

LATHES

The Seneca Falls Mfg. Co.

Seneca Falls, N. Y., U. S. A.

Catalogue No. 22-B

SOLD BY

Chandler & Farquhar Co.

419-425 Atlantic Ave. - - Boston, Mass.

Illustrated Catalog No. 22-B

“Star” Screw-Cutting Engine Lathes

(9 and 11 inch Swing—For Belt, Motor or Foot Power)

“Seneca Falls” Screw-Cutting Engine Lathes

(12, 14 and 16 inch Swing)

Speed Lathes

Wood-Turning Lathes

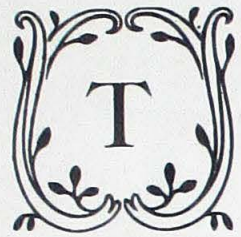
and Attachments

Manufactured by **The Seneca Falls Mfg. Co.**

Seneca Falls, New York, U. S. A.

Cable Address: “ Davis ” Seneca Falls.
Lieber, Western Union and Private Codes.

Introductory



THE prime object of this catalog is to accurately illustrate and describe our Lathes—lathes embodying in design and construction the best results of practical knowledge and long experience in machine tool building. Our facilities for the production of good lathes are unsurpassed and seldom equaled—shop equipment is all modern, much of it is special. A complete system of gauges, jigs and templets insure accuracy and economical production, enabling us to sell the best possible quality at moderate prices. Every lathe leaving our factory has been carefully tested for accuracy and efficiency in actual operation and a record of the test preserved.

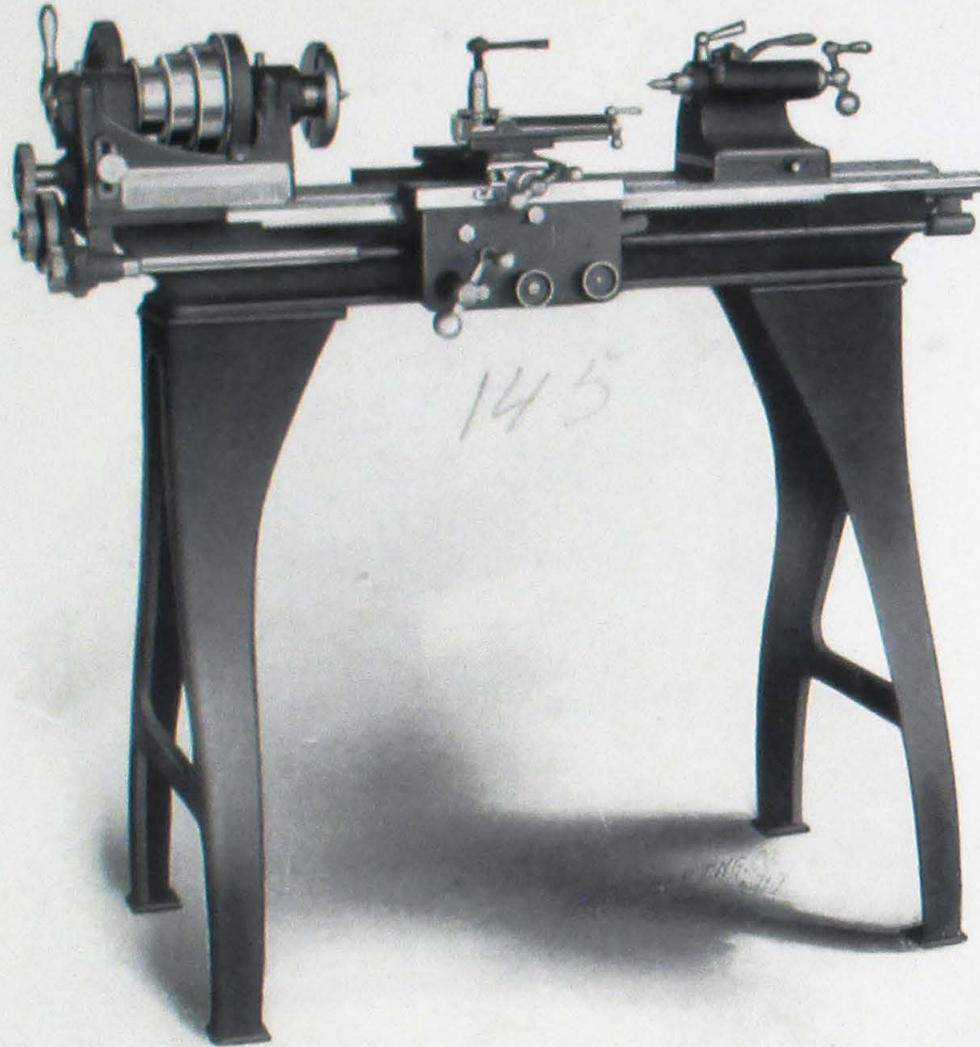
9 and 11 inch "Star" Screw-Cutting Engine Lathes are available for use by belt, electric motor drive or foot power—invaluable for light manufacturing, tool-room, experimental, laboratory, school and repair work, where precision, convenience and durability are essential. The 12, 14 and 16 inch "Seneca Falls" Screw-Cutting Engine Lathes are heavy, rigid, powerful, standard lathes, designed to fulfill the severe requirements of modern machine-shop, tool-room and laboratory practice. We also show something good in Speed Lathes and Wood Turning Lathes of new design with important special features.

Repeat orders from home and foreign governments, who use only the proven best, is one of our strong endorsements, and a large and ever increasing trade with machine shops, garages, colleges, technical, manual-training and high school testifies to the superior merits and values of our lathes. A careful study of details presented by this catalog will repay anyone interested in lathes and their attachments. If additional data is wanted, we extend to you a cordial personal invitation to write for further information and to visit our works.

The Seneca Falls Mfg. Co.,

Seneca Falls, N. Y., U. S. A.

9 and 11-Inch "Star" Screw-Cutting Engine Lathes



No. 10 style E, 9" swing, 46" bed, has plain and compound rests, floor legs and countershaft.

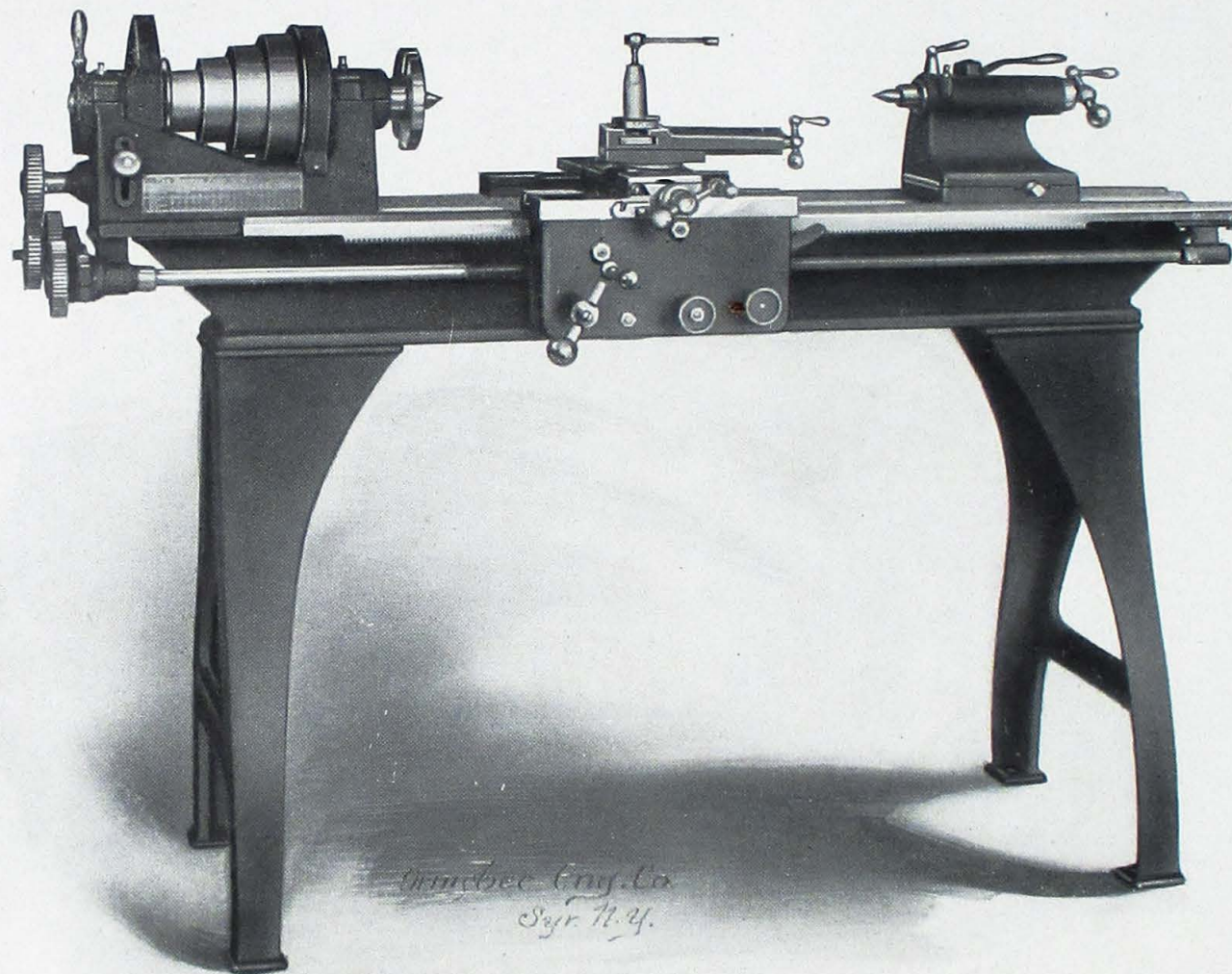
"Star" Lathes are made in two sizes, rating as 9" and 11" swing; in design and construction they conform to the highest type of standard engine lathe practice, and for rated capacity are unsurpassed; they are furnished with floor legs, bench legs, or mounted on oil pan, for belt or direct connected motor drive; also with floor legs and foot power, and a full line of conventional attachments. Their range for exacting service is wide and they are exceptionally desirable for use in the laboratory, tool room, experimental departments, and for light, accurate commercial work.

"Star" Lathes are protected by the following patents, viz: Sept. 13, 1892, Aug. 13, 1895, Nov. 5, 1895, Feb. 25, 1896, Apr. 14, 1896, March 17, 1903, May 18, 1909, others pending.

Head-Stock. Web pattern, hollow spindle made from 60-65 carbon crucible steel, accurately ground to size, revolving in ample hand-scraped ring-oiling bearings, nose is threaded part way only to facilitate changing chucks and face plates without damaging threads and to insure perfect fit.



9 and 11-Inch
"Star" Screw-Cutting Engine Lathes



*Winchester Eng. Co.
Syr. N. Y.*

No. 30, style E, 11" swing, 62" bed, has plain and compound rests, floor legs and countershaft.

9 and 11-Inch “Star” Screw-Cutting Engine Lathes



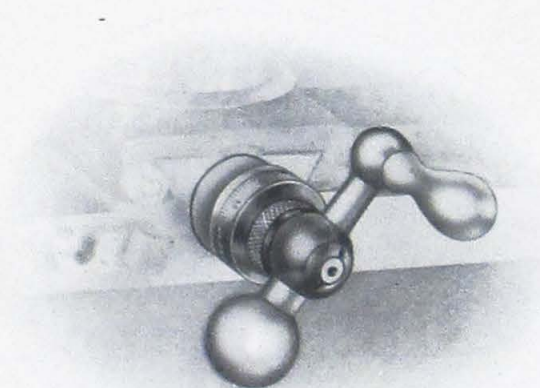
All spindles have large hole suitable for draw-in chuck. Cone is finished inside and outside, perfectly balanced for high speeds, is locked to head-gear by improved push-pin and may be secured or released instantly without using wrench, back and spindle gears are fully guarded.

Tail-Stock. Curved, off-set pattern, with long bearing on bed and base, large spindle with self-discharging center, side adjustment for taper turning, oil well and center oiler.

Carriage. Has substantial bearing on ways, is gibbed front and rear; a convenient locking device secures carriage to bed when using cross-feed. Cross-feed screw and ways are efficiently protected from chips and dirt by a guard full length of slide. Cross-feed screw is supplied with micrometer collar graduated to read in thousandths of an inch, secured by friction spring and readily set to any position. All carriages are arranged for taper attach-

ment which can be affixed at any time. On request we will drill and tap four 7-16" holes in top of carriage of 9" lathe for clamping work. T-slots are provided on all 11" lathe carriages.

