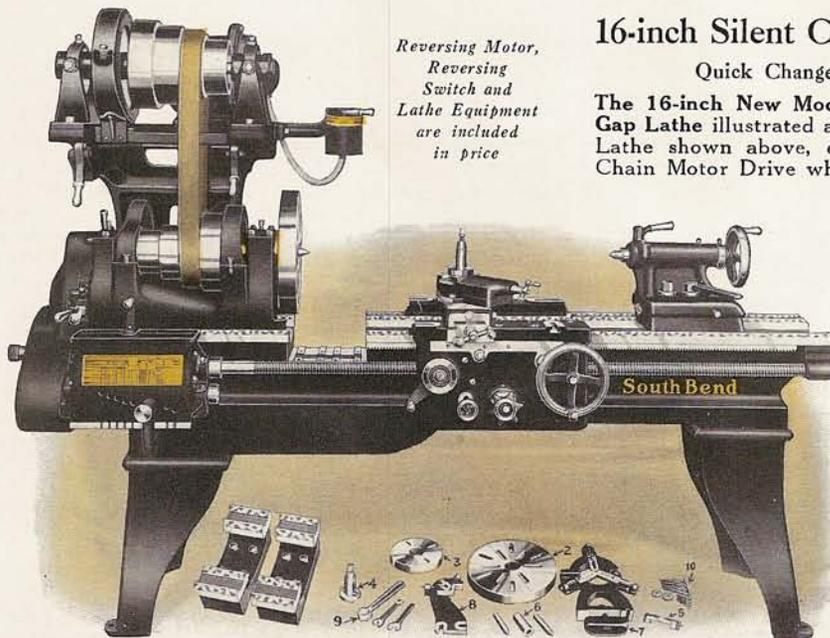
Quick Change and Standard Change Back Geared Screw Cutting Lathes—Overhead Countershaft Drive

The 16-inch New Model South Bend Gap Lathe illustrated above will swing work over the gap up to 24 inches in diameter. On Gap Lathes the control levers of the apron are transposed to permit the machining of narrow work over the gap. This lathe is practical for boring and bushing flywheels, pulleys and for other work of large diameter.

For Features, Specifications and Description of the Gap Lathe see pages 2, 3, 12 and 13 on the 16-inch straight bed lathe, the only difference between the two is in the construction of the bed and apron.

Net Factory Prices Including Countershaft and Equipment

Specifications				Quick Change Gear Gap Lathes			Standard Change Gear Gap Lathes		
Length of Bed	Swing Over Bed	Swing Over Gap	Approx. Weight Crated	Catalog No.	Code Word	Price Quick Change Gear Lathes	Catalog No.	Code Word	Price Standard Change Gear Lathes
6 ft.	16 1/4 in.	24 in.	2015 lbs.	692-C	Macon	\$683.00	641-C	Mince	\$603.00
7 ft.	16 1/4 in.	24 in.	2095 lbs.	692-D	Maids	763.00	641-D	Mouse	623.00
8 ft.	16 1/4 in.	24 in.	2175 lbs.	692-E	Medic	723.00	641-E	Month	643.00
10 ft.	16 1/4 in.	24 in.	2335 lbs.	692-G	Melte	767.00	641-G	Mytha	687.00
12 ft.	16 1/4 in.	24 in.	2495 lbs.	692-H	Mezto	830.00	641-H	Mykro	750.00



Reversing Motor, Reversing Switch and Lathe Equipment are included in price

16-inch Silent Chain Motor Driven Gap Lathe

Quick Change and Standard Change Gear Types

The 16-inch New Model South Bend Silent Chain Motor Driven Gap Lathe illustrated at the left is identically the same as the Gap Lathe shown above, except that it is equipped with the Silent Chain Motor Drive which is described on pages 6 and 7.

Electrical Equipment included in the price of Lathe consists of a 1-H.P. Reversing Motor, 1200 R.P.M. (Westinghouse, General Electric or equal make), Reversing Switch (Drum Type), Wiring between Motor and Switch, Flexible Metal Conduit, Wiring Diagram and a Leather Belt.

Regular Lathe Equipment included in the price consists of: Large Face Plate, Small Face Plate, Tool Post Complete, Adjustable Thread Cutting Stop, Two Lathe Centers, Spindle Sleeve, Center Rest, Follower Rest and Wrenches, also Installation Plans, Floor Plans and book, "How to Run a Lathe."

Net Factory Prices 16-inch Silent Chain Motor Driven Gap Bed Lathes
Prices Include Lathe Equipment, 1 H.P. Reversing Motor, Reversing Switch and Leather Belt

Specifications				Quick Change Gear Gap Lathes				Standard Change Gear Gap Lathes					
Length of Bed	Swing Over Bed	Swing Over Gap	Approx. Weight Crated	Catalog No.	Code Word	3 Phase 60 Cycle A.C. Motor	1 Phase 60 Cycle A.C. Motor	Direct Current Motor	Catalog No.	Code Word	3 Phase 60 Cycle A.C. Motor	1 Phase 60 Cycle A.C. Motor	Direct Current Motor
6 ft.	16 1/4 in.	24 in.	2450 lbs.	3692-C	Mabut	\$ 862.00	\$ 891.00	\$ 940.00	3641-C	Mekug	\$782.00	\$811.00	\$ 860.00
7 ft.	16 1/4 in.	24 in.	2530 lbs.	3692-D	Madok	882.00	911.00	960.00	3641-D	Milun	802.00	831.00	880.00
8 ft.	16 1/4 in.	24 in.	2610 lbs.	3692-E	Mafor	902.00	931.00	980.00	3641-E	Minul	822.00	851.00	900.00
10 ft.	16 1/4 in.	24 in.	2770 lbs.	3692-G	Megac	946.00	975.00	1024.00	3641-G	Misat	866.00	895.00	944.00
12 ft.	16 1/4 in.	24 in.	3030 lbs.	3692-H	Mehop	1009.00	1038.00	1087.00	3641-H	Moris	929.00	958.00	1007.00

