

"South Bend"

Hand Book No. 33-C

Showing Shop Kinks

For the Auto Mechanic

January



1929

Lathe on an Automotive Job

South Bend Lathes For Service Stations

Garages Brake Service Shops
Machine Shops Electrical Shops
Truck and Auto Fleet Owners
General Automotive Repairs

South Bend Lathe Works

332 E. Madison St.
South Bend, Indiana, U. S. A.



Plant of the South Bend Lathe Works, at South Bend, Indiana.

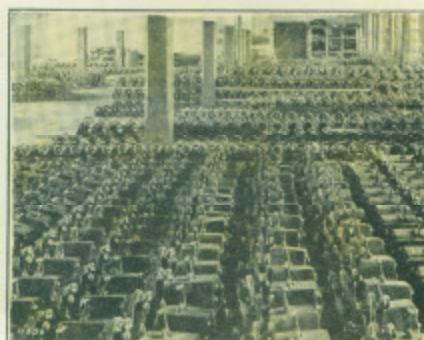
Facts About the South Bend Lathe Works

The South Bend Lathe Works was established at South Bend, Indiana, in 1906, and incorporated in 1914. For twenty-two years the entire plant has been devoted exclusively to the manufacture of South Bend Back Geared Screw Cutting Lathes. There are now 43,000 South Bend Lathes in use in the United States and 78 other countries.

The Factory of the South Bend Lathe Works represents an investment of more than one million dollars. The plant facilities include the best modern machine and tool equipment to insure accuracy and interchangeability of parts. We build 96 sizes, types and drives of New Model South Bend Lathes, and our production capacity is 4,800 lathes a year.



Lathes in Line Ready for Testing.



Finished Units Ready for Assembling.

The Back Geared Screw Cutting Lathes, attachments, and tools illustrated and described in this booklet are only a few of the many types and sizes for working metals, such as: steel, iron, cast steel, wrought iron, forgings, brass, bronze, aluminum, babbitt and other alloys. Also hard rubber, fibre, wood, etc.

Sixty-four Major Accuracy Tests are made on each New Model South Bend Lathe by precision instruments during the process of manufacture. A rigid system of inspection is maintained and all parts are carefully checked after each operation. Constant testing insures accuracy and precision in the finished lathe.

Our Guarantee is that each South Bend Lathe is accurate and mechanically perfect; that we will ship a South Bend Lathe anywhere in the United States for a 30-day trial in your own shop. Read this guarantee in full on page 32.



A Group of Employees of the South Bend Lathe Works.

New Model South Bend Back Geared Screw Cutting Lathes

for use in the

Service Station Shop Electrical Shop
Garage Brake Service Shop

General Automotive Repair Shop
Truck and Auto Fleet Owner Shop

Principal Service Station Shops Using South Bend Lathes

Service Station Shops	Number of Shops	Service Station Shops	Number of Shops
Buick Service Stations.....	172	Hupmobile Service Stations....	24
Cadillac Service Stations.....	47	Nash Service Stations.....	56
Chevrolet Service Stations.....	229	Oakland Service Stations.....	47
Chrysler Service Stations.....	77	Oldsmobile Service Stations....	121
Dodge Service Stations.....	285	Packard Service Stations.....	30

Easy Payment Plan

For the Purchase of South Bend Lathes

Monthly Payments as Low as \$12.40

You can install a New Model South Bend Lathe in your shop by paying 20% cash with order, the balance in 10 equal monthly payments.

Your lathe is shipped immediately upon receipt of your order and down payment, enabling you to put it to work at once to increase your business and bring in additional profits.

Write for Easy Payment Booklet, stating size of lathe wanted. Booklet will be sent postpaid, no charge.

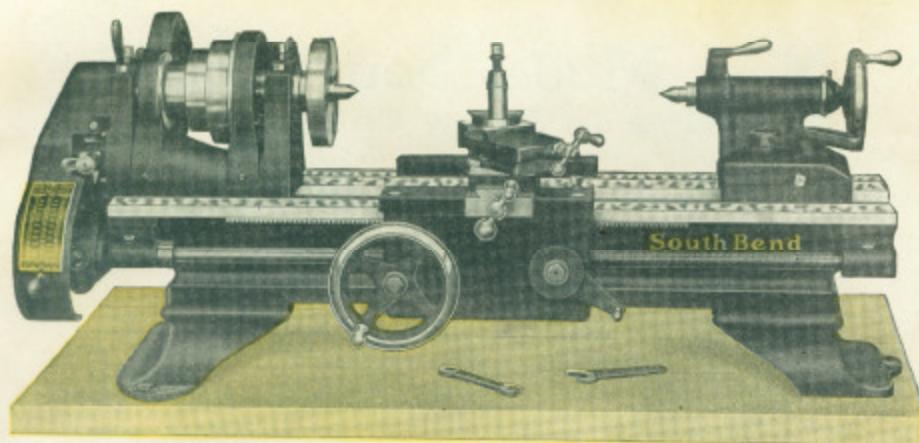


Turning a Shaft on a 16-inch Quick Change Gear Lathe.

A Few Major Jobs That Can Be Done on South Bend Lathes

Truing commutators.	Testing and truing crankshafts.
Refacing valves.	Making axles.
Finishing semi-machined pistons.	Boring connecting rods.
Chucking work.	Making valve stem guides.
Cutting screw threads.	Machining flywheels for ring gears.
Making shafts.	Facing clutch discs.
Milling and keyway cutting.	Truing gear flanges.
Grinding.	Making mandrels and adapters.
Making bushings.	Balancing wheels.
Drilling, boring, reaming.	Undercutting mica.
Filing and polishing.	Taper turning and boring.
Truing brake drums.	And hundreds of other jobs.

NEW MODEL SOUTH BEND BACK GEARED SCREW CUTTING PRECISION LATHES



9-inch x 3-ft. Junior New Model South Bend Lathe **\$155.00** Back Geared, Screw Cutting Precision Tool, Bench Type, with Countershaft Drive

The 9-inch Junior New Model Back Geared Screw Cutting Lathe is an excellent tool for taking care of machine work on the small parts of automobile engines where the finest accuracy and precision must be maintained. The weight of this lathe, shown in the tabulation below, indicates its strength and power.

The 9-inch Junior New Model Lathe is assembled from the standard parts of our 9-inch Quick Change and Standard Change Gear Lathes that we have been manufacturing for twenty-two years. The headstock, tailstock, bed, carriage, compound rest and lead screw on these lathes are identical.

Our Price of \$150.00 and up for this lathe is made possible by omitting the Automatic Friction Feeds from the lathe and the large face plate, center rest, follower rest and thread cutting stop from the equipment, which are not always necessary for the work in the small shop. The accuracy and precision of this lathe is equal to that of any other South Bend Lathe.

SOUTH BEND LATHE WORKS			
ENGINE LATHES			
Model	Swing Over Bed	Length of Bed	Weight
22-XB	9 1/2 in.	2 1/2 ft.	32
22-YB	9 1/2 in.	3 ft.	40
22-ZB	9 1/2 in.	3 1/2 ft.	48
22-AB	9 1/2 in.	4 ft.	56
22-RB	9 1/2 in.	4 1/2 ft.	64

A Metal Index Plate is attached to each 9-inch Junior New Model Lathe to show the gear arrangement for cutting threads from 4 to 40 per inch, right or left hand, including 11 1/2-inch pipe thread, as follows: 4, 5, 6, 7, 8, 9, 10, 11, 11 1/2, 12, 13, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 36, 40. Change Gears are furnished with each 9-inch Junior Lathe for cutting these threads and power longitudinal feeds.

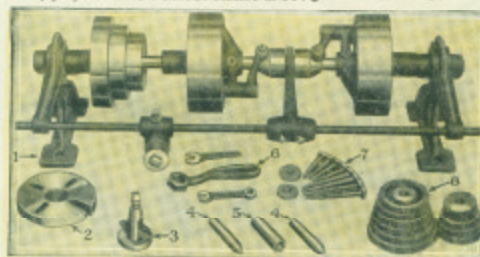
Net Factory Prices of 9-inch Junior New Model Bench Lathe, Including Countershaft and Equipment*

Cat. 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
22-XB	9 1/2 in.	2 1/2 ft.	11 in.	3/4 in.	6 1/2 in.	1/4 HP.	350 lbs.	Bylow	\$150.00
22-YB	9 1/2 in.	3 ft.	18 in.	3/4 in.	6 1/2 in.	1/4 HP.	375 lbs.	Bhorn	155.00
22-ZB	9 1/2 in.	3 1/2 ft.	23 in.	3/4 in.	6 1/2 in.	1/4 HP.	400 lbs.	Bmatx	160.00
22-AB	9 1/2 in.	4 ft.	29 in.	3/4 in.	6 1/2 in.	1/4 HP.	425 lbs.	Bleat	165.00
22-RB	9 1/2 in.	4 1/2 ft.	36 in.	3/4 in.	6 1/2 in.	1/4 HP.	450 lbs.	Broil	170.00

*Prices do not include Bench.

Write for 9-inch Junior Lathe Catalog No. 23. See Page 31

SOUTH BEND LATHE WORKS, 332 E. Madison St., SOUTH BEND, IND., U.S.A.



Double Friction Countershaft and Equipment Included in Price of 9-inch Junior New Model Lathe:

1—Double Friction Countershaft; 2—Face Plate; 3—Tool Post Complete; 4—Two Lathe Centers; 5—Spindle Sleeve; 6—Wrenches; 7—Lag Screws and Washers; 8—Change Gears for cutting screw threads and longitudinal feeds. Also Installation Plans and Instruction Book, "How to Run a Lathe."

LATHE FEATURES

Back geared headstock gives six spindle speeds. Hollow spindle made of special carbon steel. Phosphor bronze bearings for spindle. Graduated compound rest swivels to any angle. Precision lead screw for cutting accurate threads. Micrometer collar on cross feed and compound rest screws. Tailstock set-over for turning and boring tapers. Quick-acting spring latch reverses carriage travel. Power longitudinal screw feed to the carriage. Graduated tailstock spindle.

LATHE SPECIFICATIONS

Countershaft Speed.....300 R.P.M.
Spindle Speeds.....40, 75, 128, 246, 410, 700 R.P.M.
Width of Cone Pulley Belt.....1 inch
Acme Thread Lead Screw.....3/4-inch diam., 8 pitch
Size of Lathe Centers.....No. 2 Morse Taper
Screw Thread Cutting Range.....4 to 40 per inch
Draw-in Collet Chuck Capacity.....1/4 inch to 1/2 inch
Cross Slide Travel.....7 inches
Size of Tool Shank for Tool Post.....1/2 inch x 1 1/2 inch
Double Friction Countershaft Pulleys.....6 1/2 inch x 2 1/2 inch

OUR CATALOG No. 23 SHOWS WIDE APPLICATION OF JUNIOR LATHES

Jobs for 9-inch Junior New Model South Bend Lathes

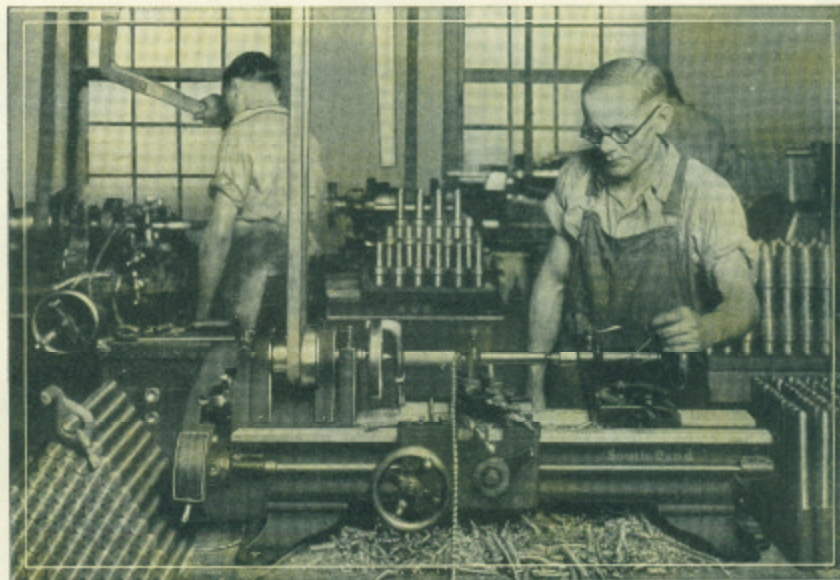


Fig. 1. The above illustration shows the 9-inch Junior Lathe in operation. This Lathe is a Precision Tool That Will Take Care of All Small Machine Work in the Service Station Shop, Garage, Electrical Shop or Manufacturing Plant.

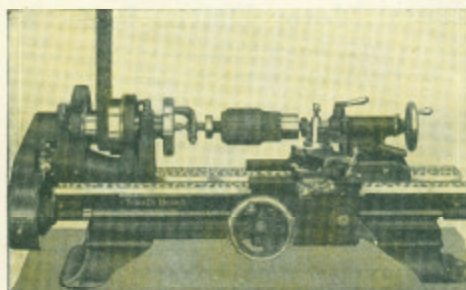


Fig. 2. Truing the Commutator of an Armature is a Precision Job. See Page 26.

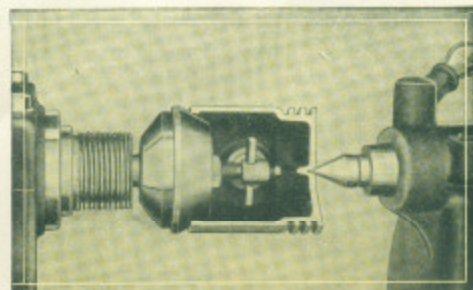


Fig. 3. The Application of No. 44 Piston Adapter Shown in Cross-Section View.

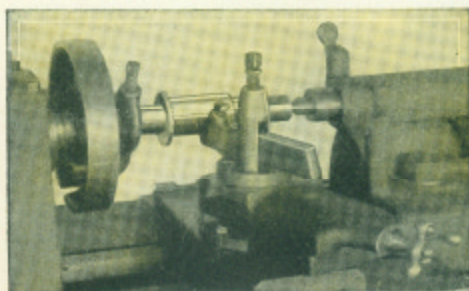


Fig. 4. Finishing a Bronze Bushing Held on a Mandrel.



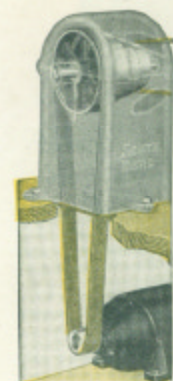
Fig. 5. A Practical Method of Installation for Bench Lathes in a Modern Shop.

BOOKLET "HOW TO RUN A LATHE" INCLUDED WITH EACH LATHE

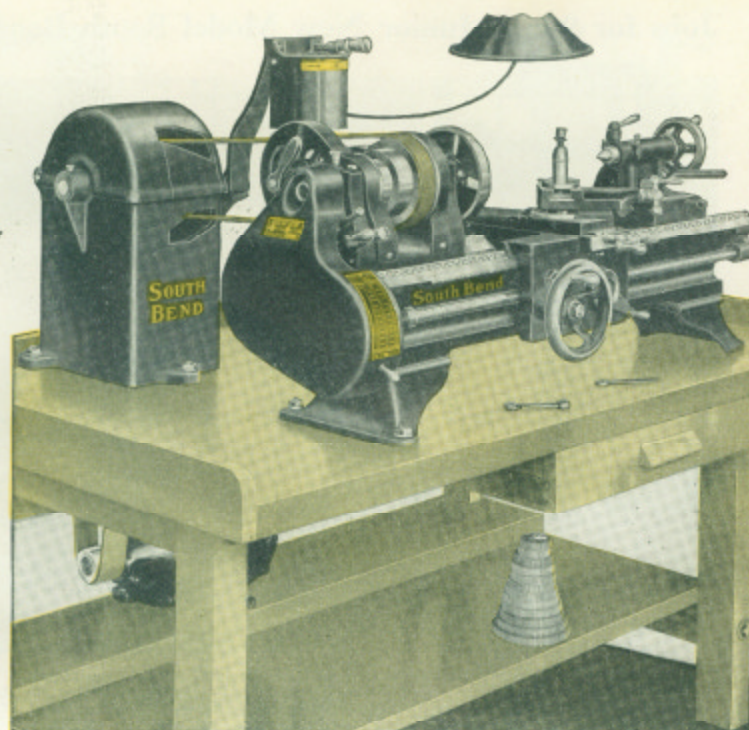
NEW MODEL SOUTH BEND BACK GEARED SCREW CUTTING LATHES



Cabinet Open to Show Drive Pulley



Phantom View of Motor Drive Unit



9-inch Junior New Model Horizontal Motor Driven Lathe

Back Geared, Screw Cutting Precision Tool, Bench Type

The 9-inch Junior New Model Horizontal Motor Driven Lathe, bench type, is identically the same as the lathe illustrated and described on page 4, except it is equipped with a Horizontal Motor Drive that operates from an electric light socket instead of the countershaft drive. We recommend this motor drive for bench lathes; it is noiseless, powerful and safe. The lathe and the cast iron cabinet both have a three point bearing on the bench. The cabinet top opens to permit lacing of the belt.

The Lathe Equipment included with this lathe consists of: Face Plate, Tool Post complete, two Lathe Centers, Spindle Sleeve, Independent Change Gears, Bolts, Nuts and Washers. Also Instruction Book, "How to Run a Lathe."

The Reversing Motor is placed beneath the bench and drives a jack shaft located in the cast iron cabinet. Two leather belts are used, one from the motor pulley to the drive pulley and the other from the driving cone to the spindle cone. A drum type Reversing Switch, conveniently located within easy working reach in front of the operator, controls the motor and provides instantaneous starting, stopping and reversing of the lathe spindle.