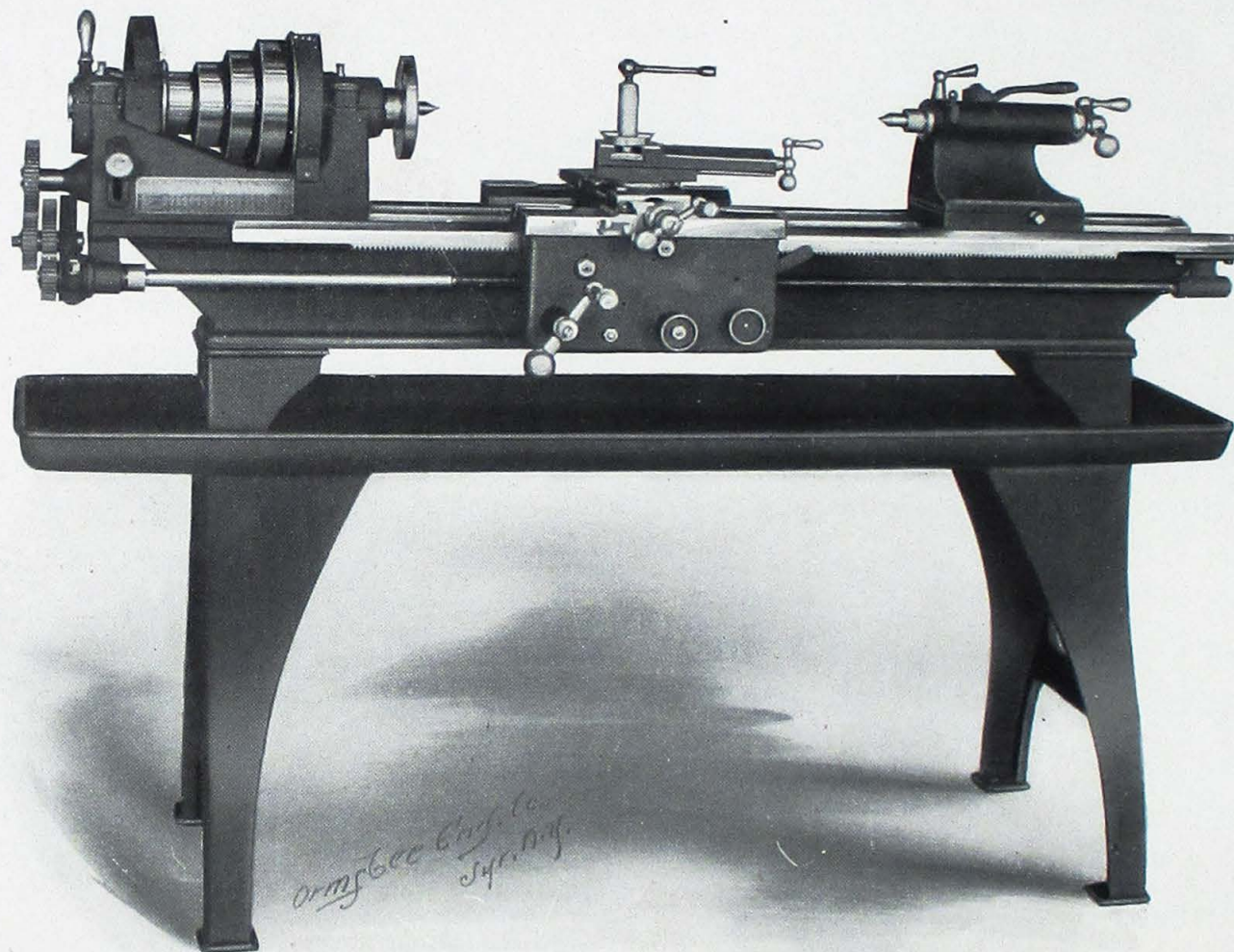
Rests. (See page 28.) Plain and compound rests readily interchange, one cross slide and tool post answering for both rests; a new binding device (patented) facilitates quick changes and rigidly binds either rest to cross slide, which is graduated 180 degrees. Plain rest is furnished with all lathes, compound rest may be ordered with lathe or at any future time.



Micrometer Collar on Cross Feed Screw.



9 and 11-Inch “Star” Screw-Cutting Engine Lathes



No. 30, style H, 11" swing, 62" bed, has plain and compound rests, oil pan and countershaft.

9 and 11-Inch “Star” Screw-Cutting Engine Lathes

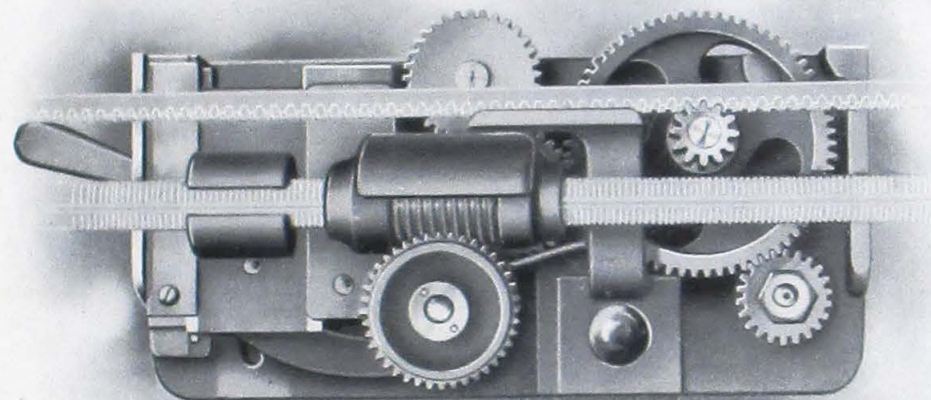


Regular Tool Post.

Tool-Post. Has patented collar and shoe, which exclude all dirt and chips, and admits of quick, easy and secure adjustment of tool. If desired, will furnish European Tool Post (see page 28) in place of regular tool post without extra charge.

Feeds. Our improved cross and longitudinal feeds are actuated by phosphor bronze worm, receiving power from head spindle through spur gears and lead screw, which is splined simply acting as a feed rod; the only wear on threads of lead screw is when actually cutting screws. Feeds may be thrown in or out by turning hand knob on apron, which operates friction clutch, shifting reverse lever in head stock will feed in or out, right or left, or throw entirely out of engagement. The automatic power

cross feed is indispensable for a large variety of work, it insures accurate results in smooth surfaces when facing and other similar service.



Inside view of Apron of 9-Inch and 11-Inch “Star” Lathes.



9 and 11-Inch

“Star” Screw-Cutting Engine Lathes

Screw Cutting. Extremely wide range, cutting all standard threads, right and left from 3 to 72 per inch, including 11½ and 27. When desirable to cut both standard and metric threads, can furnish (for slight advance in price) transposing gears and index for cutting International Standard Metric threads from 0.5 mm. to 8 mm.

Lead Screw. Is carefully cut in special lathe with

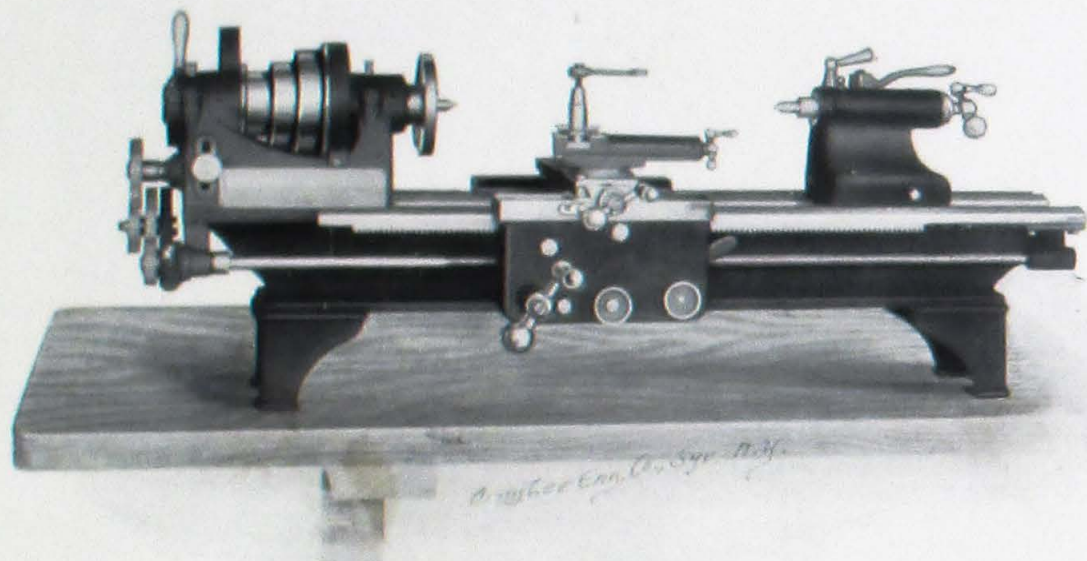
master screw, which is frequently tested. If desirable to cut only metric threads, can supply metric lead-screw and index, for standard metric threads, in place of regular and at same price.

Bed. Box section, correctly proportioned and thoroughly braced by cross webs. Rack is one piece of steel accurately cut.

The Seneca Falls Mfg. Co.																		Seneca Falls, N.Y., U.S.A.	
Thread	3	3¼	3½	4	4½	5	5½	6	6½	7	8	9	10	11	11½	12	13	14	15
Stud	96	96	96	96	96	96	96	96	96	96	48	48	48	48	48	48	48	48	48
Compound		24/48	24/48													60/40			
Screw	24	52	56	32	36	40	44	48	52	56	32	36	40	44	46	32	52	56	60
Thread	16	18	20	22	24	26	27	28	30	32	36	40	42	44	48	56	60	64	72
Stud	24	24	24	24	24	24	32	24	24	24	24	24	32	24	24	24	24	36	32
Compound							96/48			96/48	96/48	96/48	96/48	96/48		96/48	96/48	48/24	48/24
Screw	32	36	40	44	48	52	36	56	60	32	36	40	56	44	96	56	60	96	96

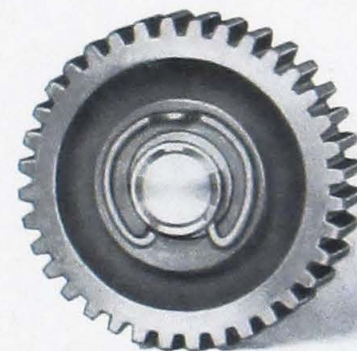
Regular Index Plate furnished with 9" and 11" "Star" Lathes.

9 and 11-Inch "Star" Screw-Cutting Engine Lathes



No. 10, style K, 9" swing, 46" bed, has plain and compound rests, bench legs and countershaft.

In General. Change gears have rounded edges to avoid injuring the hands. Change gear yoke has improved intermediate stud, adjustable from outer end. All adjusting screws have a uniform size head to fit tool post wrench. Patented split spring washers hold change gears in place, are convenient to operate and facilitate quick shifting. Screws, nuts and small parts liable to become bruised are case hardened. Cylindrical surfaces are ground, sliding surfaces hand scraped to perfect bearing, and ample facilities are provided to compensate for wear.



Split Spring Washers
for holding change gears.

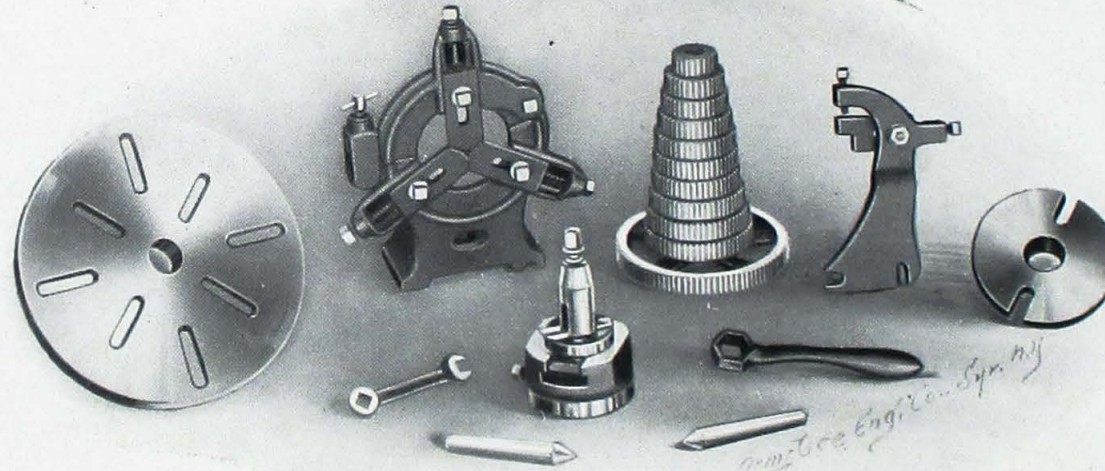


9 and 11-Inch “Star” Screw-Cutting Engine Lathes

Detached Parts. Each lathe is regularly furnished with large and small face plates, center rest, follow rest, two point centers hardened and ground, center oiler, full set of change gears and drop forged tool post wrench.

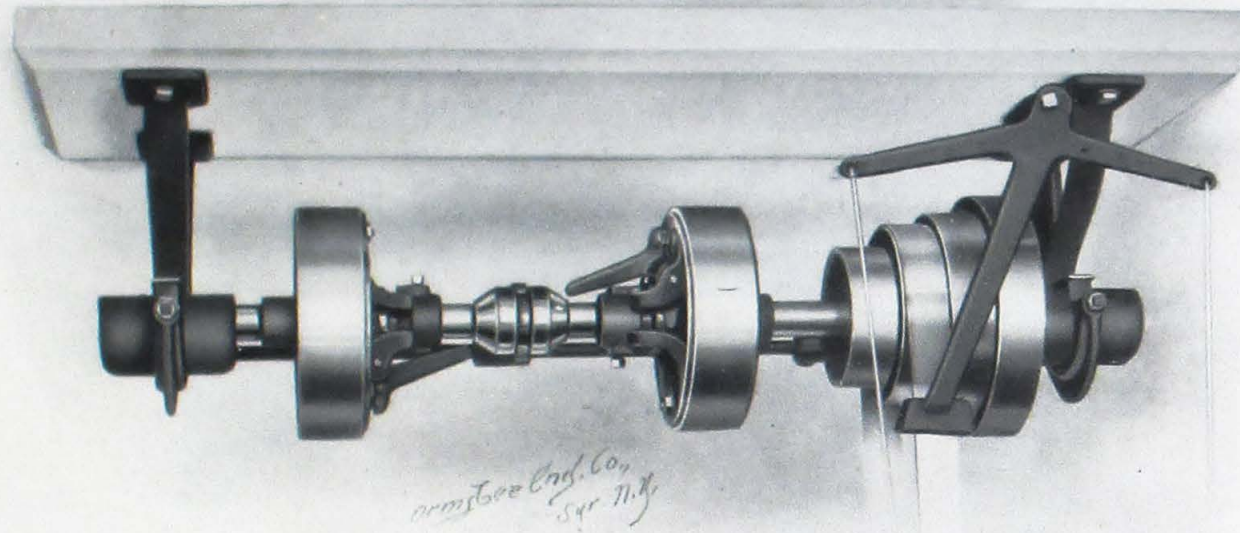
Extra Attachments. (See pages 28 to 36.) Taper attachment. Draw-in chucks and collets, Automatic Draw-in Chuck and Rod Feed, Milling and Gear-

Cutting Attachment, Blocking, Automatic Turret on bed, Carriage turret, Double Tool Block, and Stop for carriage which can be furnished at any time without special fitting. While “Star” Lathes are especially designed for metal working by the addition of hand rest, screw chuck, cup and spur centers (see page 36) they can be used satisfactorily for wood turning.



Detached Parts furnished with all 9" and 11" Star Lathes.

