



STAR LATHES

CATALOG NUMBER THIRTY-NINE

SENECA FALLS MACHINE COMPANY

SENECA FALLS, NEW YORK, U. S. A.

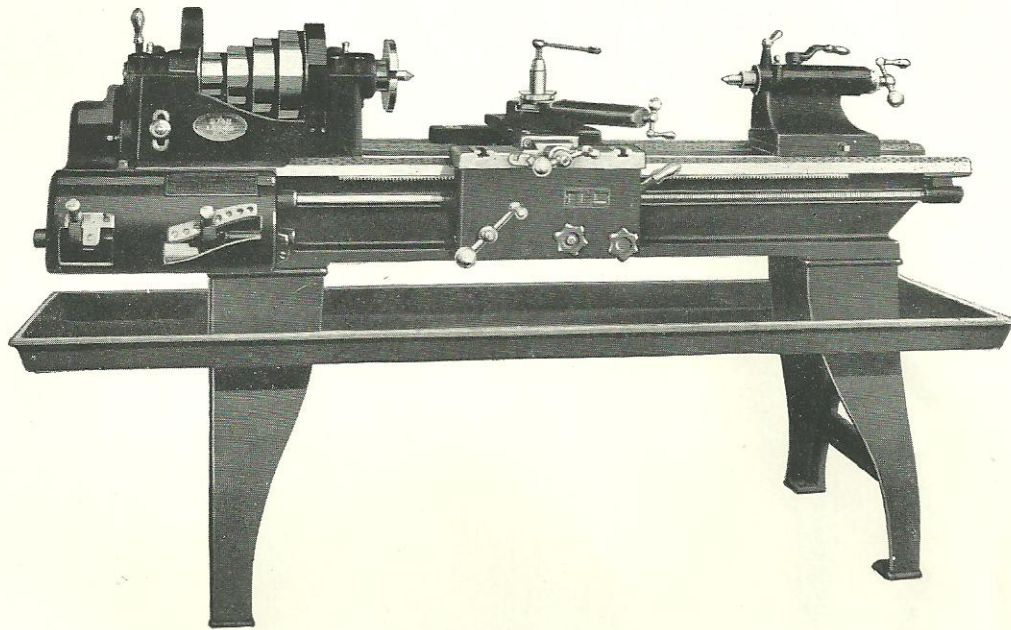
STAR LATHES are designed to meet the exacting requirements of tool room, laboratory, experimental departments, scientific instrument shops and for light, accurate commercial work generally. Various special attachments add greatly to their scope and usefulness and make them particularly suitable for industrial installations.

In construction, *Star Lathes* measure up to the highest standards. Accuracy and long life are time proven characteristics which have established *Star* quality the world over for more than a half century.

Star Lathes are manufactured in quantities in a modern plant employing jigs, automatics and other cost-cutting equipment. Their extra value and undisputed quality results from exacting method in assembling and fitting. All important bearing surfaces, both rotating and sliding, are carefully scraped to a perfect fit. Equal care throughout every stage of manufacture builds into *Star Lathes* a precision matched only by their stability and ruggedness.

In the following pages the complete *Star* line is fully described and the many *Star Lathe* attachments illustrated and explained. Other Seneca Falls Equipment is described in separate catalogs and bulletins which may be had upon request.





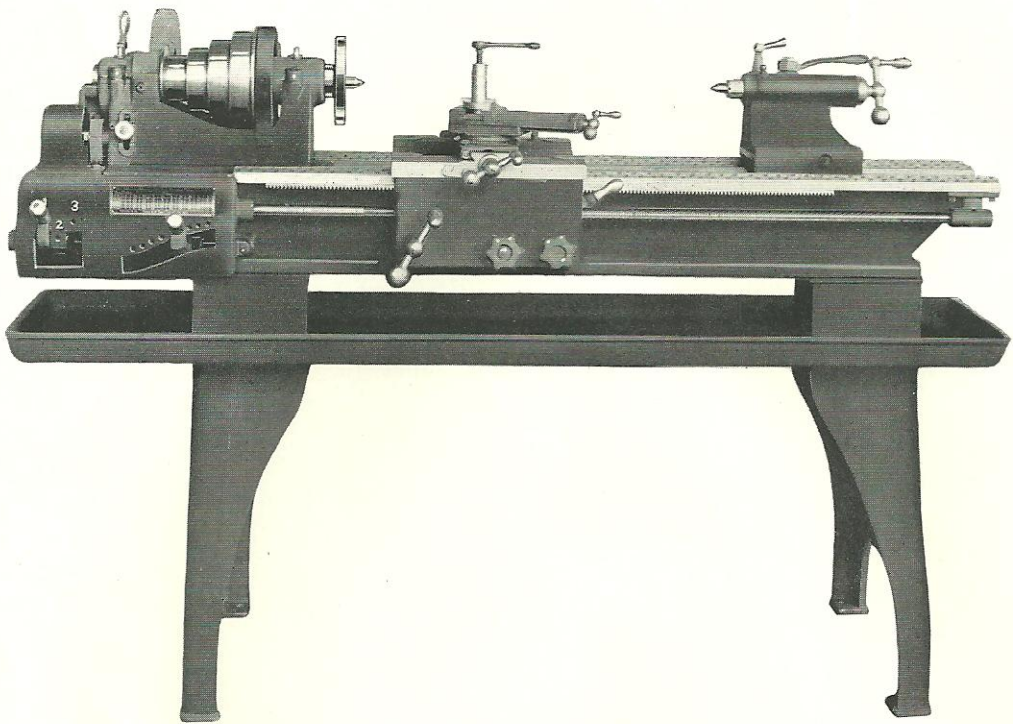
14 INCH "STAR" SCREW-CUTTING ENGINE LATHES

With or without Quick Change Gears and Oil Pan — Style Q C H, 6' bed illustrated

SPECIFICATIONS

Swing over bed, actual	14 $\frac{1}{8}$ "	Taper of Centers	No. 3 Morse
Swing over carriage	8 $\frac{1}{8}$ "	Length of carriage on bed	15 $\frac{1}{2}$ "
Hole through head spindle	1 $\frac{1}{8}$ "	Compound rest travels	5"
Diameter spindle nose	2"	Tool post takes tool holders	$\frac{5}{8}$ " x 1 $\frac{3}{8}$ "
Threads on spindle nose	8 per inch	No. of thread changes	40
Front bearing of spindle	2" x 4"	Cuts threads per inch (including 11 $\frac{1}{2}$)	3 to 92
Back bearing of spindle	1 $\frac{9}{16}$ " x 2 $\frac{3}{4}$ "	Feeds times threads per inch	5.61
Cone pulley diameters	3 $\frac{1}{2}$ ", 5", 6 $\frac{1}{2}$ ", 8"	Feed range . . . . .	.002" to .060"
Width of belt	2"	Capacity of center rest	4 $\frac{1}{8}$ "
Ratio of back gearing	9.29 to 1	Size of pulleys on countershaft	9 $\frac{1}{2}$ x 2 $\frac{3}{4}$ "
Diameter of tail spindle	1 $\frac{5}{8}$ "	Speed of countershaft	150
Travel of tail spindle	5 $\frac{1}{8}$ "	Speeds of head spindle (standard)	11 $\frac{1}{2}$ to 428

Rated Swing	Distance Between Centers	Floor Space Over All	Style E With Long Legs and Countershaft			Style H With Oil Pan and Countershaft			Style Q. C.-E With Long Legs and Countershaft			Style Q. C.-H With Oil Pan and Countershaft		
			Net Weight	Cubic Feet of Boxes	Code Word	Net Weight	Cubic Feet of Boxes	Code Word	Net Weight	Cubic Feet of Boxes	Code Word	Net Weight	Cubic Feet of Boxes	Code Word
14"	24"	29" x 73"	1194 lbs.	41	Cable	1280 lbs.	51	Caddy	1214 lbs.	43	Cider	1300 lbs.	53	Cinch
14"	36"	29" x 85"	1255 lbs.	45	Cadet	1342 lbs.	55	Caged	1275 lbs.	46	Cigar	1365 lbs.	56	Citer
14"	60"	29" x 109"	1444 lbs.	55	Caked	1552 lbs.	68	Calmy	1465 lbs.	56	Ciseo	1572 lbs.	68	Cimar
14"	84"	29" x 133"	1610 lbs.	66	Cameo	.....	.....	.....	1630 lbs.	67	Civet	.....	.....	.....



