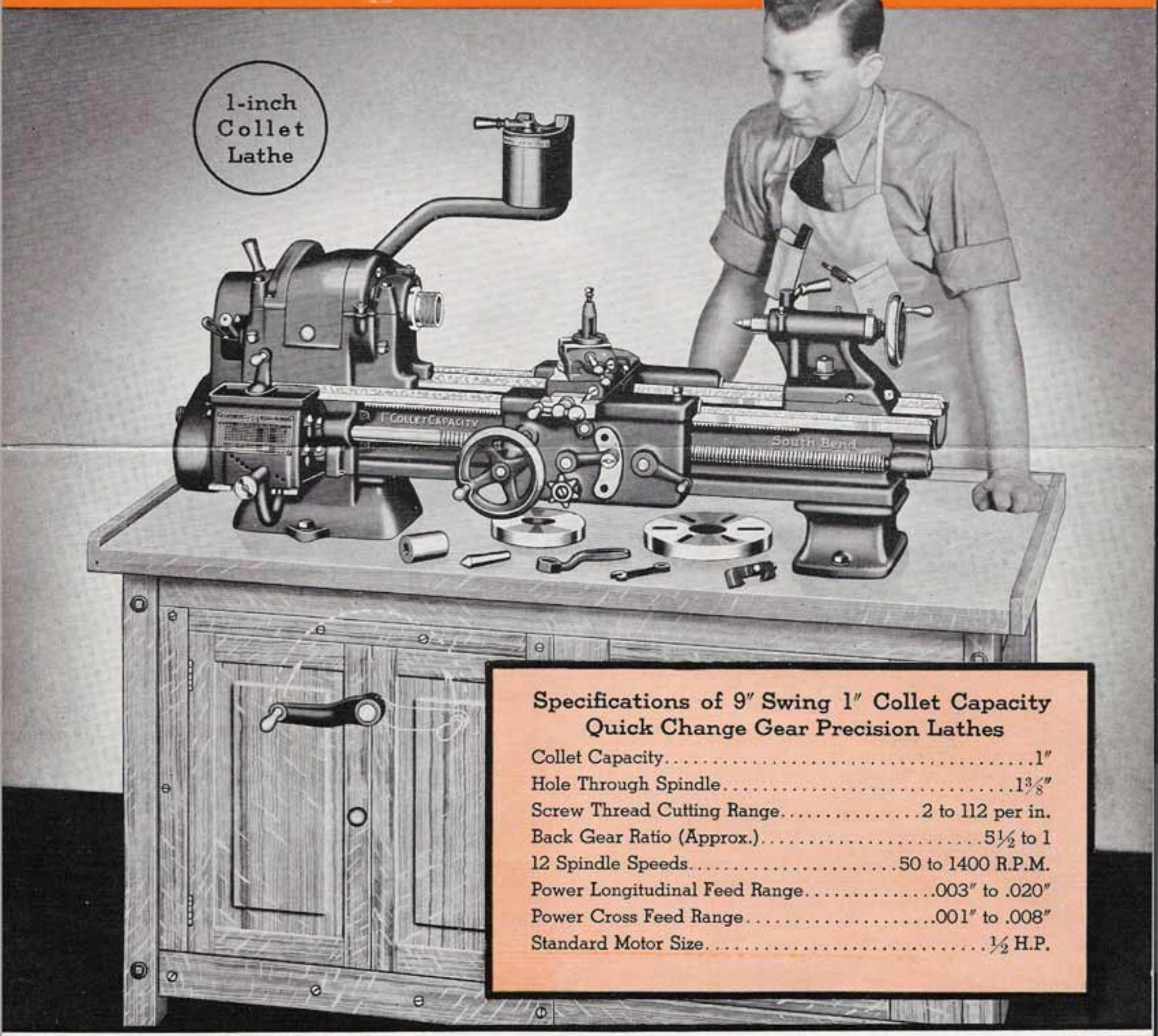
JANUARY, 1938 BULLETIN No. 29B

The New 1938 Model South Bend

9" Swing 1" COLLET Capacity

Precision Lathes

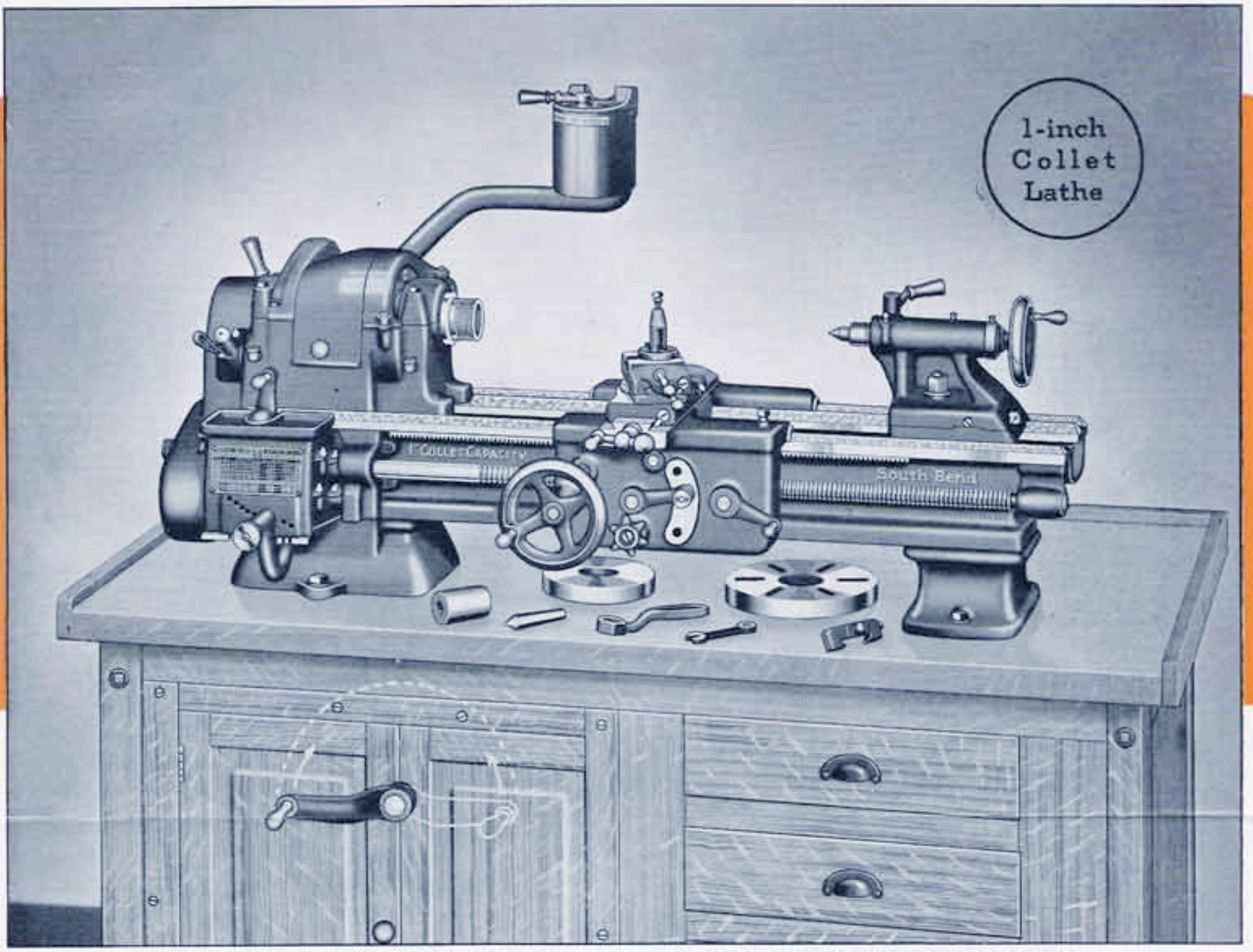


Specifications of 9" Swing 1" Collet Capacity Quick Change Gear Precision Lathes

Collet Capacity	1"
Hole Through Spindle	1 3/8"
Screw Thread Cutting Range	2 to 112 per in.
Back Gear Ratio (Approx.)	5 1/2 to 1
12 Spindle Speeds	50 to 1400 R.P.M.
Power Longitudinal Feed Range	.003" to .020"
Power Cross Feed Range	.001" to .008"
Standard Motor Size	1/2 H.P.

SOUTH BEND LATHE WORKS

534 Niles Avenue - - - - - South Bend, Indiana, U. S. A.



9" x 3½' Bench Lathe, 1" Collet Capacity, Underneath Belt Motor Drive, Quick Change Gear

1" Collet Capacity South Bend
9-inch Underneath Motor Driven Precision Bench Lathes
1⅜" Hole Through Spindle—12 Spindle Speeds—Hardened Spindle
Double Wall Apron—Back-Geared

The 9-inch swing 1" Collet Capacity Underneath Belt Motor Driven Bench Lathe has a special headstock with 1⅜" hole through the spindle which takes collets up to 1" capacity. The motor and driving mechanism are mounted under the bench top, and all belts, pulleys and gears are fully enclosed.