9 and 11-Inch
"Star" Screw-Cutting Engine Lathes

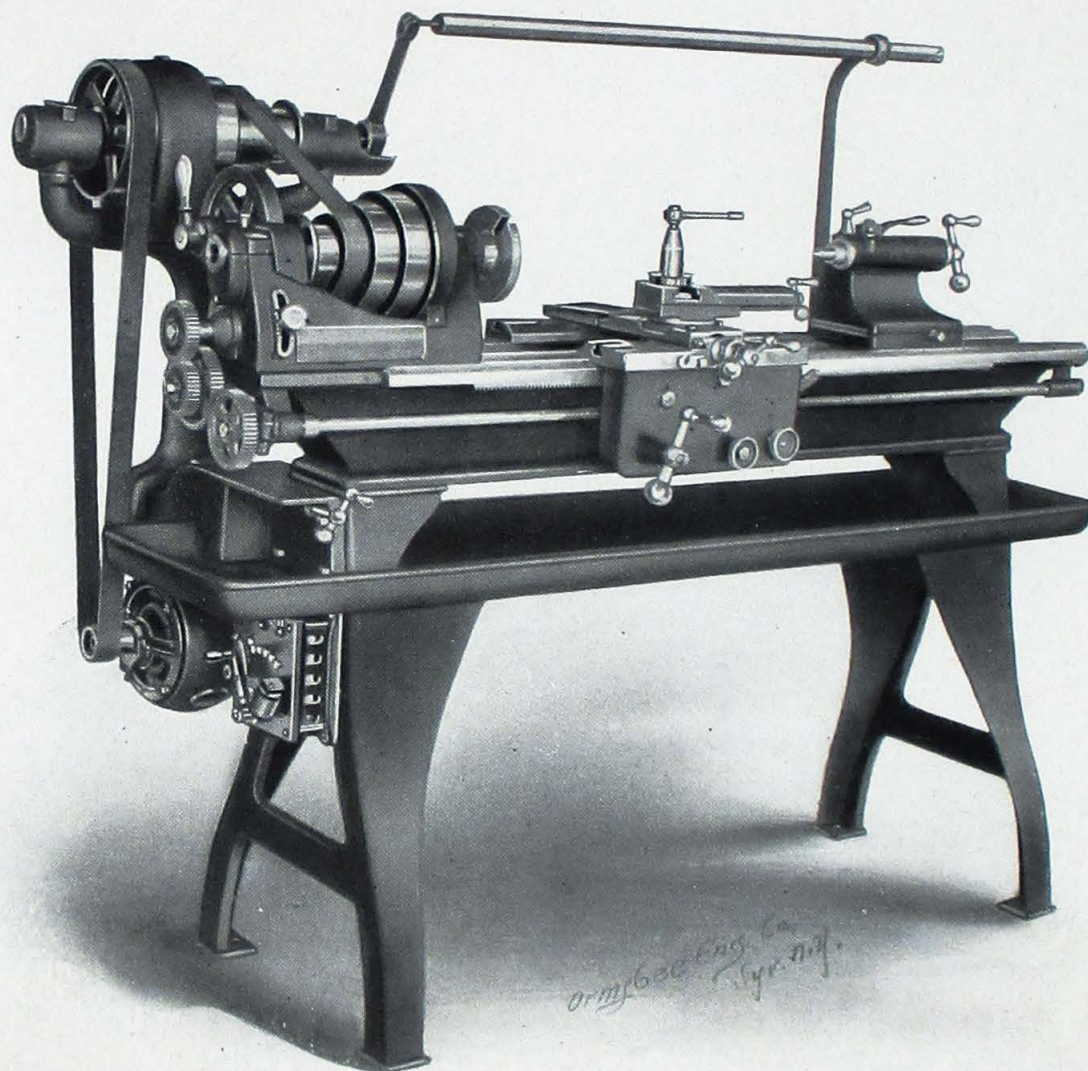


Countershaft. Has improved clutch pulleys (patented) with large friction surface on rim of pulley, wear on friction parts when pulley is running idle has been eliminated and the usual countershaft troubles reduced to

a minimum. Hangers have large ring-oiling shaft-bearings, adjustable for alignment. The cone belt shifter has quick action and will be found very convenient, especially with high ceilings.



9 and 11-Inch “Star” Screw-Cutting Engine Lathes



No. 30, “Star” Lathe, 11” swing, 74” bed, with Electric Motor Drive.

9 and 11-Inch "Star" Screw-Cutting Engine Lathes Electric Motor Drive



The Seneca Falls Electric Motor Drive embodies new and exclusive features, is well proportioned, rigid and powerful, not liable to damage or disarrangement, bearings are thoroughly lubricated by ring oilers and clutch mechanism and spur reverse-gears run in oil bath.

Any standard non-reversing constant speed shunt wound motor for either direct or alternating current of any voltage up to 550, may be used by placing pulley of proper size on motor shaft to run drive shaft pulley at desired speed about 500 r. p. m. for 9" and 665 r. p. m. for 11" lathes. This will give six changes of spindle speeds on 9" lathes and eight changes on 11" lathes, which is ample for general work. If desired, a variable speed motor may be used which will increase the number of spindle speeds and for some kinds of work will greatly increase the output as speed may be gradually changed while lathe is in operation.

Power is transmitted from motor to drive shaft pulley, which runs constantly in one direction, and from drive

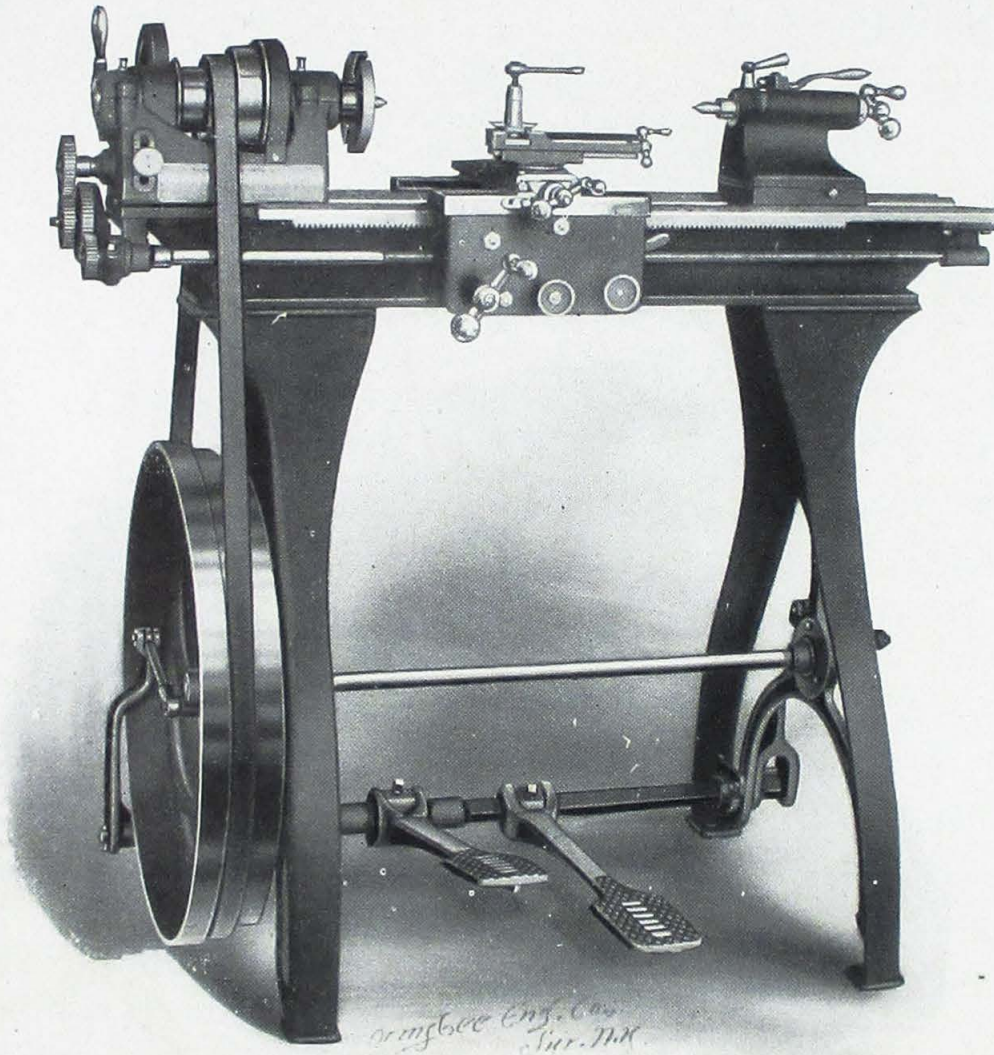
cone to spindle cone by belts, amply large enough to drive lathe to full capacity. Provision is made for quickly tightening belts and they may be kept at proper tension until worn out without shortening. Experience has proven that this method of driving small lathes has advantage over rigid gearing and chain belt drives and will prevent damage to both motor and the lathe.

Starting, stopping and reverse rotation of lathe spindle is controlled by shifting bar placed horizontally above lathe within easy reach of the operator. Moving shifting bar to left imparts forward motion to lathe spindle, and to right reverses, bringing shift bar to center position, stops lathe. The reverse speed is approximately double the forward motion.

When lathes are ordered with motors mounted they are properly wired and belted ready for use. When asking for prices and ordering, do not fail to specify whether direct or alternating current is used. If direct, give voltage; if alternating, give voltage, phase and cycle.



9 and 11-Inch “Star” Screw-Cutting Engine Lathes



Foot-Power. Our patented foot-motion produces greater power with less fatigue than any other kind in use. It consists of double treadles with walking motion. The treadles are adjustable and work alternately, being connected at opposite ends of the driving-wheel shaft, producing a strong, positive and continuous power. Can be started or stopped instantly and may be operated with both feet, sitting, or one foot, standing, as desired. This arrangement overcomes that objection of the operator being confined to one position.

No. 10, style B, 9" swing, 46" bed, has plain and compound rests, floor legs and foot-power.

9 and 11-Inch

“Star” Screw-Cutting Engine Lathes

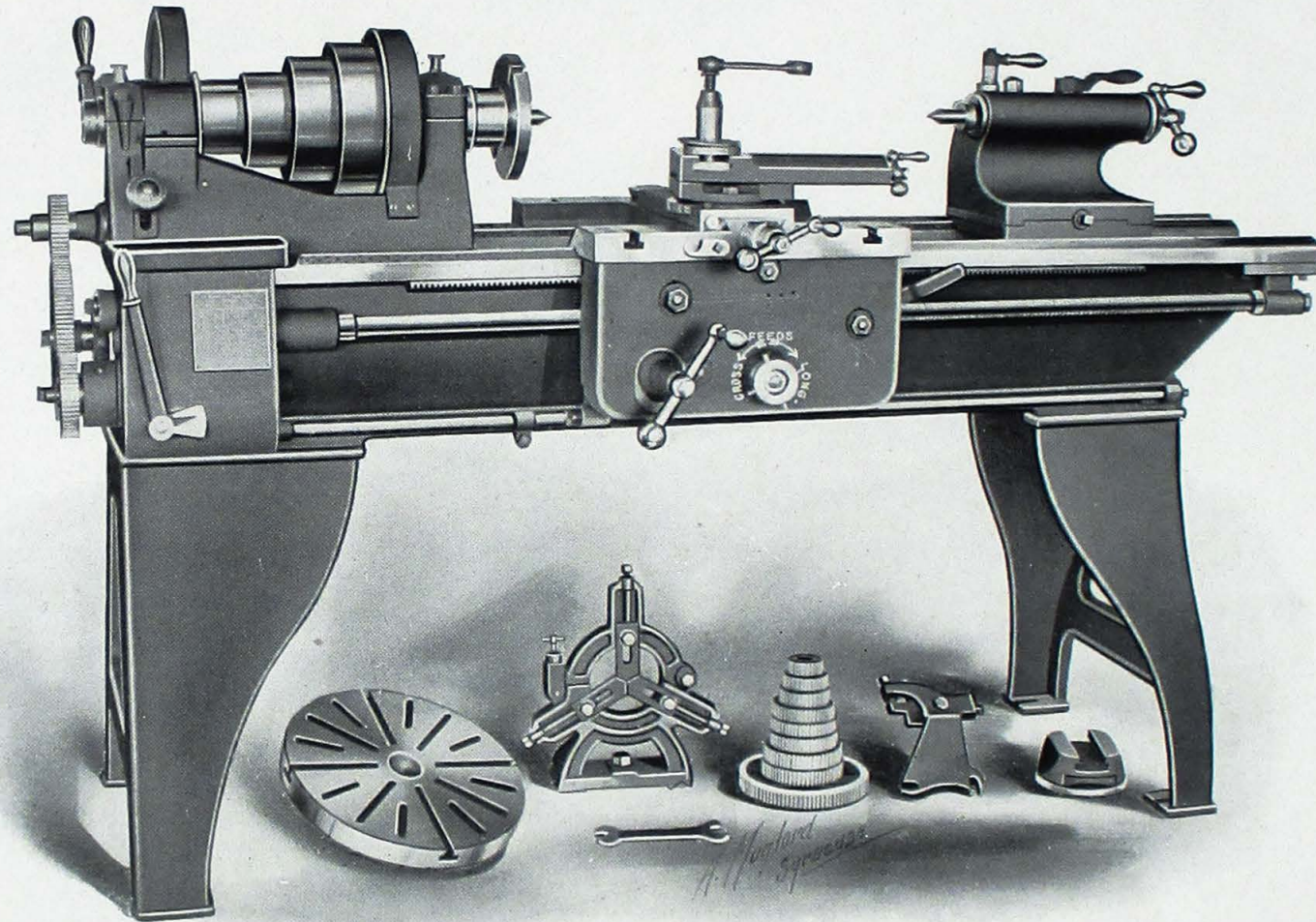
Specifications



	9 IN. LATHE	11 IN. LATHE		9 IN. LATHE	11 IN. LATHE
Hole in Head Spindle . . .	$\frac{7}{8}$ "	1"	Diameter of Tail Spindle	$1\frac{1}{8}$ "	$1\frac{3}{8}$ "
Diameter of Spindle Nose . . .	$1\frac{7}{16}$ "	$1\frac{9}{16}$ "	Swing over Bed (actual)	$10\frac{1}{8}$ "	$12\frac{1}{8}$ "
Thread on Spindle Nose . . .	12 per inch	10 per inch	Swing over Plain and Comp. Rest . .	$5\frac{7}{8}$ "	$7\frac{1}{8}$ "
Front Bearing of Spindle . . .	$1\frac{7}{16}$ " x $2\frac{3}{4}$ "	$1\frac{9}{16}$ " x $3\frac{1}{4}$ "	Compound Rest Travels	$3\frac{7}{16}$ "	$4\frac{1}{4}$ "
Back Bearing of Spindle . . .	$1\frac{5}{16}$ " x $1\frac{3}{4}$ "	$1\frac{7}{16}$ " x $2\frac{1}{8}$ "	Size of Lathe Tools	$\frac{3}{8}$ " x $\frac{3}{4}$ "	$\frac{1}{2}$ " x $\frac{7}{8}$ "
Cone Pulley Diameter	$3\frac{3}{16}$ ", $4\frac{5}{16}$ ", $5\frac{7}{16}$ "	$3\frac{1}{4}$ ", $4\frac{1}{2}$ ", $5\frac{3}{4}$ ", 7"	Capacity of Center Rests	3"	$3\frac{5}{8}$ "
Width of Belt	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "	Size of Pulleys on Countershaft . .	6" x $1\frac{3}{4}$ "	8" x $2\frac{1}{4}$ "
Ratio of Back Gearing	7 to 1	8.5 to 1	Speed of Countershaft	200	200

Numbers of Lathes	Rated Swing	Actual Swing Over Bed	Distance Between Centers	Length of Bed	Floor Space Over All	Net Weight with Foot Power	Net Weight with Countershaft	Net Weight with Countershaft and Oil Pan	Net Weight with Countershaft and Bench Legs
10	9"	$10\frac{1}{8}$ "	24"	46"	25" x 53"	440 lbs.	385 lbs.	430 lbs.	320 lbs.
20	9"	$10\frac{1}{8}$ "	36"	58"	25" x 65"	470 lbs.	415 lbs.	470 lbs.	350 lbs.
25	11"	$12\frac{1}{8}$ "	22"	50"	27" x 60"	690 lbs.	630 lbs.	720 lbs.	560 lbs.
30	11"	$12\frac{1}{8}$ "	34"	62"	27" x 72"	730 lbs.	670 lbs.	775 lbs.	600 lbs.
40	11"	$12\frac{1}{8}$ "	46"	74"	27" x 84"	770 lbs.	710 lbs.	830 lbs.	640 lbs.
50	11"	$12\frac{1}{8}$ "	58"	86"	27" x 96"	810 lbs.	750 lbs.	885 lbs.	680 lbs.