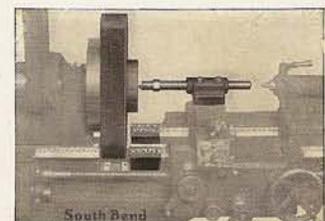


Fig. 6. One Bridge Removed. The other supports the Carriage

16-inch Lathes with Cabinet Legs and Oil Pan

Quick Change and Standard Change, Back Geared Screw Cutting Lathes

The illustration shows the 16-inch x 6-foot New Model Tool Room Precision Lathe, Overhead Countershaft Drive, fitted with Cabinet Legs. All types of 16-inch lathes, Quick Change Gear and Standard Change Gear, Overhead Countershaft Drive or Silent Chain Motor Drive patterns can be supplied with Cabinet Legs. The Cabinet Legs are so constructed that shelves may be arranged inside the legs.

Cabinet Legs

Cabinet Legs may be used on Tool Room Precision Lathes with Oil Pan as shown on pages 8 and 9 or they can be supplied for Lathes having regular legs as shown on pages 4 and 5.

One Cabinet Leg instead of Regular Leg

(Code Word, "Plead"). Price..\$16.00

Two Cabinet Legs instead of Regular

Legs (Code Word, "Plank").

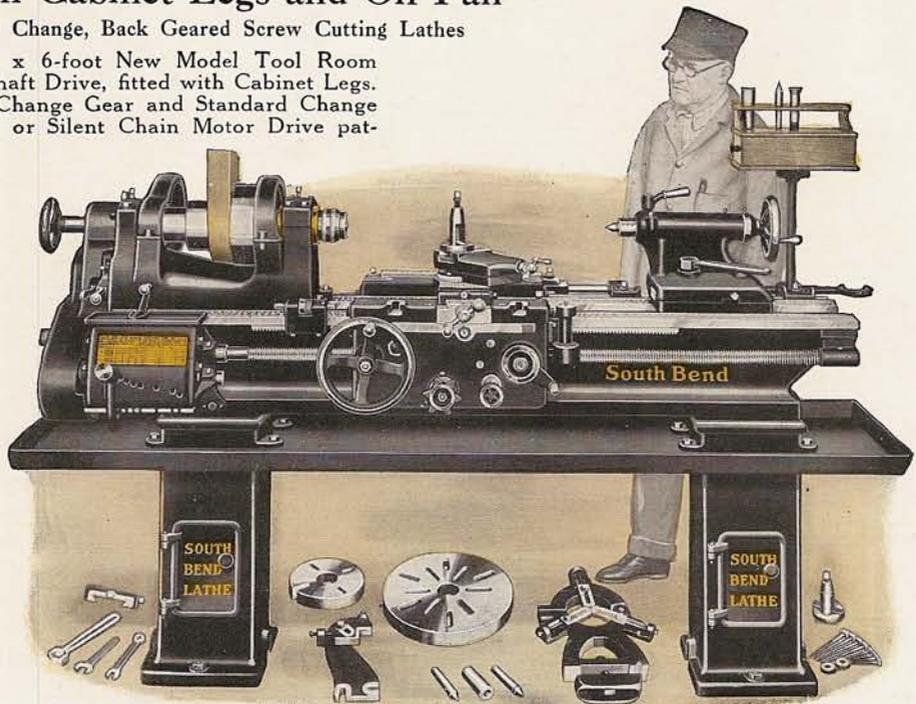
Price\$32.00

Pressed Steel Oil Pan

This Pan requires lathe legs of a special construction and should be ordered with the lathe so that it can be fitted at the factory. Prices below are for Steel Oil Pan and special legs instead of regular legs.

Oil Pan for 16-inch Lathes

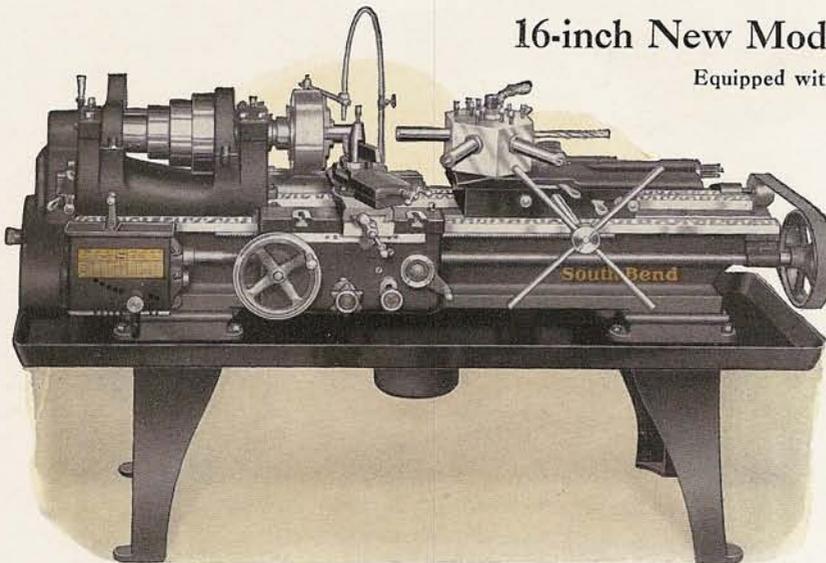
Cat. No.	6-ft. Bed	7-ft. Bed	8-ft. Bed	10-ft. Bed	12-ft. Bed
292	\$50.00	\$55.00	\$60.00	\$70.00	\$80.00