The Electrical Equipment included with the drive unit for this lathe consists of: $\frac{1}{4}$ -H.P. Constant Speed Reversing Motor, 1200 R.P.M.; drum type Reversing Switch; Wiring between Motor and Switch; Metal Conduit; Wiring Diagram; two Leather Belts; Iron Cabinet with Drive Mechanism.

9-inch and 11-inch Quick Change Gear and Standard Change Gear Bench Lathes may be equipped with the Horizontal Motor Drive. Write for Circular.

Net Factory Prices of 9-inch Junior Horizontal Motor Driven Lathes, Electrical and Lathe Equipment*

Catalog No. of Lathe	Swing Over Bed	Length of Bed	Between Centers	Size of Motor	Weight Crated	3-Phase 60 Cycle Motor	Single Phase 60 Cycle Motor	Direct Current Motor
422-X	9 $\frac{1}{4}$ in.	2 $\frac{1}{2}$ ft.	11 in.	$\frac{1}{4}$ H.P.	435 lbs.	\$207.00	\$221.00	\$214.00
422-Y	9 $\frac{1}{4}$ in.	3 ft.	18 in.	$\frac{1}{4}$ H.P.	465 lbs.	212.00	226.00	219.00
422-Z	9 $\frac{1}{4}$ in.	3 $\frac{1}{2}$ ft.	23 in.	$\frac{1}{4}$ H.P.	495 lbs.	217.00	231.00	224.00
422-A	9 $\frac{1}{4}$ in.	4 ft.	29 in.	$\frac{1}{4}$ H.P.	525 lbs.	222.00	236.00	229.00
422-R	9 $\frac{1}{4}$ in.	4 $\frac{1}{2}$ ft.	36 in.	$\frac{1}{4}$ H.P.	555 lbs.	227.00	241.00	234.00

*Prices do not include Bench.

Write for 9-inch Junior Lathe Catalog No. 23. See Page 31.

SOUTH BEND LATHE WORKS, 332 E. Madison St., SOUTH BEND, IND., U.S.A.

Jobs for 9-inch Junior New Model South Bend Lathes

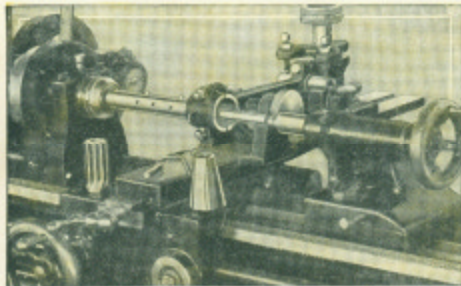


Fig. 6. Attachment for Boring and Reaming a Series of Connecting Rods.

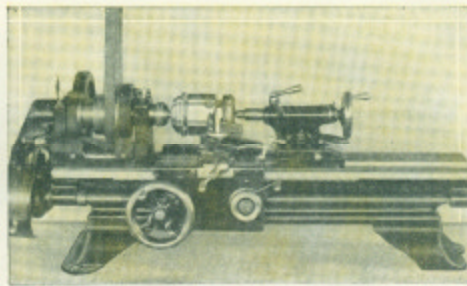


Fig. 7. Turning a Semi-machined Piston is Four Times Faster Than Grinding. See Page 27.

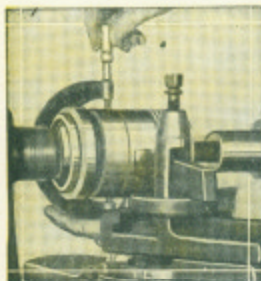


Fig. 8. Measuring Piston with a Micrometer.

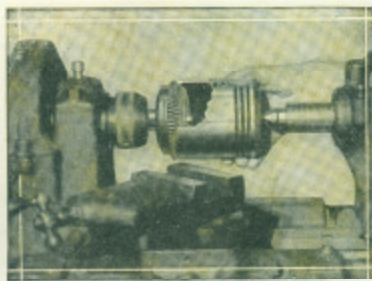


Fig. 9. Truing the Inside Bevel Edge of Piston Skirt. See Page 27.

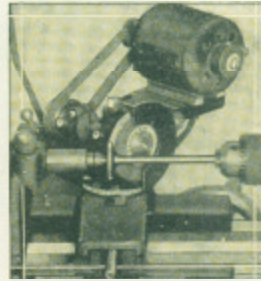


Fig. 10. Refacing a Valve with No. 15 Electric Grinder

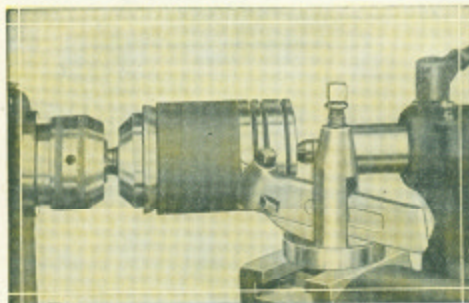


Fig. 11. Turning a Semi-machined Piston Mounted on a No. 44 Piston Adapter. See Page 27.

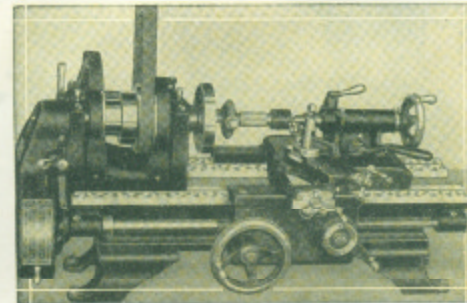


Fig. 12. Cutting the Thread on a Master Screw Thread Gauge.



Fig. 13. Draw-in Collet Chuck and Turret for Making Small Parts.

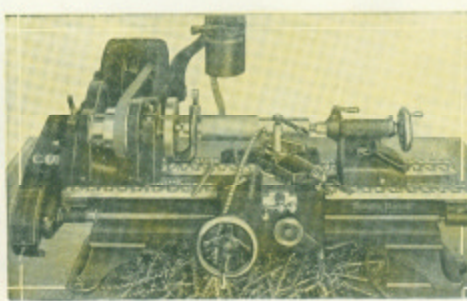


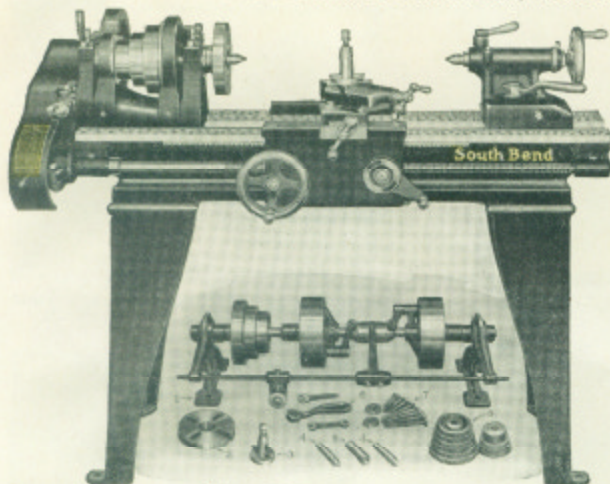
Fig. 14. 9-inch Junior Horizontal Motor Driven Bench Lathe on a Manufacturing Job.

CATALOG No. 89-A DESCRIBES ENTIRE LINE NEW MODEL LATHES AND ACCESSORIES

NEW MODEL SOUTH BEND BACK GEARED SCREW CUTTING LATHES

9-inch Junior New Model South Bend Lathe

Back Geared Screw Cutting Precision Tool, Floor Leg Type, Countershaft Drive



Countershaft and Equipment Included in Price

The 9-inch Junior New Model Lathe with floor legs is exactly the same lathe as shown on page four, except instead of the short legs for bench use it is equipped with floor legs, which eliminate the need of a bench.

The Double Friction Countershaft and Equipment included in the price of each 9-inch Junior New Model Lathe, floor leg type, consists of: Double Friction Countershaft; Face Plate; Tool Post complete; two Lathe Centers; Spindle Sleeve; Change Gears for cutting screw threads and feeds; Wrenches; Lag Screws and Washers.

Prices of 9-in. Junior Floor Leg Lathe

No. of Lathe	Length of Bed	Weight Crated	Price F.O.B. South Bend
22-X	2½ ft.	415 lbs.	\$160.00
22-Y	3 ft.	440 lbs.	165.00
22-Z	3½ ft.	465 lbs.	170.00
22-A	4 ft.	490 lbs.	175.00
22-R	4½ ft.	515 lbs.	180.00

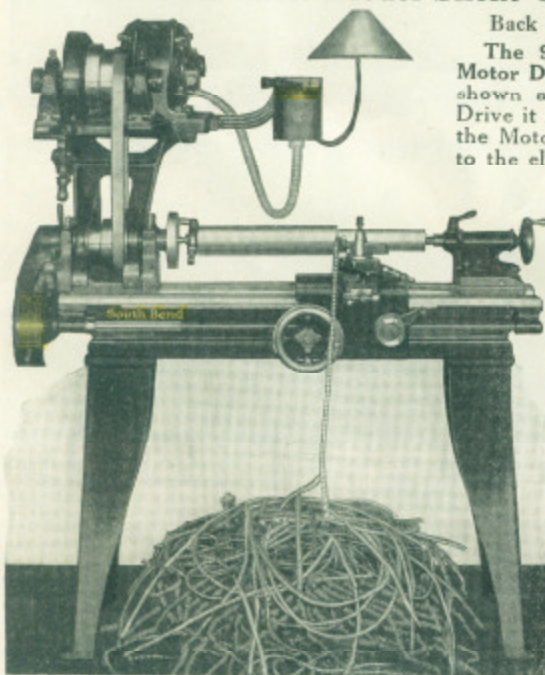
9-inch Junior New Model Silent Chain Motor Driven Lathe

Back Geared, Screw Cutting Precision Tool

The 9-inch Junior New Model Silent Chain Motor Driven Lathe is exactly the same lathe as shown above except instead of a Countershaft Drive it has a Silent Chain Motor Drive. When the Motor Drive Unit of this lathe is connected to the electric current, it is ready for operation.

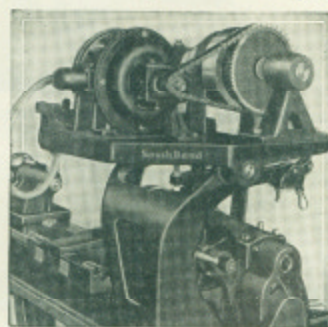
For Features and Specifications of this lathe, see those listed on page four. Full description of the electrical equipment included with this lathe, see page 20.

The Constant Speed Reversing Motor of the Drive Unit can be operated from an electric light socket for about 2 cents an hour. A drum type Reversing Switch provides instantaneous starting, stopping and reversing of the lathe spindle.



Prices of 9-inch Junior Silent Chain Motor Driven Lathe

Catalog No. of Lathe	Length of Bed	Weight Crated	3 Phase 60 Cycle A.C. Motor	Single Phase 60 Cycle A.C. Motor	Direct Current Motor
322-X	2½ ft.	630 lbs.	\$246.00	\$262.00	\$258.00
322-Y	3 ft.	650 lbs.	251.00	267.00	263.00
322-Z	3½ ft.	670 lbs.	256.00	272.00	268.00
322-A	4 ft.	690 lbs.	261.00	277.00	273.00
322-R	4½ ft.	710 lbs.	266.00	282.00	278.00



The Silent Chain Drive Unit Gear Guard Removed

Fig. 15. The Motor Drive Unit is located on a table directly above the lathe headstock. The driving cone receives its power from the motor through the Silent Chain which eliminates vibration and noise. The spindle cone is driven by belt.

SOUTH BEND LATHE WORKS, 332 E. Madison St., SOUTH BEND, IND., U.S.A.

NEW MODEL SOUTH BEND LATHES ON EASY PAYMENTS—WRITE FOR INFORMATION

Jobs for 9-inch Junior New Model South Bend Lathes

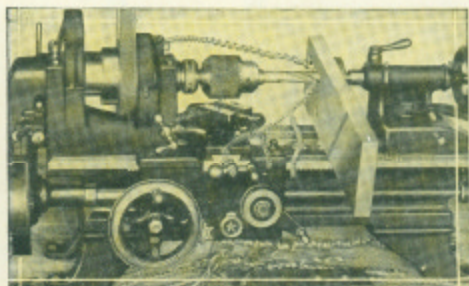


Fig. 16. Drilling a Piece of Flat Steel Held Against Drill Pad in Tailstock.

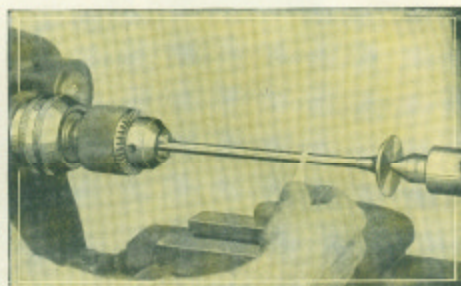


Fig. 17. Testing a Bent Valve Stem for Straightening.



Fig. 18. Turning a Taper by Setting Over Tailstock.

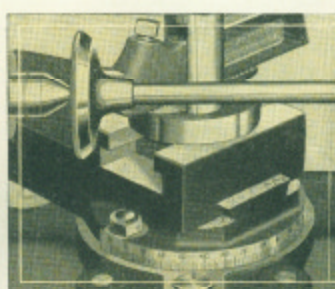


Fig. 19. The Compound Rest is Set at 45 degree Angle

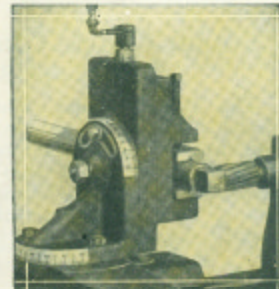


Fig. 20. Squaring the End of a Round Steel Shaft.

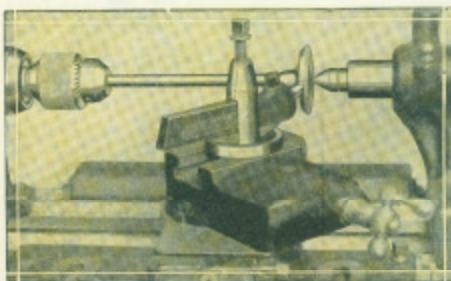


Fig. 21. Refacing a Valve by Turning is About Four Times Faster than Grinding It.

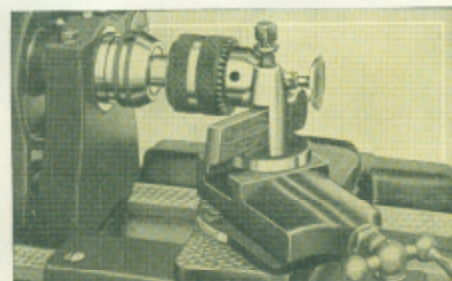


Fig. 22. Refacing Ford Valve without Center Hole in Head, using Hollow Spindle Chuck. See page 26.

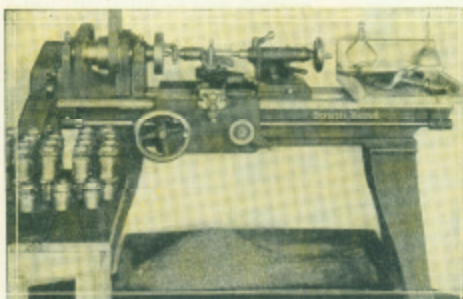


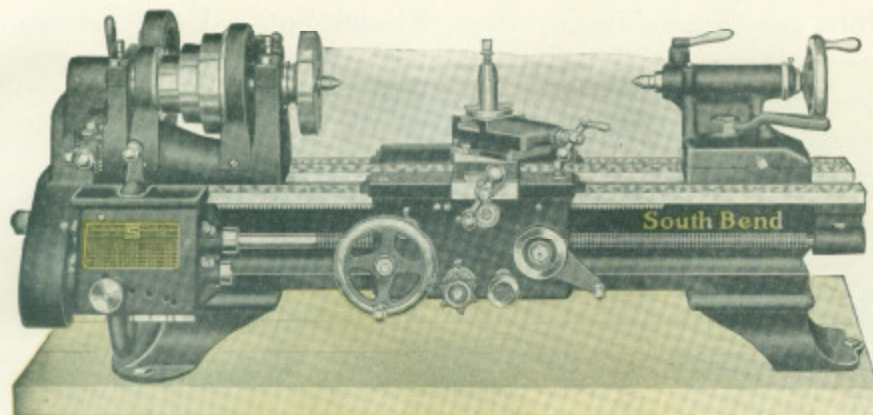
Fig. 23. Manufacturing Small Duplicate Parts on the 9-inch Junior Lathe.



Fig. 24. Crankshaft of a Small Marine Motor, Cut from a Solid Bar and Machined on a 9-inch Junior Lathe. Actual Size of Crankshaft is 8 Inches Long.

BOOKLET "HOW TO RUN A LATHE" INCLUDED WITH EACH LATHE

NEW MODEL SOUTH BEND BACK GEARED SCREW CUTTING LATHES

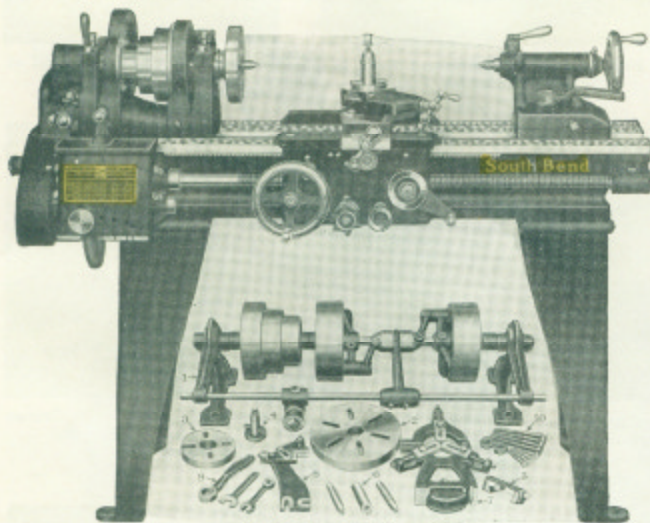


9-inch Quick Change Gear New Model South Bend Lathe

Back Geared, Screw Cutting Precision Tool, with Countershaft Drive

The 9-inch Quick Change Gear New Model Lathe is a sturdy and dependable tool that is practical for taking care of the small machine work that comes into the Service Station Shop, Garage, and Electrical Shop. It will turn out work with the finest precision and accuracy.