12, 14 and 16-Inch
“Seneca Falls” Screw-Cutting Engine Lathes



No. 1406, style E, 14" swing, 6 ft. bed, has plain and compound rests and countershaft.
The 12 and 16 inch lathes are of the same design and made proportionately heavy.

12, 14 and 16-Inch "Seneca Falls" Screw-Cutting Engine Lathes

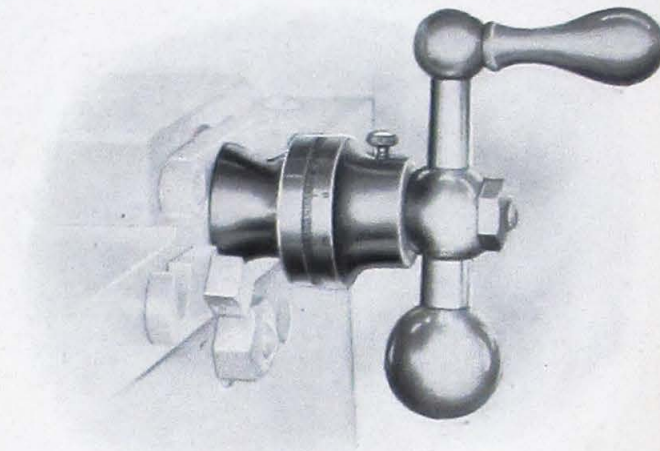
"Seneca Falls" lathes are extremely heavy, rigid and powerful, built on common sense lines, for hard every day service. The construction will withstand the severest tests for accuracy, convenience and durability. Are made under the following patents: Sept. 13, 1892, Mar. 17, 1903, Aug. 2, 1904, May 21, 1907, Aug. 13, 1907, other patents pending.

Head Stock. Web pattern strong and solid. Hollow spindle made from a crucible steel forging, and accurately ground, runs in large hand-scraped bearings. Cone pulley has four steps for wide belt. A push-pin on the head gear allows cone to be instantly locked or unlocked without using a wrench. Back and spindle gears are fully guarded.

Tail Stock. Curved or cut-under pattern. Spindle is of large diameter with long movement and has self discharging center. Tail-stock is provided with an adjustable side movement for turning tapers, has long bearing on bed and base and is locked in such a manner as to render it firm and rigid.

Carriage is extra heavy and provided with

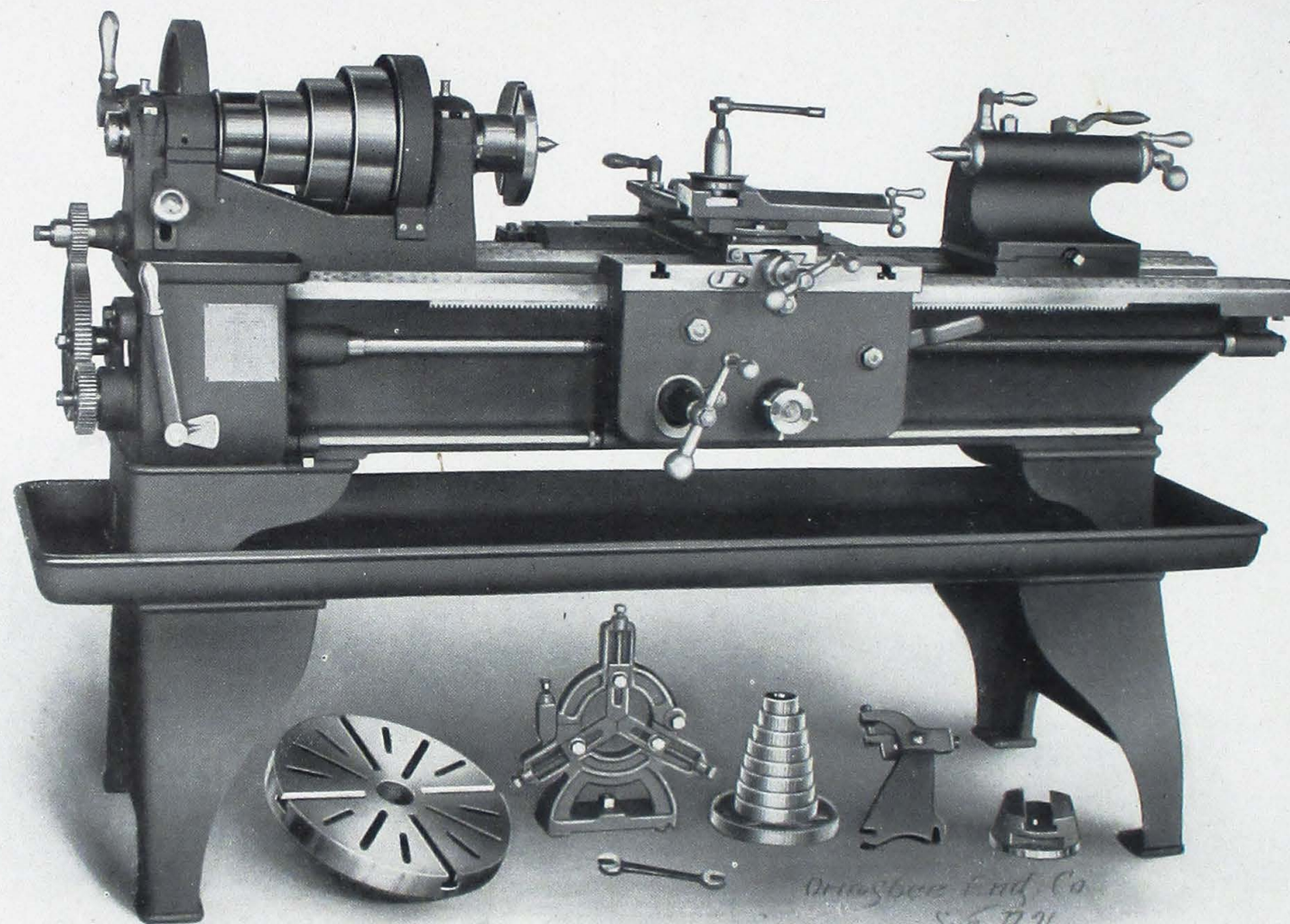
T-slots for bolting on angle plates, etc., has long bearing on ways and is gibbed to bed. A strong locking device secures carriage to bed when using cross-feed. Cross-feed screw has micrometer collar graduated to read in thousandths of an inch and can be set to any position.



Rests. (See page 28.) Either plain, compound or raise and fall rests furnished as desired. Plain and compound rests easily interchange—one cross slide and tool-post answers for both. A plain rest is furnished with all lathes having a plain carriage, and compound rests can be furnished with lathe or at any later time. The cross-slide is graduated 180 degrees. The raise and fall rest is not interchangeable with other rests and must be fitted to lathe before leaving factory.

Graduated Collar on Cross-Feed Screw.

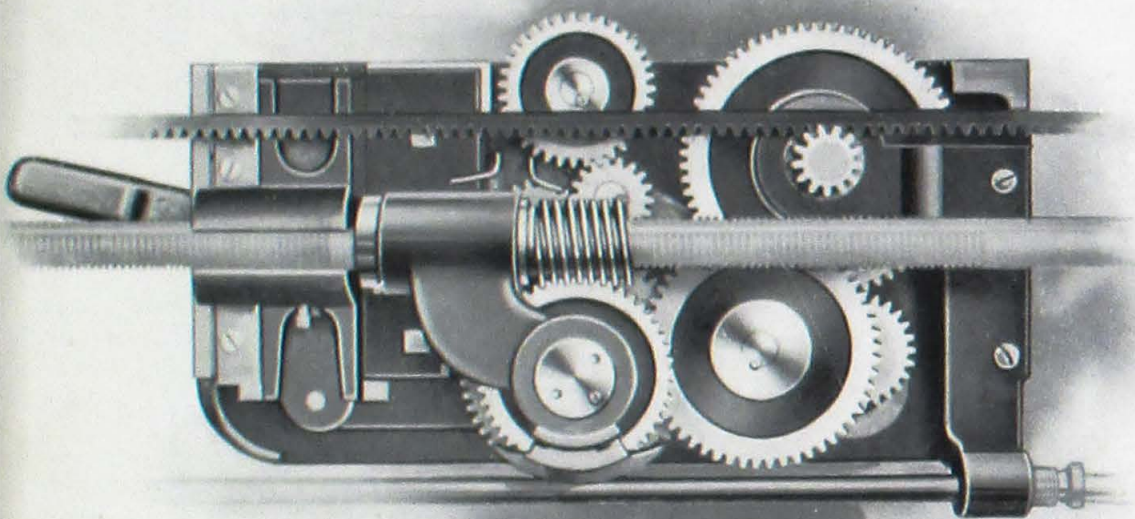
12, 14 and 16-Inch
"Seneca Falls" Screw-Cutting Engine Lathes



No. 1406, style H, 14" swing, 6 ft. bed, has plain and compound rests, oil pan and countershaft.
The 12 and 14 inch lathes are of the same design and made proportionately heavy.

12, 14 and 16-Inch "Seneca Falls" Screw-Cutting Engine Lathes

Tool Post has two collars, one concave and one convex, which excludes all dirt and chips, and admits of quick, easy and secure adjustment of the tool. If desired, will furnish European tool-post (see page 28) in place of regular tool-post without extra charge.



Inside View of Apron on 12, 14, and 16-Inch "Seneca Falls" Lathes.

Note—Double Bearings for rack pinion, worm-gear and feed-gear studs. Oil-pocket and drip provide constant and positive lubrication for worm and worm-gear.

Feeds. Power is transmitted from head spindle to lead screw by spur gears and is arranged with three changes of feeds, ratio is 1-2-4. These changes can be made instantly, while lathe is in motion, by shifting hand lever on gear cage. New friction cross and longitudinal feeds (patented) are thrown in and out of contact by one hand knob on apron, which operates a double friction clutch in connection with worm gear: turn knob to right for longitudinal feed and to left for cross feed. The worm gear is actuated by phosphor-bronze worm on lead-screw, which is splined and simply acts as feed rod, without any wear on threads except when actually cutting screws. Studs for rack pinion, worm-gear and feed gear have double bearings, oil pocket and drip pan provide constant and positive lubrication for worm and worm gear. A safety device (patented) in apron precludes possibility of engaging opposing feeds: one feed automatically disengages when another is thrown in. The range of feeds is six times threads or from 12 to 360 per inch.



Regular Tool Post.

12, 14 and 16-Inch

“Seneca Falls” Screw-Cutting Engine Lathes

Automatic Stop may be used when turning or screw-cutting and will be found very valuable when working to a shoulder and making duplicate parts.

Screw-Cutting. Extremely wide range, cutting all standard threads, right or left, from 2 to 60, including $11\frac{1}{2}$ and 27. When desirable to cut both standard and metric threads, can furnish (for slight advance in price,) transposing gears and index for cutting International Standard Threads from 0.5 mm. to 8 mm.

Lead Screw is carefully cut in special lathe with master-screw, which is frequently tested to insure accuracy. If desirable to cut metric threads only, can furnish metric lead-screw and index in place of regular lead-screw and index, at same price.

Bed is extremely broad, deep heavy thoroughly braced by cross webs and is correctly proportioned throughout. Rack is accurately cut from steel.

Countershaft has improved friction clutch pulleys (patented,) with large friction surface on rim of pulley, self-aligning and self-oiling shaft bearings. The pulleys are provided with self-closing oil cups. This countershaft is furnished with all 12, 14 and 16-inch lathes.

THE SENECA FALLS MFG. CO.

MAKERS

SENECA FALLS, N.Y. U. S. A.

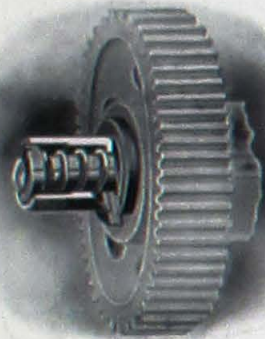
THREADS.	STUD.	SCREW.	THREADS.	STUD.	SCREW.
LEVER			LEVER		
1 - 2			1 - 2 - 3		
2 - 4	96	- 32	8 - 16 - 32	24	- 32
2 ¼ - 4 ½	"	- 36	9 - 18 - 36	"	- 36
2 ½ - 5	"	- 40	10 - 20 - 40	"	- 40
2 ¾ - 5 ½	"	- 44	11 - 22 - 44	"	- 44
2 ⅞ - 5 ¾	"	- 46	11 ½ - 23 - 46	"	- 46
3 - 6	"	- 48	12 - 24 - 48	"	- 48
3 ¼ - 6 ½	"	- 52	13 - 26 - 52	"	- 52
3 ½ - 7	"	- 56	14 - 28 - 56	"	- 56
3 ¾ - 7 ½	"	- 60	15 - 30 - 60	"	- 60

FEEDS - 8 TIMES THREADS PER INCH

Regular Index Plate furnished with 12, 14 and 16-Inch “Seneca Falls” Lathes.