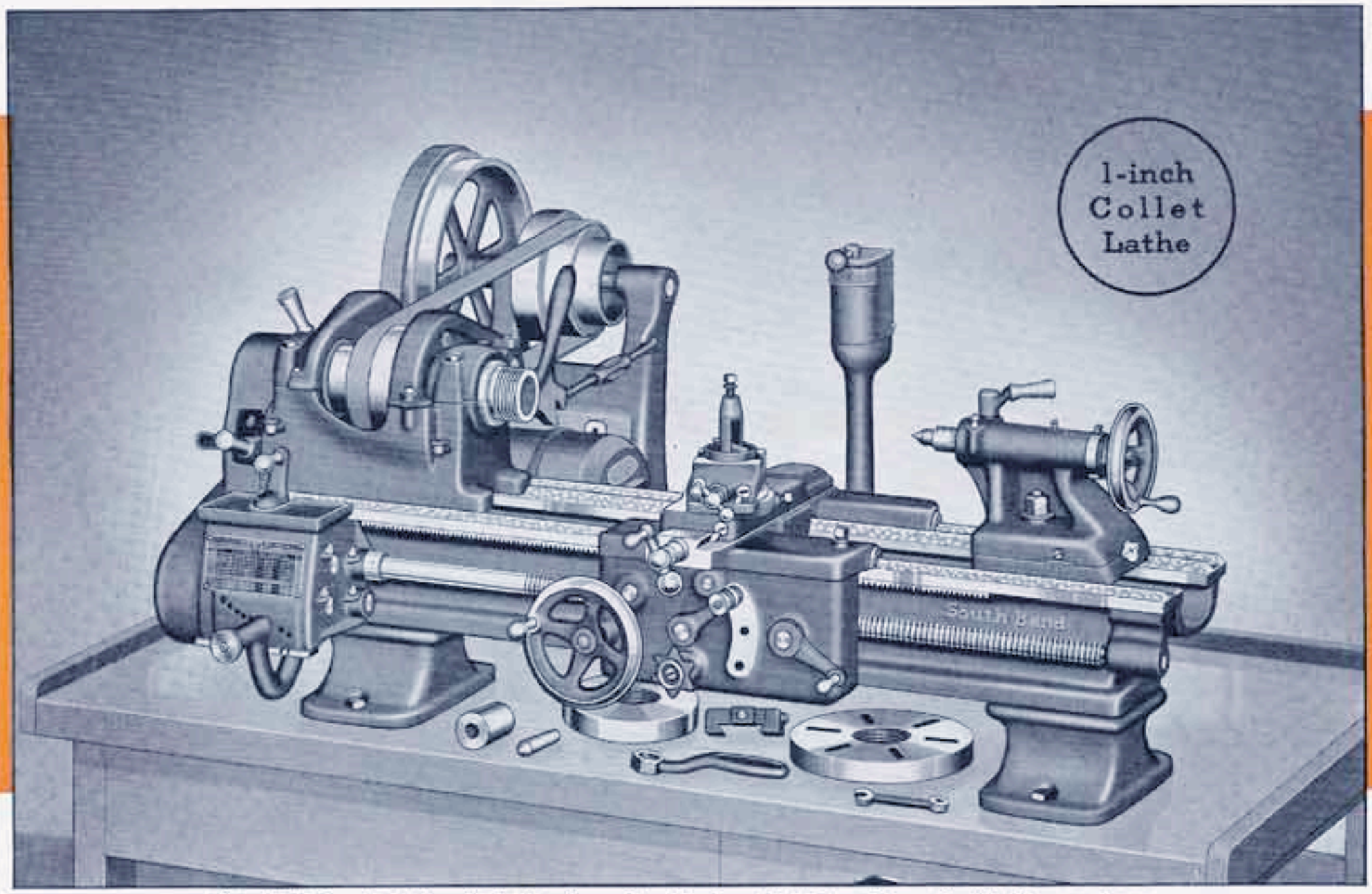
The headstock spindle is heat treated, with all bearing surfaces hardened and ground, and has a ball thrust bearing. The spindle runs in integral cast iron bearings which are adjustable for wear and are equipped with an efficient capillary oiling system.

The two-speed motor drive provides twelve spindle speeds, 50 to 1400 R.P.M. A belt tension release permits easy shifting of cone pulley belt.

Equipment included in price consists of: ½ H.P. reversing motor, drum reversing switch, wiring, V-belt, flat leather belt, large and small face plates, tool post, thread cutting stop, spindle centers, two spindle sleeves for Nos. 2 and 3 Morse Tapers, wrenches, gear box or independent change gears, installation plan and book, "How to Run a Lathe." Bench is not included in price of lathe.

