

The "Barnes" Lathes



(LATHES) **THES**

① 37

MANUFACTURED BY

*Wm. T. & J. H. Barnes Co.*  
 ROCKFORD, ILLINOIS,  
 U.S.A.

The "Barnes" Lathes



Catalogue No. 81  
 July 15, 1919



Telegraphic Address,  
"Barnes" Rockford  
Codes Used,  
Lieber's and Our Own

### Catalogue No. 81

July 15, 1919

**I**N addition to the machines described in this Catalogue, we make a very complete line of Upright Drilling Machines for power use only. We also make a complete line of Foot and Hand Power Wood Working Machinery, embracing Circular Saws, Scroll Saws, Mortising, Tenoning and Molding Machines, Lathes, etc., and we shall be pleased to mail Catalogue describing same upon application.

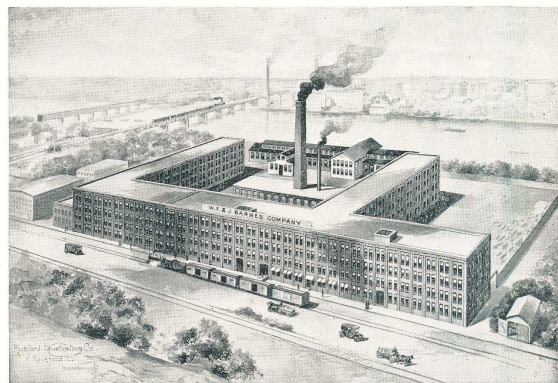
### The "Barnes"