12, 14 and 16-Inch "Seneca Falls" Screw-Cutting Engine Lathes

Electric Motor Drive. We can furnish these lathes arranged to be driven by electric motors as shown on pages 12 and 13.



Spring Nut
for holding change gear.

In General. Change gears have rounded corners to avoid injury to hands. Our patented spring nuts used with split washers hold change gears in place. They are convenient to operate and facilitate quick shifting of the change gears. Screws,

nuts and small parts liable to become bruised are case-hardened. Cylindrical surfaces are ground and sliding surfaces are hand scraped to perfect bearing, and ample facilities are provided to compensate for wear.

Detached Parts. Each lathe is furnished with large and small face plates, center-rests, follower-rest, two hardened and ground point-centers, full set of change gears and wrenches.

Extra Attachments. (See pages 29-30-31) Taper Attachment and Draw-in Chuck, Collets and Blocking will be furnished when desired at additional prices.

Dimensions

	12" LATHE	14" LATHE	16" LATHE
Hole in Head Spindle	1 1/8"	1 1/4"	1 3/8"
Diameter of Spindle Nose	1 3/4"	2 1/4"	2 3/8"
Thread on Spindle Nose	8 per inch	7 per inch	6 per inch
Front Bearing of Spindle	2" x 3 3/4"	2 3/8" x 4 1/8"	2 5/8" x 4 1/2"
Back Bearing of Spindle	1 9/16" x 2 3/8"	1 3/4" x 2 3/4"	2" x 3"
Cone Pulley Diameters	3 1/2", 5", 6 1/2", 8"	3 7/8", 5 1/2", 7 1/8", 8 3/4"	4", 6", 8", 10"
Width of Belt	2"	2 1/4"	2 1/2"
Ratio of Back Gearing	9 to 1	9 to 1	9 1/2 to 1
Diameter of Tail Spindle	1 1/2"	1 3/4"	1 7/8"
Swing over Bed (actual)	13 1/4"	15 1/4"	17 1/4"
Swing over Plain and Compound Rest	7 3/4"	9"	10"
Swing over Raise and Fall Rest	5 3/8"	6 1/8"	7"
Compound Rest Travels	4 3/4"	5 1/4"	6"
Width of Bed	12"	14"	16"
Size of Lathe Tools	1/2" x 1"	1/2" x 1"	5/8" x 1 1/4"
Capacity of Centre Rest	4 1/4"	4 1/2"	5"
Size of Pulleys on Countershaft	9" x 2 3/4"	9 1/2" x 3 1/4"	10 1/4" x 4"
Speed of Countershaft	200	200	200

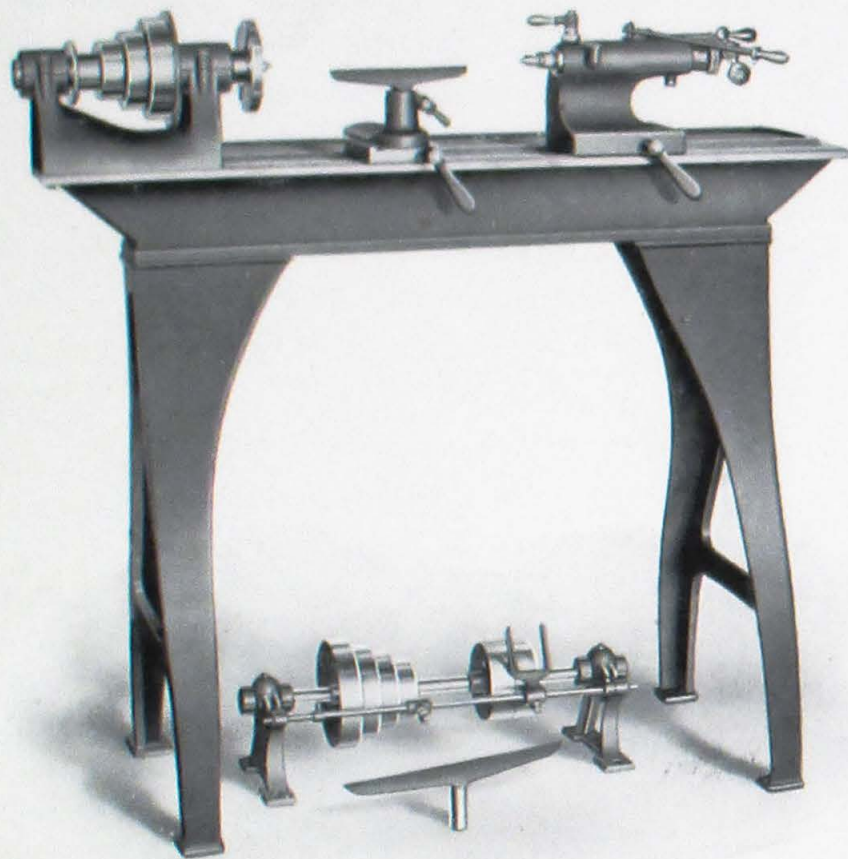
12, 14 and 16-Inch

“Seneca Falls” Screw-Cutting Engine Lathes

Sizes and Weights

Numbers of Lathes	Rated Swing	Actual Swing Over Bed	Distance Between Centers	Length of Bed	Floor Space Over All	Net Weight on Long Legs	Net Weight on Oil Pan
1205	12"	13 $\frac{1}{4}$ "	26"	5 ft.	28" x 71"	1125 lbs.	1235 lbs.
1206	12"	13 $\frac{1}{4}$ "	38"	6 ft.	28" x 83"	1200 lbs.	1330 lbs.
1208	12"	13 $\frac{1}{4}$ "	62"	8 ft.	28" x 105"	1350 lbs.	1520 lbs.
1210	12"	13 $\frac{1}{4}$ "	86"	10 ft.	28" x 131"	1565 lbs.	
1405	14"	15 $\frac{1}{4}$ "	22"	5 ft.	30" x 72"	1530 lbs.	1700 lbs.
1406	14"	15 $\frac{1}{4}$ "	34"	6 ft.	30" x 84"	1630 lbs.	1830 lbs.
1408	14"	15 $\frac{1}{4}$ "	58"	8 ft.	30" x 108"	1830 lbs.	2090 lbs.
1410	14"	15 $\frac{1}{4}$ "	82"	10 ft.	30" x 132"	2100 lbs.	
1412	14"	15 $\frac{1}{4}$ "	106"	12 ft.	30" x 156"	2300 lbs.	
1606	16"	17 $\frac{1}{4}$ "	30"	6 ft.	31" x 85"	2125 lbs.	2355 lbs.
1608	16"	17 $\frac{1}{4}$ "	54"	8 ft.	31" x 109"	2355 lbs.	2655 lbs.
1610	16"	17 $\frac{1}{4}$ "	78"	10 ft.	31" x 133"	2660 lbs.	
1612	16"	17 $\frac{1}{4}$ "	102"	12 ft.	31" x 157"	2890 lbs.	

10-Inch "Seneca Falls" Speed Lathe



Style "C" has long legs and countershaft.

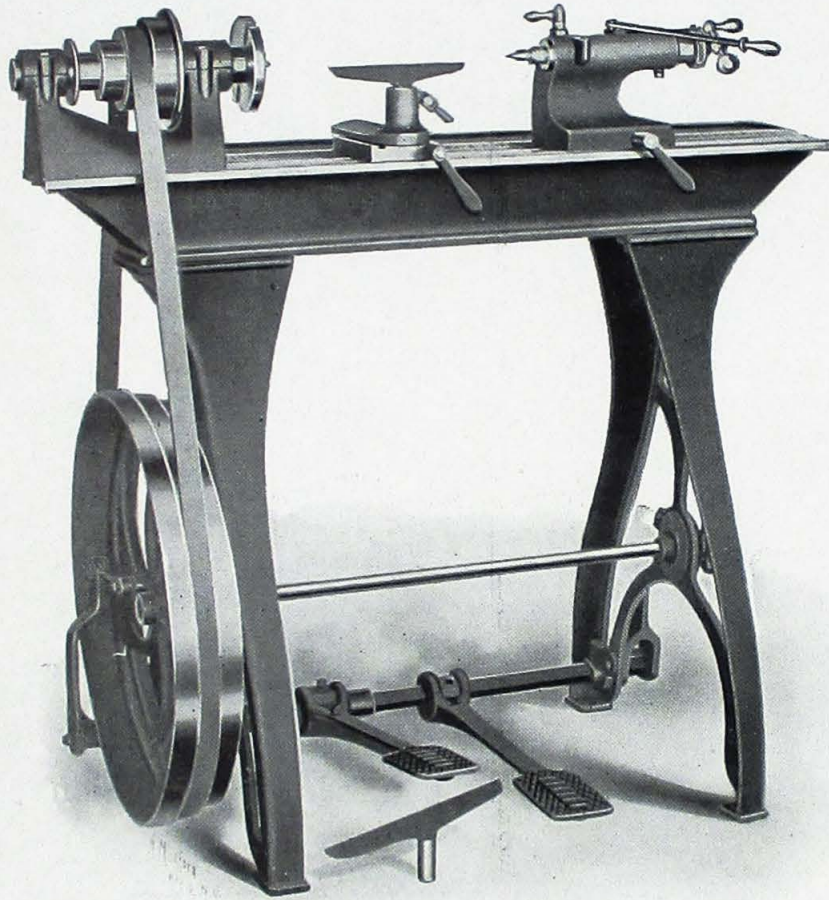
These lathes have self-oiling and dust-proof bearings, combination screw and lever motion, convenient locking levers on hand rest and tail stock (attached and always in place, no wrench required) and other valuable features.

They are finished in a thorough manner, all cylindrical surfaces are ground and sliding surfaces hand-scraped.

Head Stock. Web pattern, strong and solid. Hollow spindle made from crucible steel, and accurately ground, runs in large reliable self-oiling and dust-proof hand-scraped bearings; will run at high speed for a very long time without attention. (Before starting lathe, fill oil-wells with good quality of lubricating oil.) The cone-pulley has four steps, is turned true inside and outside, and is in perfect balance for high speeds. For advanced price we can furnish spindle with extra large hole, $\frac{7}{8}$ -inch diameter.

Tail Stock. Curved or cut-under pattern, spindle has improved locking device, and combination screw and lever feeds. To change from screw to lever motion only necessary to give knurled collar a quarter turn, releasing spindle sleeve and bring hand-lever (always attached) to place. The tail-stock has long bearing on ways and is firmly locked to bed by a convenient lever, (attached and always in place, no wrench required.)

10-Inch "Seneca Falls" Speed Lathe



Style "F" has foot-power.

Hand-Rest has short and long T-rests. Rest socket and saddle are locked to bed by cam locking device and T-rest is held in socket by friction clamp—doing away with the objectionable set-screw commonly used. Both are operated by levers, (attached and always in place, no wrenches required.)

Bed is broad, deep and being thoroughly braced by cross webs is very stiff and rigid. Front way is flat and back way is V shape (same as inside ways on our screw-cutting engine lathes.) A convenient shelf is secured to back of bed for reception of tools, etc.

Countershaft has self-oiling and self-aligning shaft bearings, four step cone and tight and loose pulleys, self-closing oil cup on loose pulley (can furnish patent friction clutch pulleys in place of tight and loose pulleys at an additional price, when desired.) Improved belt shifter operated by pull cord, this feature is not shown in cut on page 23.

Electric Motor Drive. We can furnish these lathes arranged to be driven by electric motors and will give further information on request.

Foot Power. Our patented foot-motion produces greater power with less fatigue than any other kind in

10-Inch "Seneca Falls" Speed Lathe

use; it consists of double treadles with walking motion. The treadles are adjustable and work alternately, being connected at opposite ends of driving wheel shaft, producing strong, positive and continuous power. Can be started or stopped instantly and may be operated with both feet, sitting, or one foot, standing, as desired. This arrangement overcomes that objection of the operator being confined to one position.

Each Lathe is furnished with a faceplate, and two point centers.

We can furnish, at additional prices, slide rests (see page 36), draw-in chucks and collets (see page 31), screw-chuck, cup and spur centers (see page 36.) Can furnish these lathes mounted on oil-pan (similar as shown by cut of "Star" engine lathe on page 6,) also on bench legs (page 9.)

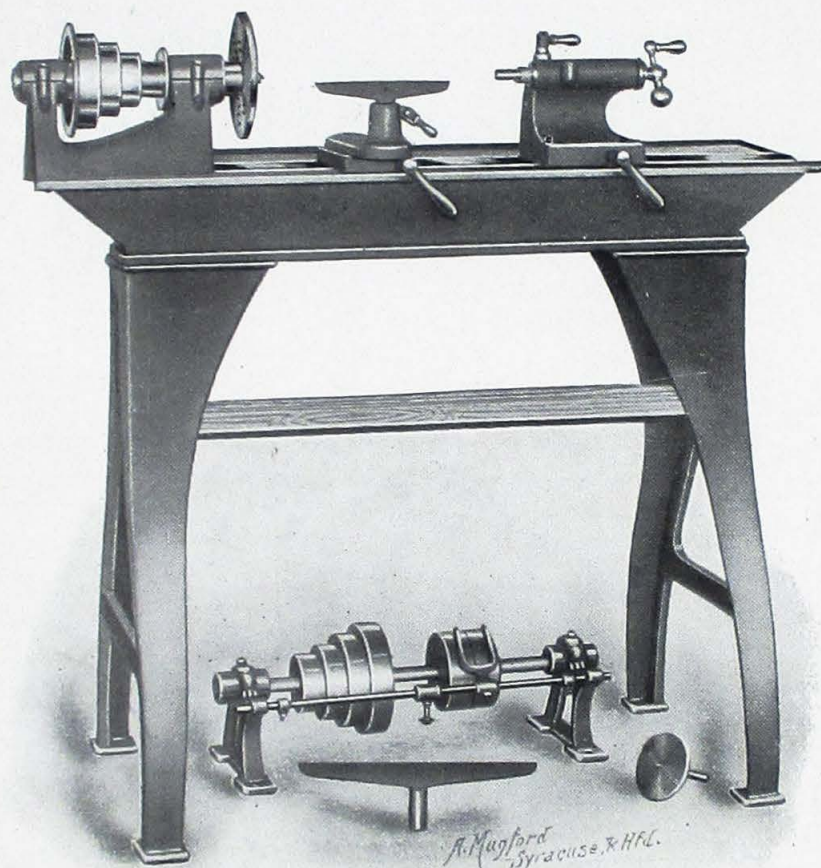
Specifications

Hole in Head Spindle		1 3/8" ^{1 3/4"}
Diameter of Spindle Nose		1 7/16"
Threads on Spindle Nose		12 per inch
Front Bearing of Spindle		1 7/16" x 2 5/8"
Back Bearing of Spindle		1 5/16" x 1 7/8"
Cone Pulley Diameters		2 1/8", 3 1/4", 4 3/8", 5 1/2"

Width of Belt		1 1/4"
Diameter of Tail Spindle		1"
Swing over Bed (Actual)		11"
Swing over Rests		7"
Size of Pulleys on Countershaft		5" x 1 5/8"
Speed of Countershaft		400

Number of Lathes	Rated Swing	Actual Swing Over Bed	Length of Bed	Distance Between Centers	Floor Space Over All	Net Weight with Countershaft	Net Weight with Countershaft and Oil Pan	Net Weight with Countershaft and Bench Legs	Net Weight with Foot Power
104	10"	11"	4 ft.	26"	25" x 55"	280 lbs.	335 lbs.	215 lbs.	360 lbs.
105	10"	11"	5 ft.	38"	25" x 67"	305 lbs.	365 lbs.	240 lbs.	390 lbs.