16-inch New Model Lathe Equipped with Cabinet Legs and Oil Pan

16-inch New Model Lathe for Manufacturing

Equipped with Special Tools for Production



16-inch New Model South Bend Lathe equipped for manufacturing work
Power Feed as shown above is not included in price of Turret, but is extra

The 16-inch New Model South Bend Back Geared Screw Cutting Lathe can be fitted with a variety of attachments and used to advantage for many manufacturing operations. A lathe equipped in this way serves the purpose of a special machine. Many modern industrial plants are taking advantage of this fact and are using screw cutting lathes. Some plants are using screw cutting lathes in groups on production work. When the job is finished the tools can be removed and the lathe used for regular lathe work.

The back geared screw cutting lathe is a universal tool and can be equipped at a small expense with a set of tools for machining duplicate parts where accuracy and precision are required. There are many jobs where the screw cutting lathe thus equipped will show production on parts equal to that obtained on a special or single purpose machine.

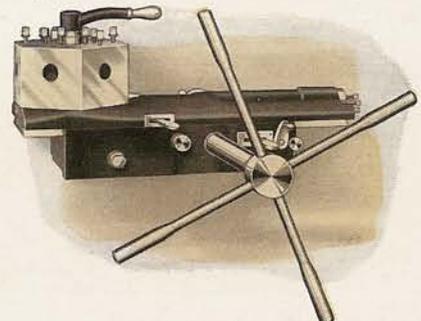
Lathe Attachments for Manufacturing Work

Draw-in Collet Chuck Attachment
Graduated Taper Attachment
Micrometer Carriage Stop
Thread Cutting Stop
Turnstile Bed Turret
Power Feed for Turret
Milling and Keyway Cutting Attachment
No. 15 Electric Grinder
Pressed Steel Oil Pan and Pump
Spring Collets, Centers, Drill Chucks
Lathe Chucks, Boring Tools
Chuck and Tool Assortment
See pages 13 and 15 this Bulletin

Turnstile Bed Turret

The Turnstile Bed Turret has a semi-automatic Turret Head which revolves $\frac{1}{6}$ of a turn with each hand revolution of the turnstile on the return stroke of the slide. An adjustable stop is provided for each of the six faces of the Turret.

Cat. No. 416. Turnstile Bed Turret,
Code Word "Flown." Price..\$305.00
Fitting turret to lathe is extra. Price on request.



Mechanical Features of the 16-inch New Model Precision Lathe

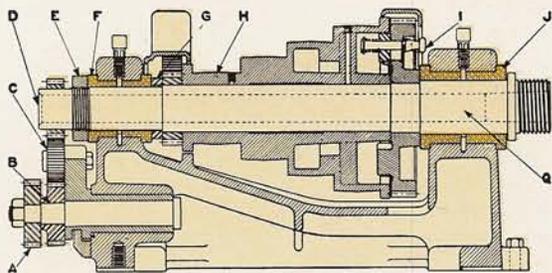


Fig. 7. Cross Section of Headstock

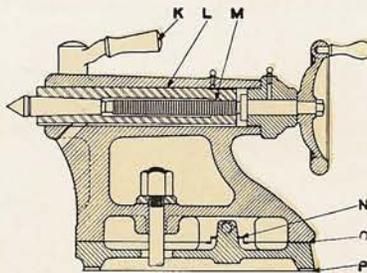


Fig. 8. Cross Section of Tailstock



Fig. 9. Graduated Tailstock Spindle

Principal Parts of Headstock and Tailstock

- A—Steel Stud Gear
- B—Extra Long Reverse Shaft
- C—Quick Acting Reverse. All Gears Steel
- D—Hole Through Headstock Spindle
- E—Take-up Nut for End Play
- F—Small Bronze Spindle Bearing
- G—Hardened and Ground Steel Thrust Collar
- H—Balanced Cone Pulley
- I—Wrenchless Bull Gear Clamp

- J—Large Phosphor Bronze Spindle Bearing
- K—Improved Tail Spindle Lock
- L—Special Alloy Steel Tailstock Spindle
- M—Acme Thread Tailstock Screw
- N—Set-over for Taper Turning
- O—Tailstock Top Accurately Hand Scraped to Base
- P—Tailstock Base Hand Scraped to Lathe Bed
- Q—Special Alloy Steel Spindle

Tailstock Spindle

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

Headstock Spindle

The Headstock Spindle of the 16-inch lathe is made of special steel and is finish ground all over. A 1 3/8-inch hole through the spindle permits the machining of rods, bars and tubing.