This Lathe Has Automatic Friction Longitudinal and Cross Feeds with full Quick Change Gear mechanism for the cutting of screw threads from 2 to 112 per inch, right or left hand. It is the latest modern type of back geared screw cutting lathe and has no superior for quality.



9-inch Quick Change Gear Lathe, Floor Leg Type

The 9-inch Standard Change Gear New Model Lathe, is the same as the Quick Change Gear Lathe except that it has Independent Change Gears for threads and feeds instead of the Quick Change Gear Box. It has a range for cutting screw threads from 4 to 40 per inch, right or left hand.

The 9-inch Quick Change and Standard Change Gear Lathes are made in both the bench and floor leg types, and can be furnished with countershaft or motor drive.

The Double Friction Countershaft and Equipment, illustrated under the floor-leg lathe, are included in the price of each lathe.

Net Factory Prices of 9-inch Quick and Standard Change Gear Lathes, with Countershaft and Equipment

Lathe Specifications				Bench Type Lathes*						Floor Leg Type Lathes					
Swing Over Bed	Length of Bed	Between Centers	Power Required	Quick Change Gear			Standard Change Gear			Quick Change Gear			Standard Change Gear		
				Cat. No. of Lathe	Weight Crated	Price F.O.B. South Bend	Cat. No. of Lathe	Weight Crated	Price F.O.B. South Bend	Cat. No. of Lathe	Weight Crated	Price F.O.B. South Bend	Cat. No. of Lathe	Weight Crated	Price F.O.B. South Bend
9 1/4 in.	2 1/2 ft.	11 in.	1/4 H.P.	82-XB	405 lbs.	\$255.00	31-XB	395 lbs.	\$220.00	82-X	470 lbs.	\$265.00	31-X	460 lbs.	\$230.00
9 1/4 in.	3 ft.	18 in.	1/4 H.P.	82-YB	425 lbs.	260.00	31-YB	415 lbs.	225.00	82-Y	490 lbs.	270.00	31-Y	480 lbs.	235.00
9 1/4 in.	3 1/2 ft.	23 in.	1/4 H.P.	82-ZB	445 lbs.	265.00	31-ZB	435 lbs.	230.00	82-Z	510 lbs.	275.00	31-Z	500 lbs.	240.00
9 1/4 in.	4 ft.	29 in.	1/4 H.P.	82-AB	465 lbs.	270.00	31-AB	455 lbs.	235.00	82-A	530 lbs.	280.00	31-A	520 lbs.	245.00
9 1/4 in.	4 1/2 ft.	36 in.	1/4 H.P.	82-RB	490 lbs.	275.00	31-RB	480 lbs.	240.00	82-R	550 lbs.	285.00	31-R	540 lbs.	250.00

*Prices do not include Bench.

SOUTH BEND LATHE WORKS, 332 E. Madison St., SOUTH BEND, IND., U.S.A.

Jobs for 9-inch New Model South Bend Lathes

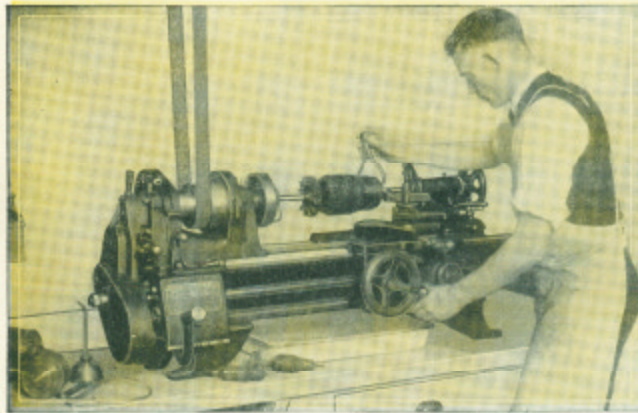


Fig. 25. The above illustration shows a 9-inch Quick Change Gear Bench Lathe in operation. This Lathe is equipped with Automatic Friction Longitudinal and Cross Feeds.



Fig. 26. The Center Hole in an Armature Shaft is Sometimes Badly Battered and Must be Bored True Before Machining the Commutator. See Chapter on Servicing Armatures in Auto Mechanics Service Book No. 66.

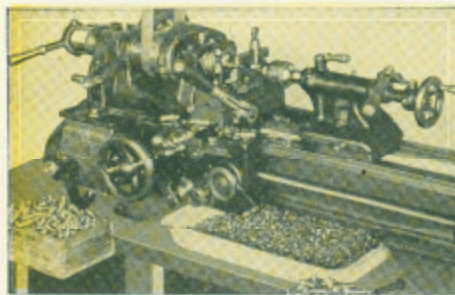


Fig. 27. A Quick Change Gear Bench Lathe Equipped for Manufacturing.

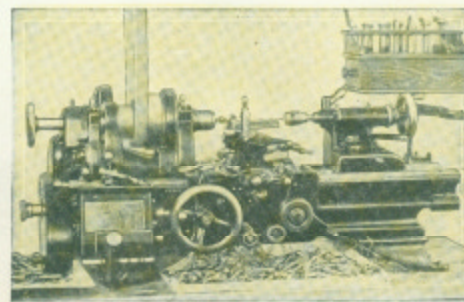


Fig. 28. Making Small Screws on Quick Change Gear Bench Lathe.



Fig. 29. Quick Method of Reaming a Single Connecting Rod.

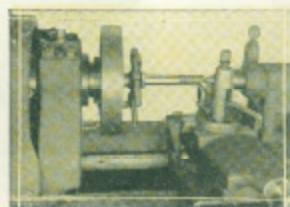


Fig. 30. Cutting the Thread of a Bolt for Motor Block.



Fig. 31. Reaming the Wrist Pin Hole of a Piston.



Fig. 32. Bushings of All Kinds Can Be Made on the 9-inch Junior Lathe.

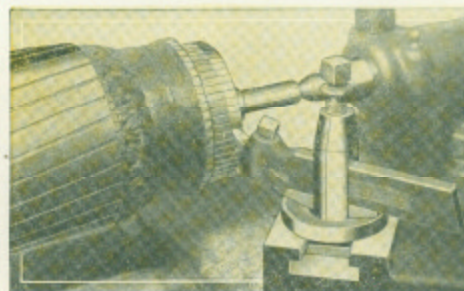
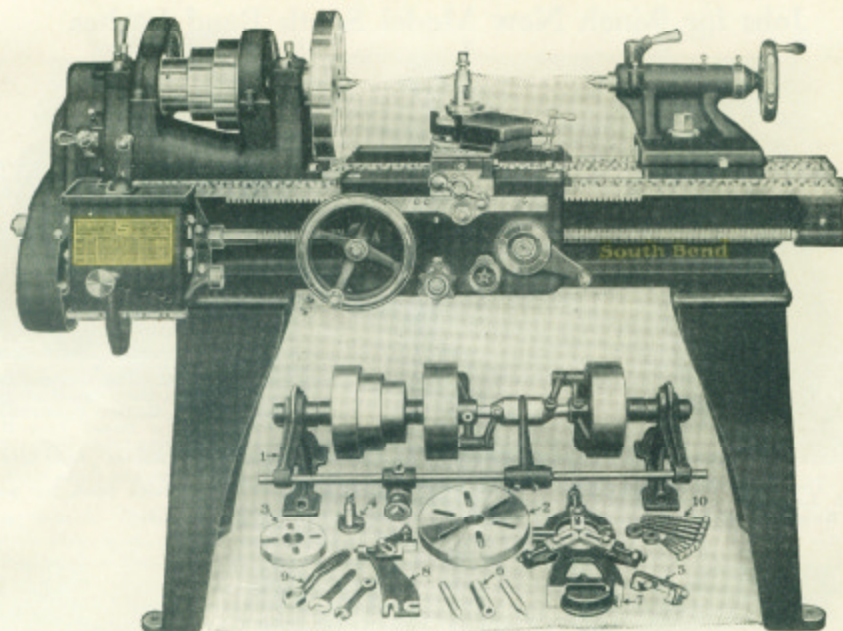


Fig. 33. Taking the Finishing Cut to True the Commutator. See Page 26.

CATALOG No. 89-A DESCRIBES ENTIRE LINE NEW MODEL LATHES AND ACCESSORIES

NEW MODEL SOUTH BEND BACK GEARED SCREW CUTTING LATHES



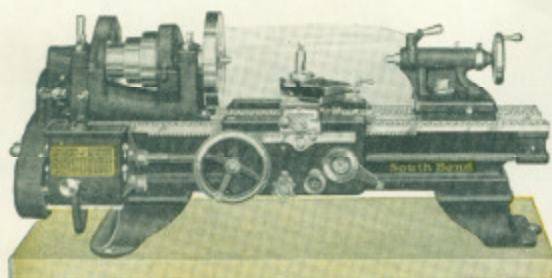
Regular equipment, as illustrated under Lathe, is included in price of Lathe

11-inch Quick Change Gear New Model South Bend Lathes

Back Geared, Screw Cutting Precision Tool, with Countershaft Drive

The 11-inch Quick Change Gear New Model Lathe is a strongly built tool that will give the mechanic exceptional service on machine work that comes into the Service Station Shop, Garage and Electrical Shop. It will turn out work to meet the most accurate requirements.

This Lathe Has Automatic Friction Longitudinal and Cross Feeds with full Quick Change Gear mechanism for the cutting of standard screw threads from 2 to 112 per inch, right or left hand. It is the latest modern type of back geared screw cutting lathe.



11-inch Quick Change Gear Lathe, Bench Type

The 11-inch Standard Change Gear New Model Lathe, is the same as the Quick Change Gear Lathe except that it has Independent Change Gears for threads and feeds instead of the Quick Change Gear Box. Its range for cutting screw threads is from 4 to 40 per inch, right or left hand.

The 11-inch Quick Change and Standard Change Gear Lathes are made in the floor leg and bench types and can be furnished with countershaft or motor drive.

Net Factory Prices 11-inch Quick and Standard Change Gear Lathes, with Countershaft and Equipment

Lathe Specifications				Floor Leg Type Lathes						Bench Type Lathes*					
				Quick Change Gear			Standard Change Gear			Quick Change Gear			Standard Change Gear		
Swing over Bed	Length of Bed	Between Centers	Power Required	Cat. No. of Lathe	Weight Crated	Price F.O.B. South Bend	Cat. No. of Lathe	Weight Crated	Price F.O.B. South Bend	Cat. No. of Lathe	Weight Crated	Price F.O.B. South Bend	Cat. No. of Lathe	Weight Crated	Price F.O.B. South Bend
11 1/4 in.	3 ft.	12 in.	1/2 H.P.	84-Y	675 lbs.	\$325.00	33-Y	660 lbs.	\$290.00	84-YB	575 lbs.	\$315.00	33-YB	560 lbs.	\$280.00
11 1/4 in.	3 1/2 ft.	18 in.	1/2 H.P.	84-Z	700 lbs.	330.00	33-Z	685 lbs.	295.00	84-ZB	600 lbs.	320.00	33-ZB	585 lbs.	285.00
11 1/4 in.	4 ft.	24 in.	1/2 H.P.	84-A	725 lbs.	335.00	33-A	710 lbs.	300.00	84-AB	625 lbs.	325.00	33-AB	610 lbs.	290.00
11 1/4 in.	5 ft.	36 in.	1/2 H.P.	84-B	805 lbs.	345.00	33-B	790 lbs.	310.00	84-BB	705 lbs.	335.00	33-BB	690 lbs.	300.00
11 1/4 in.	5 1/2 ft.	42 in.	3/4 H.P.	84-S	845 lbs.	350.00	33-S	830 lbs.	315.00	84-SB	745 lbs.	340.00	33-SB	730 lbs.	305.00

*Prices do not include Bench.

SOUTH BEND LATHE WORKS, 332 E. Madison St., SOUTH BEND, IND., U.S.A.

NEW MODEL SOUTH BEND LATHES ON EASY PAYMENTS—WRITE FOR INFORMATION

Jobs for 11-inch New Model South Bend Lathes

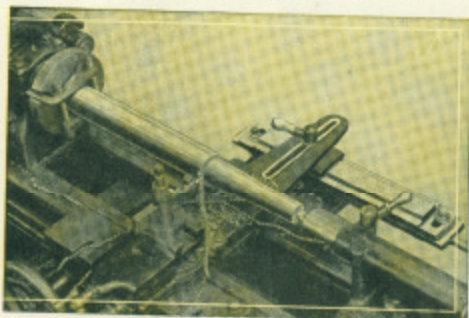


Fig. 34. Turning a Long Taper, Using the Taper Attachment to Determine Degree of Taper.

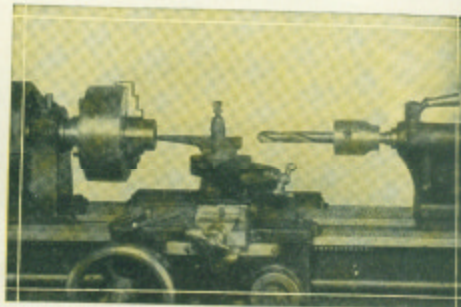


Fig. 35. Making a Steel Bushing Held in a 3-Jaw Scroll Chuck.

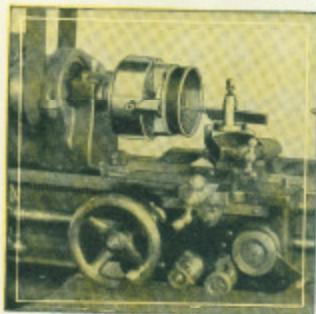


Fig. 36. Cutting an Internal Thread in a Hub Cap.

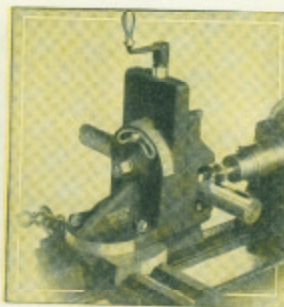


Fig. 37. Milling a Woodruff Keyway in a Steel Shaft.

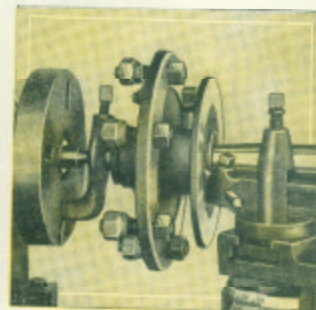


Fig. 38. Truing a Hub Flange of a Rear Auto Wheel

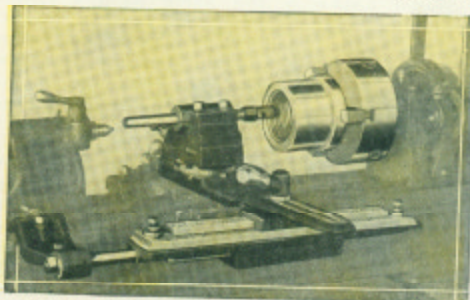


Fig. 39. Cutting an Internal Tapered Thread with the Taper Attachment.

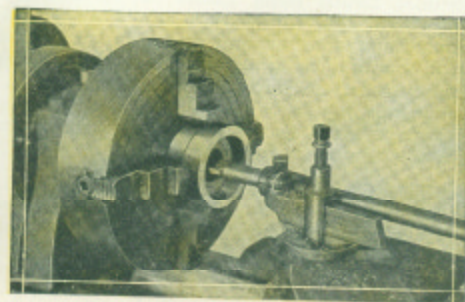


Fig. 40. Making a Large Bushing Held in a 4-Jaw Independent Chuck.

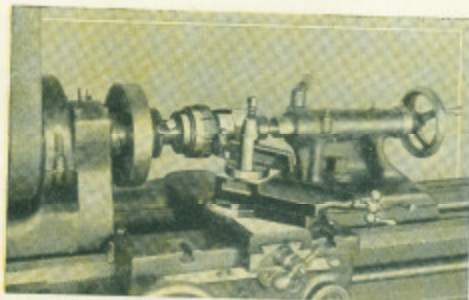


Fig. 41. Cutting a Screw Thread on a Bearing Retaining Collar.

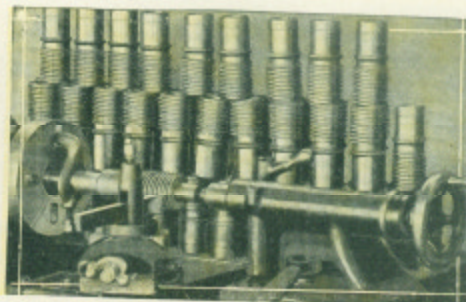
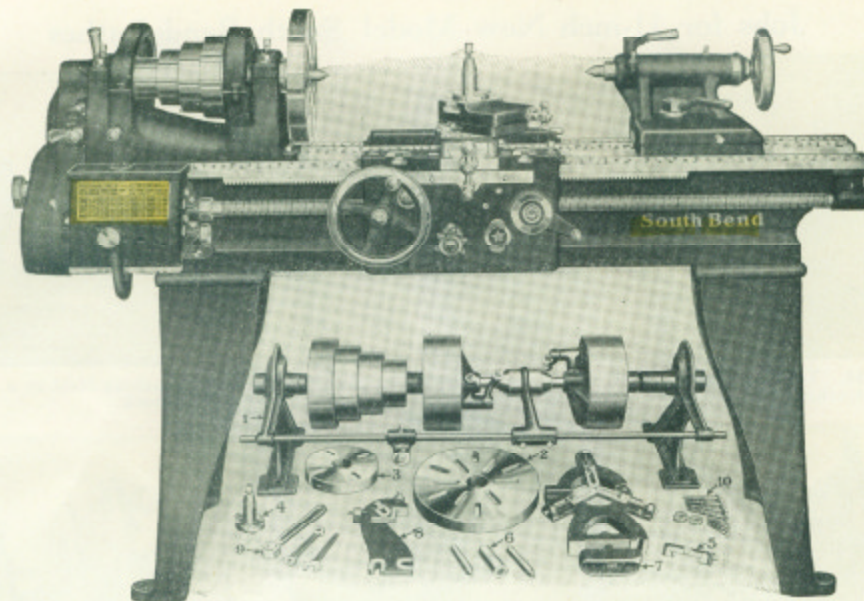


Fig. 42. Cutting an Acme Thread of Large Size on Steel Worm Gears.