10-Inch "Seneca Falls" Wood-Turning Lathe



Style "C" has long legs and countershaft.

This Lathe has many desirable features which commend it to wood-turners and especially for use in manual training schools. Can furnish lathe mounted on bench legs in place of long legs.

Head Stock. Web pattern, strong and solid. Hollow spindle made from crucible steel forging, runs in large reliable self-oiling and dust-proof bearings; will run at high speed a very long time without attention. (Before starting lathe fill oil wells with good quality of lubricating oil.) Spindle is ground true and bearings are hand-scraped to an accurate fit. The cone pulley has four steps, is turned true inside and outside and is in perfect balance for high speeds.

Tail Stock. Curved or cut-under pattern, has long bearing on ways and is firmly locked to bed by a convenient lever, attached and always in place—no wrench required. Spindle has an improved locking device.

Hand Rest. Has three T-rests. Rest socket and saddle are locked to bed by cam locking device and T-rest is held by a friction clamp, (doing away with the objectionable set screw commonly used); both are operated by levers, attached and always in place—no wrenches required.

10-Inch "Seneca Falls" Wood-Turning Lathes

Bed. Is broad, deep, and being thoroughly braced by cross webs, is very stiff and rigid. The front way is flat and back way is V-shaped (same as inside ways on our screw-cutting engine lathes.) A convenient shelf is secured to back of bed and a second shelf is secured to legs under bed, for reception of tools, etc.

Countershaft. Has self-oiling and self-aligning shaft bearings, four-step cone and tight and loose pulleys, self-closing oil cups on loose pulley, (can furnish patent friction pulleys in place of tight and loose pulley at an additional price;) Improved belt shifter operated

by pull cord, this feature is not shown in cut on page 26.

Electric Motor Drive. We can furnish these lathes arranged to be driven by electric motors and will give further information on request.

Each Lathe is furnished with face-plate, screw-chuck, cup and spur centers and guard collar for nose of spindle.

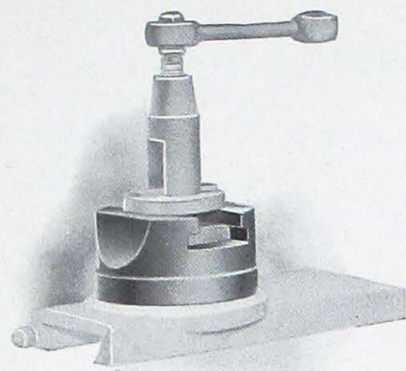
We can furnish, at additional price, slide rest (see page 36) for turning metal. Also carriage and rack with hand feeds for longitudinal and cross motions; cuts and full description sent on request.

Specifications

Hole in Head Spindle	$\frac{17}{32}$ "
Diameter of Spindle Nose	$1\frac{7}{16}$ "
Threads on Spindle Nose	12 per Inch
Front Bearing of Spindle	$1\frac{5}{16}$ " x $2\frac{5}{8}$ "
Back Bearing of Spindle	$1\frac{3}{16}$ " x $1\frac{7}{8}$ "
Cone Pulley Diameters	$2\frac{1}{8}$ ", $3\frac{1}{4}$ ", $4\frac{3}{8}$ ", $5\frac{1}{2}$ "

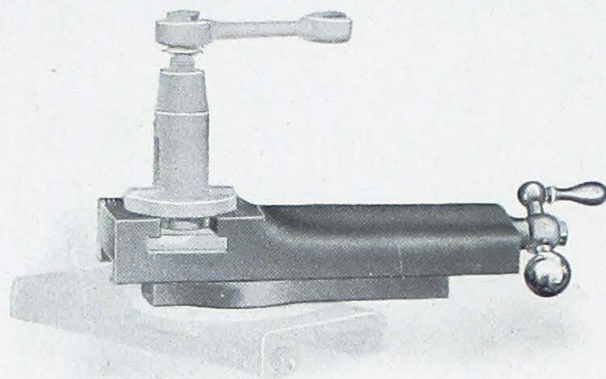
Width of Belt	$1\frac{1}{4}$ "
Diameter of Tail Spindle	1"
Swing over Bed (Actual)	11"
Swing over Rests	7"
Size of Pulleys on Countershaft	5" x $1\frac{5}{8}$ "
Speed of Countershaft	600

Numbers of Lathes	Rated Swing	Actual Swing Over Bed	Length of Bed	Distance Between Centers	Floor Space Over All	Net Weight With Countershaft	Net Weight with Countershaft and Bench Legs
310	10"	11"	3 ft.	14"	25" x 43"	255 lbs.	190 lbs.
410	10"	11"	4 ft.	26"	25" x 55"	280 lbs.	215 lbs.
510	10"	11"	5 ft.	38"	25" x 67"	305 lbs.	240 lbs.



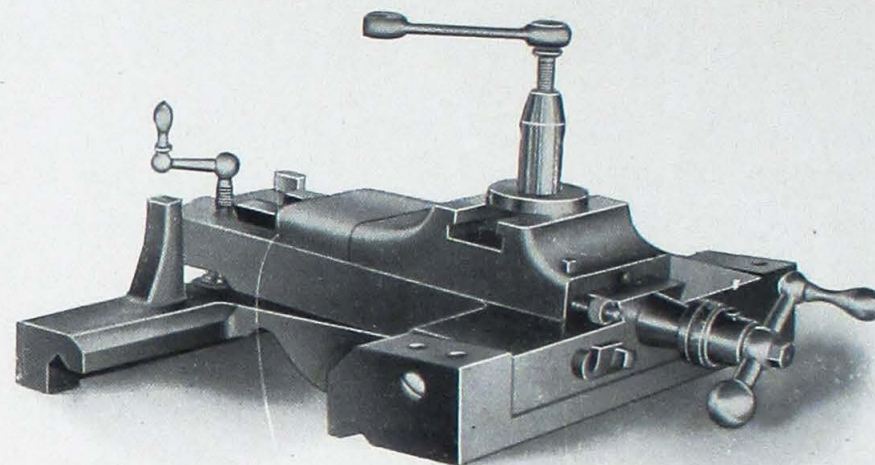
Plain Rest

For 9 and 11-Inch Engine Lathes.



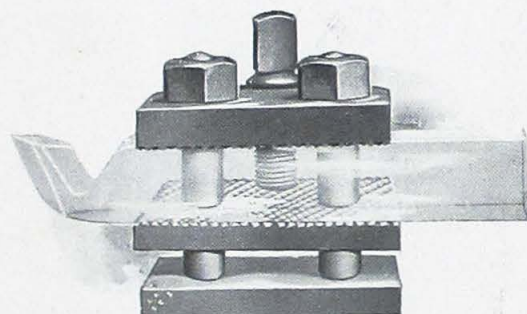
Compound Rest

For 9 and 11-Inch Engine Lathes.



Raise and Fall Rest

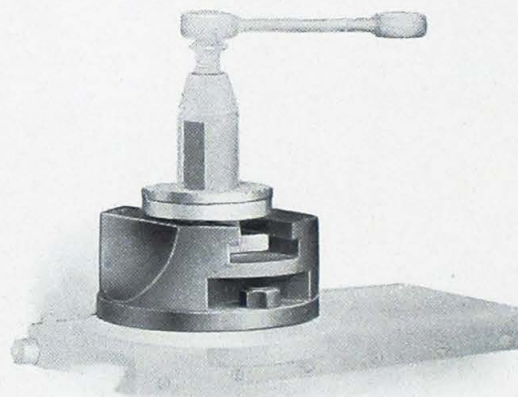
For 12, 14 and 16-Inch Engine Lathes.



European Tool-Post

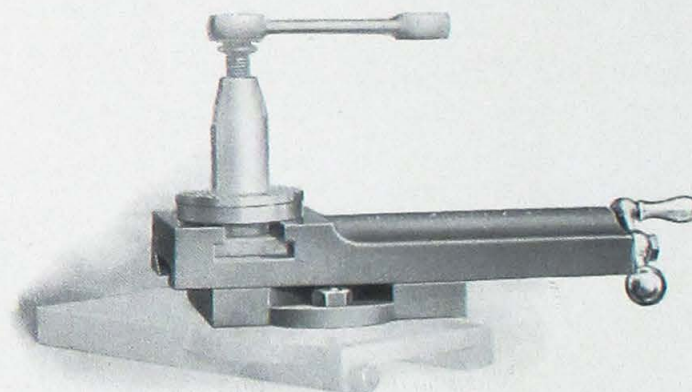
For 9, 11, 12, 14 and 16-Inch Engine Lathes.

Was designed for the European market, is strong, rigid and will securely hold tool in any position. It is made entirely of steel, case hardened. The upper and lower plates have serrated surfaces. The European tool-post will be furnished in place of regular (American) tool-post without extra charge.



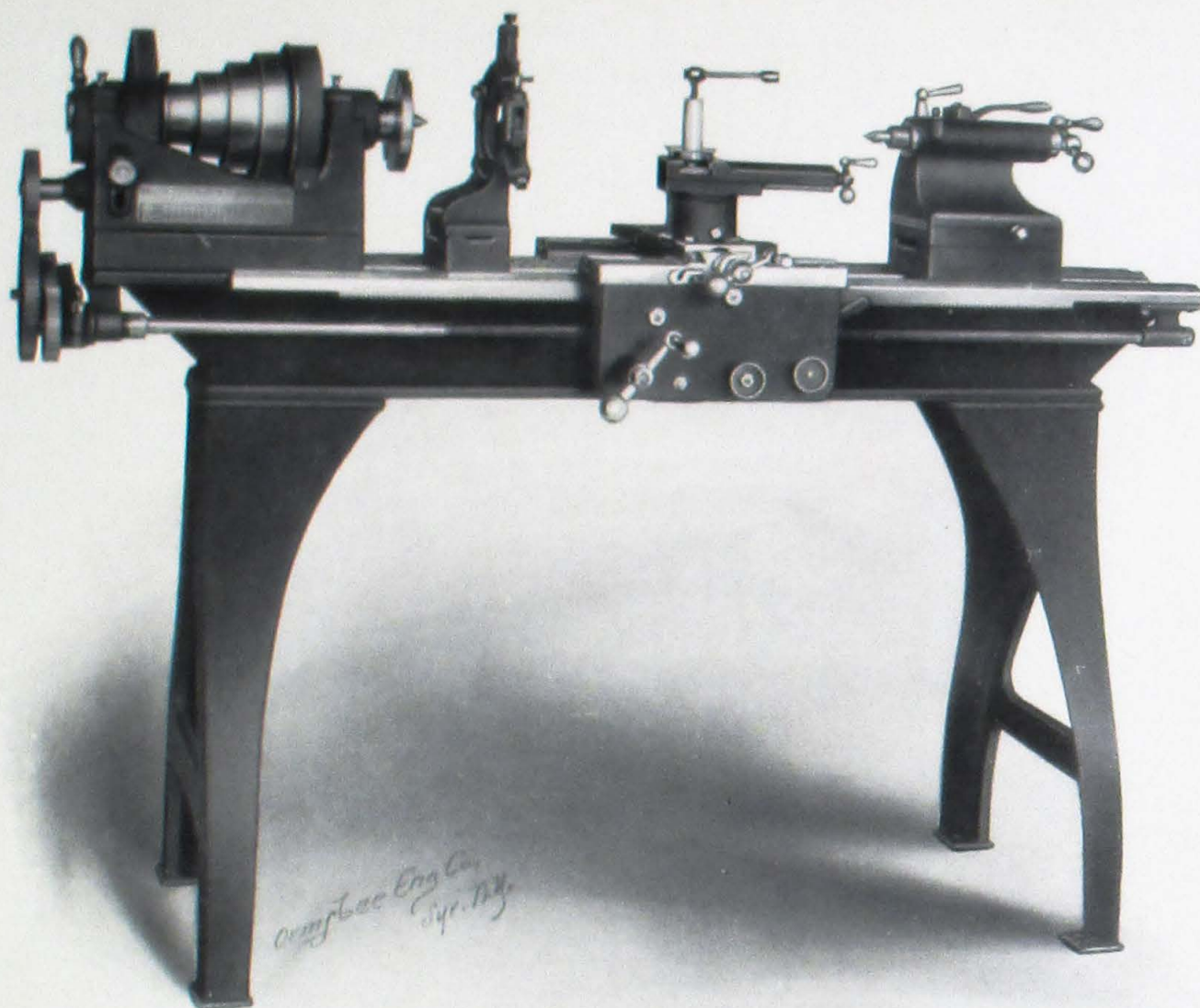
Plain Rest

For 12, 14 and 16-Inch Engine Lathes.



Compound Rest

For 12, 14 and 16-Inch Engine Lathes.



2" Blocking on No. 30 "Star" Lathe (11" x 74") increasing the swing 4 inches.