Net Factory Prices of 9-inch Bench Lathes, 1" Collet Capacity—Underneath Belt Motor Drive

Swing Over Bed Inches	Length of Bed Feet	Distance Between Centers Inches	Size Motor Used H.P.	Approx. Weight Crated Pounds	Standard Change Gear Lathes					Quick Change Gear Lathes				
					Catalog Number	Code Word for Lathe	Instant Reversing Motors			Catalog Number	Code Word for Lathe	Instant Reversing Motors		
							3-Phase 60-Cycle A.C.	1-Phase 60-Cycle A.C.	Direct Current			3-Phase 60-Cycle A.C.	1-Phase 60-Cycle A.C.	Direct Current
9¼	3	16⅜	½	635	156-YB	Bijoy	$515.00	$529.00	$523.00	159-YB	Bavec	$560.00	$574.00	$568.00
9¼	3½	21⅜	½	660	156-ZB	Bikay	525.00	539.00	533.00	159-ZB	Bayiv	570.00	584.00	578.00
9¼	4	27⅜	½	685	156-AB	Bikec	535.00	549.00	543.00	159-AB	Bikom	580.00	594.00	588.00
9¼	4½	34⅜	½	710	156-RB	Bikig	545.00	559.00	553.00	159-RB	Becig	590.00	604.00	598.00



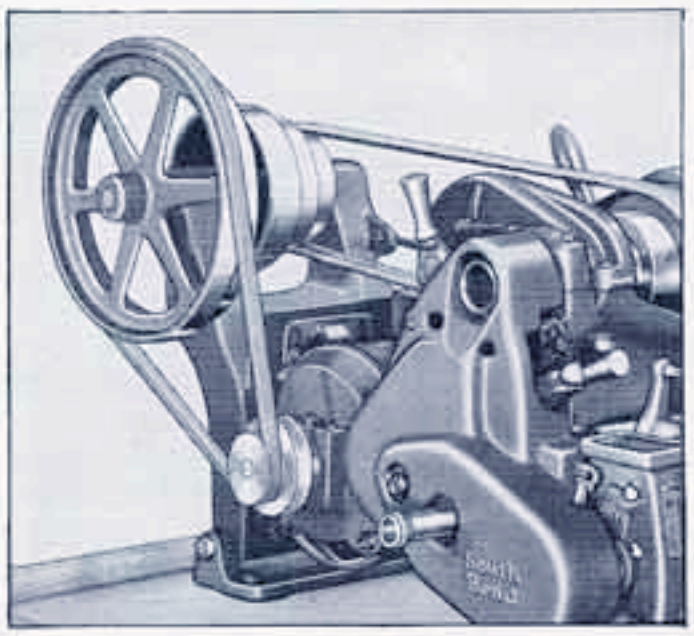
9" x 3½' Bench Lathe, 1" Collet Capacity, Horizontal Motor Drive, Quick Change Gear

1" Collet Capacity South Bend
9-inch Horizontal Motor Driven Precision Bench Lathes
1⅜" Hole Through Spindle—12 Spindle Speeds—Hardened Spindle
Double Wall Apron—Back-Beared

The 9-inch swing 1" Collet Capacity Horizontal Motor Driven Bench Lathe has a special headstock with 1⅜" hole through the spindle and takes collets up to 1" capacity. The headstock spindle is heat treated, with all bearing surfaces hardened and ground, and has a ball thrust bearing. The spindle runs in integral cast iron bearings which are adjustable for wear and are equipped with an efficient capillary oiling system.

The two-speed motor drive provides twelve spindle speeds, 50 to 1400 R.P.M. A belt tension release lever permits easy shifting of cone pulley belt for changing spindle speeds.

Equipment included in price consists of: adjustable belt tension horizontal countershaft, ½ H.P. reversing motor, reversing switch, wiring, V-belt, flat leather belt, large and small face plates, tool post, thread cutting stop, spindle centers, two spindle sleeves for Nos. 2 and 3 Morse Tapers, wrenches, gear box or change gears, installation plan and book "How to Run a Lathe." Bench is not included in price.



(Patent Applied for)
End View of Lathe Showing
Adjustable Horizontal Motor Drive.

Net Factory Prices of 9-inch Bench Lathes, 1" Collet Capacity—Adjustable Horizontal Motor Drive

Swing Over Bed Inches	Length of Bed Feet	Distance Between Centers Inches	Size Motor Used H.P.	Approx. Weight Crated Pounds	Standard Change Gear Lathes					Quick Change Gear Lathes				
					Catalog Number	Code Word for Lathe	Instant Reversing Motors			Catalog Number	Code Word for Lathe	Instant Reversing Motors		
							3-Phase 60-Cycle A.C.	1-Phase 60-Cycle A.C.	Direct Current			3-Phase 60-Cycle A.C.	1-Phase 60-Cycle A.C.	Direct Current
9¼	3	16⅜	½	511	456-Y	Dofim	$444.00	$458.00	$452.00	459-Y	Didud	$489.00	$503.00	$497.00
9¼	3½	21⅜	½	536	456-Z	Dogum	454.00	468.00	462.00	459-Z	Digig	499.00	513.00	507.00
9¼	4	27⅜	½	561	456-A	Dotoz	464.00	478.00	472.00	459-A	Dodor	509.00	523.00	517.00
9¼	4½	34⅜	½	586	456-R	Doxun	474.00	488.00	482.00	459-R	Dodux	519.00	533.00	527.00

New 9" Swing 1" Collet Capacity South Bend Lathes

Back-Geared, Screw Cutting Precision Lathes

The general description, features and specifications given below apply to all 1938 Model South Bend 9" Swing 1" COLLET Capacity South Bend Back-Geared Screw Cutting Precision Lathes shown throughout this bulletin.