BOOKLET "HOW TO RUN A LATHE" INCLUDED WITH EACH LATHE

NEW MODEL SOUTH BEND BACK GEARED SCREW CUTTING LATHES



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

13-inch Quick Change Gear New Model South Bend Lathe

Back Geared, Screw Cutting Precision Tool, with Countershaft Drive

The 13-inch Quick Change Gear New Model South Bend Lathe is an efficient, powerful tool for work in the Service Station Shop, Garage and Electrical Shop and will handle the finest precision work with the utmost accuracy. The 4-step spindle cone and increase in swing make this lathe practical for many jobs that cannot be handled on the smaller lathes.

The 13-inch Quick Change Gear Lathe is the latest modern type of back geared screw cutting lathe with automatic friction longitudinal and cross feeds and full Quick Change Gear mechanism for the cutting of screw threads from 2 to 112 per inch, right or left hand. For quality of workmanship it has no superior.

The 13-inch Standard Change Gear New Model Lathe is the same as the Quick Change Gear Lathe except that it is furnished with Independent Change Gears for automatic feeds and the cutting of screw threads. The thread cutting range of the Standard Change Gear Lathe is from 2 to 40 per inch, right or left hand.

13-inch Quick Change and Standard Change Gear Lathes both have the same automatic feeds and are made in the Countershaft and Silent Chain Motor Driven types. For full description of Silent Chain Motor Driven Lathes, see page 20. The Double Friction Countershaft and Equipment illustrated under the lathe is included in the prices shown below.

Net Factory Prices of 13-inch Quick and Standard Change Gear Lathes, with Countershaft and Equipment

Swing Over Bed	Length of Bed	Between Centers	Power Required	Quick Change Gear			Standard Change Gear		
				Cat. No. of Lathe	Weight Crated	Price F.O.B. South Bend	Cat. No. of Lathe	Weight Crated	Price F.O.B. South Bend
13 1/4 in.	4 ft.	16 in.	3/4 H.P.	86-A	1060 lbs.	\$390.00	35-A	1040 lbs.	\$340.00
13 1/2 in.	5 ft.	28 in.	3/4 H.P.	86-B	1110 lbs.	402.00	35-B	1090 lbs.	352.00
13 3/4 in.	6 ft.	40 in.	3/4 H.P.	86-C	1160 lbs.	414.00	35-C	1140 lbs.	364.00
13 1/2 in.	7 ft.	52 in.	3/4 H.P.	86-D	1210 lbs.	426.00	35-D	1190 lbs.	376.00
13 3/4 in.	8 ft.	64 in.	3/4 H.P.	86-E	1260 lbs.	438.00	35-E	1240 lbs.	388.00

Net Factory Prices of 15-inch Quick and Standard Change Gear Lathes, with Countershaft and Equipment

15 1/4 in.	5 ft.	24 1/2 in.	1 H.P.	88-B	1475 lbs.	\$475.00	39-B	1450 lbs.	\$415.00
15 1/2 in.	6 ft.	36 1/2 in.	1 H.P.	88-C	1550 lbs.	490.00	39-C	1525 lbs.	430.00
15 3/4 in.	7 ft.	48 1/2 in.	1 H.P.	88-D	1625 lbs.	505.00	39-D	1600 lbs.	445.00
15 1/2 in.	8 ft.	60 1/2 in.	1 H.P.	88-E	1735 lbs.	520.00	39-E	1710 lbs.	460.00
15 3/4 in.	10 ft.	84 1/2 in.	1 H.P.	88-G	1900 lbs.	550.00	39-G	1875 lbs.	490.00

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Jobs for the 13-inch and 15-inch New Model South Bend Lathes

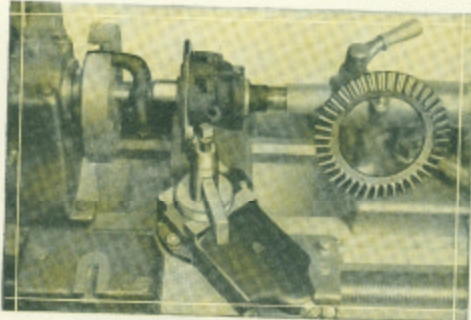


Fig. 43. Truing the Flange of a Differential Spider.

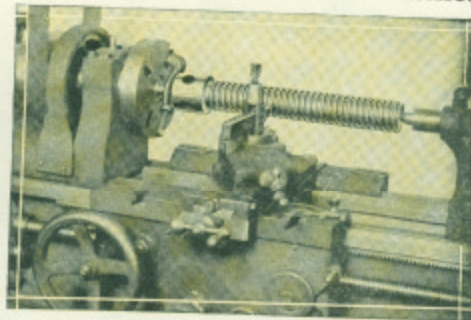


Fig. 44. Cutting a Square Thread on a Jack Screw.

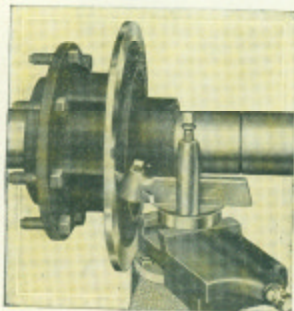


Fig. 45. Truing the Hub Flange of a Budd Wheel.



Fig. 46. Boring a Worn Gear for a Bushing.

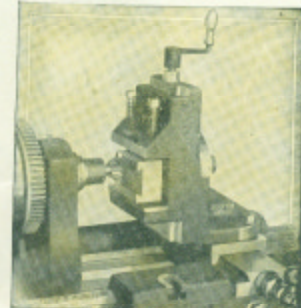


Fig. 47. Milling a Dovetail with the Milling Attachment.

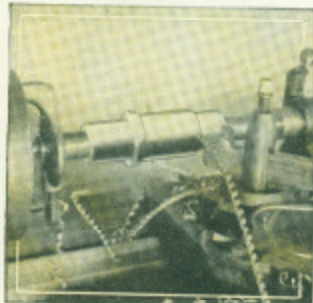


Fig. 48. Making a Steel Bushing on an Arbor.



Fig. 48. Making a Valve Stem Guide.

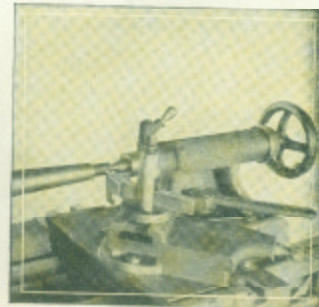


Fig. 50. Cutting Thread on an Automobile Axle.

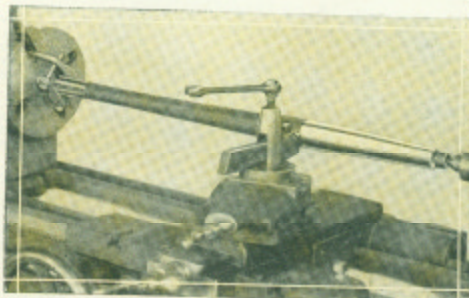


Fig. 51. Turning Taper of Automobile Axle, Using Tailstock Set-over to Determine Degree of Taper.

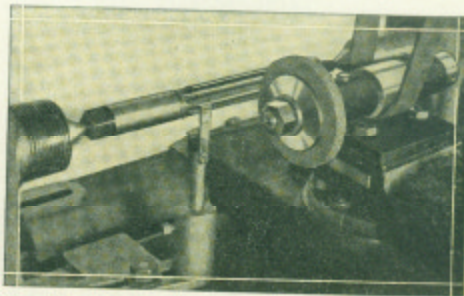
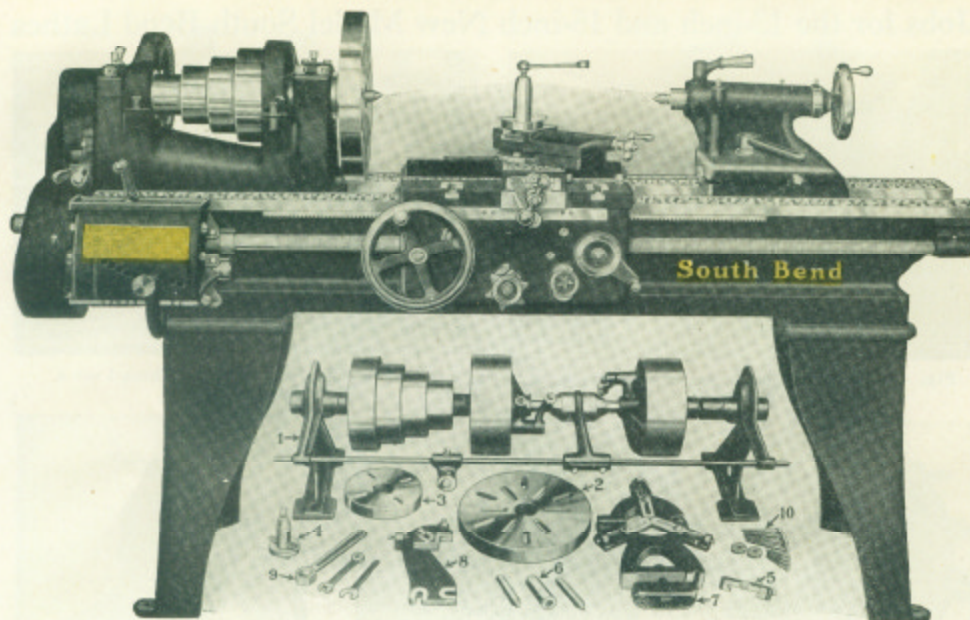


Fig. 52. Grinding the Flutes of a Large Straight Reamer. Taper Reamers Can Also Be Ground on Lathe.

CATALOG No. 89-A DESCRIBES ENTIRE LINE NEW MODEL LATHES AND ACCESSORIES

NEW MODEL SOUTH BEND BACK GEARED SCREW CUTTING LATHES



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

16-inch Quick Change Gear New Model South Bend Lathe

Back Geared, Screw Cutting Precision Tool, with Countershaft Drive

The 16-inch Quick Change Gear New Model Lathe is a practical tool for the Service Station Shop, Garage and Electrical Shop as it will do work on the big jobs and little jobs with equal ease. It has the power for heavy cuts, and the precision and accuracy for fine tool work. The swing and distance between centers permit it to be used for a wide variety of operations.

This Lathe has Automatic Friction Feeds, Longitudinal and Cross, with full Quick Change Gear mechanism for the cutting of screw threads from 2 to 112 per inch, right or left hand. It is the latest modern type of back geared screw cutting lathe and for quality of workmanship it has no superior.

LATHE FEATURES

Back geared head stock gives 8 spindle speeds.
Automatic cross feed, automatic longitudinal feed.
Hollow spindle made of special carbon steel.
Spring latch reverse for feeds and threads.
Phosphor bronze bearings for spindle.
Graduated compound rest swivels to any angle.
Tailstock set-over for turning and boring tapers.
Micrometer collar on cross feed and compound rest screw.
Precision lead screw for cutting accurate threads.
Carriage lock for accurate facing and compound rest use.

LATHE SPECIFICATIONS

Head and Tail Spindle Centers.....No. 3 Morse Taper
Size of Spindle Nose.....2 1/2 inches diam., 6 Pitch
Acme Thread Lead Screw.....1 1/2 inches diam., 6 Pitch
Screw Thread Cutting Range.....2 to 112 per inch
Width of Cone Pulley Belt.....2 1/2 inches
Spindle Speeds.....20, 30, 50, 75, 140, 225, 360, 610 R.P.M.
Countershaft Speed.....225 R.P.M.
Countershaft Friction Clutch Pulleys.....10 inches x 3 3/8 inches
Angular Travel of Compound Rest Top.....4 inches
Size of Lathe Tool Shank.....1 1/2 inch x 1 1/2 inches

Net Factory Prices 16-inch Quick and Standard Change Gear Lathes, with Countershaft and Equipment

Lathe Specifications				Quick Change Gear			Standard Change Gear		
Swing Over Bed	Length of Bed	Between Centers	Power Required	Cat. No. of Lathe	Weight Crated	Price F.O.B. South Bend	Cat. No. of Lathe	Weight Crated	Price F.O.B. South Bend
16 1/4 in.	6 ft.	34 in.	1 H.P.	92-C	1875 lbs.	\$540.00	41-C	1840 lbs.	\$480.00
16 1/4 in.	7 ft.	46 in.	1 H.P.	92-D	1955 lbs.	555.00	41-D	1920 lbs.	495.00
16 1/4 in.	8 ft.	58 in.	1 H.P.	92-E	2035 lbs.	570.00	41-E	2000 lbs.	510.00
16 1/4 in.	10 ft.	82 in.	1 H.P.	92-G	2195 lbs.	600.00	41-G	2160 lbs.	540.00
16 1/4 in.	12 ft.	106 in.	1 H.P.	92-H	2355 lbs.	645.00	41-H	2320 lbs.	585.00

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NEW MODEL SOUTH BEND LATHES ON EASY PAYMENTS—WRITE FOR INFORMATION

Jobs for the 16-inch New Model South Bend Lathes

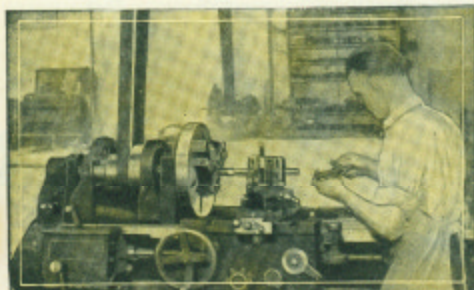


Fig. 53. Boring a Special Tool That is Bolted on the Face Plate.

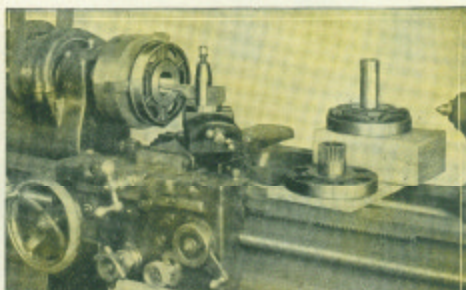


Fig. 54. Boring a Transmission Drum to Make a Bushing Repair.

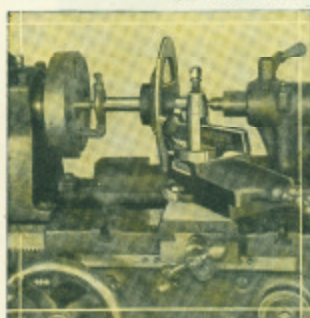


Fig. 55. Truing a Clutch Disc Mounted on an Arbor.



Fig. 56. Milling a Keyway with an End Mill.

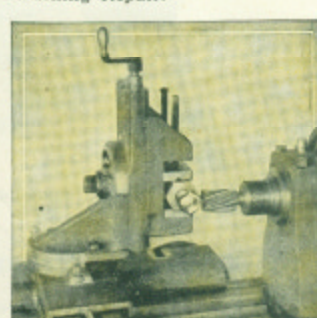


Fig. 57. Milling a Hexagon Head on a Bolt.



Fig. 58. Truing Crankshaft Throw Bearings with a Weber Tool Attachment.

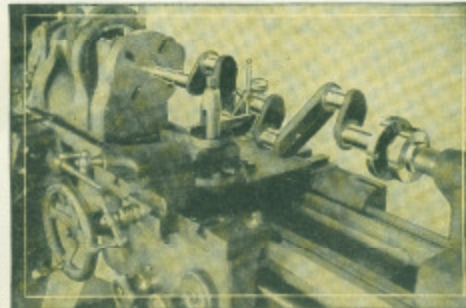


Fig. 59. Testing the Main Bearings of a Crankshaft with a Dial Indicator.



Fig. 60. The "City of New York," one of Commander Byrd's Polar Expedition ships, equipped with two South Bend Lathes.

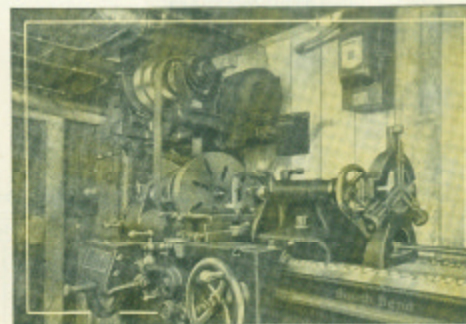
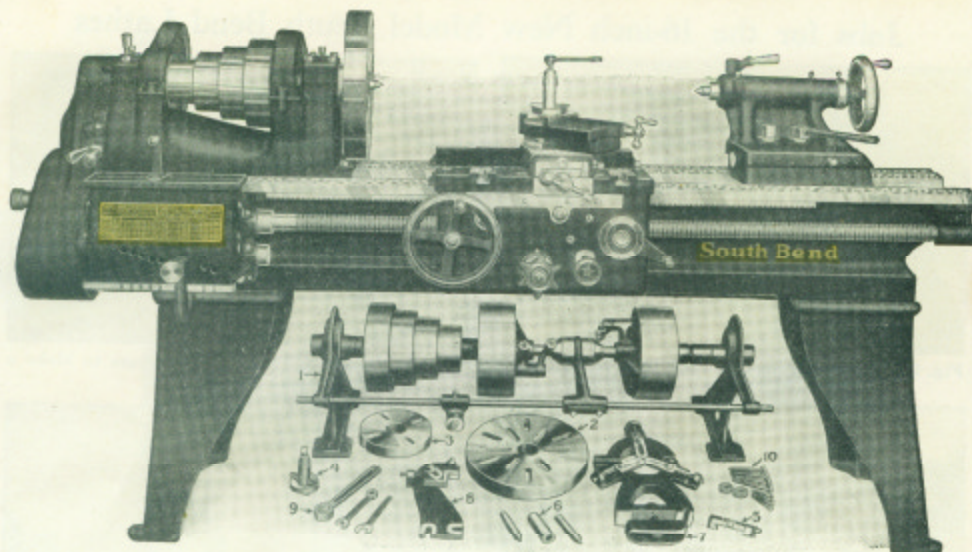


Fig. 61. 16-inch New Model South Bend Lathe Installed and Ready for Operation on Commander Byrd's Ship, the "City of New York."