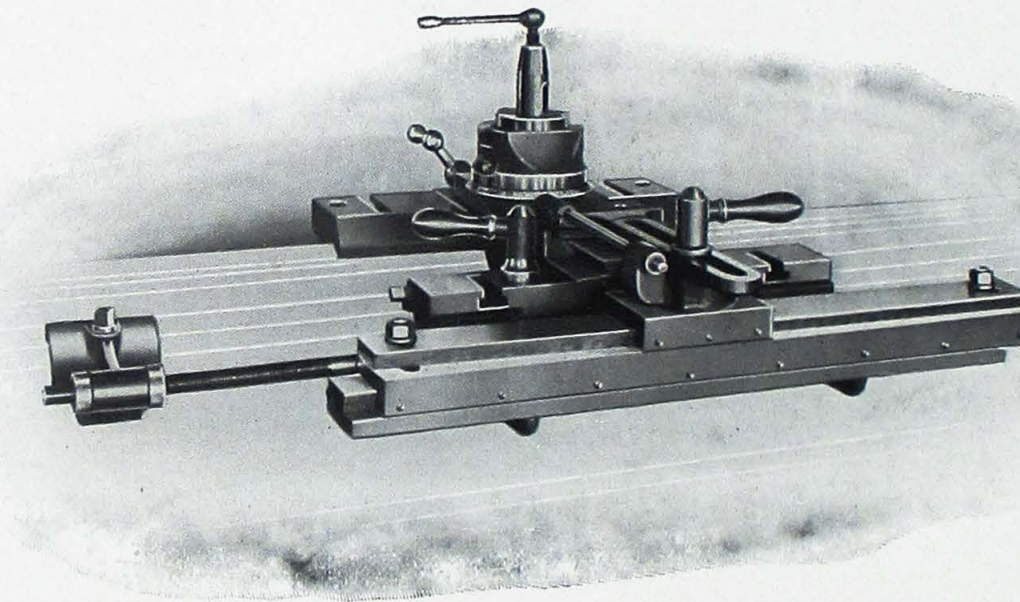
Blocking. (For 9", 11", 12", 14" and 16" Engine Lathes.) For raising head and tail stocks, plain and compound rest and center rest to increase the swing of lathe. We consider blocking up a lathe for special work superior to the gap-lathe. The blocking can be conveniently put on or taken off and lathes used without blocking for all ordinary work. Blocking should be fitted to lathe before leaving the factory.

Blocking 2 inches high for 9" and 11" Lathes increases swing 4 inches.

Blocking 3 inches high for 12", 14" and 16" Lathes increases swing 6 inches.

Taper Attachment (For 9, 11, 13, 14 and 16 in. Engine Lathes.) Is secured to back of carriage, travels with it and is always in position ready for use. It can be used with plain and compound rests, but not with the raise and fall rests. The swivel guide-bar is graduated in degrees and inches, facilitating quick and accurate ad-

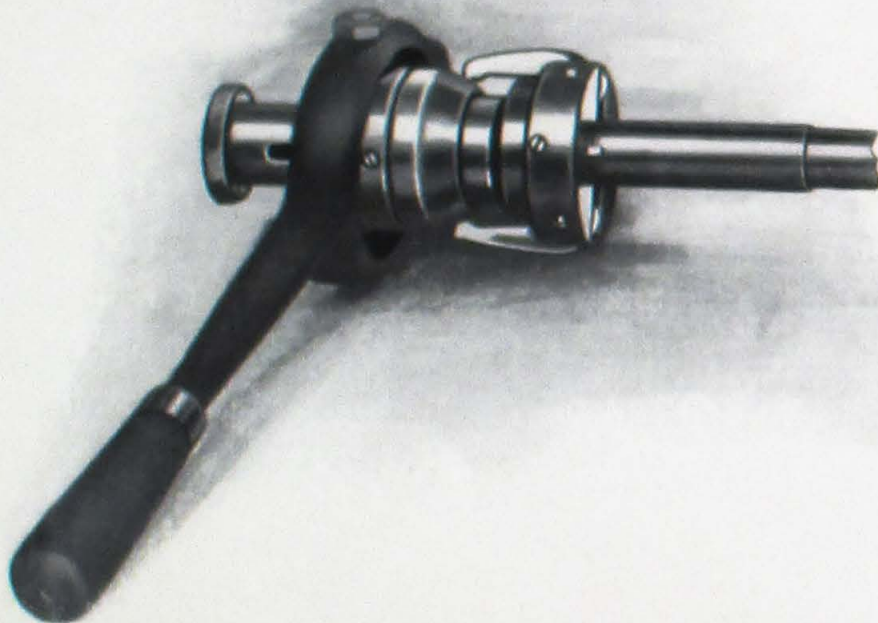
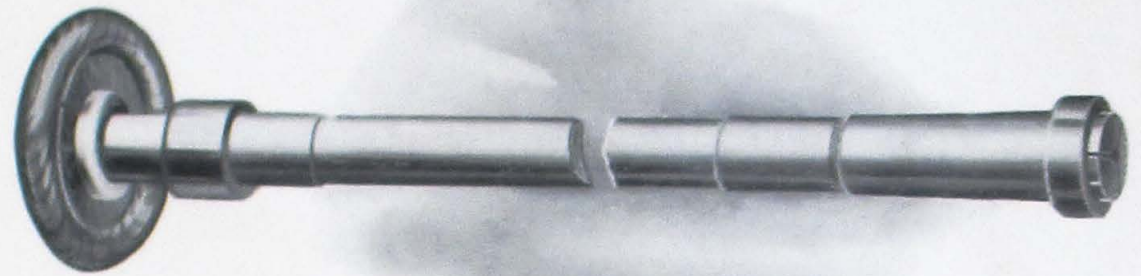
justments. Thread-stop may be used when cutting threads on taper work. After July 1, 1909, all carriages will be fitted so that taper attachment may be ordered at any time and attached by customer. All taper attachments ordered with lathes will be properly adjusted and ready for work before leaving the factory.



Draw-in Chuck Attachment (For 9, 11, 12, 14, 16 Engine Lathes and 10 in. Speed Lathes.) Suitable for the finest and most accurate service, split collets and bushings are made of tool steel hardened and ground.

Collets 1-16" to $\frac{1}{16}$ " may be used on 9" and 11" Engine Lathes and 10" Speed Lathes, also collets $\frac{3}{32}$ -64" to $\frac{5}{8}$ " counterbored 2" deep, allowing work to be inserted only from front end.

Collets 1-16" to $\frac{3}{4}$ " may be used on 12", 14", 16" Engine Lathes.



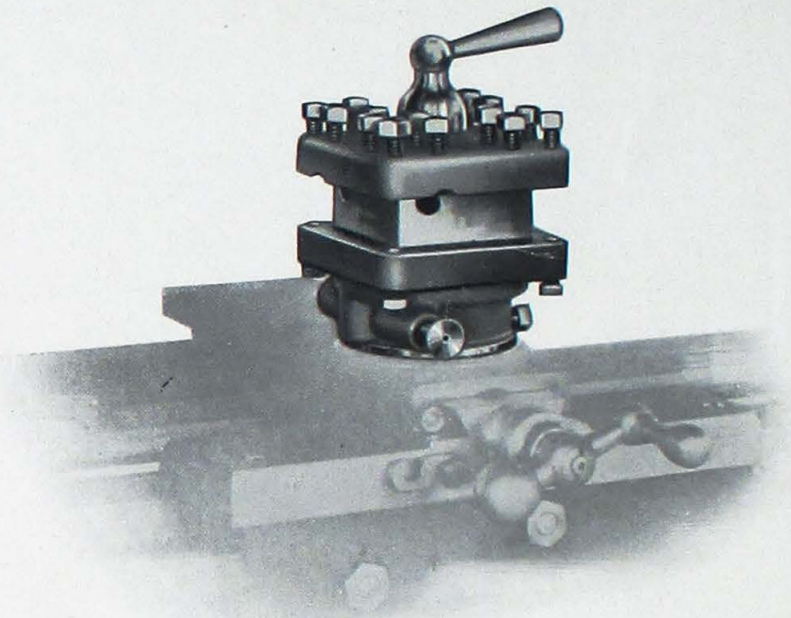
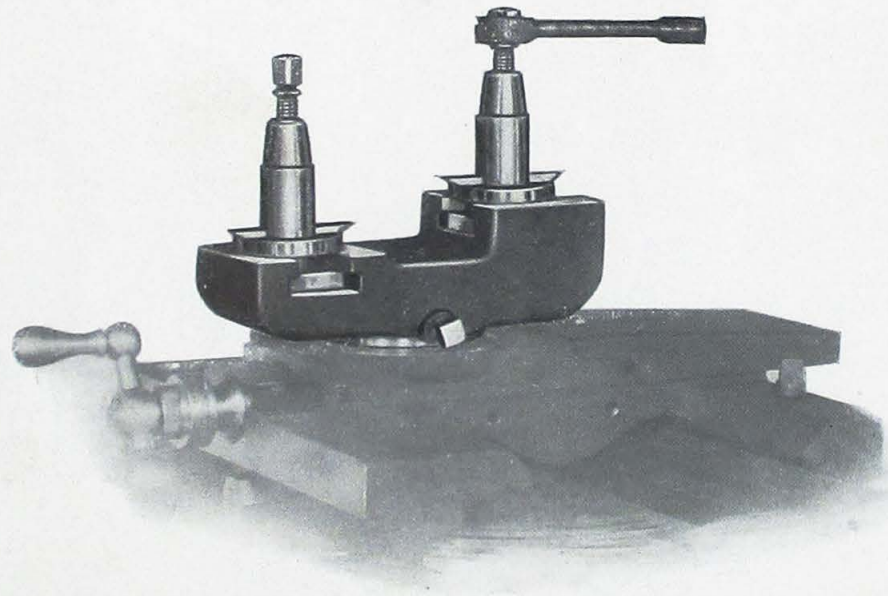
Automatic Draw-in Chuck and Rod Feed Attachment

(For 9" and 11" Engine Lathes.)

One stroke of lever releases chuck, feeds the rod forward and tightens chuck without stopping lathe. Valuable for rapidly manufacturing small parts from bar stock, Collets and feed chucks 1-16" to $\frac{1}{2}$ " may be used.

Carriage Turret Attachment and Turret Tool Post combined, (for 9" and 11" Engine Lathes.) Is used on cross slide of lathe and easily interchanges with plain and compound rests, has 4 holes for tools with round shanks and binding screws for four regular lathe tools and provision is made for adjusting the tools to proper height. This attachment may be ordered with lathe or at any later time.

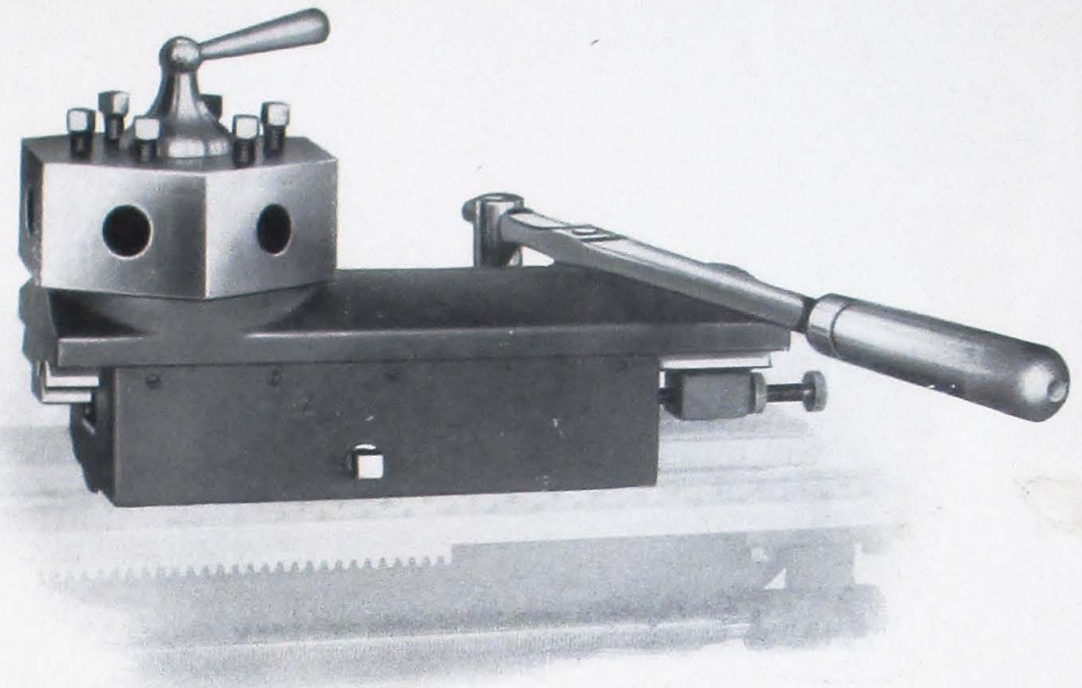
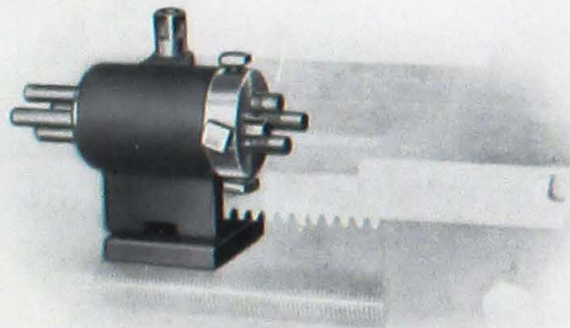
	9 INCH	11 INCH
Diameter of Holes	$\frac{1}{2}"$	$\frac{1}{2}"$
Size of Lathe Tools	$\frac{3}{8}" \times \frac{3}{4}"$	$\frac{1}{2}" \times \frac{7}{8}"$



Double Tool Block or cutting off and forming slide (for 9" and 11" Engine Lathes.) Attaches to cross slide and easily interchanges with plain and compound rest, is furnished with one tool post only as the regular tool post sent with lathe may be used. The tool in rear tool post is used inverted.

Automatic Turret Attachment (For 9" and 11" Engine Lathes.) Hexagon Turret Head revolves automatically and is quick in action. The face may be tapped for bolting on special tools. A hole through turret post permits bar to run through head when machining long pieces, an adjustable stop is provided at rear end of slide. This attachment may be ordered with lathe or any later time.