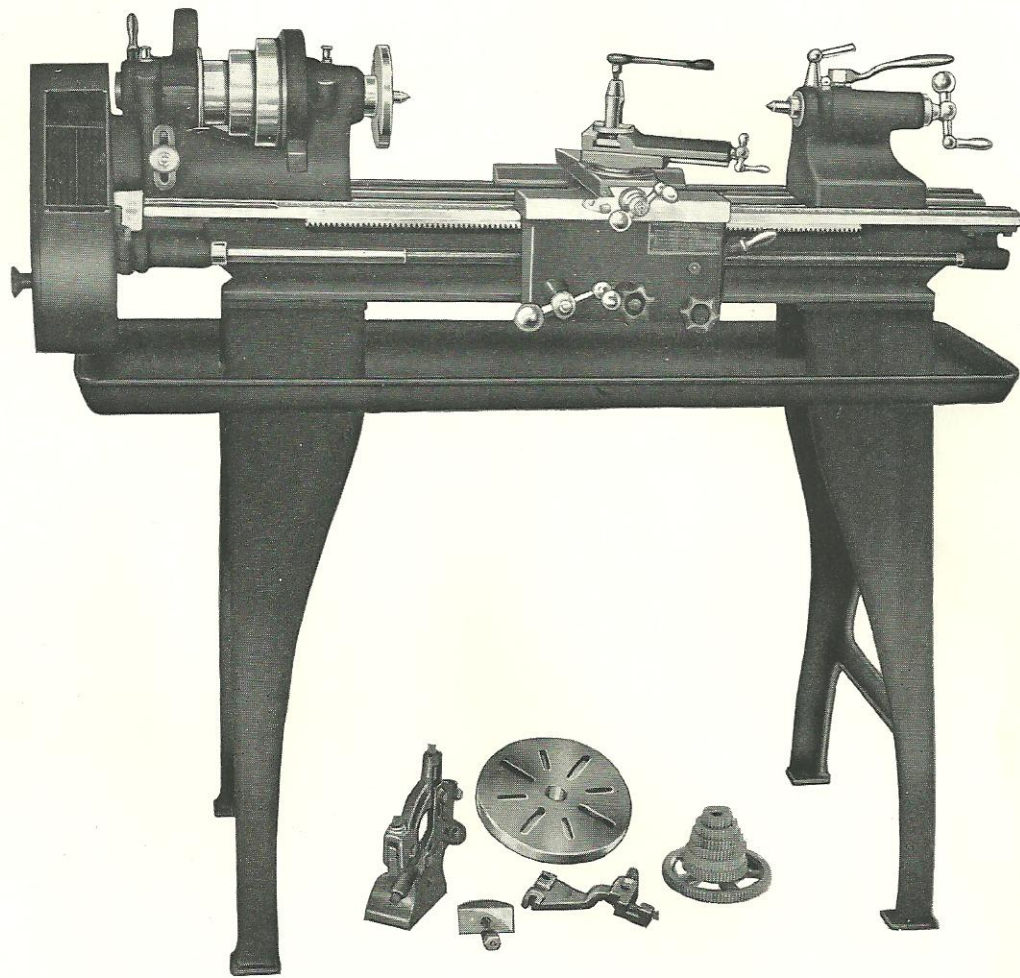
12 INCH "STAR" SCREW-CUTTING ENGINE LATHES

With or without Quick Change Gears and Oil Pan — Style Q C H, 5' bed illustrated

SPECIFICATIONS

Swing over bed, actual	12 $\frac{1}{8}$ "	Taper of centers	No. 2 Morse
Swing over carriage	7 $\frac{1}{8}$ "	Length of carriage on bed	13 $\frac{1}{2}$ "
Hole through head spindle	1"	Compound rest travels	4 $\frac{1}{4}$ "
Diameter spindle nose	1 $\frac{9}{16}$ "	Tool post takes tool holders	$\frac{1}{2}$ " x 1 $\frac{1}{8}$ "
Threads on spindle nose	10 per inch	No. of thread changes	45
Front bearing of spindle	1 $\frac{9}{16}$ " x 3 $\frac{1}{4}$ "	Cuts threads per inch (including 11 $\frac{1}{2}$)	3 to 92
Back bearing of spindle	1 $\frac{7}{8}$ " x 2 $\frac{1}{8}$ "	Feeds times threads per inch	8.56
Cone pulley diameters	3 $\frac{1}{4}$ ", 4 $\frac{1}{2}$ ", 5 $\frac{3}{4}$ ", 7"	Feed range . . . . .	.0013" to .034"
Width of belt	1 $\frac{1}{2}$ "	Capacity of steady rest	3 $\frac{5}{8}$ "
Ratio of back gearing	8.5 to 1	Size of pulleys on countershaft	8" x 2 $\frac{1}{4}$ "
Diameter of tail spindle	1 $\frac{3}{8}$ "	Speed of countershaft	165
Travel of tail spindle	4 $\frac{1}{8}$ "	Speeds of head spindle	15 to 445

Rated Swing	Distance Between Centers	Floor Space Over All	Style E With Long Legs and Countershaft			Style H With Oil Pan and Countershaft			Style K With Bench Legs and Countershaft		
			Net Weight	Cubic Feet of Boxes	Code Word	Net Weight	Cubic Feet of Boxes	Code Word	Net Weight	Cubic Feet of Boxes	Code Word
12"	24"	27" x 64"	762 lbs.	28	Anaks	847 lbs.	30	Anele	666 lbs.	20	Anigh
12"	36"	27" x 76"	807 lbs.	29	Anclc	896 lbs.	33	Anent	706 lbs.	23	Anime
12"	48"	27" x 88"	852 lbs.	29	Ancon	966 lbs.	35	Angel	746 lbs.	27	Anion
12"	60"	27" x 100"	877 lbs.	32	Anear	1012 lbs.	37	Angor	786 lbs.	32	Anise



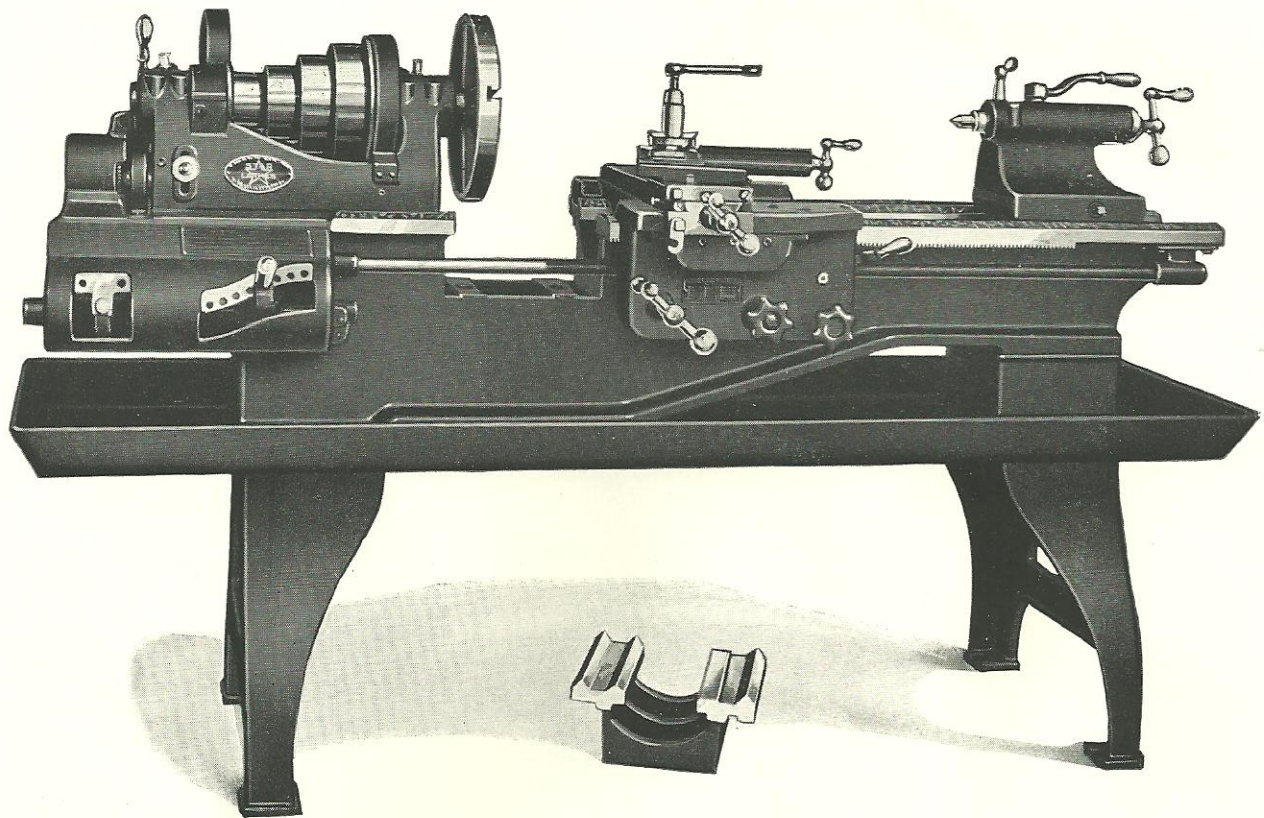
10 INCH "STAR" SCREW-CUTTING ENGINE LATHES

With or without Quick Change Gears and Oil Pan — Style H, 5' bed illustrated

SPECIFICATIONS

Swing over bed, actual	10 $\frac{1}{8}$ "	Taper of centers	No. 2 Morse
Swing over carriage	5 $\frac{7}{8}$ "	Length of carriage on bed	10 $\frac{3}{8}$ "
Hole through head spindle	$\frac{7}{8}$ "	Compound rest travels	3 $\frac{7}{16}$ "
Diameter spindle nose	1 $\frac{7}{16}$ "	Tool post takes tool holders	$\frac{3}{8}$ x $\frac{7}{8}$
Threads on spindle nose	12 per inch	No. of feed changes	45
Front bearing of spindle	1 $\frac{7}{16}$ " x 2 $\frac{3}{4}$ "	Cuts threads per inch (including 11 $\frac{1}{2}$)	3 to 92
Back bearing of spindle	1 $\frac{5}{16}$ " x 1 $\frac{3}{4}$ "	Feeds times threads per inch	8.56
Cone pulley diameters	3 $\frac{3}{16}$ ", 4 $\frac{9}{16}$ ", 5 $\frac{7}{16}$ "	Feed range . . . . .	.0013" to .039"
Width of belt	1 $\frac{1}{4}$ "	Capacity of center rest	3"
Ratio of back gearing	7 to 1	Size of pulleys on countershaft	6" x 1 $\frac{3}{4}$ "
Diameter of tail spindle	1 $\frac{1}{8}$ "	Speed of countershaft	175
Travel of tail spindle	2 $\frac{3}{4}$ "	Speeds of head spindle	18 to 340