Fig. 10. Hollow Spindle of Carbon Steel, Finish Ground All Over

Phosphor Bronze Bearings

The Phosphor Bronze Bearings, front and rear, for the headstock spindle, are of best quality material. They are hand scraped to a perfect bearing.

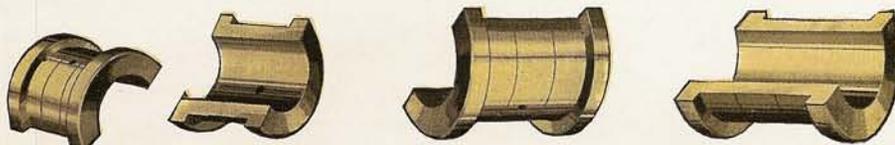


Fig. 11. Hand Scraped Phosphor Bronze Bearings for Spindle

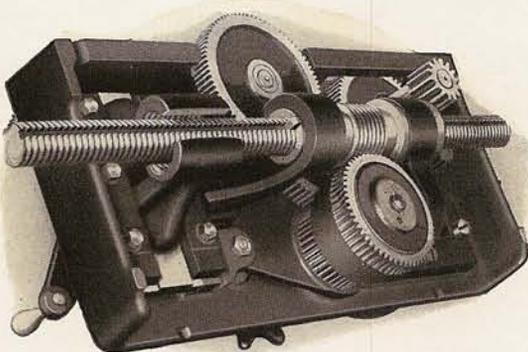


Fig. 12. Interior View of Apron Showing Splined Lead Screw Used as Feed Rod and the Rigid Double Bracket for Supporting the Automatic Feed Worm

Safety Device in Apron

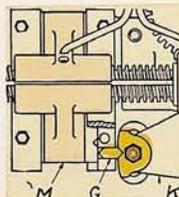


Fig. A

This safety device prevents the engaging of the automatic feeds and the half nuts with the lead screw at the same time. Fig. A shows safety device locked for thread cutting. Fig. B shows it locked for automatic feed.

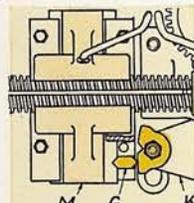


Fig. B

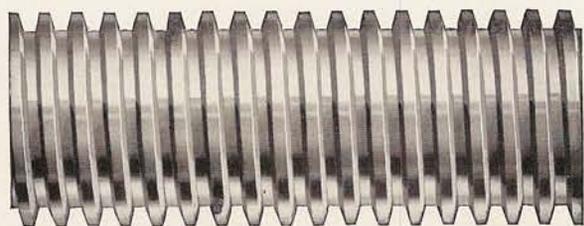


Fig. 13. Section of Lead Screw—Actual Diameter Used on the 16-inch Lathe. It is Guaranteed to Meet the Most Exact Requirements in Cutting Accurate Threads

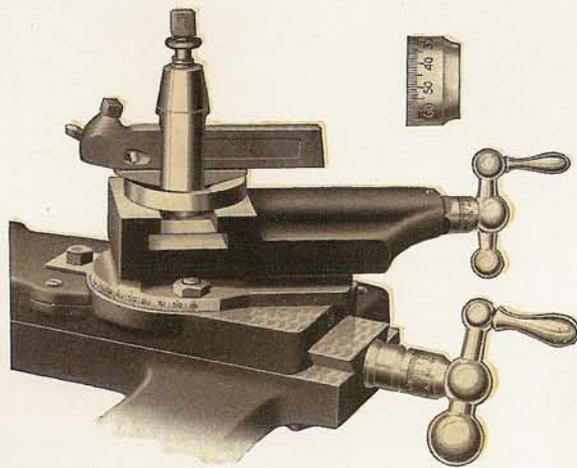


Fig. 14. View of Compound Rest Showing the Graduated Swivel and the Advantage of the Two Feed Screws—the Compound Rest Screw and the Cross Feed Screw

Accuracy of the 16-inch New Model South Bend Precision Lathe

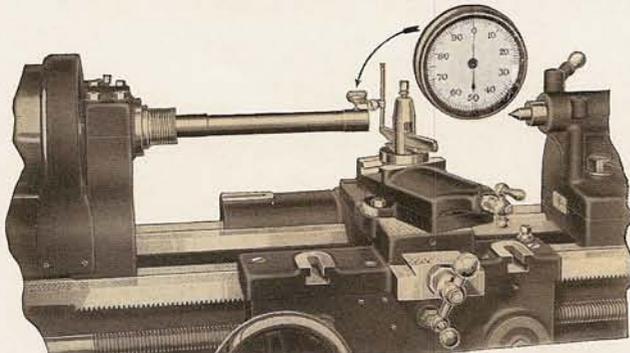


Fig. 15. Testing Headstock Spindle. The Dial Indicator Registers in 1/10,000 of an Inch

Sixty-four major accuracy tests are made on the various parts of the 16-inch New Model South Bend Lathe by precision instruments after each production operation on the various parts and before assembling.

Constant testing during the process of manufacture insures accuracy and precision in the finished lathe. For example: when boring headstock bearings, every headstock is tested as it comes from the machine to see that it is bored accurately.

Each 16-inch New Model South Bend Lathe when assembled is operated under belt and thoroughly inspected and tested for accuracy before it is shipped.