**NOTE—All Gears on our Lathes are cut from the solid Metal**

**REPAIRS** Old or broken parts sent to us must be PREPAID by Mail, Express or Freight.

## Barnes' Lathes

### Price List and Descriptive Catalogue



ESTABLISHED 1872

**W. F. & JOHN BARNES CO.**

SOLE MANUFACTURERS

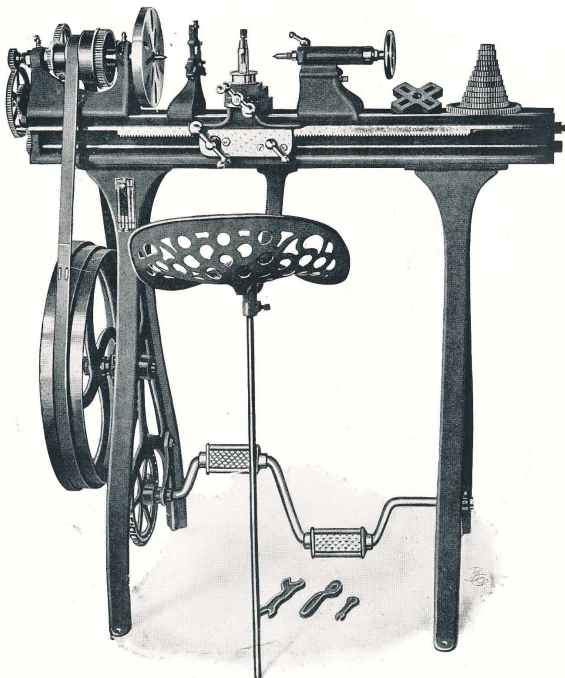
ROCKFORD, ILLINOIS

U. S. A.

**Screw Cutting Lathe No. 4½**

9-inch Swing

Price \$125.00

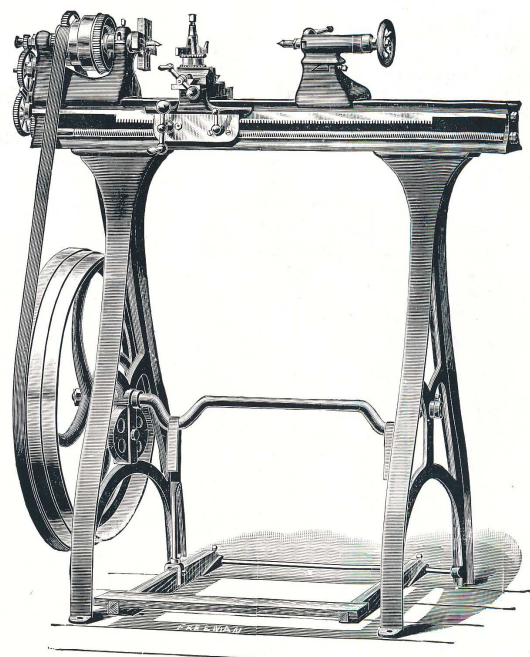


When ordering lathes, be particular to state clearly whether wanted with foot power or countershaft; if with foot power, state whether velocipede or stand-up treadle.

**Screw Cutting Lathe No. 4½**

9-inch Swing

Price \$125.00



When ordering lathes, be particular to state clearly whether wanted with foot power or countershaft; if with foot power, state whether velocipede or stand-up treadle.



## Screw Cutting Lathe No. 4½

### 9-inch Swing

**T**HIS is the smallest back geared and screw cutting lathe we make, and we claim confidently that it is far and away the best lathe of its size on the market.

It feeds right or left, and cuts screws right or left without change of gearing. The carriage is thoroughly gibbed for taking up wear.

We do not make this lathe with automatic cross feed. Our twenty-five years' experience as lathe users and builders convinces us that on a small lathe, say less than 13 inches swing, automatic cross feed is of no particular advantage. The tool carriage on our lathe swivels so that the tool can be set to work at any desired angle, and it also adapts the lathe for taper boring. These features, we are confident, are of greater value than automatic cross feed.

The tail stock has side movement to adjust centers for turning tapers. The head stock has hollow spindle for rods up to ⅝-inch. All the gearing is cut from solid metal. All parts are made of steel, where this would best serve the purpose.

It is indexed for threads 5 to 40, and the change gears furnished can be combined for many other threads. It swings 9 inches and takes 25 inches between centers. It swings 4½ inches over the tool carriage.

The small pulley on cone is 2½ inches; the large pulley, 4½ inches.

The lathe weighs 270 pounds. Boxed, ready for shipment, 340 pounds.

Price, with Foot Power or Countershaft.....	\$125.00
Compound Rest in place of Plain Rest.....extra	10.00
Follow Rest.....extra	3.00
Hand Rest.....extra	3.00
Raising Blocks to swing 15 inches (for turning and boring).....extra	20.00

Price of Countershaft, \$20.00. Pulleys are 7 x 2 inches and should be speeded 225 R. P. M.

W. F. & John Barnes Co., Rockford, Ill.

*Gentlemen:* Last year I bought one of your No. 4½ Screw Cutting Lathes. It has been used on various kinds of work for which such a lathe is adapted, the last being a small gas engine which required considerable interior and exterior screw cutting and other fitting of parts, and the lathe has done it perfectly. It would please the most fastidious to see the work which this lathe can do. Many practical machinists have expressed their admiration of the lathe and its work. The bicycle foot-power is really restful compared with the old-style foot power.

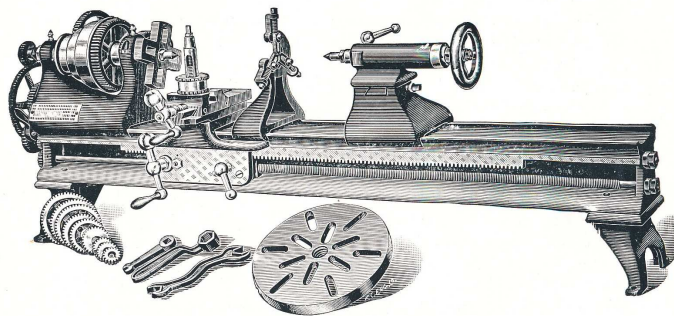
Yours very truly,  
S. E. Wait.

Traverse City, Mich.

## Bench Lathes

We find some customers prefer the lathes mounted on bench legs for various reasons and we offer our smaller sizes thus mounted. We are prepared to furnish these bench lathes at the prices given below.