Rated Swing	Distance Between Centers	Floor Space Over All	Style E With Long Legs and Countershaft			Style H With Oil Pan and Countershaft			Style K With Bench Legs and Countershaft			Style P With Foot-Power		
			Net Weight	Cubic Feet of Boxes	Code Word	Net Weight	Cubic Feet of Boxes	Code Word	Net Weight	Cubic Feet of Boxes	Code Word	Net Weight	Cubic Feet of Boxes	Code Word
10"	24"	25" x 55 $\frac{1}{2}$ "	420 lbs.	18	Board	478 lbs.	21	Boast	364 lbs.	13	Bolis	476 lbs.	25	Bonus
10"	36"	25" x 67 $\frac{1}{2}$ "	438 lbs.	22	Bogel	518 lbs.	25	Bonce	394 lbs.	16	Booby	506 lbs.	30	Borax



"STAR" GAP LATHES, 12-18 AND 14-21 INCH

With or without Quick Change Gears and Oil Pan — Style GH-QC, 6' bed illustrated

SPECIFICATIONS

	12-18	14-21		12-18	14-21	
Swing over bed, actual	12 $\frac{1}{8}$ "	14 $\frac{1}{8}$ "		No. 2 Morse	No 3 Morse	
Swing over Gap	18 $\frac{1}{2}$ "	21 $\frac{1}{4}$ "		Diameter of tail spindle	1 $\frac{3}{8}$ "	1 $\frac{5}{8}$ "
Distance Spindle Nose to end of Gap	5 $\frac{3}{4}$ "	7 $\frac{1}{4}$ "		Travel of tail spindle	4 $\frac{1}{8}$ "	5 $\frac{1}{8}$ "
Swing over carriage	7 $\frac{1}{8}$ "	8 $\frac{1}{8}$ "		Length of carriage on bed	13 $\frac{1}{2}$ "	15 $\frac{1}{2}$ "
Hole through head spindle	1"	1 $\frac{1}{8}$ "		Compound rest travels	4 $\frac{1}{4}$ "	5"
Diameter of spindle nose	1 $\frac{9}{16}$ "	2"		Tool post takes tool holders	$\frac{5}{8}$ " x 1 $\frac{3}{8}$ "	$\frac{5}{8}$ " x 1 $\frac{3}{8}$ "
Threads on spindle nose	10 per inch	8 per inch		No. of thread changes	40	40
Front bearing of spindle	1 $\frac{9}{16}$ " x 3 $\frac{1}{4}$ "	2" x 4"		Cuts threads per inch (includ. 11 $\frac{1}{2}$)	3 to 92	3 to 92
Back bearing of spindle	1 $\frac{7}{16}$ " x 2 $\frac{1}{2}$ "	1 $\frac{9}{16}$ " x 2 $\frac{3}{4}$ "		Feeds times threads per inch	8.56	5.61
Cone pulley diameters	3 $\frac{1}{4}$ ", 4 $\frac{1}{2}$ ", 5 $\frac{3}{4}$ ", 7"	3 $\frac{1}{2}$ ", 5", 6 $\frac{1}{2}$ ", 8"		Feed range . . . . .	.0013" to .039"	.002" to .060"
Width of belt	1 $\frac{1}{2}$ "	2"		Capacity of center rest	3 $\frac{5}{8}$ "	4 $\frac{1}{4}$ "
Ratio of back gearing	8.5 to 1	9.29 to 1		Size of pulleys on counter shaft	8" x 2 $\frac{1}{4}$ "	9 $\frac{1}{2}$ " x 2 $\frac{3}{4}$ "
				Speed of countershaft	165	150
				Speeds of head spindle	15 to 445	11 $\frac{1}{2}$ to 428

Rated Swing	Distance Between Centers	Floor Space Over All	Style GE With Long Legs and Countershaft			Style GH With Oil Pan and Countershaft		
			Net Weight	Cubic Feet of Boxes	Code Word	Net Weight	Cubic Feet of Boxes	Code Word
12-18"	36"	27" x 76"	860 lbs.	40	Archy	963 lbs.	45	Craft
12-18"	48"	27" x 88"	900 lbs.	43	Arena	1023 lbs.	48	Cream
12-18"	60"	27" x 100"	940 lbs.	48	Argue	1083 lbs.	54	Cramp
14-21"	36"	29" x 85"	1410 lbs.	70	Arder	1510 lbs.	83	Crisp
14-21"	60"	29" x 109"	1570 lbs.	86	Argon	1690 lbs.	101	Crane
14-21"	84"	29" x 133"	1800 lbs.	105	Armor	.....	.....	.....

DETAILED DESCRIPTION OF "STAR" LATHES

"STAR" LATHES are made in three sizes, rating 10", 12" and 14" swing and in a variety of bed lengths. They can be furnished with plain or quick change gears, floor legs, bench legs or mounted on oil-pan; countershaft or direct connected motor drive, also with foot power drive for 10" and 12" lathes. A full line of conventional attachments for all size machines is available.

Many "STAR" LATHE features are fully protected by patents.

HEADSTOCK

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.

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. All gears are fully guarded.

TAILSTOCK

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 is supplied with micrometer collar graduated to read in thousandths of an inch, secured by friction spring and readily set to any position. An adjustable stop for cross slide is provided for screw-cutting, etc.

Cross-feed screw and ways are efficiently protected from chips and dirt by a guard full length of slide. All carriages are arranged for taper attachment which can be affixed at any time. On request we will drill and tap four 7/16" holes in top of carriage of 10" lathe for clamping work.

REST

Compound rest is furnished with all lathes; a patented binding device rigidly binds the rest to cross slide, which is graduated 180 degrees. Plain rest may be ordered with lathe or at any future time.

TOOL-POST

Has patented collar and shoe, which exclude all dirt and chips, and admit of quick, easy and secure adjustment of tool. If desired, European tool-post will be furnished in place of regular tool-post without extra charge.

APRON

A new safety device is provided so that opposing feeds, longitudinal feed and split nut cannot be engaged at the same time.

FEEDS

Improved power cross and longitudinal feeds are actuated by phosphor bronze worm, receiving power from head spindle through spur gears and lead-screw, which is splined, and acts as a feed rod; the only wear on threads of lead-screw is when actually cutting threads. Feeds may be thrown in or out by turning hand knob on apron, which operates friction clutch, shifting reverse lever in headstock will feed in or out, right or left, or throw entirely out of engagement. The automatic power cross-feed is indispensable for good work; it insures accurate results and smooth surfaces when facing and other similar service.

SCREW-CUTTING

Extremely wide range, cutting all standard threads, right and left. From 3 to 92 on quick change gear type and 3 to 72 on plain change type, 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

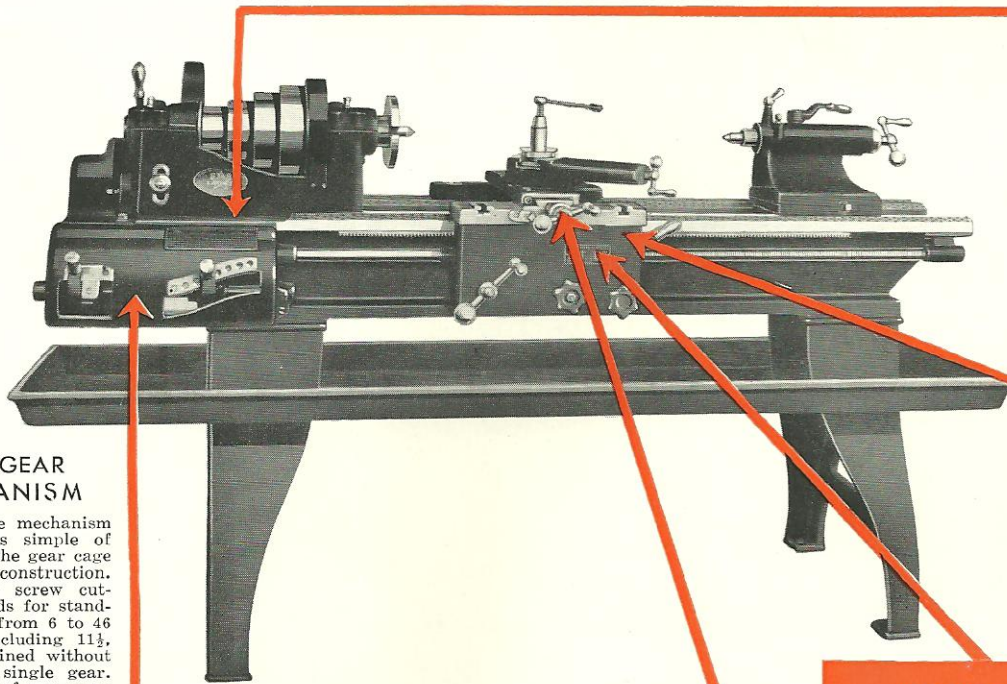
Is carefully cut in special lathe with master screw, which is frequently tested. If desirable to cut only metric threads, can supply metric lead-screw and index for standard metric threads, in place of regular, without extra charge.