Large Capacity Through Spindle. The 1⅜" capacity through the headstock spindle and 1" capacity through the collet make this lathe especially practical for tool room and production operations on parts made of bar stock or tubing.

Back Geared Headstock with a two speed motor drive provides a series of twelve spindle speeds ranging from 50 to 1400 R.P.M. The headstock is hand scraped to the lathe bed and spindle is accurately aligned with the V-ways. Two convenient time saving features on the headstock are the wrenchless bull gear lock and the quick acting spring latch reverse for the power carriage feeds.

Power Carriage Feeds operated by a worm drive in the apron permit efficient turning and facing. A powerful multiple disc friction clutch operates both the automatic cross feeds and the automatic longitudinal feeds. This clutch will not stick or slip under heavy cuts.

Precision Lead Screw is ¾" diameter, 8 Acme standard threads per inch, guaranteed to meet the most exacting requirements for cutting screw threads. The threads of the lead screw are used for thread cutting only as a spline in the lead screw operates a worm in the apron which drives the power turning feeds.

Headstock Spindle is made of a special quality alloy spindle steel heat treated, with all bearing surfaces hardened and ground, including the tapered hole. Take up is provided for eliminating end play, and the spindle has a 1⅜" hole bored its entire length. Spindle nose is fitted with a taper reducing sleeve and a No. 2 Morse taper tool steel center. A spindle sleeve for taking No. 3 Morse Tapers is also included.

Bearings for the headstock spindle of cast iron, integral with the headstock. They are unusually large and are line bored and lapped to fit the spindle. The bearings are adjustable for wear and have an excellent capillary oiling system. Spindle has a ball thrust bearing.

Carriage has a wide, deep bridge and unusually long bearings on V-ways of lathe bed, providing a solid support for the cutting tool and reducing wear to a minimum. V-ways of the saddle are hand scraped to match the V-ways of the lathe bed and are fitted with felt wipers to clean and oil the bed. Carriage lock is provided for facing and cutting off.

Compound Rest is graduated 180 degrees, swivels to any angle and has improved locking device with double binder. Compound rest screw and cross feed screw have adjustable micrometer collars graduated to read in thousandths of an inch. The cross feed nut and compound rest nut are of phosphor bronze. Dovetails are hand scraped and lapped, and have adjustable tapered gibs.

Double Wall Apron is one piece box construction, providing a rigid support for both ends of all gear shafts. Gears are of steel and are self-lubricating. Rack pinion is well supported and half-nuts are dovetailed into back wall of apron.

Tailstock is substantially designed with a long hand scraped bearing on the lathe bed. Tailstock top has setover for taper turning. Tailstock spindle is made of a special quality alloy spindle steel and has an improved double plug binder. Tailstock center is hardened tool steel and is self-ejecting.

Quick Change Gear Lathes have full quick change gear mechanism, which provides for cutting a series of screw threads ranging from 2 to 112 per inch, also a wide range of power longitudinal feeds and power cross feeds. Any thread or feed may be obtained instantly by shifting the levers on the gear box.

Standard Change Gear Lathes are equipped with a complete set of change gears which provide for cutting right and left hand screw threads from 4 to 112 per inch, also a wide range of power longitudinal feeds and power cross feeds.

Lathe Bed is 50% steel, heavily constructed and reinforced by box braces its entire length. Three V-ways and one flat way accurately planed and hand-scraped, align and support the headstock, carriage and tailstock.