All major lathe units of the 16-inch New Model South Bend Lathe, such as Bed, Headstock, Tailstock, Saddle, Apron, and Compound Rest, in addition to being machined, are carefully fitted and hand scraped to each other, where a sliding fit is necessary.



Fig. 17. Hand Scraping Cross Slide to Bed

The phosphor bronze bearings for the headstock spindle are hand scraped to fit the spindle. Hand scraping insures accuracy, precision, durability and long life. The 16-inch New Model South Bend Lathe when given proper care should last a lifetime.



Fig. 16. Scraping Phosphor Bronze Bearings

Draw-in Collet Chuck Attachment for 16-inch Precision Lathes

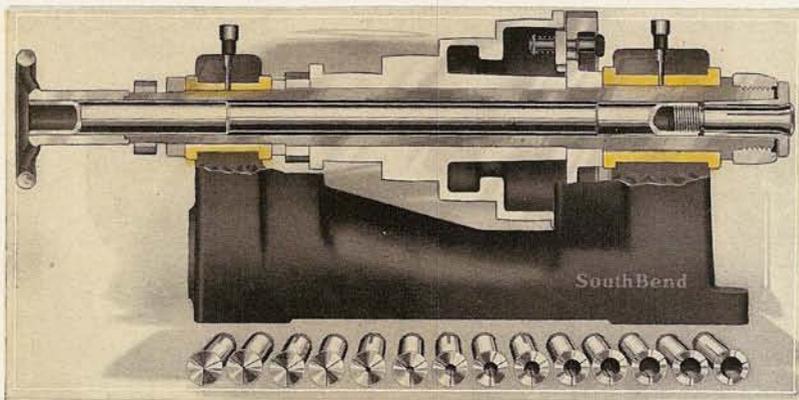


Fig. 18. A cross section of the Headstock showing Hand Wheel Draw-in Collet Chuck

The Draw-in Collet Chuck is one of the most accurate types of chuck made. The split collet is hardened and ground, inside and outside, and is used in manufacturing small precision parts for watches, typewriters, sewing machines, adding machines, radios, etc. The Draw-in Collet Chuck permits bars and rods to be passed through the lathe spindle and held in the chuck for machining.

The Hand Wheel Type Draw-in Collet Chuck attachment is used extensively in the Tool Room in making small tools and parts where accuracy is essential. It is a fine precision tool and the most accurate type of chuck on the market.

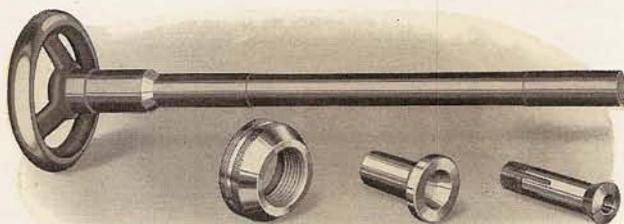


Fig. 19. Hand Wheel Draw-in Collet Chuck Attachment

The Hand Wheel Draw-in Collet Chuck Attachment for the 16-inch Lathe will handle work up to $\frac{7}{8}$ inch in diameter. The price includes Hand Wheel and Draw-tube, Nose Cap for protecting threads of Spindle Nose, Hardened Steel Taper Sleeve for adapting Collet to Headstock Spindle, and one Round Split Collet of any size desired up to $\frac{7}{8}$ -inch hole diameter.

Cat. No. 4316. Hand Wheel Draw-in Collet Chuck Attachment (Code Word, "Adore"). Price.....\$56.00

How the Draw-in Collet Chuck Operates

The Hollow Draw Bar extending through the lathe spindle operates the hardened and ground steel split collet. As the draw bar is rotated the threads in the end of the draw bar cause the collet to tighten or release the work.

In the Hand Wheel Type Draw-in Collet Chuck the collet is operated by turning the hand wheel which causes it to grip or release the work held in the collet.

Split Collets for Round Work

All Collets furnished by us, for Draw-in Chuck Attachments, are standard, made of tool steel, hardened and tempered. Collets from $\frac{1}{4}$ -inch hole diameter to $\frac{7}{8}$ -inch diameter by 64ths are carried in stock.

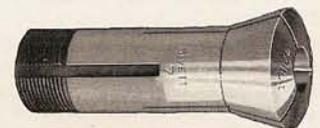


Fig. 20. Split Collet for Round Work

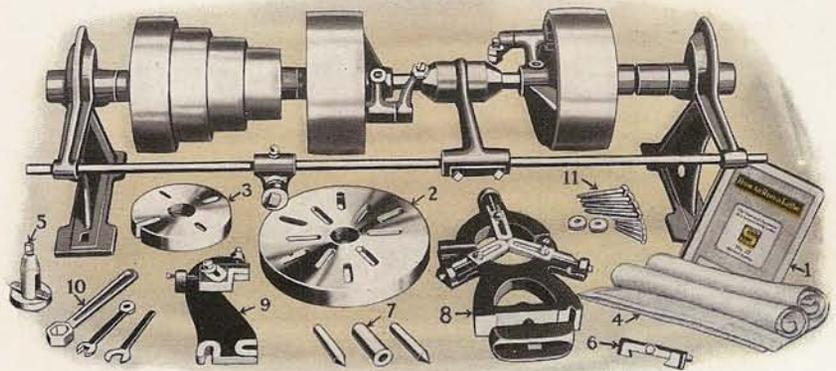
Cat. No. 616. Split Collets for Round Work (Code Word, "Clear"). Price each.....\$6.00

Countershaft and Equipment for 16-inch New Model South Bend Precision Lathes

This Equipment Is Included in the Price of All 16-inch Countershaft Driven Lathes

The illustration at the right shows the countershaft and equipment that is included in the price of the 16-inch New Model South Bend Lathes. Each part is numbered in the illustration and described below.