BED

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

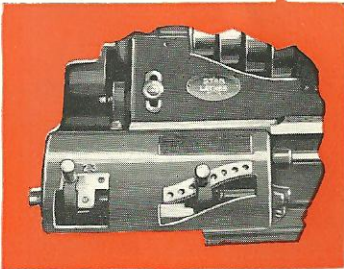
FINISH

Each lathe receives five coats of filler and oil-proof paint, leaving a smooth, easily cleaned surface. Inside of beds painted; unpainted parts polished, leaving nothing to be desired in appearance.



Q. C. GEAR MECHANISM

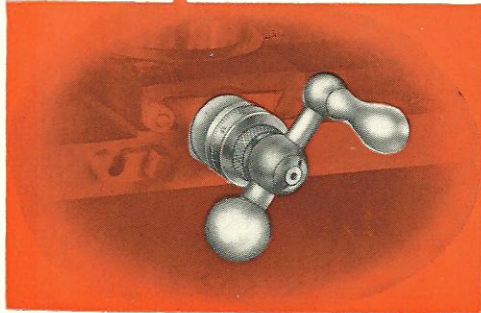
Quick change mechanism (patented) is simple of operation. The gear cage is of heavy construction. Changes for screw cutting and feeds for standard threads from 6 to 46 per inch, including $11\frac{1}{2}$, may be obtained without removing a single gear. The shifting of a gear on the stud increases the range from 3 to 92 threads per inch. Extra gears can be furnished for any thread required. Transposing gears for cutting metric threads can be furnished at a slight additional cost.



"STAR" Lathes are fully protected by patents.

MICROMETER COLLAR

on Cross-Feed Screw. Note absence of protruding nut to injure the knuckles.



DETAILED DESCRIPTION OF



DETACHED PARTS

Each lathe is regularly furnished with countershaft and compound rest, 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.

IN GENERAL

All gears are fully guarded. The door of change gear guard has pegs for holding loose gears. Change gears have rounded edges to avoid injury to hands. Split spring washers hold change gears in place and facilitate



quick shifting. All adjusting screws have uniform size heads to fit tool-post wrench. 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.

COUNTERSHAFT

(Roller Bearing Type). Is the latest development in countershaft construction and the utmost in countershaft efficiency. The shaft is made from high carbon steel and runs on Hyatt Roller Bearings. Loose pulleys are also equipped with Hyatt Roller Bearings. These

The Seneca Falls Mch. Co. Seneca Falls, N.Y., U.S.A.

Stud	Knob	Threads									
48In	1	5¼	5½	5	4½	4	3¾	3½	3¼	3	
48Out	1	11½	11	10	9	8	7½	7	6½	6	
48Out	2	23	22	20	18	16	15	14	13	12	
48Out	3	44	44	40	36	32	30	28	26	24	
24Out	3	92	88	80	72	64	60	56	52	48	

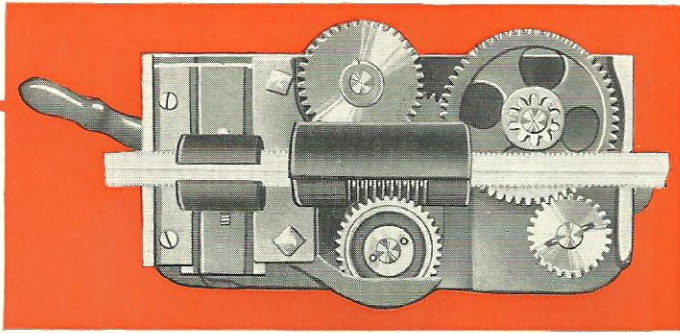
Patented Nov. 19, 1918 Feeds 8.56 Times Thread Per Inch A-609A

**INDEX PLATE
FOR Q. C. GEARS**

This index Plate furnished for 10" and 12" Q. C. Gear "Star" Lathes shows instantly how to conveniently obtain the desired thread. Special Index Plate furnished when transposing gears are provided for metric thread cutting. Similar plate furnished for 14" Lathe.

**INDEX PLATE
FOR P. C. 10" LATHE**

Similar plate furnished with 12" and 14" "Star" Lathes giving correct speeds and feeds.



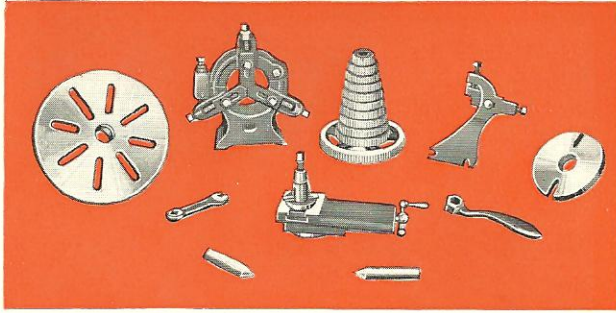
Inside view of Apron for "Star" Lathes.

**Seneca Falls Mach. Co.
Seneca Falls, N.Y., U.S.A.**

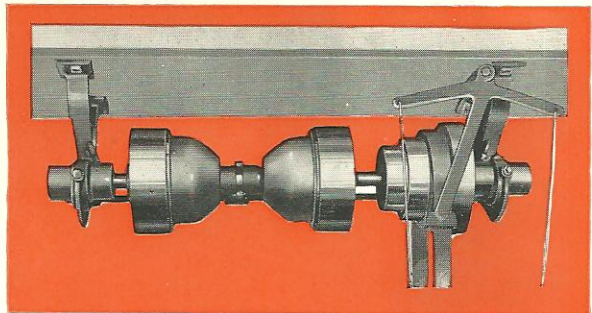
Thread	Stud	Inch	Screw	Thread	Stud	Inch	Screw
3	96	46	24	16	24	96	32
3¼	96	29/48	52	18	24	96	36
3½	96	29/48	56	20	24	60	40
4	96	46	32	22	24	60	44
4½	96	46	36	24	24	60	48
5	96	46	40	26	24	60	52
5½	96	46	44	27	32	96/48	36
6	96	46	48	28	24	60	56
6½	96	46	52	30	24	56	60
7	96	46	56	32	24	96/48	32
8	48	60	32	36	24	96/48	36
9	48	60	36	40	24	96/48	40
10	48	60	40	42	32	96/48	56
11	48	60	44	44	24	96/48	44
11½	48	60	46	48	24	56	96
12	48	60/40	32	56	24	96/48	56
13	48	60	52	60	24	96/48	60
14	48	60	56	64	36	48/24	96
15	48	46	60	72	32	48/24	96

Feeds 7.26 Times Threads Per Inch.
P-609-2

Detached parts furnished with all 10", 12" and 14" "Star" Lathes.



Hyatt Roller bearing Countershaft furnished with "Star" Lathes.



"STAR" ENGINE LATHES



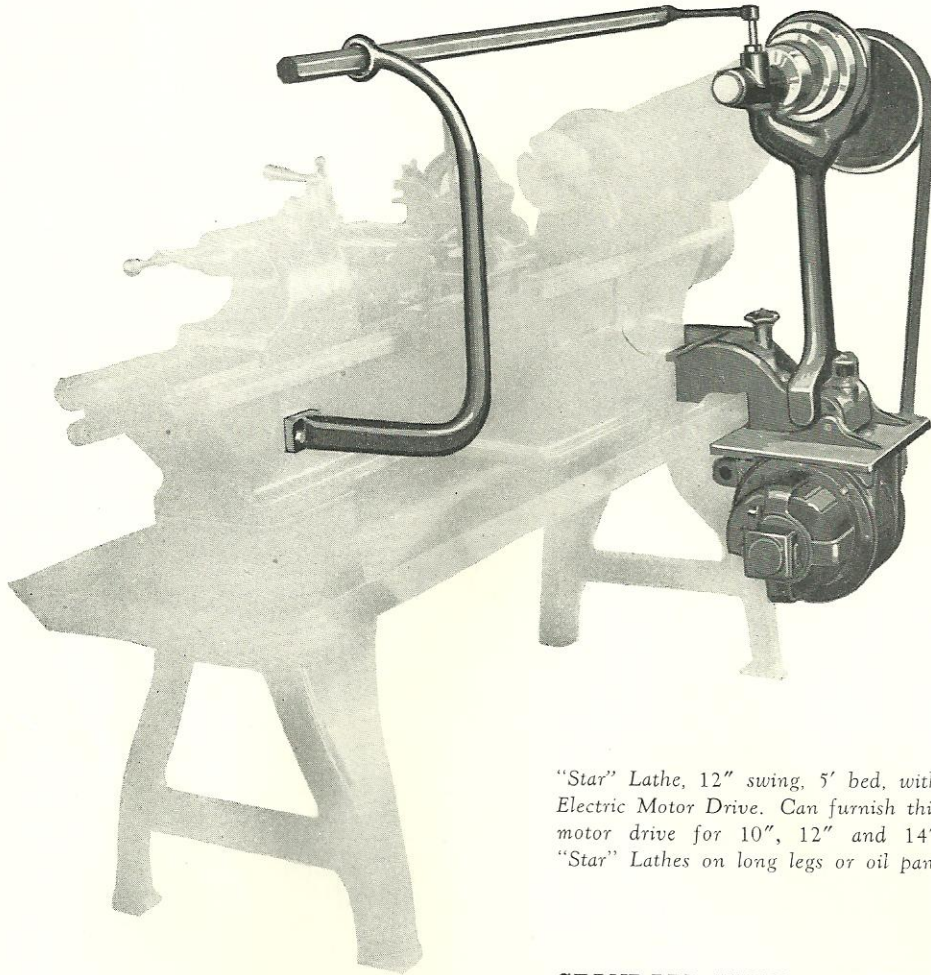
bearings not only eliminate much of the friction found in ordinary countershafts but eliminate the necessity of frequent oiling. The frictions are of the cone type, large in diameter and having ample friction surfaces; adjustment is obtained by a single screw easily accessible; friction fingers and other projecting parts are completely enclosed.