BOOKLET "HOW TO RUN A LATHE" INCLUDED WITH EACH LATHE

NEW MODEL SOUTH BEND BACK GEARED SCREW CUTTING LATHES



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

18-inch Quick Change Gear New Model South Bend Lathe

Back Geared, Screw Cutting Precision Tool, with Countershaft Drive

The 18-inch Quick Change Gear New Model Lathe is a rugged, heavy-built lathe practical for doing the larger jobs in the Service Station Shop, Garage and Electrical Shop. It also can be used for the smaller jobs and will turn out work with the finest precision and accuracy. It is an excellent tool for the shop that wants to do many sizes of work on one lathe.

This Lathe has Automatic Friction Feeds, Longitudinal and Cross, with full Quick Change Gear mechanism for the cutting of screw threads from 2 to 112 per inch, right or left hand. It is the latest modern type of back geared screw cutting lathe and for quality of workmanship it has no superior.

The 18-inch Standard Change Gear New Model Lathe is the same as the Quick Change Gear Lathe except that it has Independent Change Gears for threads and feeds instead of the Quick Change Gear Box. Its range for cutting standard screw threads is from 2 to 40 per inch, right or left hand.

The 18-inch Quick Change and Standard Change Gear Lathes are both equipped with Automatic Feeds, and are made in the Countershaft or Silent Chain Motor Drive type. See page 20 for illustration and full description of the Silent Chain Motor Driven Lathes. The Double Friction Countershaft and equipment illustrated under the lathe, are included in the prices.

LATHE FEATURES

Back geared headstock gives eight spindle speeds.
Automatic cross feed, automatic longitudinal feed.
Hollow spindle made of special carbon steel.
Spring latch reverse for feeds and threads.
Phosphor bronze bearings for spindle.
Graduated compound rest swivels to any angle.
Tailstock set-over for turning and boring tapers.
Micrometer collar on cross feed and compound rest screw.
Precision lead screw for cutting accurate threads.
Carriage lock for accurate facing and compound rest use.

LATHE SPECIFICATIONS

Head and Tail Spindle Centers.....No. 3 Morse Taper
Size of Spindle Nose.....2 1/2 in. diam., 6 Pitch
Acme Thread Lead Screw.....1 1/2 in. diam., 4 Pitch
Screw Thread Cutting Range.....2 to 112 per inch
Width of Cone Pulley Belt.....2 1/2 inches
Spindle Speeds.....18, 28, 45, 70, 135, 200, 300, 465 R.P.M.
Countershaft Speed.....200 R.P.M.
Countershaft Friction Clutch Pulleys.....12 inch x 4 1/2 inches
Angular Travel of Compound Rest Top.....4 1/4 inches
Size of Lathe Tool Shank.....1/2 in. x 1 1/4 inches

Net Factory Prices 18-inch Quick and Standard Change Gear Lathes, with Countershaft and Equipment

Lathe Specifications				Quick Change Gear			Standard Change Gear		
Swing Over Bed	Length of Bed	Between Centers	Power Required	Cat. No. of Lathe	Weight Crated	Price F.O.B. South Bend	Cat. No. of Lathe	Weight Crated	Price F.O.B. South Bend
18 1/4 in.	6 ft.	29 1/2 in.	2 H.P.	94-C	2440 lbs.	\$650.00	43-C	2400 lbs.	\$585.00
18 1/4 in.	7 ft.	41 1/2 in.	2 H.P.	94-D	2540 lbs.	675.00	43-D	2500 lbs.	610.00
18 1/4 in.	8 ft.	53 1/2 in.	2 H.P.	94-E	2640 lbs.	700.00	43-E	2600 lbs.	635.00
18 1/4 in.	10 ft.	77 1/2 in.	2 H.P.	94-G	2840 lbs.	750.00	43-G	2800 lbs.	685.00
18 1/4 in.	12 ft.	101 1/2 in.	2 H.P.	94-H	3140 lbs.	815.00	43-H	3100 lbs.	750.00
18 1/4 in.	14 ft.	125 1/2 in.	2 H.P.	94-K	3540 lbs.	875.00	43-K	3300 lbs.	810.00

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Jobs for the 18-inch New Model South Bend Lathes

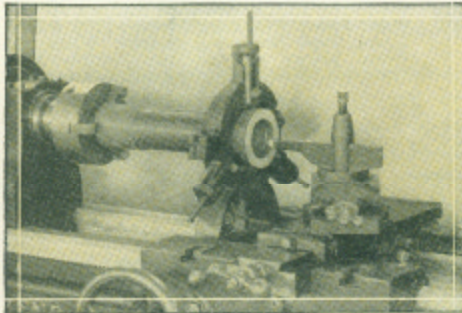


Fig. 62. Cutting an Internal Thread in a Large Piece of Work.

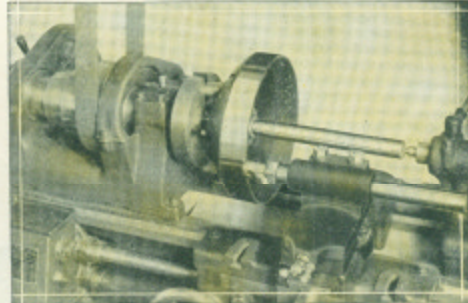


Fig. 63. Truing the Surface of the Brake Drum of a Budd Disc Wheel.

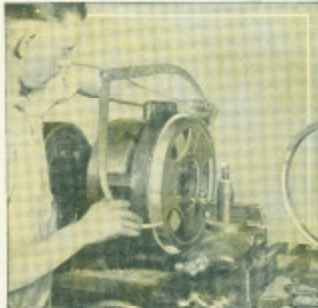


Fig. 64. Measuring the Diameter of a Turned Flywheel.



Fig. 65. Boring the Taper of a Conical Die.

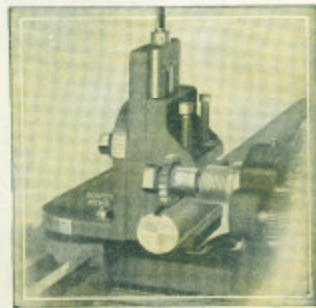


Fig. 66. Cutting a Standard Keyway in a Long Shaft.



Fig. 67. Truing the Hub Flange of a Truck Wheel.



Fig. 68. Tapping out a Large Nut on the Lathe.

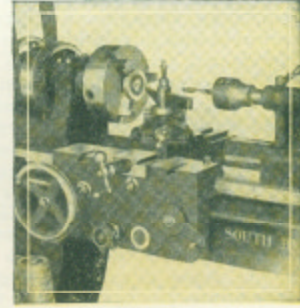


Fig. 69. Drilling and Facing Cast Iron Gear Blanks.

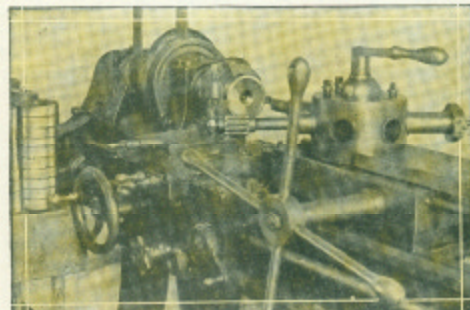


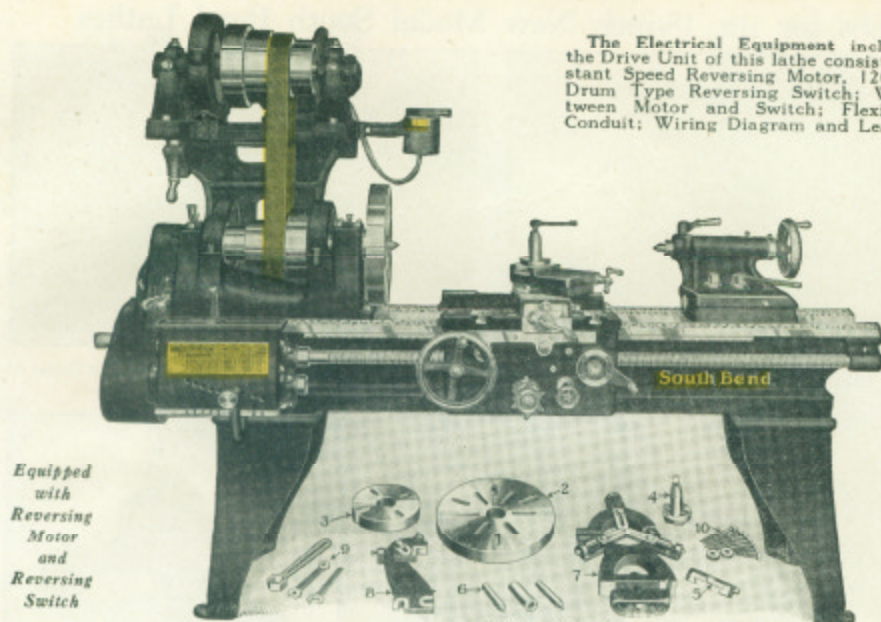
Fig. 70. Lathe Equipped with Turnstile Bed and Round Turret, for Manufacturing.



Fig. 71. Lathe Equipped with Double Tool Slide, Turning Two Diameters at Once.

OUR CATALOG No. 89-A DESCRIBES ENTIRE LINE NEW MODEL LATHES AND ACCESSORIES

NEW MODEL SOUTH BEND BACK GEARED SCREW CUTTING LATHES



The Electrical Equipment included with the Drive Unit of this lathe consists of: Constant Speed Reversing Motor, 1200 R.P.M.; Drum Type Reversing Switch; Wiring between Motor and Switch; Flexible Metal Conduit; Wiring Diagram and Leather Belt.

Equipped with Reversing Motor and Reversing Switch

Equipment as Illustrated Under Lathe Is Included in Price

New Model South Bend Silent Chain Motor Driven Lathe

Back Geared, Screw Cutting Lathes, Quick Change and Standard Change Gear

The New Model South Bend Silent Chain Motor Driven Lathe is an efficient and practical tool for use in the Service Station, Shop, Garage and Electrical Shop. The motor drive unit is compact and powerful and requires only to be connected with the electric current to make this lathe ready for operation.

The Reversing Motor is mounted on a table above the lathe headstock, where it is out of the way of chips and dirt. The table is supported by a heavy bracket directly on the lathe bed. A flexible metal conduit encases the wiring between motor and switch. A Silent Chain connects the motor pinion with the driving cone and gives an efficient powerful drive and eliminates vibration and noise.

The Spindle Cone is driven by a leather belt. Power delivered by belt to the lathe spindle means that the tool will always leave a smooth even surface on the work. A small lever allows 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 Switch, drum type, is the most practical for the efficient operation of a screw cutting lathe. It has a rotary motion that enables the operator to quickly start, stop and reverse the lathe spindle.

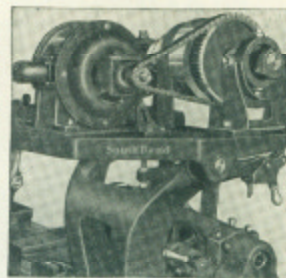


Fig. 72. The Silent Chain Motor Drive Mechanism with Gear Guard Removed.

The Switch Control Handle has three positions: Left for forward; Right for reverse; Center for stop or neutral. The switch is located in front of the operator within easy working reach.

Net Factory Prices of Popular Sizes of New Model Silent Chain Motor Driven Lathes
Prices include Lathe Equipment, Reversing Motor, Reversing Switch and Leather Belt. Other Sizes Upon Request

Lathe Specifications				Quick Change Gear Lathe			Standard Change Gear Lathe		
Swing Over Bed Inches	Length of Bed Feet	Between Centers Inches	Size of Motor H. P.	No. of Lathe	Weight Crated Pounds	With 3 Phase 60 Cycle A. C. Motor	No. of Lathe	Weight Crated Pounds	With 3 Phase 60 Cycle A. C. Motor
9 1/4	3	18	1/4	382-Y	690	\$371.00	331-Y	680	\$336.00
11 1/4	4	24	1/2	384-A	920	455.00	333-A	905	420.00
13 1/4	5	28	3/4	386-B	1510	537.00	335-B	1490	487.00
15 1/4	6	36 1/2	1	388-C	2025	643.00	339-C	2000	583.00
16 1/4	8	58	1	392-E	2470	725.00	341-E	2435	665.00
18 1/4	8	53 1/2	2	394-E	3240	908.00	343-E	3200	843.00

SOUTH BEND LATHE WORKS, 332 E. Madison St., SOUTH BEND, IND., U.S.A.

NEW MODEL SOUTH BEND LATHES ON EASY PAYMENTS—WRITE FOR INFORMATION

Chuck and Tool Assortments for Automotive Machine Work

Showing Price of Assortment for Each Size New Model South Bend Lathe

The Chuck and Tool Assortment illustrated at the right, has been selected as being practical for general automotive machine work. The New Model South Bend Lathe, equipped with one of these assortments will handle practically all machine work in the Service Station Shop, Electrical Shop and Garage.

Any Assortment as described and priced may be ordered complete, or if preferred you may order the desired item separately.

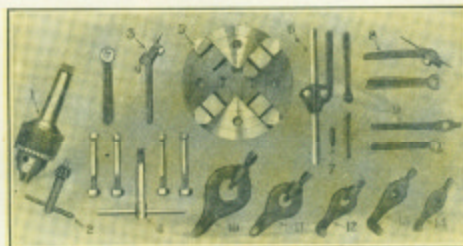


Fig. 73. Chuck and Tool Assortment illustrated above applies to all sizes of South Bend Lathes, differing only in dimensions for each size lathe.

No. 122 Chuck and Tool Assortment for 9-inch Junior Lathes

1 No. 2106	6-inch, 4-Jaw Independent Lathe Chuck, Fitting Chuck to Lathe including Chuck Back	\$28.00
1 No. 1201	3-Jaw Drill Chuck, 1/2-inch capacity	8.50
1 No. 709	Drill Chuck Arbor, fitted to Chuck	1.50
1 No. 849-S	Patent Turning Tool, straight shank	2.40
1 No. 865	Patent Threading Tool	3.75
1 No. 429	Patent Boring Tool, Style B	4.40
1 No. 881-R	Patent Cutting Off Tool (Right Hand)	2.60
1 Set (5)	Malleable Lathe Dogs, 1/2", 3/4", 1", 1 1/4", 1 1/2"	4.05
Net Factory Price (Code Word Balor)		\$62.20

Items of Chuck and Tool Assortment

- 3-Jaw Drill Chuck with Arbor Attached
- Pinion Key for Drill Chuck
- Formed Threading Tool and Wrench
- Wrench and Cap Screws for Lathe Chuck
- 4-Jaw Independent Lathe Chuck
- Style "B" Patent Boring Tool and Wrenches
- High Speed Steel Cutter Bits
- R. H. Patent Cutting-Off Tool and Wrench
- St. S. Patent Turning Tool and Wrench
- 10, 11, 12, 13, 14. Are Malleable Lathe Dogs, 1/2-inch, 3/4-inch, 1-inch, 1 1/4-inch and 1 1/2-inch capacity.