1. The Instruction Book, "How to Run a Lathe" is a very valuable reference for the mechanic.
2. The Large Face Plate is threaded and fitted to the spindle nose of the lathe.
3. The Small Face Plate is threaded and fitted to the spindle nose of the lathe.
4. The Installation Plan Blue Prints.
5. Tool Post, Ring, Wedge and Wrench are drop forged steel, case-hardened.
6. Adjustable Thread Cutting Stop used for regulating depth of chip in thread cutting.
7. Lathe Centers and Steel Taper Spindle Sleeve.
8. Center Rest supports long work while being turned. Also used when drilling, boring, etc.
9. Follower Rest travels with the cutting tool, and supports long, slender work, while being machined.
10. Wrenches for Tailstock, Compound Rest and Tool Post.
11. Lag Screws, for countershaft and lathe.



Countershaft and Regular Lathe Equipment for 16-inch Lathes

The New Double Friction Countershaft illustrated above is used for driving the lathe from the line shaft. It is not furnished with motor driven lathes. The two Drive Pulleys are equipped with Quick Acting Friction Clutches which expand against the rim. One of these pulleys is used for straight drive and the other for reversing the lathe through a cross belt. Oil Reservoirs equipped with large felt wicks, distribute oil to clutch pulleys and countershaft bearings.

The Double Friction Countershaft may be arranged as a two-speed countershaft by attaching a pulley of large diameter on the line shaft, to drive the friction pulley regularly used for the reverse. 16 spindle speeds are provided—the high speeds suitable for machining brass, bronze, aluminum, etc.

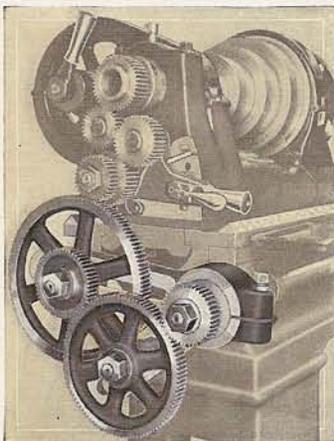
The Standard Change Gear Lathes include a set of Independent Change Gears for thread cutting and turning feeds. The Change Gears provide for cutting right and left hand screw threads as shown on the index plate attached to each lathe, and also take care of the various Automatic Cross and Longitudinal Feeds.

Transposing Gear Attachment for Cutting Metric Threads

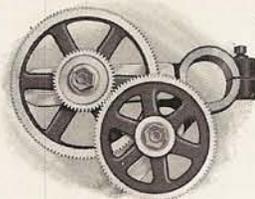
For All Types of 16-inch South Bend Lathes Equipped with English Lead Screws

The Transposing Gear Attachment for cutting Metric Threads on South Bend Lathes equipped with English Lead Screw is shown in the illustration at the left. This Attachment permits the lathe to be used for cutting the International Standard Metric Threads and French Standard Metric Threads. This Attachment is furnished for either Quick Change or Standard Change Gear Lathes.

The Attachment shown in the illustration is for the Standard Change Gear Lathe and consists of a bracket, to which is attached two Transposing Gears and an Idler Gear. The change gears shown are used for cutting the various Standard Metric Pitches as shown on the index chart. The lathe, with American pitch lead screw, when fitted with the Metric Transposing Gear Attachment produces a remarkably accurate metric screw thread, equal in precision and accuracy to the thread cut on a regular Metric lathe, fitted with Metric pitch lead screw.



Transposing Gears Fitted to Lathe



Transposing Gears and Bracket



Additional Change Gears

Net Factory Prices Metric Transposing Gear Attachment for Quick Change and Standard Change Gear Lathes

Size Lathe	Quick Change			Standard Change		
	Cat. No.	Code Word	Price	Cat. No.	Code Word	Price
16 in.	1439	Texis	\$60.00	1446	Tokas	\$55.00

Standard Change Gear Lathe

Metric Transposing Gear Chart

The Metric Transposing Chart shown at the right, is furnished with the Transposing Gear Attachment for South Bend Standard Change Gear Lathes equipped with English Lead Screw. It shows the correct change gears to use when cutting the following International Standard Metric Pitches: .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. Other pitches may be obtained by the use of additional change gears.

M/M PITCH	STUD GEAR	GEAR BEARS	GEAR	PLUNGER HOLE	TOP LEVER
.5	24	127-50	85		LEFT
.75	36	127-50	60		LEFT
1.	48	127-50	45		RIGHT
1.25	60	127-50	36		RIGHT
1.5	72	127-50	30		RIGHT
1.75	84	127-50	25		RIGHT
2.	96	127-50	22		RIGHT
2.5	120	127-50	18		RIGHT
3.	144	127-50	15		RIGHT
3.5	168	127-50	13		RIGHT
4.	192	127-50	12		RIGHT
4.5	216	127-50	11		RIGHT
5.	240	127-50	10		RIGHT
5.5	264	127-50	9		RIGHT
6.	288	127-50	8		RIGHT
6.5	312	127-50	7		RIGHT
7.	336	127-50	6		RIGHT
7.5	360	127-50	5		RIGHT
8.	384	127-50	4		RIGHT

Quick Change Gear Lathe

Metric Transposing Gear Chart

The Metric Transposing Chart shown at the right, is furnished with the Transposing Gear Attachment for South Bend Quick Change Gear Lathes equipped with English Lead Screw. It shows the correct stud gear to use, the gear box gear, plunger hole, and position of top lever when cutting the following International Standard Metric Pitches: .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. Other pitches may be obtained by the use of additional change gears.