EXTRA ATTACHMENTS

(See pages 8 to 14). Motor Drive, Foot Power, Transposition Gears for cutting metric threads, Thread-Chasing Dial, Plain Rest, European Tool-Post, Oil Pan, Oil Pump, Bench Legs, Blocking, Taper Attachment,

Draw-in Chuck, Hand Lever Draw-in Chuck, Double Tool Block, Turret Tool-Post, Automatic Turret on Bed, Carriage Stop, with four adjustable rods, Automatic Carriage Stop, Milling and Gear-Cutting Attachment, Countershaft with 3 friction pulleys to give high speed for wood turning, Hand Rests, Screw Chuck, Cup and Spur Centers, Square, Female and Crotch Centers, Drill Pad, Semi-Finished Chuck Face Plates 3" to 8" diameter, hub faced true and threaded, ready to screw on head spindle, will be furnished at additional price. Slightly delayed shipments are sometimes unavoidable, when attachments are ordered.

"STAR" LATHE ATTACHMENTS



"Star" Lathe, 12" swing, 5' bed, with Electric Motor Drive. Can furnish this motor drive for 10", 12" and 14" "Star" Lathes on long legs or oil pan.

STANDARD MOTOR DRIVE

The Standard Electric Motor Drive for "STAR" Lathes embodies new and individual features, is rigid and powerful; main shaft bearings have ring oilers. 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 to drive lathe to full capacity. Belts may be quickly tightened and kept so until worn out, without shortening. The belt drive prevents damage to lathe and motor that is sometimes chargeable to less flexible gear or chain drive connection. Starting, stopping and reverse motions of lathe

spindle are controlled by shifting bar placed horizontally above lathe, within easy reach of operator. The reverse speed is faster than that of forward motion. Any make or type of motor may be used. For constant speed motors we recommend from 1200 to 1800 R.P.M.

The motor drive attachment is fitted to lathe at factory or it may be fitted by customer at any time. This is not included in regular equipment. Prices on application; state whether direct or alternating current is to be used; if direct, give voltage; if alternating, give voltage, phase and cycles.

Size of motor recommended	10" Lathe	12" Lathe	14" Regular
Size of pulley on drive shaft	1/2 H.P.	3/4 H.P.	1 1/2 H.P.
Speed of pulley on drive shaft	8 1/2" x 1 5/8"	10" x 1 7/8"	12" x 2 5/8"
Speeds of head spindle	460 R.P.M.	550 R.P.M.	505 R.P.M.
	18 to 366	14 to 360	11 1/2 to 557

"STAR" LATHE ATTACHMENTS

★ ★ ★ ★ ★ ★

BLOCKING

(For 10", 12" and 14" "STAR" Lathes, illustrated below.) For raising head and tail stocks, plain, compound and center rests to increase the swing of lathe. A lathe blocked for large work has every working advantage of the gap lathe, with the additional advantage of increased swing the full length of bed and of being a standard machine when blocking is removed. The blocking can be easily and conveniently put on or removed from these small lathes. Blocking should be fitted to lathe at the factory.

Blocking 2 inches high for 10" and 12" lathes increases swing 4 inches.

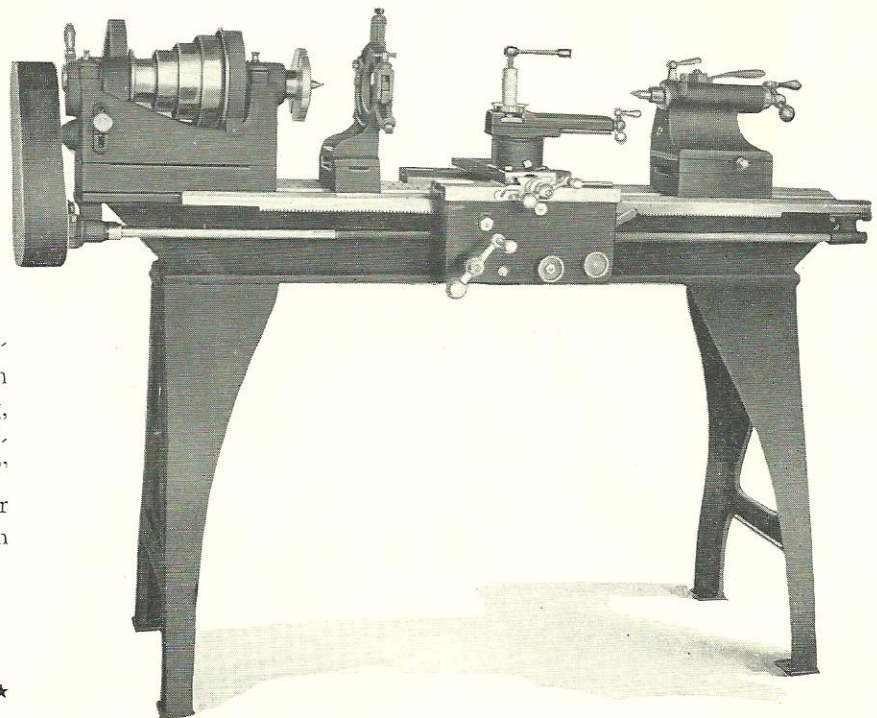
Blocking 3 inches high for 14" lathe increases swing 6 inches.

2" Blocking on "Star" Lathe (12"x5'), increasing the swing 4 inches.



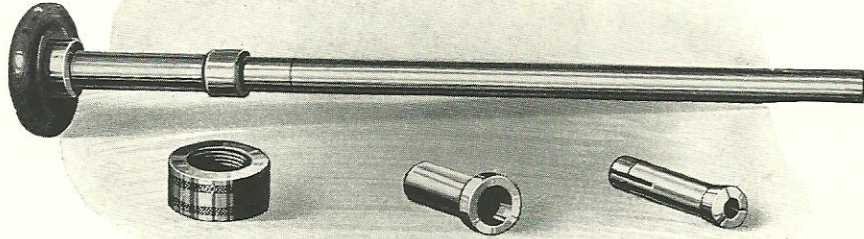
SIMPLIFIED MOTOR DRIVE

A simple, compact motor drive providing a Shift Bar within easy reach of operator for controlling, starting, stopping and reversing. The Simplified Drive is available for all "STAR" Lathes, plain or quick change, with or without oil pan and for either bench or floor type.



★ ★ ★ ★ ★ ★

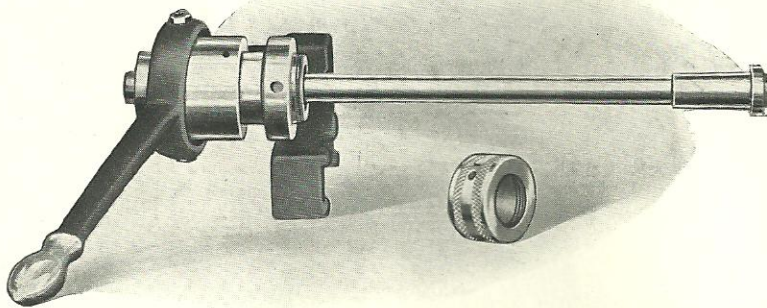
"STAR" LATHE ATTACHMENTS



DRAW-IN CHUCK ATTACHMENT

for "STAR" Lathes. This attachment consists of draw-in tube with handle attached, bushing for collets, guard for nose of spindle and one round split collet. The bushing and collets are made from tool steel, hardened and ground.

No. 2 Split Collets, 1/16" to 9/16", may be used on 10" and 12" "STAR" Lathes; also collets 37/64" to 5/8", counterbored, allowing work to be inserted 2" from front end. 14" "STAR" Lathes will take No. 3 Collets 1/16" to 3/4". Collets with square and hexagon holes and step chucks can be furnished, prices given on application, stating sizes wanted.