	With Countershaft	Without Countershaft
No. 4½ Bench Lathe.....	\$125.00	\$105.00
No. 5 Bench Lathe, regular length bed.....	150.00	130.00
No. 13 Bench Lathe, 5 ft. bed.....	225.00	205.00



W. F. & John Barnes Co.,  
Rockford, Ill.

*Dear Sirs:* I purchased one of your No. 5 Screw Cutting Lathes about a year ago, and I want to testify to the high merit of the machine. I think it is one of the best lathes made. I find it an indispensable tool in my shop, and its uses are almost infinite. I use it daily and find that it will turn the largest work the lathe will hold or the smallest firing pin of a rifle with equal accuracy. I also find that it will give very good service in wood turning, as it is possible to speed it plenty high enough for ordinary wood turning. I regard the velocipede foot-power as the best foot-power that could be used. I would not part with this lathe for twice what I paid for it if I could not get another.

Yours very truly,  
J. H. Waburn.

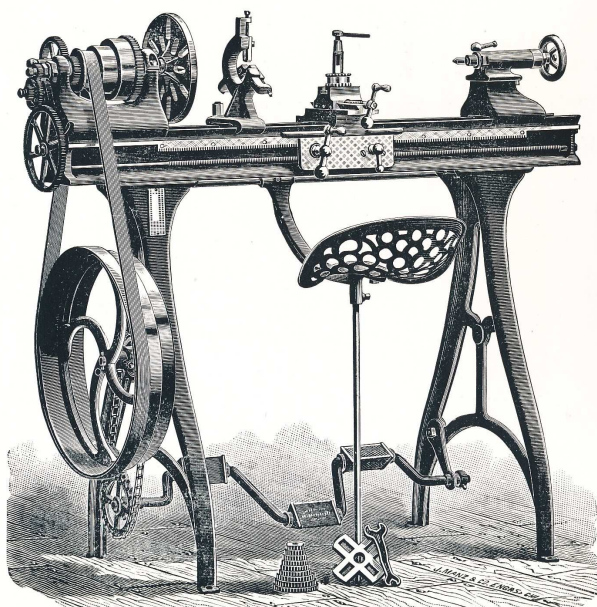
Glenview, Tex.



**Screw Cutting Lathe No. 5**

11-inch Swing

Price \$150.00

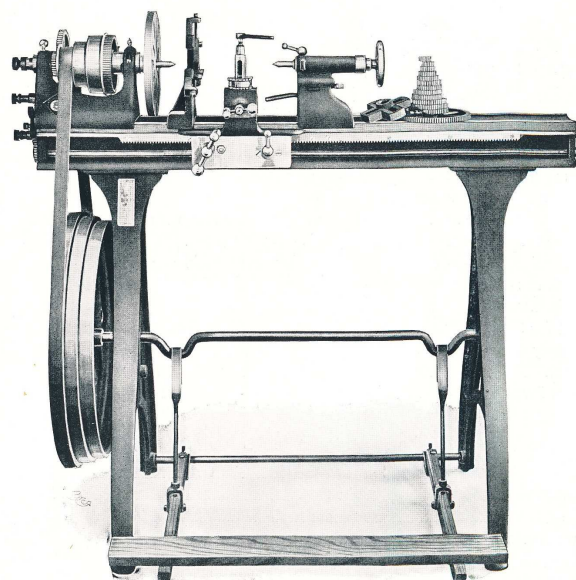


When ordering lathes, be particular to state clearly whether wanted with foot power or countershaft; if with foot power, state whether velocipede or stand-up treadle.

**Screw Cutting Lathe No. 5**

11-inch Swing

Price \$150.00



When ordering lathes, be particular to state clearly whether wanted with foot power or countershaft; if with foot power, state whether velocipede or stand-up treadle.

## Screw Cutting Lathe No. 5

### 11-inch Swing

**T**HIS lathe swings 11 inches on the face plate,  $6\frac{5}{8}$  inches over the tool carriage, and is 34 inches between center.