	9 INCH	11 INCH
Diameter of Turret	5 $\frac{1}{4}$ "	6 $\frac{1}{4}$ "
Face of Turret	3" x 2 $\frac{1}{4}$ "	3 $\frac{5}{8}$ " x 2 $\frac{3}{4}$ "
Diameter of Holes in Turret	$\frac{7}{8}$ "	1"
Center of Hole to Top of Slide	1 $\frac{9}{16}$ "	1 $\frac{13}{16}$ "
Travel of Slide	3 $\frac{3}{4}$ "	5 $\frac{1}{4}$ "



Carriage Stop (For 9" and 11" Engine Lathes.) Is clamped to bed, has revolving cylinder with 4 adjustable stop rods, the cylinder is revolved by hand and held in position by detent spring and ball. This attachment is a great time saver when facing and turning duplicate pieces it saves measuring for each operation and insures uniform dimensions.

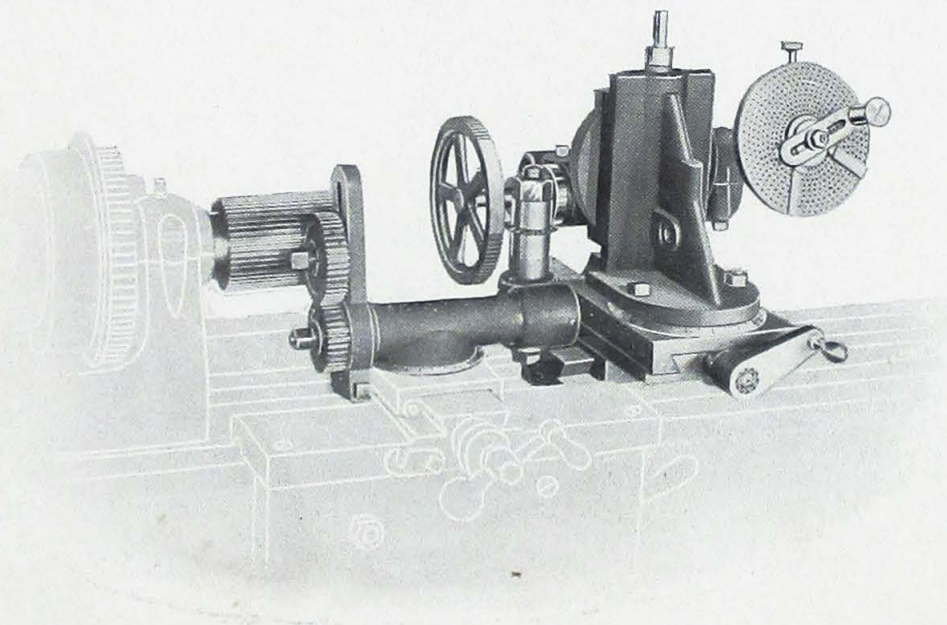
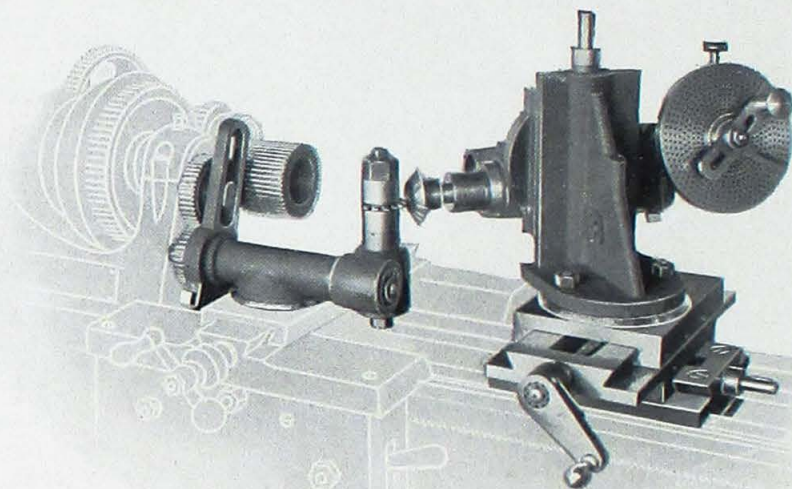


“Star” Milling and Gear-Cutting Attachment

For 9 and 11-Inch “Star” Lathes

This attachment (Patented Sept. 24, 1907) can be conveniently secured to lathe and is suitable for the most accurate milling and gear-cutting—milling cutters, fluting taps and reamers, cutting spur and bevel gears, surface milling, slotting, etc.

The cutter-block is attached to cross-slide of lathe carriage, can be moved in and out, and cutter can be adjusted up or down on arbor to accommodate work. The universal head is clamped to inside ways of the bed, has



longitudinal, cross and vertical slides, with feed screws graduated to read in thousandths and vertical and horizontal swivels graduated 180 degrees, permitting very accurate adjustments and cuts at any angle.

Either power feed or hand crank on apron may be used to feed cutter to work and longitudinal feed of universal head may be used to increase length of feed.

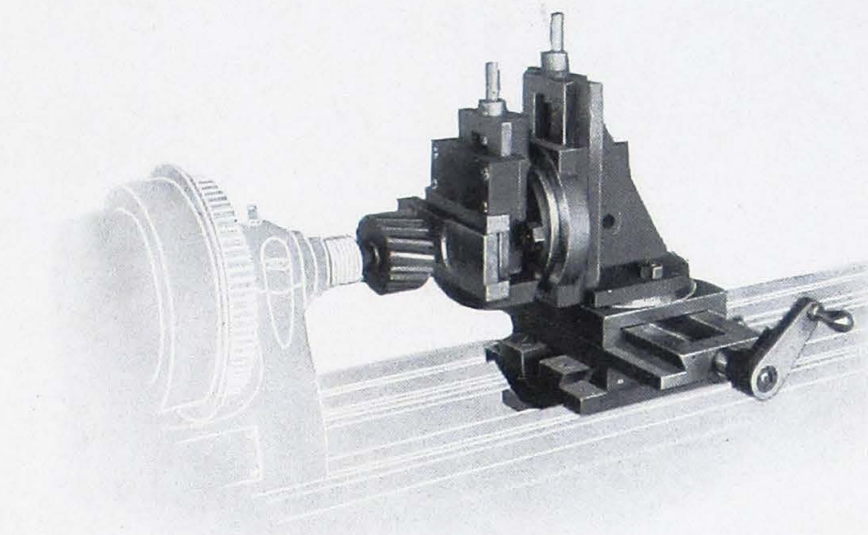
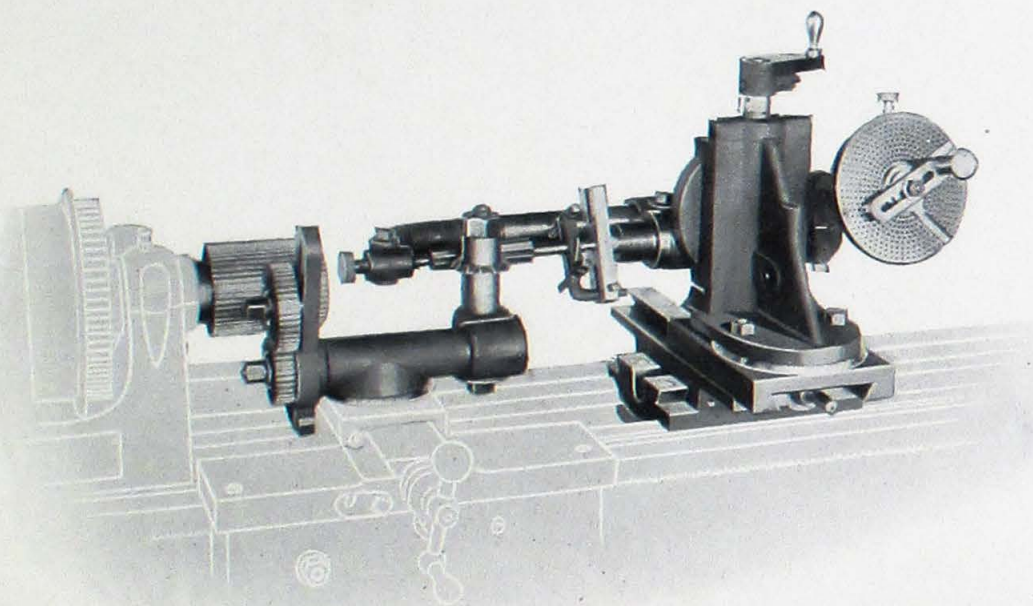
"Star" Milling and Gear-Cutting Attachment

For 9 and 11-Inch "Star" Lathes



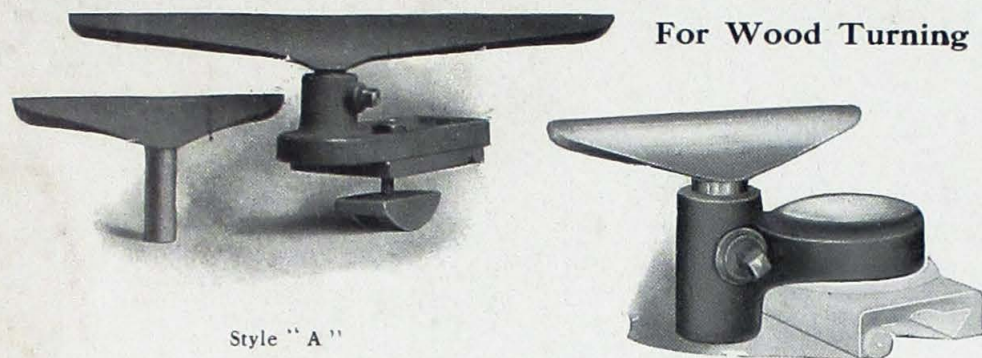
The spindles of lathe and universal head have same sized hole and nose, and all centers, chucks, etc., are interchangeable. The spindle of universal head can be fitted to use draw-in chuck attachment if desired, but must be fitted at factory.

Gears can be cut as large as lathe will swing. A complete index is furnished. All numbers of teeth can be cut from 1 to 50 and nearly all up to 360. Standard milling cutters can be used.



	9 INCH	11 INCH
Longitudinal Feed	3 $\frac{3}{4}$ "	4 $\frac{3}{4}$ "
Cross Feed	7"	9 $\frac{1}{2}$ "
Vertical Feed	4 $\frac{1}{2}$ "	4 $\frac{3}{4}$ "
Travel of Cutter	2 $\frac{3}{4}$ "	3 $\frac{1}{2}$ "
Distance between centers of Spindle and Over-		
Hanging Arm	6 $\frac{1}{2}$ "	9"
Swing on centers between Overhanging Arm	4 $\frac{3}{8}$ "	4 $\frac{1}{2}$ "
Distance between Vise Jaws	1 $\frac{3}{4}$ "	2 $\frac{5}{8}$ "
Size of Vise Jaws	3 $\frac{3}{4}$ "x $\frac{7}{8}$ "	4 $\frac{1}{4}$ "x1"

"Star" Hand Rests



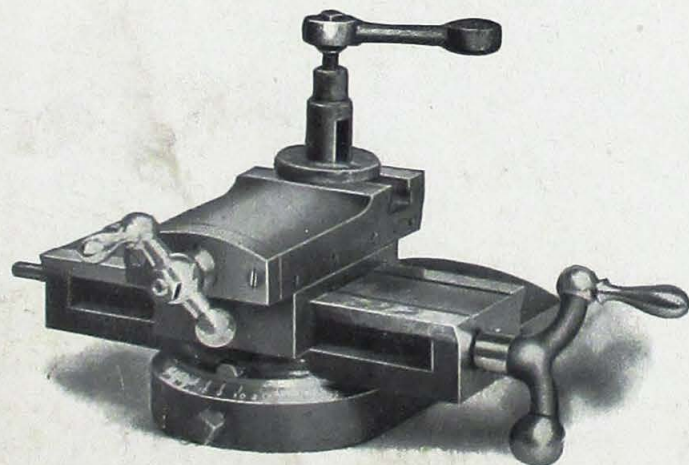
Style "A"

For Wood Turning

Style "B"

While the 9-inch and 11-inch "Star" Engine Lathes are especially designed for working metals, they can be speeded high enough for wood-turning. To do this work successfully a hand-rest is desirable. We furnish either style, as shown, complete with one each short and long T-Rests.

Style "A" is clamped to the bed and Style "B" is secured to the cross-slide in place of tool-block.



Centers, Drill Pads and Screw Chucks

For 9 and 11-inch "Star" Engine Lathes, 10-inch Speed Lathes and 10-inch Wood-turning Lathes.



Point Center



Square Center



Female Center



Crotch Center



Cup Center



Spur Center



Drill Pad



Screw Chuck

10-Inch Slide Rests

For 10-inch Speed Lathes and 10-inch Wood Turning Lathes, are well made and desirable for working metals. Will turn and bore straight or tapering and face up to full capacity of lathe. They swivel the full circle on base, which is graduated, facilitating fine adjustments to any desired angle. Feed screws are entirely covered and protected from dirt and chips. Hand crank on longitudinal feed screw can be changed to either end, most convenient for operator. All sliding surfaces are hand-scraped to an accurate fit and have steel gibs for taking up wear.

Travel of Cross Feed	.	.	.	2"
Travel of Longitudinal Feed	.	.	.	5½"
Size of Lathe Tools	.	.	.	¼"x½"

Chuck Face Plates

Semi-finished, drilled, tapped, and hub faced true with threads ready to screw on head spindle of all sizes of lathes.

3"	3½"	4"	4½"	5"	5½"	6"	6½"	7"	8"
\$0.75	\$0.80	\$0.85	\$0.90	\$0.95	\$1.00	\$1.05	\$1.10	\$1.15	\$1.25

Fitting Chucks

With finished face plates ready to screw on head spindle of lathe.

For 9 inch Engine Lathes, 10 inch Speed or Wood Lathes	\$1.75
For 11 inch Engine Lathes	2.00
For 12 inch Engine Lathes	2.25
For 14 inch Engine Lathes	2.50
For 16 inch Engine Lathes	2.75

Fitting Drill Chucks

With taper plugs ready for use.

For 9 inch Engine Lathes, 10 inch Speed or Wood Lathes	\$1.00
For 11 inch Engine Lathes	1.50
For 12 inch and 14 inch Engine Lathes	2.00
For 16 inch Engine Lathes	2.50

Notice

We shall be pleased to send upon application our Catalog No. C, "Lathe Accessories," embracing chucks, lathe tools, etc.

LATHES

The Seneca Falls Mfg. Co.

Seneca Falls, N. Y., U. S. A.

Catalogue No. 22-B