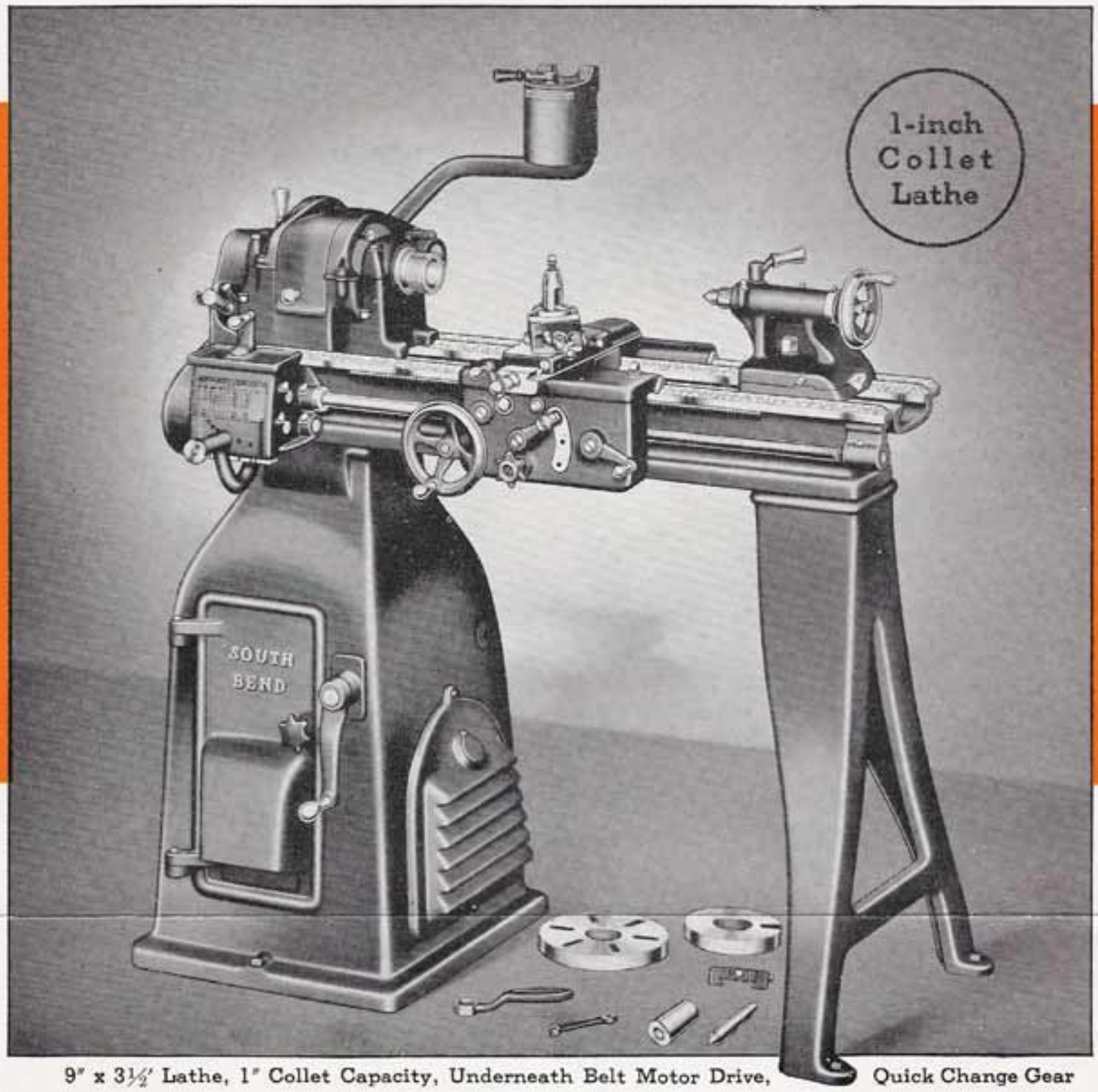
Accuracy and Durability are built into every South Bend Lathe. The workmanship and materials are the best that can be obtained. The substantial design assures permanent alignment of the headstock, tailstock and other major units. Unusually large bearing surfaces give this lathe the power and rigidity for taking heavy cuts and the precision accuracy for the most exacting tool work.

Lathe Features

Back-geared headstock, twelve spindle speeds.
Hollow steel spindle, heat treated with hardened and ground bearing surfaces.
Automatic power longitudinal and cross feeds to carriage.
Ball thrust bearing for headstock spindle.
Adjustable bearings for headstock spindle.
Capillary oiling system for spindle bearings.
Adjustable tapered gibs on all dovetails.
Three V-ways and one flat-way on lathe bed.
Precision lead screw for accurate thread cutting.
Half-nuts are close coupled, dovetailed into back wall of apron.
Micrometer graduations on compound rest screw.
Micrometer graduations on cross feed screw.
Tailstock top has set-over for taper turning.
Tailstock spindle is graduated for drilling to accurate depth.
Tailstock center is hardened and is self-ejecting.