No. 109 Chuck and Tool Assortment for 9-inch Lathes

1 No. 2106	6-inch, 4-Jaw Independent Lathe Chuck, Fitting Chuck to Lathe including Chuck Back	\$28.00
1 No. 1201	3-Jaw Drill Chuck, 1/2-inch capacity	8.50
1 No. 709	Drill Chuck Arbor, fitted to Chuck	1.50
1 No. 849-S	Patent Turning Tool, straight shank	2.40
1 No. 865	Patent Threading Tool	3.75
1 No. 429	Patent Boring Tool, Style B	4.40
1 No. 881-R	Patent Cutting Off Tool (Right Hand)	2.60
1 Set (5)	Malleable Lathe Dogs, 1/2", 3/4", 1", 1 1/4", 1 1/2"	4.05
Net Factory Price (Code Word Celot)		\$62.20

No. 115 Chuck and Tool Assortment for 15-inch Lathes

1 No. 2109	9-inch, 4-Jaw Independent Lathe Chuck, Fitting Chuck to Lathe including Chuck Back	\$35.00
1 No. 1303	2-Jaw Drill Chuck, 1-inch capacity	15.00
1 No. 713	Drill Chuck Arbor, fitted to Chuck	2.00
1 No. 852-S	Patent Turning Tool, straight shank	3.00
1 No. 867	Patent Threading Tool	4.50
1 No. 431	Patent Boring Tool, Style B	5.25
1 No. 883-R	Patent Cutting Off Tool (Right Hand)	3.25
1 Set (5)	Malleable Lathe Dogs, 1/2", 3/4", 1", 1 1/4", 1 1/2"	4.45
Net Factory Price (Code Word Garez)		\$80.95

No. 111 Chuck and Tool Assortment for 11-inch Lathes

1 No. 2106	6-inch, 4-Jaw Independent Lathe Chuck, Fitting Chuck to Lathe including Chuck Back	\$28.00
1 No. 1201	3-Jaw Drill Chuck, 1/2-inch capacity	8.50
1 No. 709	Drill Chuck Arbor, fitted to Chuck	1.50
1 No. 851-S	Patent Turning Tool, straight shank	2.55
1 No. 866	Patent Threading Tool	3.75
1 No. 430	Patent Boring Tool, Style B	4.40
1 No. 822-R	Patent Cutting Off Tool (Right Hand)	2.75
1 Set (5)	Malleable Lathe Dogs, 1/2", 3/4", 1", 1 1/4", 1 1/2"	4.05
Net Factory Price (Code Word Denob)		\$62.20

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

1 No. 2110	10-inch, 4-Jaw Independent Lathe Chuck, Fitting Chuck to Lathe including Chuck Back	\$40.00
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. 853-S	Patent Turning Tool, straight shank	3.60
1 No. 868	Patent Threading Tool	5.75
1 No. 432	Patent Boring Tool, Style B	6.00
1 No. 884-R	Patent Cutting Off Tool (Right Hand)	4.00
1 Set (5)	Malleable Lathe Dogs, 1/2", 3/4", 1", 1 1/4", 1 1/2"	4.45
Net Factory Price (Code Word Margo)		\$90.70

No. 113 Chuck and Tool Assortment for 13-inch Lathes

1 No. 2108	8-inch, 4-Jaw Independent Lathe Chuck, Fitting Chuck to Lathe including Chuck Back	\$32.00
1 No. 1201	3-Jaw Drill Chuck, 1/2-inch capacity	8.50
1 No. 713	Drill Chuck Arbor, fitted to Chuck	2.00
1 No. 852-S	Patent Turning Tool, straight shank	3.00
1 No. 867	Patent Threading Tool	4.50
1 No. 431	Patent Boring Tool, Style B	5.25
1 No. 883-R	Patent Cutting Off Tool (Right Hand)	3.25
1 Set (5)	Malleable Lathe Dogs, 1/2", 3/4", 1", 1 1/4", 1 1/2"	4.45
Net Factory Price (Code Word Enbal)		\$70.95

No. 118 Chuck and Tool Assortment for 18-inch Lathes

1 No. 2112	12-inch, 4-Jaw Independent Lathe Chuck, Fitting Chuck to Lathe including Chuck Back	\$48.00
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. 853-S	Patent Turning Tool, straight shank	3.60
1 No. 868	Patent Threading Tool	5.75
1 No. 432	Patent Boring Tool, Style B	6.00
1 No. 884-R	Patent Cutting Off Tool (Right Hand)	4.00
1 Set (5)	Malleable Lathe Dogs, 1/2", 3/4", 1", 1 1/4", 1 1/2"	4.20
Net Factory Price (Code Word Somer)		\$101.45

BOOKLET "HOW TO RUN A LATHE" INCLUDED WITH EACH LATHE

THE NEW MODEL SOUTH BEND BRAKE DRUM LATHES

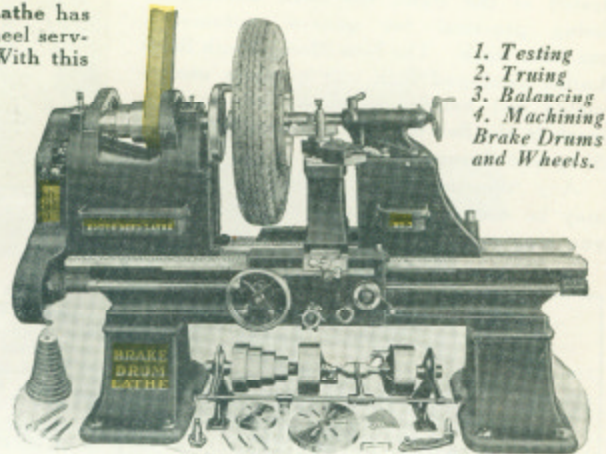
New Model South Bend Brake Drum Lathes

Back Geared, Screw Cutting Lathes with Silent Chain Motor Drive and Countershaft Drive
For Truing Brake Drums and General Shop Work

The New Model Brake Drum Lathe has revolutionized brake drum and wheel service work in the modern shop. With this lathe a mechanic can true brake drums with speed, economy and precision. When not doing brake drum work, there are hundreds of other machine jobs which can be handled on this lathe.

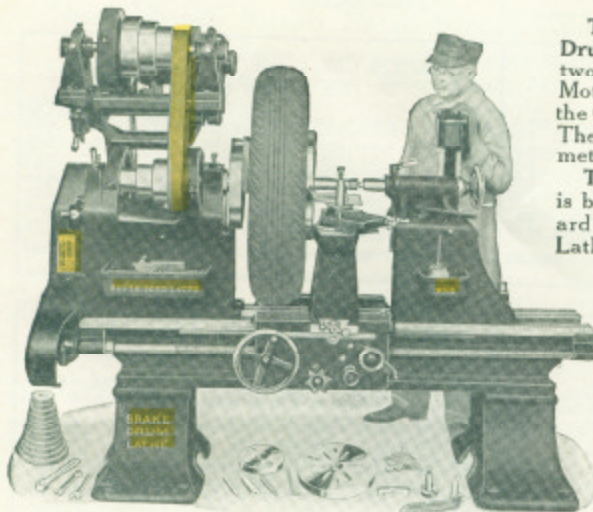
Self-Centering Mandrels and Universal Bearing Adapters center the wheels quickly and accurately, enabling the mechanic to turn out twice the work at half the cost of old style methods. Brake drums can be trued in from 5 to 20 minutes, according to size. See page 24.

The Equipment illustrated under each lathe is included in the price.



1. Testing
2. Truing
3. Balancing
4. Machining Brake Drums and Wheels.

New Model Brake Drum Lathe with Countershaft Drive.



New Model Silent Chain Motor Driven Brake Drum Lathe.

The New Model South Bend Brake Drum Lathe is made in three sizes with two types of drive; the Silent Chain Motor Drive illustrated at the left, and the Countershaft Drive illustrated above. They are identical except for the method of drive.

The South Bend Brake Drum Lathe is built of standard parts of our Standard Change Back Geared Screw Cutting Lathe which we have been manufacturing for 22 years. The only difference is that we have added some features and attachments to make it practical for doing brake drum as well as general shop work. It will turn out work to meet the most accurate precision requirements.

Complete Description of the Silent Chain Motor Drive and electrical equipment is given on page 20.

Net Factory Prices of New Model South Bend Brake Drum Lathes with Countershaft and Silent Chain Motor Drive in the Most Popular Sizes

Specifications of Lathes			Brake Drum Lathe with Countershaft Drive		Silent Chain Motor Driven Brake Drum Lathe			
Swings Wheel with Tire Attached Clear	Length of Bed	Size of Motor	Catalog No. of Lathe	Price F.O.B. South Bend	Catalog No. of Lathe	With 3-Phase, 60 Cycle A.C. Motor	With Single Phase 60 Cycle A.C. Motor	With Direct Current Motor
32 1/4 in.	6 ft.	3/4 H.P.	1BC	\$ 488.00	301BC	\$ 623.00	\$ 663.00	\$ 632.00
36 1/4 in.	8 ft.	1 H.P.	2BE	682.00	302BE	837.00	864.00	910.00
42 1/4 in.	8 ft.	3 H.P.	3BE	1400.00	303BE	1754.00	1820.00	1880.00

SOUTH BEND LATHE WORKS, 332 E. Madison St., SOUTH BEND, IND., U.S.A.

Self-Centering Mandrels and Adapters for Truing Brake Drums

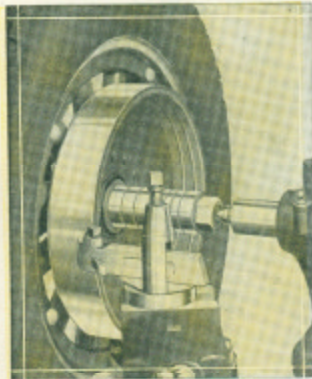


Fig. 74. Truing an External Brake Drum. A Self-Centering Mandrel with Universal Bearing Adapters is Used to Mount Wheel Between Centers in the Lathe.

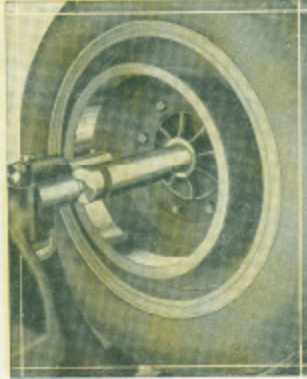


Fig. 75. Truing Internal Brake Drum of Rear Dual Wheel of Truck. Self-Centering Taper Mandrel is Used to Mount Wheel Between Centers in the Lathe.

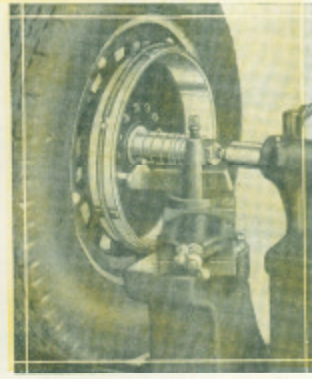


Fig. 76. Truing Internal Brake Drum of Wheel from Car Equipped with 4-wheel Brakes Using Self-Centering Mandrel with Universal Bearing Adapters.

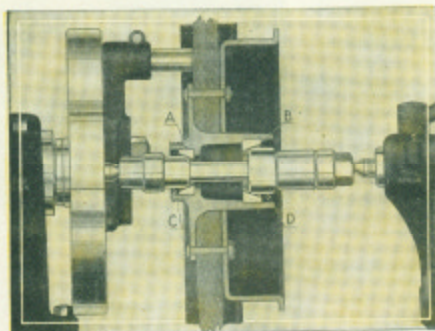


Fig. 77. Front Wheel Mounted on Self-Centering Straight Mandrel.

Self-Centering Mandrel and Bearing Adapters

The Self-Centering Straight Mandrel is fitted with Universal Bearing Adapters, and is practical for use in wheels, with any type of bearing races, and of all sizes.

Explanation of Symbols in Above Illustration

- A—Outer Timken race cup in hub of wheel.
- B—Inner Timken race cup in hub of wheel.
- C—Outer Universal Bearing Adapter in Timken cup.
- D—Inner Universal Bearing Adapter in Timken cup.

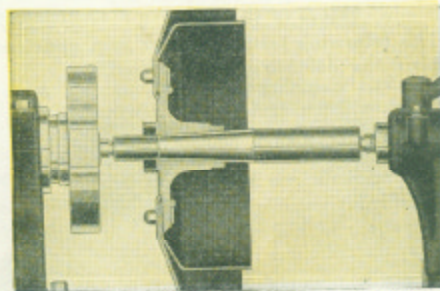


Fig. 78. Rear Wheel Mounted on a Self-Centering Taper Mandrel.

Self-Centering Taper Mandrels

The Self-Centering Taper Mandrels are used for mounting semi-floating rear wheels. The length of the taper portion of the mandrel is greater than the length of the bore in the hub of the wheel so that one mandrel will be sufficient for mounting several wheels, the hubs having the same degree of taper although the diameter of the bore may vary.

For full information about Self-Centering Straight and Taper Mandrels, Universal Bearing Adapters, etc., write for Brake Drum Bulletin, No. 29.

Machining Flywheels for Ring Gears

The Machining of Flywheels for ring gears is just one of the many jobs that can be done on the New Model South Bend Brake Drum Lathe as well as truing brake drums. In the illustration at the left a section of the flywheel teeth is cut away to show the groove made by the cutting-off tool just below the depth of the gear teeth which permits removing the teeth in one solid piece.

From 30 to 35 flywheels can be machined and fitted with steel ring gears in 8 hours by one operator. Instructions for doing this work are given in Auto Mechanics Service Book No. 66. See page 30 for description of this book.

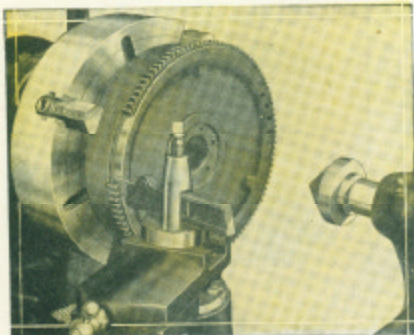


Fig. 79. Tool Cuts Under Old Teeth.

THE NEW MODEL SOUTH BEND BRAKE DRUM LATHES

General Purpose Lathe for the Service Station Shop

New Model South Bend Brake Drum Lathe for General Shop Work

In addition to brake drum and wheel service work, the New Model South Bend Brake Drum Lathe has the accuracy and speed for doing all kinds of general machine work.

Balancing wheels with tire attached.
Turning and facing felloe of wheel.
Facing flanges of front and rear wheels.
Boring wood wheels for hubs.
Making axle shafts.
Making drive shafts.
Making mandrels and adapters.
Turning flywheels for ring gears.
Drilling, reaming and tapping.
Testing and truing cranks shafts.

This lathe will take care of hundreds of jobs that come into the modern service station shop, garage and electrical shop in addition to the ones listed below.

Truing differential gears.
Facing clutch discs.
Finishing semi-machined pistons.
Truing commutators and armature work.
Refacing valves.
Cutting screw threads of all kinds.
Straight turning and boring work.
Taper turning and boring work.
Making bushings.
Grinding, milling and keyway cutting.

How to Test a Wheel

When the defect in a wheel is known, the correction can be made without any loss of time. But if the defect is not known, tests must be made to find it to prevent mistakes or the loss of time in work on parts not affected. Self-centering straight Mandrels with Universal Bearing Adapters, or Taper Mandrels are used to mount the wheel between centers of the lathe to make these tests.

The following tests are listed in proper sequence for determining the defective part or parts:

1. Before mounting see if hub race cups are worn or cracked.
2. Brake Drum Test, to see if it runs true.
3. Wheel Felloe Test, for being true.
4. Hub Flange Face Test, for run-out.
5. Wheel Balancing Test with tire attached.
6. Axle Shaft Test between centers for being bent.

Full information for doing this work is given in Auto Mechanics Service Book No. 66. See page 30.

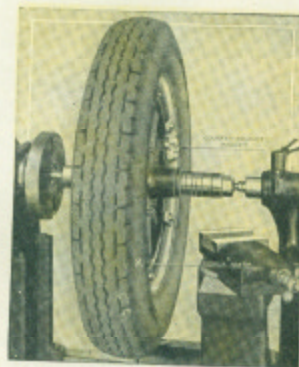


Fig. 80. Balancing Wheel.

Actual Time for Truing a Brake Drum

Automobile or Light Truck

Truing Time, 5 Minutes

Brake Drum, 10½x2 inches.
Front Wheel of Chevrolet with 4-wheel brakes.
Tire Size, 30x4.50 inches.
Lathe, No. 1 or 301.

Medium Size Truck or Bus

Truing Time, 12 Minutes

Brake Drum, 18x5½ inches.
Rear Wheel of SF-46 2-ton International Truck.
Tire Size, 34x7 inches.
Lathe, No. 2 or 302.

Heavy Duty Truck or Bus

Truing Time, 15 Minutes

Brake Drum, 17x6 inches.
Rear Wheel of Model K41 G.M.C. Truck.
Tire Size, 40x8 inches.
Lathe, No. 3 or 303.

A rough estimate of the time it takes to true an average brake drum is about one-half inch of the width of the surface of the brake drum per minute.

With a New Model South Bend Brake Drum Lathe one operator can service all brake drums and wheels of a large fleet of seventy-five trucks or buses.

Three Mandrels Will Service 45 Models of Automobiles, Light Trucks and Buses

The following three self-centering mandrels and eight universal bearing adapters will service 17 makes and 45 models of automobiles, light trucks and buses.

- 1—No. 1822 Taper Mandrel for rear wheels.....\$ 8.00
- 1—No. 1823 Taper Mandrel for rear wheels..... 8.00
- 1—No. 1800 Straight Mandrel for front wheels..... 15.00
- 8—No. 1801 Universal Bearing Adapters for use on the straight mandrel in the following diameters: 1½", 1¾", 2", 2¼", 2½", 2¾", 3", 3½"..... 20.00

Total Cost of Mandrels and Adapters.....\$51.00

Service Equipment for Brake Drum Lathes

Very few mandrels and adapters are required for servicing a large number of makes and models of automobile, truck and bus wheels because each mandrel and adapter is universal in its application and fits many wheels.

Service equipment of mandrels and adapters for a No. 2 or 302 Brake Drum Lathe that will take care of all makes and types of wheels for automobiles, medium-sized trucks and buses only costs about \$75.00.

SOUTH BEND LATHE WORKS, 332 E. Madison St., SOUTH BEND, IND., U.S.A.

Attachments for New Model South Bend Lathes

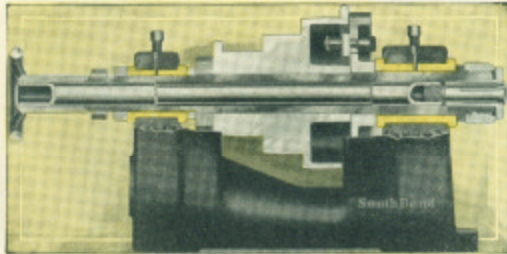
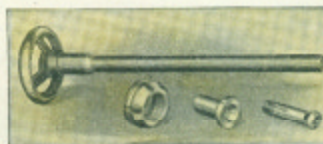


Fig. 81. Cross Section View of Lathe Headstock Showing Application of Hand Wheel Draw-In Collet Chuck.

The Hand Wheel Draw-In Collet Chuck is used extensively for making small parts that require precision and accuracy. The price of each attachment includes Hand Wheel and Draw-Tube, Spindle Nose Cap, Tapered Steel Sleeve, one standard collet.