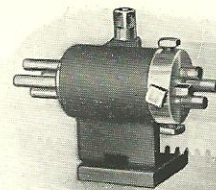


HAND LEVER DRAW-IN CHUCK

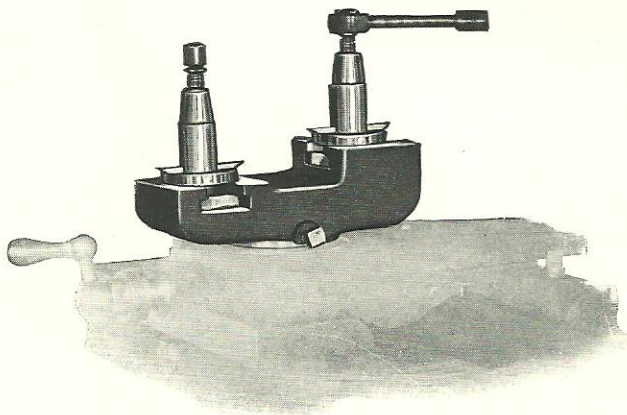
for "STAR" Lathes. This attachment is especially useful on small work. The operator, by the use of hand lever, can release the work or tighten the chucks without stopping the lathe. The same collet equipment is used as that furnished with the regular draw-in chuck attachment.

CARRIAGE STOP

with four adjustable rods for "STAR" Lathes is clamped to bed has revolving cylinder with four 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 insures uniform dimensions without measuring of each operation.



Carriage Stop

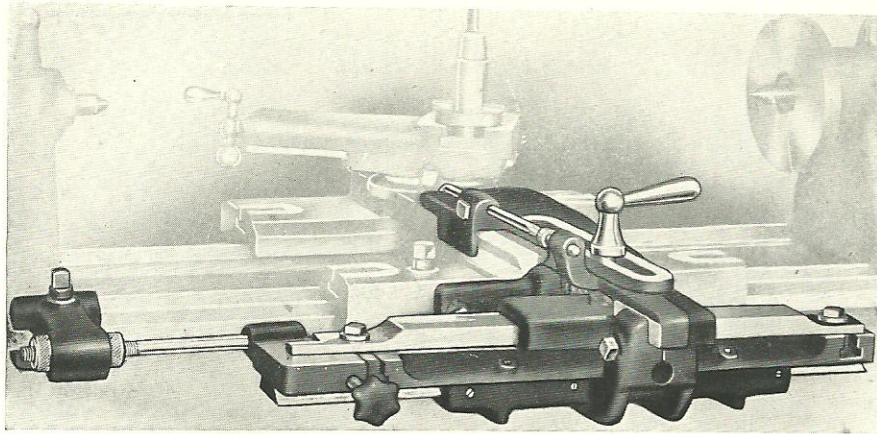


Double Tool Block

DOUBLE TOOL BLOCK

for cutting off and forming slide for "STAR" 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.

"STAR" LATHE ATTACHMENTS



TAPER ATTACHMENT

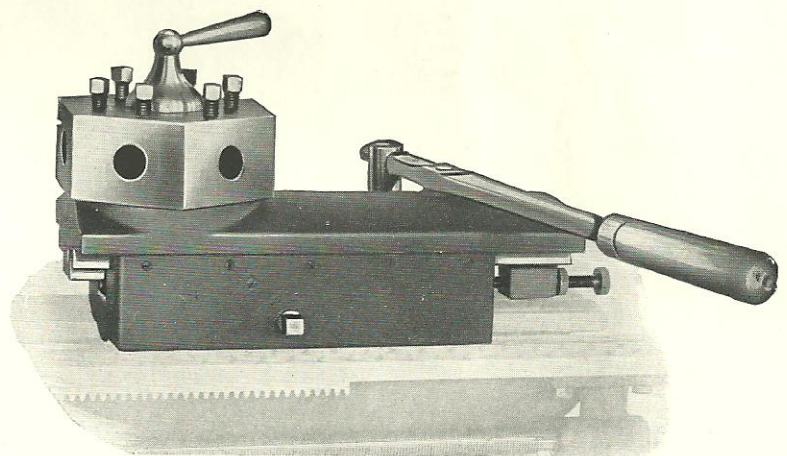
for "STAR" Lathes is secured to back of carriage, travels with it, is always in position ready for use and is available full length of bed; can be used with plain and compound rests. The swivel guide bar is graduated in degrees and inches, facilitating quick and accurate adjustments from 0 to 3 inches taper per foot and 0 to 7

degrees each way from center line. The cross feed stop may be used on taper work.

All carriages are fitted so that taper attachment may be ordered at any time; when ordered with lathe it will be properly adjusted and ready for work before leaving the factory.

AUTOMATIC TURRET ATTACHMENT

for "STAR" 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. Hand wheel is furnished on 12" and 14" sizes in place of feed lever. This attachment may be ordered with lathe or at any later time.



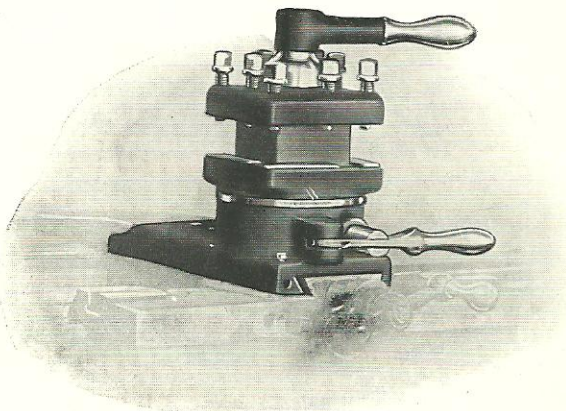
Automatic Turret Attachment

	10" Lathe	12" Lathe	14" Lathe
Diameter of turret	5 1/4"	6 1/4"	7 3/4"
Face of turret	3" x 2 1/4"	3 5/8" x 2 3/4"	4 1/2" x 3"
Diameter of holes in turret	7/8"	1"	1 1/8"
Center of hole to top of slide	1 9/16"	1 3/16"	2"
Travel of slide	3 3/4"	5 1/4"	6 3/4"

TURRET TOOL-POST

for "STAR" Lathes is used on cross slide of lathe and easily interchanges with plain and compound rests, has 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.

Size of Lathe Tools	10" Lathe 3/8" x 3/4"	12" Lathe 1/2" x 7/8"	14" Lathe 1/2" x 1"
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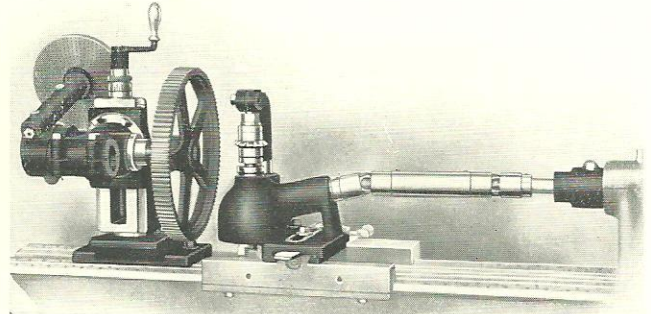


Turret Tool Post

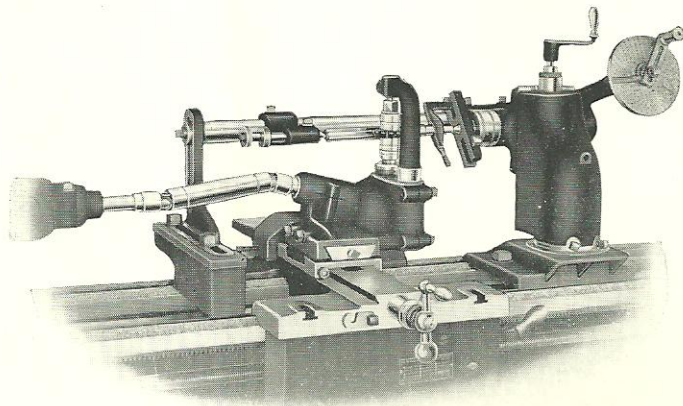
"STAR" LATHE ATTACHMENTS

Milling and Gear-Cutting Attachments

This attachment (Patented) can be conveniently secured to lathe and is suitable for a wide range of work, including all kinds of milling operations, except spiral cuts. The cutter block is mounted on lathe carriage and is fed in either direction, longitudinal or cross, by hand or automatic power feed of lathe. The cutter spindle may be rotated in either direction, receiving power from driving collar (clamped on head spindle of lathe), a sliding shaft, universal joints and bevel gears. The cutter spindle has a Morse taper hole and screw for holding and discharging cutter arbor which is supported on outer end by an overhanging arm. An arbor, $\frac{1}{8}$ " diameter, is regularly furnished, and arbors $\frac{5}{8}$ ", $\frac{3}{4}$ ", $\frac{7}{8}$ " and 1" diameter, may be furnished at extra price.



The universal head is clamped to inside ways of lathe bed, base is offset and reversible to accommodate large and small work; the vertical column carries a slide on which may be mounted the dividing head and vise; a graduated collar on feed screw reads in thousandths of an inch; vertical column swivels on base; dividing head and vise swivel on vertical slide; graduations 180 degrees facilitate quick and accurate adjustment to any desired angle. The index plate has 18 rows of holes, and index is furnished giving all divisions 1 to 50 and nearly all up to 400.