The head stock has a steel spindle with  $15/32$ -inch hole through its entire length. The boxes are accurately fitted to the spindle with provision to keep them true and to take up wear. The tail stock can be readily set at any desired point, or taken altogether from the lathe bed, thus leaving it free for face plate or chuck work. It can also be set over for turning tapers. The spindles of both head and tail stocks are of steel, with positively true taper holes for the reception of the centers, and the tail stock center is self discharging. The tool carriage is a model of convenience and accuracy and is gibbed to the bed. We do not make this lathe with automatic cross feed. Our twenty-five years' experience as lathe users and builders convinces us that on a small lathe, say less than 13-inch swing, automatic cross feed is of no particular advantage. The tool carriage on our lathe swivels so that the tool can be set to work at any desired angle, and it also adapts the lathe for taper boring. These features, we are confident, are of greater value than automatic cross feed. All the works are securely protected from chips and dirt, thus insuring long wear and durability to the most costly and vital parts of the lathe. It is indexed for threads 4 to 40, and the change gears furnished can be combined for many other threads. As a right or left screw cutting lathe, it is simply perfect. All the gearing is cut from solid metal in the best machinery known for gear cutting, and is as true and noiseless as is possible for metal gearing to be.

Boxed, ready for shipment, lathe weighs 500 pounds.

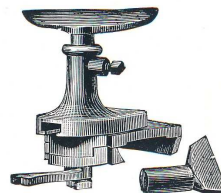
Price with Foot Power or Countershaft.....	\$150 00
Compound Rest in place of Plain Rest.....extra	10 00
Follow Rest.....extra	3 50
Hand Rest.....extra	3 50
Raising Blocks to swing 17 inches (for turning and boring).....extra	20 00

Price of Countershaft, \$20.00. Pulleys are 7x2 inches and should be speeded 225 R. P. M.

## Hand Rest

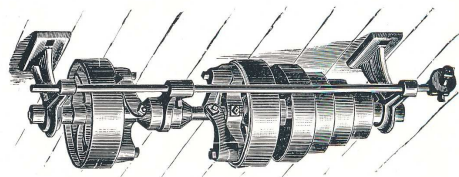
The Lathes Nos.  $4\frac{1}{2}$ , 5 and 13 are built for metal turning, but can be speeded high enough so that wood turning can be done to very good advantage.

For wood turning, a hand rest is required, which we can furnish, the price of this rest for No.  $4\frac{1}{2}$  Lathe being \$3.00; for No. 5 Lathe, \$3.50; and for No. 13 Lathe, \$4.00.



## Follower Rest

The cut shows a follower rest, which we can furnish, the price of same being for No.  $4\frac{1}{2}$  Lathe, \$3.00; for No. 5 Lathe, \$3.50; and for No. 13 Lathe, \$4.00.



The above cut represents a countershaft for Nos.  $4\frac{1}{2}$  and 5 Lathes (except cone has 3 steps only).

The pulleys on countershaft are 7 x 2 inches and should be speeded 225 revolutions.

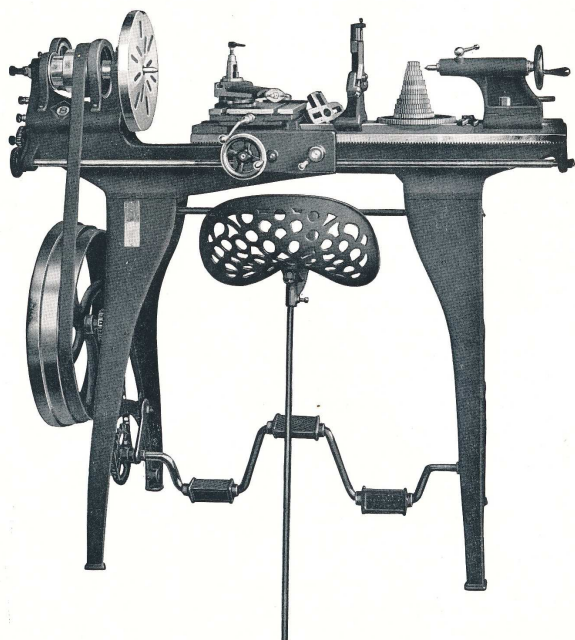
Price of countershaft, \$20.00.