No. 83. Parts of Hand Wheel Draw-In Collet Chuck.

Hand Wheel Draw-In Collet Chuck

The Hand Wheel Draw-In Collet Chuck attachment is made in sizes to fit all New Model South Bend Lathes. It is the most accurate type of chuck made and will center the work accurately and quickly. It is used for holding rods, bars, tubing and small parts. The standard collet illustrated at the right is made with holes ranging from $\frac{1}{8}$ inch to 1 inch by steps of 64ths. Prices of collets furnished upon request.



Fig. 82. Standard Collet.

Net Factory Prices of Hand Wheel Draw-In Collet Chuck

Size of Lathe	Collet Capacity by 64ths of an inch	Price Each
9 in.	$\frac{1}{8}$ in. up to $\frac{1}{2}$ in.	\$33.00
11 in.	$\frac{1}{8}$ in. up to $\frac{3}{8}$ in.	38.00
13 in.	$\frac{1}{8}$ in. up to $\frac{1}{2}$ in.	44.00
15 in.	$\frac{1}{8}$ in. up to $\frac{3}{4}$ in.	50.00
16 in.	$\frac{1}{8}$ in. up to $\frac{7}{8}$ in.	56.00
18 in.	$\frac{1}{8}$ in. up to 1 in.	63.00

Graduated Taper Attachment



Fig. 84. Graduated Taper Attachment.

This attachment is practical for turning and boring taper work. Bolts on lathe carriage and can be used at any point along the lathe bed. Can be left on lathe at all times and requires only a few minutes to change from taper to straight work or vice versa.

Net Factory Prices of Graduated Taper Attachment

Size of Lathe	9 in.	11 in.	13 in.	15 in.	16 in.	18 in.
Price Each....	\$50.00	\$60.00	\$70.00	\$75.00	\$85.00	\$90.00

Milling and Keyway Cutting Attachment

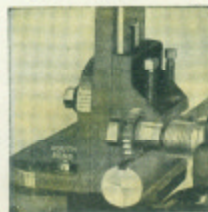


Fig. 85. Cutting a Keyway.

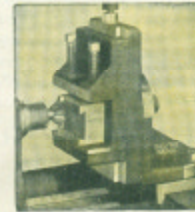


Fig. 86. Milling a Dovetail.

A practical fixture that equips the lathe to do jobs that otherwise would have to be done on a shaper or milling machine. Excellent equipment for small shops.

Net Factory Prices Milling and Keyway Cutting Attachment

Size of Lathe	9 in.	11 in.	13 in.	15 in.	16 in.	18 in.
Price Each....	\$36.00	\$40.00	\$43.00	\$50.00	\$55.00	\$65.00

Thread Indicator

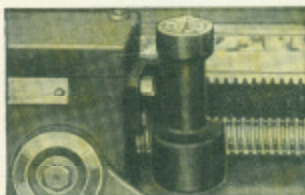


Fig. 87. Thread Indicator.

An attachment that eliminates the necessity of reversing the lathe to return the carriage to the starting point to catch the thread at the beginning of each successive cut.

Net Factory Prices of Thread Indicator

Size of Lathe.....	9-11 in.	13-15 in.	16-18 in.
Price Each.....	\$8.00	\$10.00	\$12.00

Semi-Automatic Bed Turret



Fig. 88. Hand Lever Type Bed Turret.

The turret of this attachment will accommodate six tools and is automatically indexed one-sixth of a turn on the backward movement of the hand lever. Turret slide is also controlled by hand lever. Adjustable stops are provided for each turret face to regulate depth of cut.

Net Factory Prices of Semi-Automatic Bed Turret

Size of Lathe.....	9 in.	11 in.	13 in.
Price of Attachment....	\$195.00	\$205.00	\$215.00

Truing Armature Commutators in the South Bend Lathe

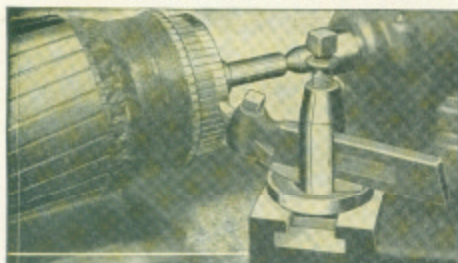


Fig. 89. The lathe is the practical tool for truing armature commutators. Machining the commutator smooth and true is a precision job and should be done on a screw cutting lathe with power feed to obtain satisfactory results.

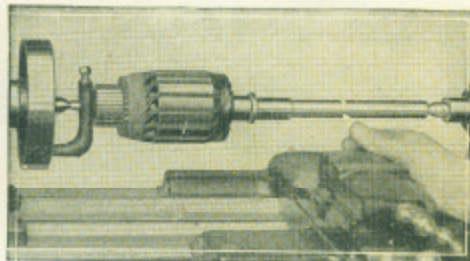


Fig. 90. When the armature shaft is bent, the armature is placed in the lathe and the bent place is marked with chalk. It is then taken out of the lathe and the shaft straightened. The operation is repeated until the shaft runs true.

Undercutting Mica in the South Bend Lathe

The No. 201 Electric Mica Undercutter is adjustable for various sizes of commutators. The motor with cutter spindle is mounted on a sliding bracket and fastens to the tool rest.

A set of 20 disc cutters, $\frac{1}{4}$ " in diameter and in the following widths, 4 of each, are included: .015", .020", .025", .030", .035".

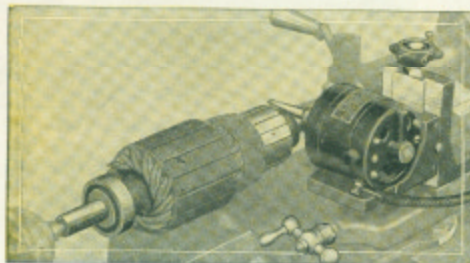


Fig. 91. No. 201 Electric Mica Undercutter.

Price includes motor, bracket, clamp and bolt for mounting with one set of 20 disc cutters.

Net Factory Prices of No. 201 Electric Mica Undercutter

Size of Lathe	Cut. No.	Price Each
9 in.	201-A	\$45.00
11 in.	201-A	45.00
13 in.	201-A	45.00
15 in.	201-B	60.00
16 in.	201-B	60.00
18 in.	201-B	60.00

Extra Sets of 20 Disc Cutters. Price Each.....\$6.00

Refacing Valves in the South Bend Lathe

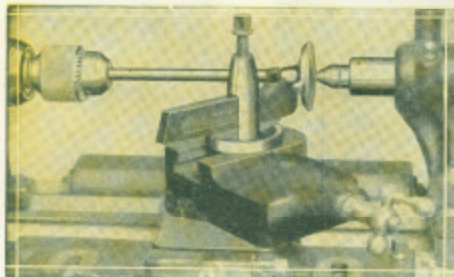


Fig. 92. The lathe is the ideal tool for doing valve work—it will reface valves four times faster by turning than by grinding. Valves with a center hole in the head are held in a chuck by the stem and the head on the tail center.

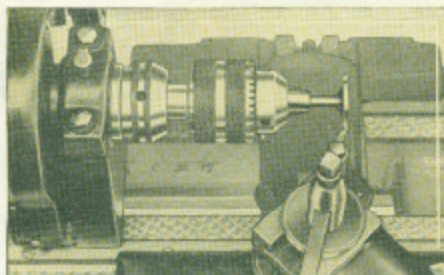


Fig. 93. The valves used by Ford, Chevrolet, Whippet, Overland and others, do not have a center hole in the head. For refacing these valves, chuck the valve stem close to the head, using a hollow spindle chuck as shown above.

Making Bushings in the South Bend Lathe



Fig. 94. Making Brass Bushing.

Bushings of all kinds, sizes and metals—brass, bronze, steel, iron, babbitt, fibre or hard rubber, can be made in the screw cutting lathe. The illustration at the right shows a bronze bushing being finished on a mandrel. The illustration at the left shows a brass bushing being made complete in one chucking.

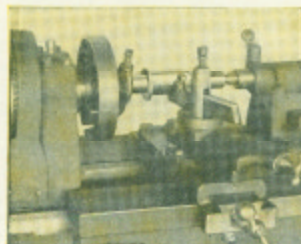


Fig. 95. Finishing Bronze Bushing.

Finishing Semi-Machined Pistons on the South Bend Lathe

Using the No. 44 Piston Adapter

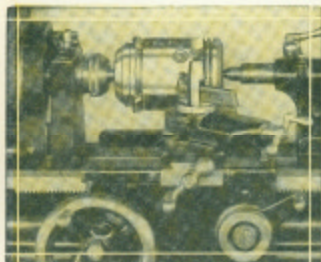


Fig. 96. Machining a Piston to Finished Diameter in the 9-inch Lathe.

Turning semi-machined pistons to finished size in the lathe instead of grinding is four times faster and produces a better job.

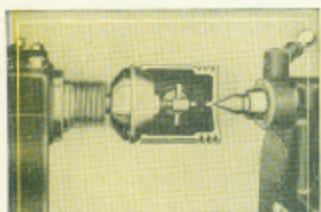


Fig. 97. Cross Section View of a Piston Mounted on Piston Adapter.

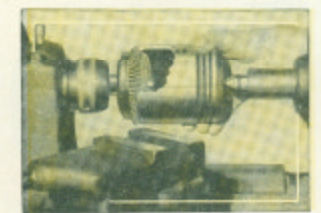


Fig. 98. Reaming the Skirt of a Piston in the 9-inch Lathe.

Semi-machined pistons sometimes warp out of shape and inside edge of piston skirt needs to be reamed so it will run true when mounted on adapter.

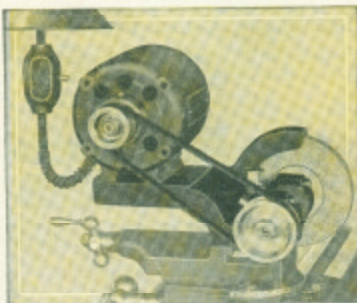
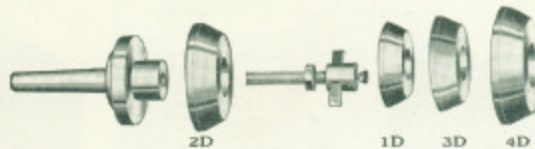


Fig. 99. No. 15 Electric Grinder on Lathe.

Prices of No. 15 Electric Grinder

Size of Lathe	Size of Wheel	Size of Motor	Price Complete
9-11 in.	4x1 1/2 in.	1/2 H.P.	\$75.00
12-15 in.	5x1 1/2 in.	3/4 H.P.	90.00



The No. 44 Piston Adapter with Rings.

The above illustration shows the No. 44 Piston Adapter Shank, Cone Rings and Driving Dog. One end of shank is tapered to fit lathe headstock spindle; the other end is machined to receive the cone rings. The driving dog screws in the threaded hole in short end of shank and may be adjusted to fit any size piston. No. 2D Cone Ring is furnished with the Adapter. Extra rings may be supplied as shown below.

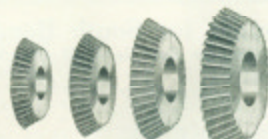
Specifications and Prices of No. 44 Piston Adapter

Size Lathe	Morse Taper of Shank	Cat. No.	Code Word	Price Complete with shank, driving dog and one cone ring No. 2-D
9 in.	2	44-A	Harp	\$12.00
11 in.	2	44-B	Hblol	12.00
13 in.	3	44-C	Hclaw	13.00
15 in.	3	44-D	Hdlxe	13.00
16 in.	3	44-E	Hoota	13.00
18 in.	3	44-F	Hfadx	13.00

Specifications and Prices of Cone Rings

Cone Ring Number	Will Hold Piston Outside Diameter	Code Word	Price, Extra Cone Rings
1D	2 1/2 to 3 1/4 in.	Hudso	\$2.50
2D	3 1/4 to 3 3/4 in.	Hwaki	2.50
3D	3 3/4 to 4 1/4 in.	Hyna	2.50
4D	4 1/4 to 5 1/4 in.	Hzage	2.50

Piston Skirt Reamers



1R 2R 3R 4R
Piston Skirt Reamers.

The Piston Reamers illustrated at the left will fit on the No. 44 Piston Adapter Shank, the holes in the cone rings and the reamers being the same size.

To true the piston place the skirt on the reamer as shown. Start the lathe, revolving the reamer slowly, holding the piston in the hand.

Specifications and Prices of Piston Skirt Reamers

Reamer Number	For Reaming Piston Outside Diameter	Code Word	Price, Each Reamer
1R	2 1/2 to 3 1/4 in.	Hacke	\$ 7.50
2R	3 1/4 to 3 3/4 in.	Heine	9.00
3R	3 3/4 to 4 1/4 in.	Hiley	11.00
4R	4 1/4 to 5 in.	Holer	13.00

No. 15 Electric Grinder for South Bend Lathes

A practical attachment for grinding reamers, milling cutters, taps, dies, valves, pistons, hardened bushings, shafts, etc. Can be operated from an electric light socket, no special wiring necessary.

Different grades of grinding wheels are needed for different classes of grinding work. Satisfactory results cannot be obtained from using the same wheel on all kinds of metals. Order the grinding wheels you need from the following table, or state the nature of your work and correct wheels will be shipped. Only one wheel is included in price of grinder.

Metal	Grade	Grain
Steel	M-Alundum	46
Aluminum	3-Shellac	46
Valves	3-Shellac	60
Tools	50-K-Alundum	19
Cast Iron	K-Crystalon	36



Fig. 100. Grinding a Reamer.

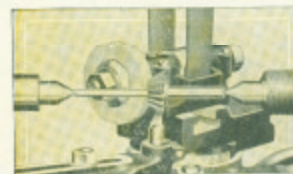


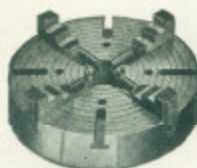
Fig. 101. Grinding a Cutter.

NEW MODEL SOUTH BEND BACK GEARED SCREW CUTTING LATHES

Lathe Chucks and Drill Chucks for South Bend Lathes

Independent Lathe Chucks

With Four Reversible Jaws and Iron Body



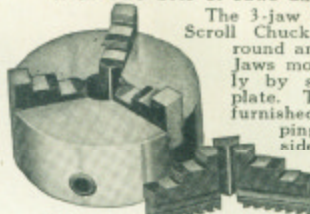
The Independent Lathe Chuck has four reversible jaws with individual screw adjustment for each jaw. The jaws and the screw bearings are hardened steel. Body of chuck is iron. Chucks of 12 inches and larger have the T slots. This chuck can hold round, hexagon, square, or odd-shaped work.

Prices of 4-Jaw Independent Lathe Chucks

Catalog No.	Rated Size of Chuck	Will Hold About	Shipping Weight	Price Chuck
2104	4 1/2 in.	6 in.	11 lbs.	\$23.00
2106	6 in.	7 1/2 in.	21 lbs.	28.00
2108	8 in.	9 1/2 in.	35 lbs.	32.00
2109	9 in.	11 1/2 in.	42 lbs.	35.00
2110	10 in.	12 1/2 in.	51 lbs.	40.00
2112	12 in.	14 1/2 in.	90 lbs.	48.00
2114	14 in.	16 1/2 in.	117 lbs.	52.00
2115	15 in.	18 in.	139 lbs.	57.00
2116	16 in.	19 in.	147 lbs.	62.00
2118	18 in.	21 in.	184 lbs.	80.00

Universal Geared Scroll Chucks

With Two Sets of Jaws and Iron Body



The 3-jaw Universal Geared Scroll Chuck is for holding round and hexagon work. Jaws move simultaneously by scroll threaded plate. Two sets of jaws furnished; one for gripping work on outside; one for gripping work on inside.

Prices of 3-Jaw Universal Geared Scroll Chucks

Catalog No.	Rated Size of Chuck	Will Hold About	Shipping Weight	Price Chuck
2402	3 in.	3 1/2 in.	3 1/2 lbs.	\$ 25.00
2404	4 in.	4 1/2 in.	7 1/2 lbs.	29.00
2405	5 in.	5 in.	11 lbs.	31.00
2406	6 in.	6 1/2 in.	20 lbs.	35.00
2407	7 1/2 in.	7 1/2 in.	32 lbs.	41.00
2409	9 in.	9 in.	45 lbs.	55.00
2410	10 1/2 in.	10 1/2 in.	64 lbs.	64.00
2412	12 in.	12 in.	80 lbs.	81.00
2415	15 in.	15 in.	143 lbs.	91.00
2418	18 in.	18 in.	180 lbs.	119.00

The Correct Sizes of Chucks for South Bend Lathes
To assist those who wish to select chucks for South Bend Lathes, we list in the table below the sizes we consider most practical for general work.

Size of Lathe.....	9 in.	11 in.	13 in.	15 in.	16 in.	18 in.
4-Jaw Independent Chuck.....	6 in.	6 in.	8 in.	9 in.	10 in.	12 in.
3-Jaw Universal Chuck.....	4 in.	5 in.	6 in.	7 1/2 in.	9 in.	10 1/2 in.
Drill Chuck, capacity.....	1/2 in.	1/2 in.	3/4 in.	3/4 in.	1 in.	1 in.

Drill Chucks for South Bend Lathes

Three-Jaw Drill Chuck

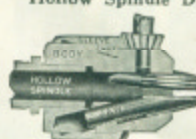


Has hardened steel geared sleeve and key, insuring powerful grip. Prices include key but not arbor.

Prices Three-Jaw Drill Chuck

Cat. No.	Capacity	Code Word	Price
1200	0 to 3/8 in.	Clevo	\$ 5.00
1201	0 to 1/2 in.	Wauko	8.50
1202	3/8 to 3/4 in.	Falco	14.00
1203	1/2 to 1 in.	Frank	18.50

Hollow Spindle Drill Chuck



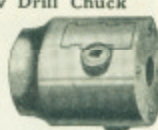
An ideal chuck for refacing valves that are not centered. It is also practical for small parts and bar work.