Lathe Specifications

Swing over lathe bed	9¼ in.
Swing over saddle slide, chip guard removed	6⅜ in.
Spindle nose, size	2¼ in. diam., 8 threads
Hole through spindle 1⅜ in.	Max. collet capacity 1 in.
Centers, head and tail spindle	No. 2 Morse taper.
Cone pulley belt width	1¼ in.
12 spindle speeds	50 to 1400 R.P.M.
Standard motor size	½ H.P.
Thread cutting range, quick change	2 to 112 per in.
Thread cutting range, standard change	4 to 112 per in.
Power longitudinal feeds, quick change	.003" to .020"
Power longitudinal feeds, standard change	.002" to .015"
Tailstock top, set-over for taper turning	¾ in.
Tailstock spindle travel	2⅛ in.
Angular travel compound rest top	2 in.



9" x 3½' Lathe, 1" Collet Capacity, Underneath Belt Motor Drive, Quick Change Gear

1" Collet Capacity South Bend
9-inch Underneath Belt Motor Driven Precision Lathes
1⅜" Hole Through Spindle—12 Spindle Speeds—Hardened Spindle
Double Wall Apron—Back-Geared

The 9-inch swing 1" Collet Capacity Underneath Belt Motor Driven Lathe has a special headstock with 1⅜" hole through the spindle which takes collets up to 1" capacity. The motor and driving mechanism are mounted in the cabinet leg, and all belts, pulleys and gears are fully enclosed.

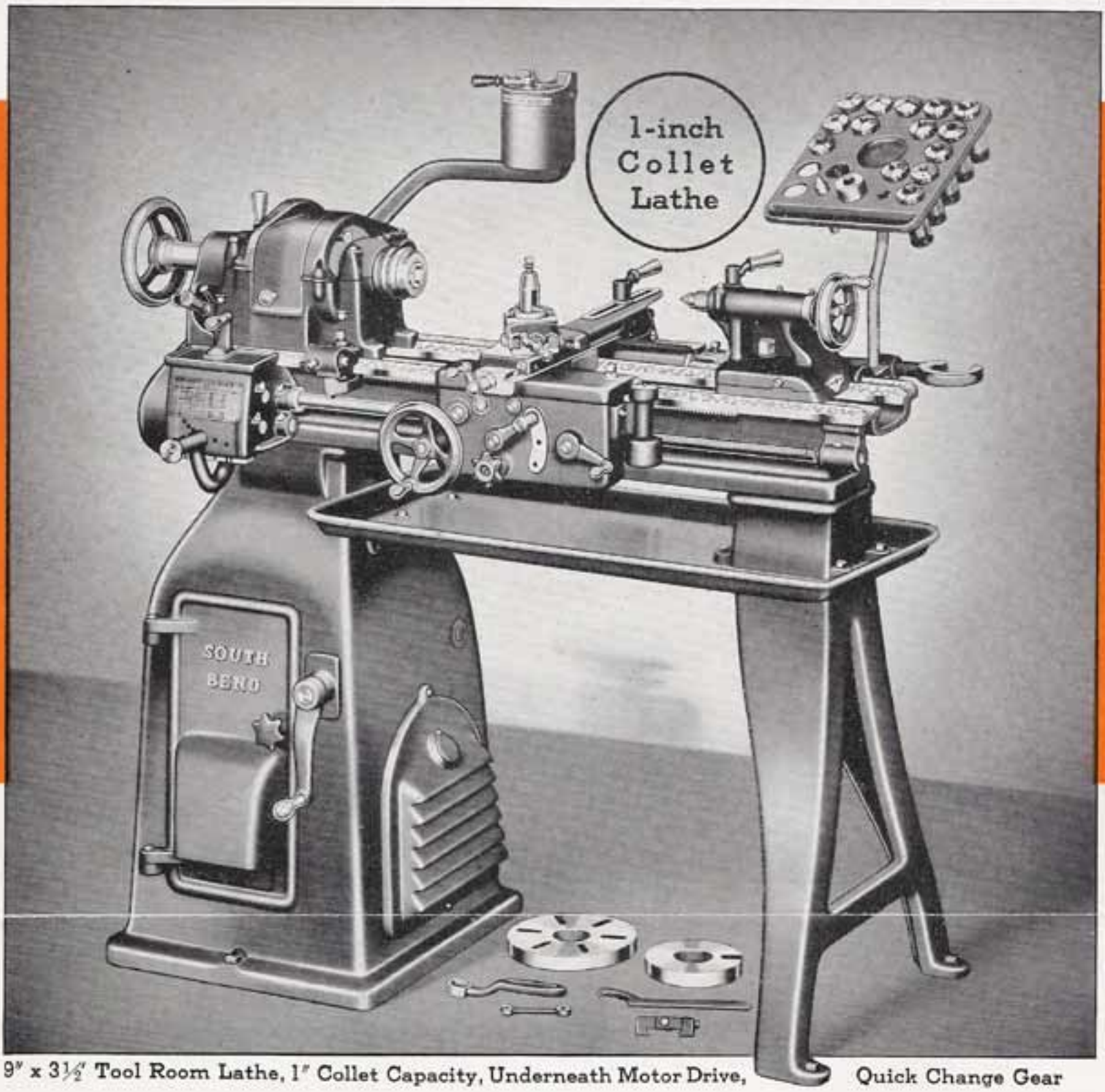
The headstock spindle is heat treated, with all bearing surfaces hardened and ground, and has a ball thrust bearing. The spindle runs in integral cast iron bearings which are adjustable for wear and are equipped with an efficient capillary oiling system.