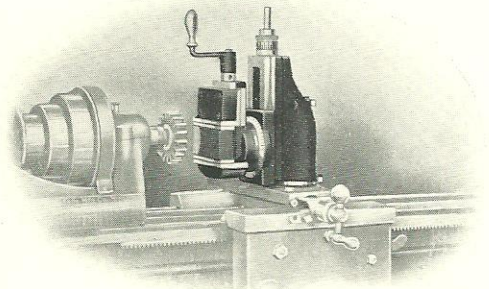
The index stem swings on end of bearing for indexing spindle, is graduated and may be adjusted for side cut on bevel gear teeth, etc. The overhanging bar carries an adjustable tail center, the outer end of bar has an adjustable support insuring rigidity on long work. The indexing spindle has a large hole for draw-in chuck which can be furnished to use regular collets on the dividing head. Spindle nose is a duplicate of headstock spindle, so that chucks, centers, etc., are interchangeable. The point center has face plate for

driving dog on work between centers. The vertical slide column with vise (or dividing head) may be attached to cross slide of carriage and the milling cutter used in headstock spindle for surface milling, cutting keyways, milling ends of shafts, etc. The vertical slide column and vise (see cut) are included with complete attachment but sold separately when desired.

Standard milling cutters may be used, but we do not furnish cutters.

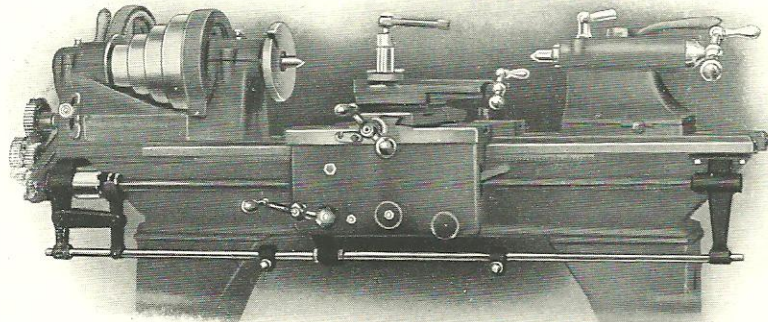
Swing of Lathe	10"	12"	14"
Longitudinal feed	7"	8 $\frac{1}{2}$ "	11"
Cross feed	5"	6"	8"
Vertical feed	3 $\frac{3}{4}$ "	4 $\frac{1}{2}$ "	5 $\frac{1}{2}$ "
Swing on centers of overhanging arm	4 $\frac{1}{2}$ "	4 $\frac{1}{2}$ "	6 $\frac{1}{8}$ "
Distance between centers of overhanging arm	11"	13"	15"
Diameter largest gear can be cut	12"	13 $\frac{1}{2}$ "	15"
Distance between vise jaws	2"	2 $\frac{5}{8}$ "	3 $\frac{1}{2}$ "
Size of vise jaws	$\frac{7}{8}$ " x 3 $\frac{3}{4}$ "	1" x 4 $\frac{1}{4}$ "	1 $\frac{1}{8}$ " x 4 $\frac{3}{4}$ "
Diameter of hole in index spindle	$\frac{7}{8}$ "	1"	1 $\frac{1}{2}$ "
Taper of center for index spindle	No. 2 Morse	No. 2 Morse	No. 3 Morse
Taper of shank of cutter arbor	No. 2 Morse	No. 2 Morse	No. 3 Morse
Diameter of cutter arbor (regular)	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{7}{8}$ "
Diameter of cutter arbors (extra)	$\frac{5}{8}$ "- $\frac{3}{4}$ "-1"	$\frac{5}{8}$ "- $\frac{3}{4}$ "-1"	$\frac{5}{8}$ "- $\frac{3}{4}$ "-1"
Space between arbor shoulder and nut	1 $\frac{3}{4}$ "	1 $\frac{3}{4}$ "	2 $\frac{1}{4}$ "

*Longitudinal feed on 12" x 4 ft. lathe is 5"; on 12" x 5 ft. and 14" x 5 ft. lathe is 7 $\frac{1}{2}$ "



Vertical Slide Column and Vise

"STAR" LATHE ATTACHMENTS



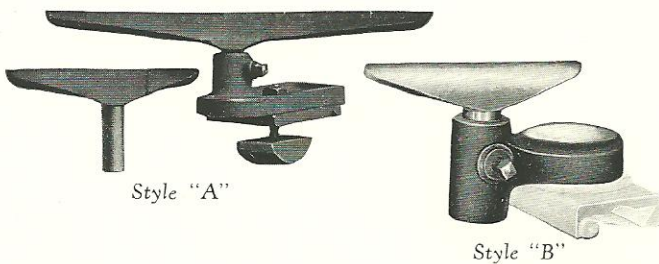
AUTOMATIC CARRIAGE STOP ATTACHMENT

for 10", 12" and 14" "STAR" Lathes may be used in connection with the power longitudinal feed, automatically stopping the carriage when operating in either direction by disengaging a positive clutch.

It has a much wider range of usefulness than other makes, which operate in one direction only. This attachment should be put on lathe before leaving the factory.

"STAR" HAND REST

For Wood Turning



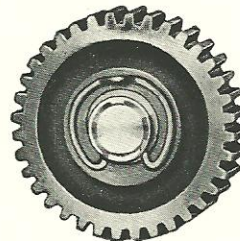
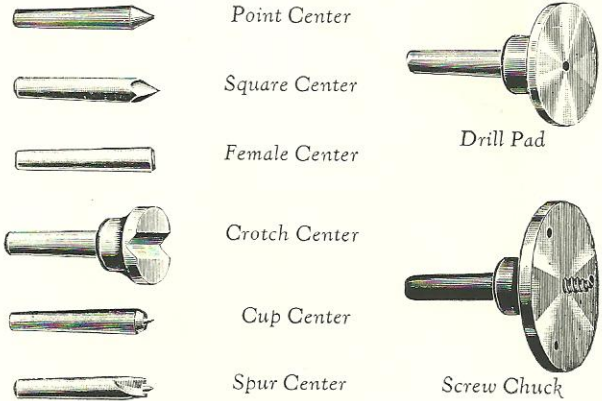
While the 10" and 12" "STAR" Engine Lathes are especially designed for working metals, they can be speeded high enough for wood-turning by using a 3 speed countershaft. To do this work successfully a hand-rest is desirable. We furnish either style as shown, complete with one each short and long T-Rests.

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

We can furnish Style "B" Hand-Rest for 14" Lathes.

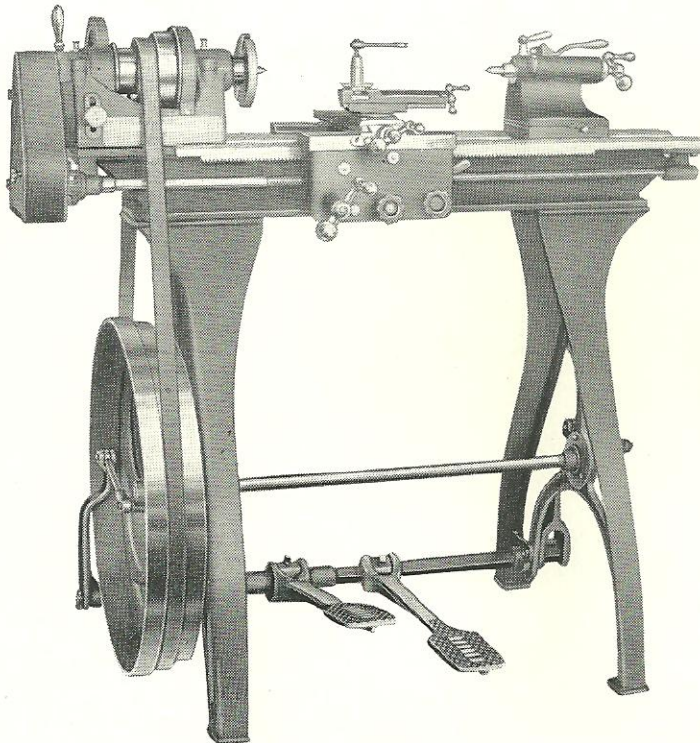
CENTERS, DRILL PADS AND SCREW CHUCKS

For 10", 12" and 14" "STAR" Engine Lathes:



Split Spring Washers for holding change gears

"STAR" LATHE ATTACHMENTS



Foot Power Equipment

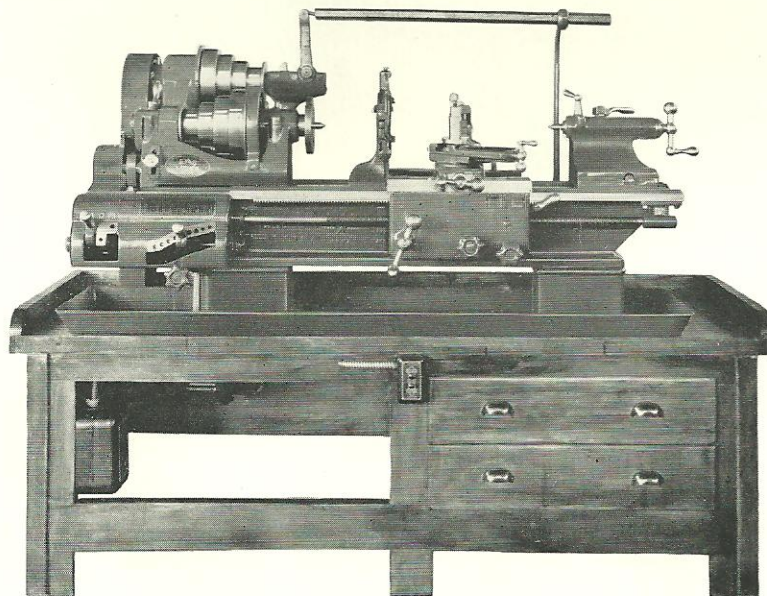
Furnished in place of countershaft when desired. (For 10" and 12" "STAR" Lathes only.) Consists of double tread with walking motion. The treadles are adjustable and work alternately, being connected at opposite ends of the driving-wheel shaft, producing a strong, positive and continuous power. Can be started or stopped instantly and may be operated with both feet (sitting), or one foot (standing), as desired. This arrangement overcomes the objection of operator being confined to a single position. The 14" "STAR" Lathes are not furnished with foot power.