**Gap Lathe No. 5**

11-15 inch Swing

Price \$175.00



When ordering lathes, be particular to state clearly whether wanted with foot power or countershaft; if with foot power, state whether velocipede or stand-up treadle.

**Gap Lathe No. 5**

11-15 inch Swing

Price \$175.00

OUR No. 5 Gap Lathe is a screw cutting lathe equipped with compound rest and off-set type of tail stock, permitting the compound rest to be set parallel with the bed. The headstock boxes are accurately fitted to the spindle with provision to keep them true and to take up wear. Spindles of both head and tail stocks are of steel, with true taper holes for the reception of the centers and the tail stock center is self discharging.

The tool carriage is a model of convenience and accuracy, and is gibbed to the bed. Note the compound table has tee slots, thus adapted for clamping work for boring and milling operations.

All the works are securely protected from chips and dirt, thus insuring long wear and durability to the most costly and vital parts of the lathe. The gearing furnished can be combined to make different leads of threads from 4 to 40, besides many others not mentioned on the index plate. As a right or left screw cutting lathe, it is simply perfect. All the gearing is cut from solid metal in the best machinery known for gear cutting, and is as true and noiseless as it is possible for metal gearing to be.

This No. 5 Gap Lathe is made in one length of bed and one style only: purchaser, however, has choice of foot-power or countershaft; if wanted with foot power, state whether velocipede or stand-up treadle.

Price of Lathe, complete as described, \$175.00.

**DIMENSIONS**

Swing over bed.....	11 inches
" " tool carriage.....	6 $\frac{5}{8}$ "
" in Gap.....	15 "
Width of Gap (from face-plate).....	5 "
Distance between centers.....	29 "
Hole through spindle.....	15/32 inch diam.
Net weight.....	500 lbs.
Weight (boxed for shipment).....	650 "

NOTE.—This Lathe is equipped with the same head stock and gearing as regular No. 5 Lathe; thus extras, such as lathe tools, centers, drill pads, etc., are used on either lathe.

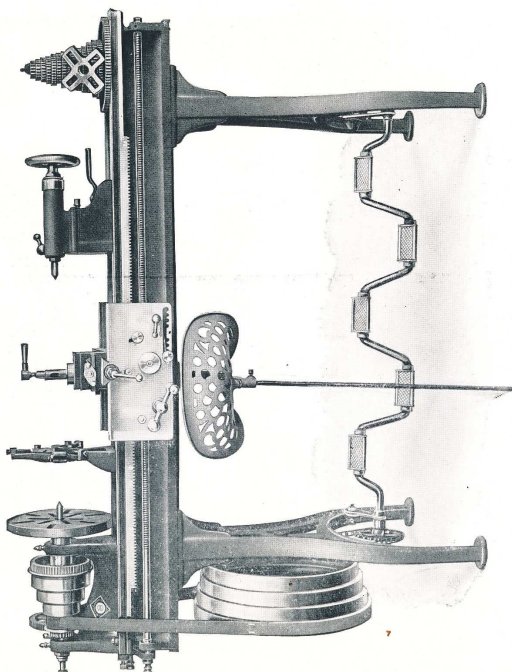
**COUNTERSHAFT**

We furnish for the No. 5 Lathe, a friction clutch countershaft. The pulleys are 7 x 2 inches and should be speeded 225. Price, \$20.00.