Prices Hollow Spindle Drill Chuck

Cat. No.	Capacity	Code Word	Price
1210	3/8 in.	Nakot	\$6.50
1211	1/2 in.	Nedro	9.50
1212	3/4 in.	Nolan	9.50

Two-Jaw Drill Chuck

Excellent chuck for straight shank drills, reamers, etc. Prices include key but not arbor.



Prices Two-Jaw Drill Chuck

Cat. No.	Capacity	Code Word	Price
1300	3/8 in.	Oblig	\$ 8.50
1301	1/2 in.	Obloc	10.00
1302	3/4 in.	Octar	11.50
1303	1 in.	Optio	15.00

Drill Chuck Prices do not include Spindles or Arbors. Prices upon request.

Standard Lathe Dogs

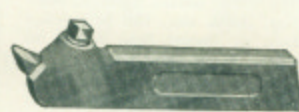
Made of heavy malleable iron. Price includes hardened tool steel set screw.



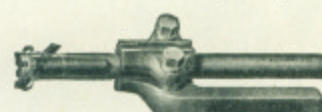
Capacity of Lathe Dog	MALLEABLE IRON	Code Word	Price Each
3/8 in.	1-M	Xaced	\$0.50
1/2 in.	2-M	Xedfe	.60
3/4 in.	4-M	Xedaf	.70
1 in.	6-M	Xedog	.80
1 1/4 in.	8-M	Xedgh	.90
1 1/2 in.	10-M	Xghil	1.05
1 3/4 in.	11-M	Xhikj	1.15
2 in.	12-M	Xijlk	1.30
2 1/2 in.	14-M	Xikml	1.50
3 in.	15-M	Xiklm	1.65
3 1/2 in.	16-M	Xlmon	1.85
4 in.	17-M	Xmpo	2.15

Patent Tool Holders for South Bend Lathes

Made of drop forged steel. Furnished in 12 types for turning, boring, cutting-off, threading and knurling. Complete prices upon request.



Straight Shank Turning Tool. Also furnished with right and left-hand off-set.



Style "B" Boring Tool for medium work. Also furnished in Heavy Duty type.



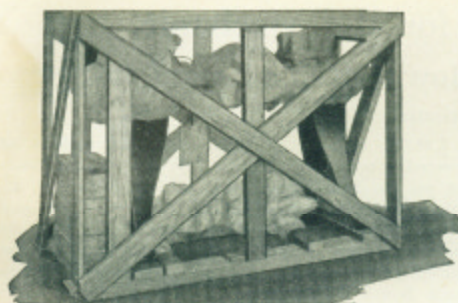
Right-hand Cutting-off Tool. Also furnished in straight shank and left-hand off-set.



Formed Screw Thread Cutting Tool. Requires only grinding on top to keep sharp.

SOUTH BEND LATHE WORKS, 332 E. Madison St., SOUTH BEND, IND., U.S.A.

9-INCH JUNIOR LATHE IS DESCRIBED AND ILLUSTRATED IN CATALOG No. 23



Lathe Crated for Domestic Shipment

The illustration above shows a new Model South Bend Lathe skidded and crated for shipment to any point in the United States, Canada and Northern Mexico. All polished parts are heavily greased to prevent rusting; each unit is wrapped securely with heavy waterproof paper.



Lathe Boxed for Ocean Shipment

The illustration above shows the heavy box in which the New Model South Bend Lathe is packed for foreign shipment. We know from experience the importance of packing and boxing the lathe to withstand the rough handling.

The Life of a New Model South Bend Lathe is at least twenty-five years if it is given reasonable care and attention.

Complete Information on Any Size or Type of Lathe

If you wish further information on any size or type of Lathe, fill out the coupon below and mail it to us, and we will send you a Catalog and Bulletins showing complete illustrations, specifications, descriptions and prices of the Lathe and Tools in which you are interested.

Filling out this coupon places you under no obligation. There is no charge for this service.

(Cut Out and Mail This Coupon to Us for Additional Information)

SOUTH BEND LATHE WORKS
332 E. Madison St., South Bend, Ind.

We are interested in receiving further information on the Lathe shown on page.....

Size of Lathe.....Type of Drive.....

Work Lathe is to be used for.....

What method of purchasing do you prefer? ☐ Easy Payment Plan
☐ Cash with Order

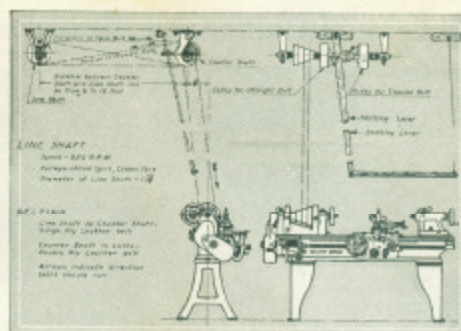
Remarks.....

Name.....Kind of Business.....

Street and Number.....

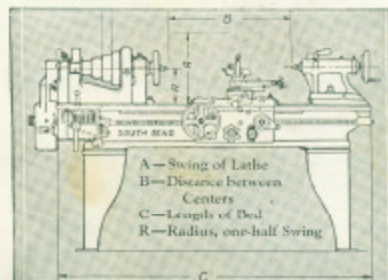
City.....State.....

33-1-'29



Installation Plan Blue Prints

The illustration above is a reduction of a 12x18-inch blue print furnished with each lathe. It shows how to install and erect the lathe; the correct size and speed of pulleys for the lineshaft.

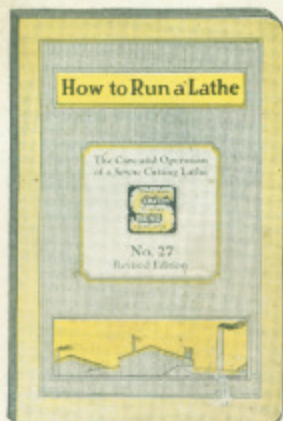


How to Determine Size of a Lathe

The size of a back geared screw cutting lathe is determined by the swing over the bed and the length of the bed.

A—Represents the swing over bed.
B—Represents the distance between centers.
C—Represents the length of bed.
R—Represents the radius of one-half swing.

Interesting Booklets for the Mechanic



Contains 300 Shop Kinks.

"How to Run a Lathe"

Authoritative Manual on Lathe Work

"How to Run a Lathe" covers the fundamental operations of the modern back geared screw cutting lathe. It contains instructions on how to set up the lathe, operate it and take care of it. The 144 pages of this book contain a wealth of information and include more than 300 illustrations showing how certain work is done. It is a handy reference book of lathe facts that will be appreciated by the mechanic. A copy of this book is included in the equipment of each South Bend Lathe.

Mailed Anywhere in the World, Postpaid, Price 25 Cents

PARTIAL LIST OF CONTENTS

How to Set Up the Lathe	Cutting Speeds of Metals
Care of the Lathe	Cutting Feeds for Metals
How to Lay Out a Shop	Operating Automatic Feeds
How to Level a Lathe	Reading Micrometer Calipers
How to Hang a Countershaft	Using Outside and Inside Calipers
Calculating Size and Speed of Pulleys	Locating Center Holes
How to Lace a Belt	Aligning Lathe Centers
Grinding and Setting Lathe Tools	Drilling, Boring, Reaming, Tapping
Cutting Screw Threads	Use of Compound Rest
Turning and Boring Tapers	Table of Decimal Equivalents
Grinding and Milling Work	Table of Metric Measures
Chucks and Face Plates	300 Other Shop Kinks

Auto Mechanics Service Book No. 66

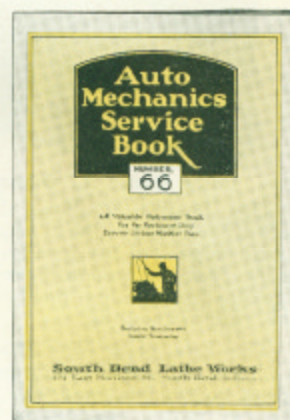
A Reliable Guide for Machining Motor Parts

This booklet is especially for the automobile mechanic. It describes and illustrates the modern methods of machining parts of the automobile motor. The best way to do the machine work on each job is carefully explained in detail. Contains more than 120 illustrations of practical ways to do different jobs. It is recommended by automobile manufacturers for use in their Service Station Shops throughout the world as a reliable guide for servicing motors with precision, speed and economy.

Mailed Anywhere in the World, Postpaid, Price 25 Cents

PARTIAL LIST OF CONTENTS

Finishing Pistons	Truing Brake Drums
Truing Commutators	Cutting Screw Threads
Refacing Valves	Truing Crankshafts
Making Bushings	Grinding
Machining Flywheels	Axles and Driveshafts
Boring Connecting Rods	Drilling, Boring, Reaming
Centering and Countersinking	Making Mandrels and Adapters



Practical Motor Repair Service.



Making a Lathe Pay for Itself.

Easy Payment Plan Booklet

For the Purchase of South Bend Lathes

The South Bend Easy Payment Plan enables the shop owner to purchase a South Bend Lathe of any size, type and drive with or without attachments and tools by paying twenty per cent of the total amount of the order down in cash and the balance in ten equal monthly payments.

The purchase of income producing equipment on our Easy Payment Plan is sound and practical because it permits the shop owner to use the lathe and equipment for the purpose of earning money to make the lathe pay for itself.

This Easy Payment Plan permits the shop owner to purchase a South Bend Lathe through the dealer in his community who is selling our line, or if preferred, direct from us. The price of a South Bend Lathe is always the same, whether you buy on the Easy Payment Plan or pay cash for it.

A copy of our Easy Payment Plan Book that explains in detail how to purchase the lathe and equipment will be mailed to you postpaid, no charge, upon request.

SOUTH BEND LATHE WORKS, 332 E. Madison St., SOUTH BEND, IND., U.S.A

BOOKLETS FOR THE MECHANIC. WRITE FOR THOSE YOU ARE INTERESTED IN.

Interesting Booklets for the Mechanic

General Catalog No. 89-A

Complete Information on South Bend Lathes

Our new General Catalog, No. 89-A, illustrates, describes and prices the entire line of New Model South Bend Back Geared Screw Cutting Lathes, from 9-inch swing to 24-inch swing. Countershaft and Motor Drive. Each size of lathe is fully described with its features and specifications.

A full line of Attachments, Chucks, Tools and Accessories for use on South Bend Lathes are also shown.

This catalog has 72 pages with more than 300 illustrations. It is a reference book of considerable value to anyone who is interested in mechanical equipment.

Mailed Anywhere in the World, Postpaid, No Charge



A Valuable Reference Book.

PARTIAL LIST OF CONTENTS

Quick Change Gear Lathes
Standard Change Gear Lathes
Tool Room Precision Lathes
Gap Bed Lathes
Brake Drum Lathes
Taper Attachment
Grinding Attachment

Silent Chain Motor Driven Lathes
Self-Contained Motor Driven Lathes
Simplex Motor Driven Lathes
Junior Bench and Floor Leg Lathes
Draw-in Collet Chuck Attachment
Milling and Keyway Cutting Attachment
Chucks, Tools and Accessories

9-inch Junior Lathe Catalog No. 23

Best Selling Back Geared Screw Cutting Lathe in America

The 9-inch Junior Lathe Catalog is a 20-page booklet, illustrating and describing the 9-inch Junior New Model Lathe. Each type of 9-inch Junior Lathe is shown and explained in detail. An interesting booklet for the shop owner who needs a small back geared screw cutting lathe. The illustrations tell the story a hundred times better than words.

The Attachments, Chucks, Tools and Accessories practical for use on the 9-inch Junior Lathe are also shown with descriptions and prices.

The use of the small screw cutting lathe is explained and illustrated; special equipment for production work is shown; also a variety of operations that come up in every shop. Many other items in this booklet will interest you.

Mailed Anywhere in the World, Postpaid, No Charge



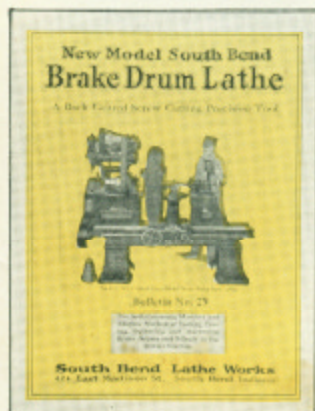
Brake Drum Bulletin No. 29

Revolutionizes Old Methods of Truing Brake Drums

Here is a booklet that every automobile mechanic will be interested in—Brake Drum Bulletin No. 29—showing the New Model South Bend Brake Drum Lathe in three sizes and two types of drive, with features, specifications and prices of each.

Self-Centering Mandrels and Universal Bearing Adapters for mounting wheels, illustrated and described in detail. Automobiles, trucks and buses are listed with the correct sizes of mandrels and adapters to use when rendering service.

Mailed Anywhere in the World, Postpaid, No Charge



Explains New and Better Methods of Truing Brake Drums.

PARTIAL LIST OF CONTENTS

Brake Drum Lathe in Three Sizes
Self-Centering Mandrels
Universal Bearing Adapters
List of Mandrel and Adapter Sizes for Automobiles, Trucks and Buses
Balancing Wheels
Chuck and Tool Assortment

Machining Flywheels
Fitting Ring Gears
Brake Drum Lathe Utility Jobs
Blue Prints of Jobs
Taper Mandrels for Rear Wheels
Brake Drum Machining Time
General Brake Drum Information

SOUTH BEND LATHE WORKS, 332 E. Madison St., SOUTH BEND, IND., U.S.A.

Partial List of United States Industries Using South Bend Back Geared Screw Cutting Lathes

Taken from Our List of 43,000 Lathe Users Which Include All Classes of Industry

General Electric Co. at many
G. E. Plants

Yale & Towne Mfg. Co.
Gray Bar Electric Co.
Westinghouse Lamp Co.
Conn Band Instrument Co.
McQuay-Norris Mfg. Co.
Black & Decker Mfg. Co.
Sparks-Withington Co.
U. S. Aviation Corps
Link Belt Co.
Kelvinator Corp.
U. S. Engineers
Adams Boat Works
F. J. Lamb Co.
Monarch Mfg. Co.
Goldman Pen Co.
Gaylord Mfg. Co.
Beckman Co.
City of Miami
Clement Mfg. Co.
Lee Mfg. Co.
Locomobile Co.
Lusby Fixture Co.
Electro Spray Co.
The Findex Co.
Hobart Mfg. Co.
Hazelton Mfg. Co.
Parmater Products Co.
City of Chelsea
City of Montreal
Nazareth Cement Co.
State of Washington
Chas. B. Rhoades Co.
Radio Corp. of America
U. S. Navy Air Service
Endicott-Johnson Corp.
Victor X-Ray Corp.
Dayton Scale Co.
Wagner Electric Co.
Frigidaire Corp.
Hart, Shaffner & Marx
Hoover Electric Sweeper Co.
United Shoe Machinery Corp.
Allis-Chalmers Mfg. Co.
National Alarm Mfg. Co.
Studebaker Corp. of Amer.
National Sales Book Co.
Pan American Petroleum Co.
Keystone Refrigerator Co.
Inspector Naval Materials
Jamestown Motor Bus Co.
Western Electric Co.
at many W. E. Plants
Michigan State Industries
Department of National De-
fense
International Cardiograph Co.
Detroit Motor Bus Co.
Manhattan Bearing Co.
Ford Motor Co.
Becton Dickinson Co.
Bell Telephone Laboratories
U. S. Marine Corps

Albert Godde Bedin, Inc.
American Heel & Rubber Co.
American Machinery Co.
Agfa Raw Film Co.
Alamo Engine Co.
Mohne Aero Engineering Co.
Bedford Johnson Co.
Byrne, Kingston & Co.
Milway Engineering Co.
Dickson Industrial Equip. Co.
Eureka Vacuum Cleaner Co.

South Bend Current Controller
Co.

Westinghouse Electric and
Mfg. Co. at many W. E.
Plants
International Harvester Co.
Federal Reserve Bank of
Baltimore
U. S. Signal Corps
A. B. Nelson Mfg. Co.
F. P. Rosbach Co.
Alliance Machine Co.
Fleischmann Co.
J. Unge Trucking Co.
Beck Duplicator Co.
Eastman Kodak Co.
Kedron Mfg. Co.
Streamline Pump Co.
Evinrude Motor Co.
National Mfg. Co.
Northern Traders Co.
Hershey Mfg. Co.
Prima Products Co.
Buick Motor Co.
Chevrolet Motor Co.
Nicholson File Co.
Industrial Diamond Co.
Hooker Mfg. Co.
Eastman Machine Co.
Herald Printing Co.
Burdick Cabinet Co.
Chrysler Motor Corp.
Ideal Hosiery Mills
Hayes Corp.
B. John Mfg. Co.
City of Pittsfield
Federal Bearing Co.
Robbins Co.
Readi-Riter Co.
Square D Co.
Slater & Co.
Star Specialty Mfg. Co.
Horace Whittier Co.
Southwestern Bell Tele. Co.
Illinois State Penitentiary
Southern Crude Oil Purch. Co.
General Motors Laboratories
DuPont Vitacolor Corp.
Parker Fountain Pen Co.
Arrowhead Steel Prod. Co.
Victor Talking Machine Co.
Atwater-Kent Mfg. Co.
Cluett-Peabody & Co., Inc.
Singer Sewing Machine Co.
Chicago Flexible Shaft Co.
Kohler Co. of Wisconsin
Fairbanks-Morse Co.
Fisher Body Corp.
Otis Elevator Co.
Pyrene Mfg. Co.
Timken Roller Bearing Co.
Remington Arms U. M. Co.
Firestone Tire & Rubber Co.
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