★ ★ ★

Style P, 10", swing 4 ft. bed, has compound rest, floor legs and foot power.

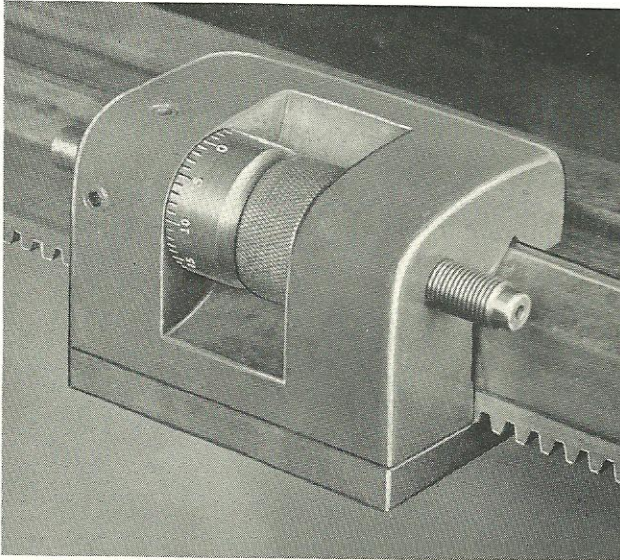
12" lathes can also be furnished with foot power.

Bench Leg Mounting



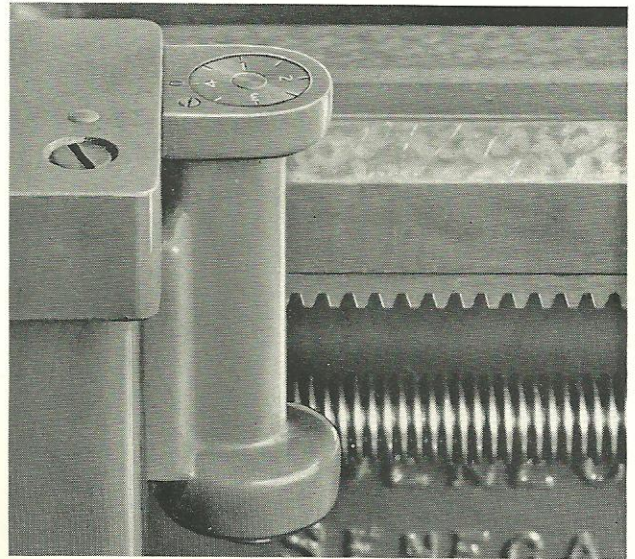
Bench Leg Mounting can be furnished in any size lathe 12" x 4 ft. with Q. C. Gear Box and Motor Drive illustrated.

"STAR" LATHE ATTACHMENTS



**CARRIAGE STOP WITH
MICROMETER ADJUSTMENT**

Used to mount on front way to accurately indicate the point for stopping carriage when turning, boring or facing. As both ends of stop pin are hardened, attachment can be used on either side of carriage.



THREAD INDICATOR

The Indicator is attached to the end of the carriage and is arranged with a worm gear that meshes with the lead screw. The dial is graduated so that the half-nuts can be clamped on the leadscrew to start each cut at the same point.

Code Words

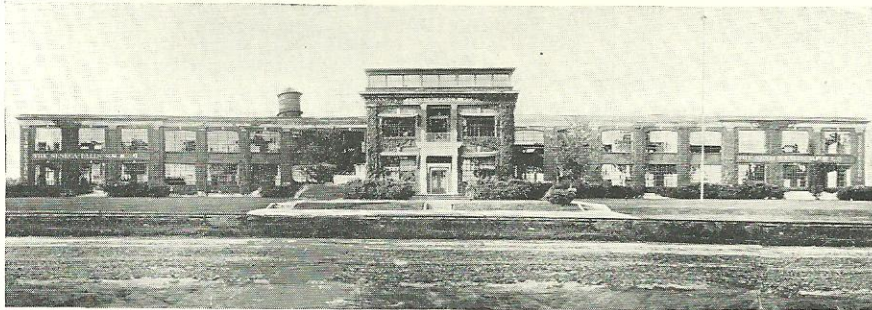
ATTACHMENTS	10"	12"	14"
Motor Drive (not including motor)	Bedew	Agony	Calyx
Transposing Gears (for cutting metric threads)	Beech	Agrin	Camis
Thread Chasing Dial	Beefy	Ahold	Camps
European Tool Post	Befog	Agush	Caned
Blocking	Begem	Ahead	Canal
Taper Attachment	Bekah	Ahull	Canna
Draw-in Chuck (including one split collet)	Belay	Aider	Candy
Draw-in Chuck with Hand Lever with one collet	Birth	Amber	Canon
Draw-in Tube (only) for milling attachment	Belie	Aimer	Canes
Split Collets, round	Bizet	Amice	Chape
Split Collets, square	Bland	Amort	Chard
Split Collets, hexagon	Blast	Amour	Chasm
Double-Tool Block (with one tool post)	Bendy	Aisle	Capel
Turret Tool Post	Berbe	Aitch	Carac
Automatic Turret on bed	Besot	Aknee	Casal
Oil Pump and Piping	Betel	Aknow	Cases
Carriage Stop (4 points adjustable)	Beton	Alack	Cater
Automatic Carriage Stop	Bever	Alban	Caulk
Milling and Gear Cutting Attachment, complete	Bewig	Alcos	Cavil
Cutter Arbor for Milling Attachment	Blaze	Ampul	Chita
Vertical Feed Column and Vise	Bewit	Albee	Cawed
Hand Rest, style A	Bezel	Alday	
Hand Rest, style B	Bhang	Aller	
Point Center	Bibbs	Aleak	Ceres
Square Center	Bicho	Alfet	Cetic
Female Center	Biddy	Algal	Chack
Crotch Center	Bidet	Alien	Chain
Cup Center	Bield	Alley	Chafe
Spur Center	Bigam	Alman	Chair
Screw Chuck	Bijou	Aloft	Champ
Drill Pad	Bilbo	Alpha	Chant
Compound Rest	Binal	Altar	Camel
Countershaft with 2 friction pulleys	Biped	Alure	Cedar
Countershaft with 3 friction pulleys	Binny	Altos	Cento
Chuck Face Plates (semifinished, drilled, tapped, and hub faced true)	Birch	Alway	Caxon
Plain Rest	Bison	Amend	Ceryl
Fitting Chuck with face plate to lathe			
Fitting Drill Chuck with taper plug to lathe			
Relieving Attachment			

OTHER SENECA FALLS EQUIPMENT

As builders of Star Lathes and originators of the famous Lo-Swing principle of multiple tooling, the Seneca Falls Machine Company has justly earned the designation, "Turning Equipment Headquarters." Whatever your requirements may demand in turning equipment, first call on Seneca Falls. From the lightning-fast IMP to the rugged and relentless Model R Lathe, there is a Lo-Swing for every production need. We also design and build special machines to customer's individual requirements. The co-operation of our Engineering Department is always available without obligation.

4 and 8" Lo-Swing Lathes
Model U Lo-Swing Lathe
Model R Lo-Swing Lathe
Model K Lo-Swing Lathe
Model LR Lo-Swing Lathe
Lo-Swing IMP Lathe

Star Drilling & Centering Machine
Seneca Falls Automatic
Work Handling Equipment
Seneca Falls Automatic
Work Driver
Short Cut Lathe



SENECA FALLS MACHINE CO.
SENECA FALLS, N. Y.

Some Representative "Star" Lathe Users

American Separator Co.
American Sheet & Tin Plate Co.
Black & Decker Mfg. Co.
Bowen Products Corp.
Cameron Electric Mfg. Co.
The Carborundum Company
Cluett, Peabody & Co. Inc.
C. G. Conn, Ltd.
Colorado School of Mines
Cornell University
Thomas A. Edison, Inc.
General Electric Co.
Geometric Tool Co.
Hamilton-Beach Mfg. Co.
Frank Holton & Co.
Landis Machine Co.
Massachusetts Institute of Technology
Mixing Equipment Company, Inc.
Monroe Calculating Machine
Morse Twist Drill & Machine Co.
Nash Engineering Company

National Tool Co.
Packard Motor Car Company
Philadelphia Gear Works
Polytechnic School
Precision Thermometer & Instrument Co.
Pullman Free School of Manual Training
Quebec Technical School
Remington Arms Co.
Savage Arms Corp.
Seversky Aircraft Corporation
St. John's College
Standard Optical Co.
The Singer Mfg. Co.
Taylor Instrument Companies
Todd Protectograph Co. Inc.
United States Government
United States Naval Academy
University of Michigan
Weatherhead Company
Western Electric Company
Wilson Mechanical Instrument Company