**Screw Cutting Lathe No. 13**

Automatic Cross Feed and Compound Rest

13-inch Swing

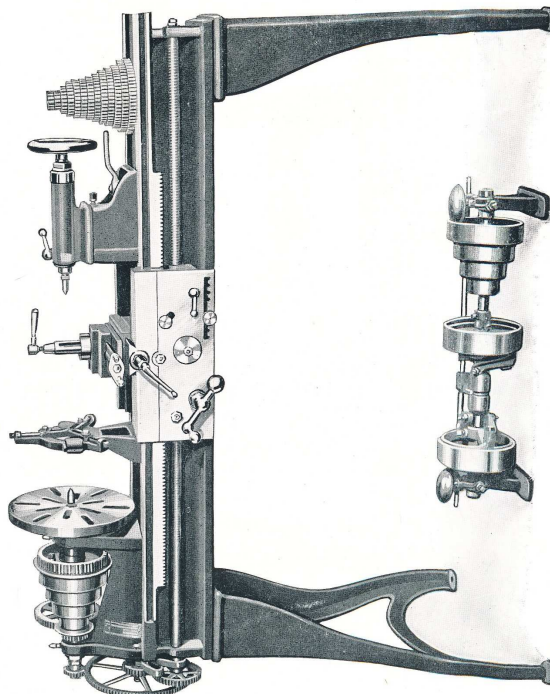


When ordering lathes, be particular to state clearly whether wanted with foot power or countershaft; if with foot power, state whether velocipede or stand-up treadle.

**Lathe No. 13**

Automatic Cross Feed and Compound Rest

13-inch Swing



The cut on this page shows the No. 13 Lathe with countershaft instead of foot power.



## Screw Cutting Engine Lathe No. 13

Automatic Cross Feed and Compound Rest

13-inch Swing

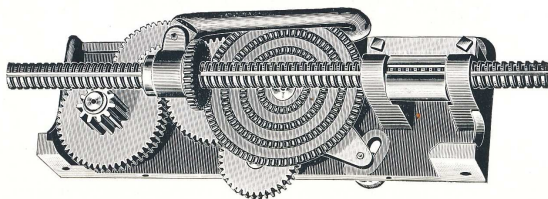
**T**HIS Lathe has but a splined screw, giving rod feed for turning, reserving the screw for thread cutting only; also it has **Automatic Cross Feed and Compound Rest.**

The head stock has a hollow steel spindle that will take a half-inch rod through its entire length. The boxes are accurately fitted to the spindle with provision to keep them true and take up wear. The tail stock can be readily set at any desired point, or taken altogether from the lathe bed, without removing nuts or bolts.

It can also be set over for turning tapers. The spindles for both head and tail stocks are of steel, with positively true taper holes for the reception of the centers, and the tail stock is self-discharging. The tool carriage is a model of convenience and accuracy, and is gibbed to the bed.

All the works are securely protected from chips and dirt, thus insuring long wear and durability to the most costly and vital parts of the lathe. It is indexed for threads 4 to 32, and the change gears furnished can be combined for many other threads.

We call particular attention to the feed arrangements in this lathe. In the full view of the lathe (see page 13) at lower right hand corner of the tool carriage apron, is a slot; in this slot is a lever, which is also shown in the rear view of the apron (see illustration below). This lever moved to the right or left gives a great range of feed, graduating instantly from coarse to fine, or vice versa. With this lever the feed can be instantly reversed. It also serves the cross feed of the tool carriage in the same manner.



This cut shows Feed Arrangement in Tool Carriage  
(Patented May 6, 1902.)

## Screw Cutting Engine Lathe No. 13

Automatic Cross Feed and Compound Rest.

13-inch Swing

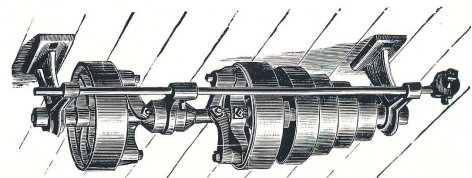
Length of Bed	Distance between Centers	Swing on Face Plate	Swing over Tool Carriage	Hollow through Spindle	Weight Boxed	Price with Foot-Power or Countershaft
5 ft.	33 in.	13 in.	8 in.	17/32 in.	775 lbs.	\$225 00
6 ft.	45 in.	13 in.	8 in.	17/32 in.	850 lbs.	235 00
7 ft.	57 in.	13 in.	8 in.	17/32 in.	890 lbs.	245 00
8 ft.	69 in.	13 in.	8 in.	17/32 in.	950 lbs.	255 00
10 ft.	93 in.	13 in.	8 in.	17/32 in.	1150 lbs.	275 00

Follow Rest, \$4.00 extra.