M/M PITCH	STUD GEAR	GEAR BEARS	GEAR	PLUNGER HOLE	TOP LEVER
.5	24	127-50	85		LEFT
.75	36	127-50	60		LEFT
1.	48	127-50	45		RIGHT
1.25	60	127-50	36		RIGHT
1.5	72	127-50	30		RIGHT
1.75	84	127-50	25		RIGHT
2.	96	127-50	22		RIGHT
2.5	120	127-50	18		RIGHT
3.	144	127-50	15		RIGHT
3.5	168	127-50	13		RIGHT
4.	192	127-50	12		RIGHT
4.5	216	127-50	11		RIGHT
5.	240	127-50	10		RIGHT
5.5	264	127-50	9		RIGHT
6.	288	127-50	8		RIGHT
6.5	312	127-50	7		RIGHT
7.	336	127-50	6		RIGHT
7.5	360	127-50	5		RIGHT
8.	384	127-50	4		RIGHT

Practical Attachments for the 16-inch New Model Precision Lathe

Graduated Taper Attachment

This attachment is used on tool room, manufacturing and production work for turning and boring all classes of taper work. It is bolted to the lathe carriage and can be set for taper turning or boring at any position along the entire length of the lathe bed. The attachment may remain on the lathe at all times when doing either taper or straight work. It requires only a few minutes to change from straight to taper machining or vice versa.

The Swivel Bar, which controls the Taper, is graduated—one end in inches per foot of taper and the other end in degrees.

Net Factory Prices Graduated Taper Attachment

Catalog No.	Maximum Taper			Approximate Shipping Weight	Code Word	Price Each
	Per Foot	At One Setting	In Degrees			
216	3 in.	12 in.	14	100 lbs	Dress	\$90.00

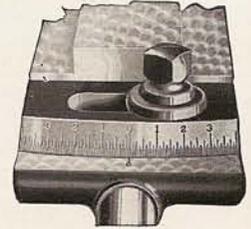


Fig. 26. Close-up of Graduations

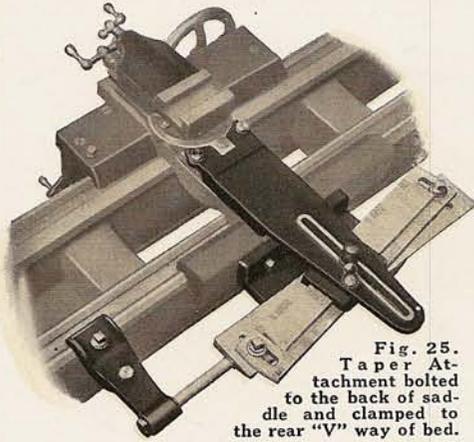


Fig. 25. Taper Attachment bolted to the back of saddle and clamped to the rear "V" way of bed.

Thread Indicator

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

Cat. No. 816. (Code Word, "Aflot")
Price\$12.00

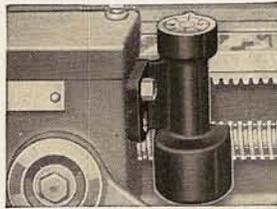


Fig. 27. Thread Indicator

Micrometer Carriage Stop

This attachment is useful in manufacturing operations and in accurate facing work. It is used for stopping the carriage at any point along the lathe bed, and is provided with a micrometer adjustment. It can be used on either side of the carriage.

Cat. No. 975. (Code Word, "Climb"). Price\$15.00

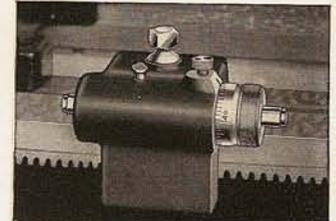


Fig. 28. Micrometer Carriage Stop

Milling and Keyway Cutting Attachment

This attachment is valuable for the small shop because it equips the lathe for doing work that otherwise could be done only on a shaper or milling machine.

The attachment fits on the saddle of the lathe, swivels all the way around in a horizontal plane like the compound rest and is graduated 180 degrees. The upright Angle Plate to which the vise is attached swivels in a vertical plane, and is graduated 180 degrees. The vertical adjusting screw at the top of the attachment is equipped with a micrometer graduated collar.

On milling work the automatic cross and longitudinal feeds of the carriage can be used as well as the hand feeds.

Cat. No. 5. Milling Attachment. Code Word, "Varen" \$75.00
Cat. No. 116-M. Milling Arbor. Code Word, "Kempy" 10.00

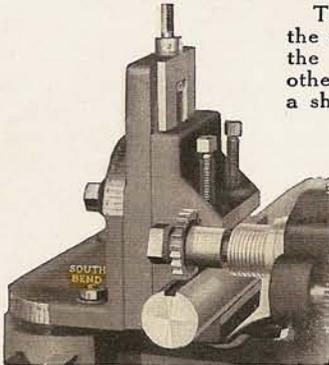


Fig. 29. Milling and Keyway Cutting Attachment

No. 15 Electric Grinder for the Lathe

The No. 15 Electric Grinder is a practical attachment for grinding straight, taper or spiral reamers, milling cutters, taps, dies, valves, pistons, steel bushings, hardened shafts, etc.