The two-speed motor drive provides twelve spindle speeds, 50 to 1400 R.P.M. Belt tension adjustment is provided, and a belt tension release lever permits easy shifting of the cone pulley belt.

Equipment included in price consists of: ½ H.P. reversing motor, drum reversing switch, wiring, V-belt, flat leather belt, large and small face plates, tool post, thread cutting stop, spindle centers, two spindle sleeves for Nos. 2 and 3 Morse Tapers, wrenches, gear box or independent change gears, installation plan and book, "How to Run a Lathe."

Net Factory Prices of 9-inch Lathes, 1" Collet Capacity—Underneath Belt Motor Drive

Swing Over Bed Inches	Length of Bed Feet	Distance Between Centers Inches	Size Motor Used H.P.	Approx. Weight Crated Pounds	Standard Change Gear Lathes					Quick Change Gear Lathes				
					Catalog Number	Code Word for Lathe	Instant Reversing Motors			Catalog Number	Code Word for Lathe	Instant Reversing Motors		
							3-Phase 60-Cycle A.C.	1-Phase 60-Cycle A.C.	Direct Current			3-Phase 60-Cycle A.C.	1-Phase 60-Cycle A.C.	Direct Current
9¼	3	16⅜	½	835	156-Y	Bupop	$525.00	$539.00	$533.00	159-Y	Bujig	$570.00	$584.00	$578.00
9¼	3½	21⅜	½	860	156-Z	Buqap	535.00	549.00	543.00	159-Z	Bujom	580.00	594.00	588.00
9¼	4	27⅜	½	885	156-A	Buqet	545.00	559.00	553.00	159-A	Bulon	590.00	604.00	598.00
9¼	4½	34⅜	½	910	156-R	Buqix	555.00	569.00	563.00	159-R	Bumiv	600.00	614.00	608.00



9" x 3½" Tool Room Lathe, 1" Collet Capacity, Underneath Motor Drive, Quick Change Gear

1" Collet Capacity South Bend
9-inch Underneath Motor Driven Tool Room Precision Lathes
1⅜" Hole Through Spindle—12 Spindle Speeds—Hardened Spindle
Double Wall Apron—Back-Geared—Quick Change

9-inch swing 1" Collet Capacity Underneath Motor Driven Tool Room Quick Change Gear Lathe is the same as the lathe shown on page 5, except for the tool room equipment. The large capacity through the spindle and collet makes this lathe especially practical for tool and gauge work.

The two-speed motor drive provides twelve spindle speeds ranging from 50 to 1400 R.P.M. Motor and driving mechanism are fully enclosed in cabinet leg. A belt tension release lever permits easy shifting of the cone pulley belt for changing spindle speeds.

Tool Room attachments included in price of lathe consist of: hand wheel type draw-in collet chuck with one collet, graduated taper attachment, thread dial indicator, collet rack*, chip pan, and micrometer carriage stop.

Equipment includes: ½ H.P. reversing motor, reversing switch, wiring, V-belt, flat leather belt, large and small face plates, tool post, thread cutting stop, spindle centers, two spindle sleeves for Nos. 2 and 3 Morse Tapers, wrenches, gear box, installation plan and book "How to Run a Lathe."

Net Factory Prices of 9-inch Tool Room Lathes, 1" Collet Capacity—Underneath Belt Motor Drive

Swing Over Bed Inches	Length of Bed Feet	Distance Between Centers Inches	Swing Over Carriage Inches	Hole Through Spindle Inches	Collet Capacity Inches ⅛" up by 64ths to	Size Motor Used H.P.	Underneath Belt Motor Driven Lathes					
							Catalog Number	Approx. Weight Crated Pounds	Code Word for Lathe	Instant Reversing Motors		
										3-Phase 60-Cycle A.C.	1-Phase 60-Cycle A.C.	Direct Current
9¼	3	16⅜	6⅜	1⅜	1"	½	8159-Y	940	Bulaz	$772.00	$786.00	$780.00
9¼	3½	21⅜	6⅜	1⅜	1"	½	8159-Z	965	Buled	783.00	797.00	791.00
9¼	4	27⅜	6⅜	1⅜	1"	½	8159-A	990	Bulih	794.00	808.00	802.00

*Collets shown in collet rack are not included in price of lathe.