It fits on the compound rest and swivels to any angle in the horizontal plane.

This grinder operates from an electric light socket. Specify electric current when ordering. If DIRECT Current, give voltage; if ALTERNATING Current, give voltage, phase and cycle.

The price below includes the Electric Grinder as illustrated, with one Grinding Wheel and Clamp for mounting on Compound Rest.

Cat. No. 15-M. Electric Grinder. Code Word, "Clove" \$90.00

Price of fixture to hold diamond dresser for truing grinding wheels or cutter stop when grinding milling cutters. \$13.00

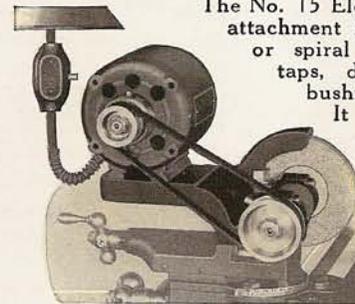


Fig. 30. No. 15 Electric Grinder

No. 116 Chuck and Tool Assortment for All 16-inch Lathes

- 3-Jaw Drill Chuck with Arbor Attached
- Pinion Key for Drill Chuck
- Formed Threading Tool
- Wrench and Cap Screws for Lathe Chuck
- Independent Lathe Chuck
- Style "B" Patent Boring Tool and Wrenches
- High Speed Steel Cutter Bit
- Right Hand Patent Cutting-Off Tool and Wrench
- Straight Shank Patent Turning Tool and Wrench
- 10-14. Are Malleable Lathe Dogs, 1/2", 3/4", 1", 1 1/2", and 2" capacity.

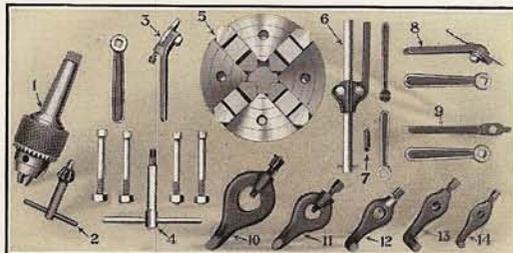
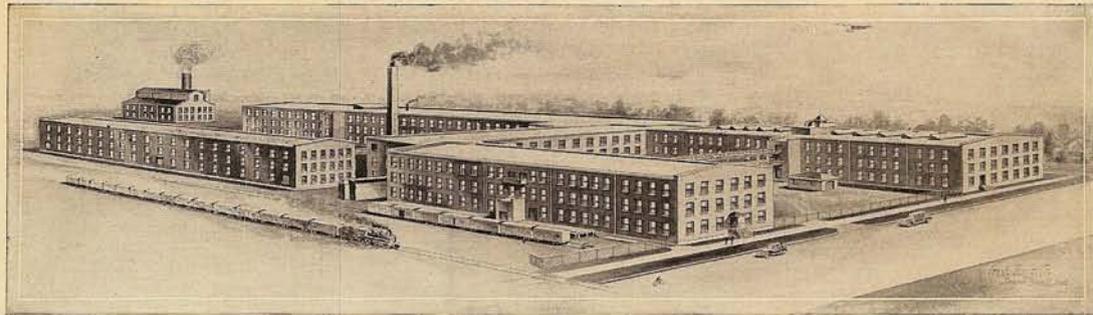


Fig. 31. No. 116 Chuck and Tool Assortment

The Chuck and Tool Assortment listed here shows the popular sizes of chucks and tools for all types and drives of 16-inch New Model Lathes. We recommend this assortment as being the most practical for general shop use. Individual items may be ordered separately if desired.

Cat. No.	Description	Price
1 No. 2110	10-inch, 4-Jaw Independent Lathe Chuck	\$40.00
	Fitting Chuck to Lathe includ'g Chuck Back	9.00
1 No. 1303	2-Jaw Drill Chuck, 1-inch capacity	15.00
1 No. 716	Drill Chuck Arbor, fitted to Chuck	2.00
1 No. 833-S	Patent Turning Tool, straight shank	3.60
1 No. 868	Patent Threading Tool	5.75
1 No. 432	Patent Boring Tool, Style B	6.90
1 No. 884-R	Patent Cutting Off Tool (Right Hand)	4.00
1 Set (5)	Malleable Lathe Dogs, 1/2", 3/4", 1", 1 1/2", 2"	4.45

Cat. No. 116. (Code Word "Margo")\$90.70



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Kelvinator Corp.

AIRCRAFT

Stout Metal Airplane Co.
Pratt & Whitney Aircraft Co.
Byrd South Polar Expedition
Universal Air Lines
Fokker Co.
Pan American Airways

TOOL MANUFACTURERS

United Shoe Machinery Corp.
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Patchogue-Plymouth Mills
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AUTOMOBILE PARTS MFRS.

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Bendix Brake Co.
McQuay-Norris Mfg. Co.
Budd Wheel Co.
Cleveland Piston & Mfg. Co.
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