Hand Rest, \$4.00 extra.

We can furnish blocks for raising head and tail stocks and tool post to make swing of lathe 18 inches for turning and boring.

Price of Raising Blocks, \$20.00 extra.



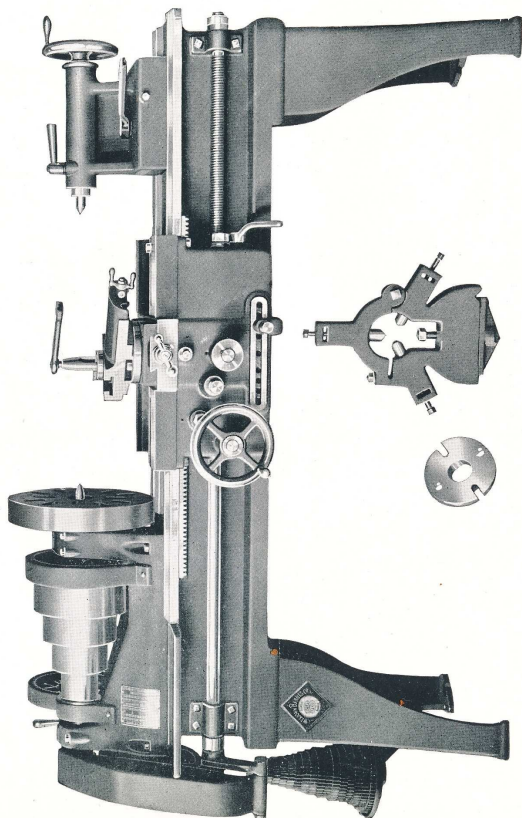
The above cut represents a Friction Clutch Countershaft for No. 13 Lathe.

The pulleys on this countershaft are 7 x 2 inches, and should be speeded 225.

Price of countershaft, \$20.00.

## Screw Cutting Engine Lathe

18-inch Swing



This 18-inch Lathe is built for the Garage, the Repair Shop and Manufacturing Purposes. A Lathe that has Strength, Rigidity, and Convenience of Operation. Workmanship and materials of the best.

Lathe Spindle has bronze boxes.

Head is strongly back-geared. (Ratio  $9\frac{1}{4}$  to 1.)

Cuts threads 1 to 56.

Lead Screw  $1\frac{7}{16}$  inch diameter, by 4 lead.

Has a 7-Pitch Steel Rack, with steel pinion running in it.

Hole in Spindle,  $1\frac{1}{8}$ -inch diameter.

Centers conform to Morse Taper No. 3.

Note Cut-Away Tail Stock, which is very convenient in using compound. Also has side movement to adjust centers for turning tapers.

### GENERAL DIMENSIONS

Swing Over Bed Ways	Length of Bed	Takes 1 or 2 Centers	Swing of Carriage	Dia. of Pinion Bearing	Dia. of Gear Bearing	Dia. of Spindle Nose	Width of Cone	Dia. of Large Step of Cone	Dia. of Spindle	Size of Pulley on Counter-shaft	Speed of Counter-shaft	Weight	Crated Weight
18 in.	6 ft.	2 ft. 8 in.	12 in.	3 in.	2 1/4 in.	2 5/8 in.	3 1/2 in.	10 in.	1 1/2 in.	10 7/8 x 3 1/2	200 rev.	1815 lbs.	2010 lbs.
18 in.	8 ft.	4 ft. 8 in.	"	"	"	6 Thread	"	"	"	"	"	2025 lbs.	2300 lbs.
18 in.	10 ft.	6 ft. 8 in.	"	"	"	"	"	"	"	"	"	2250 lbs.	2600 lbs.

This lathe is equipped with compound rest and power cross-feed. The outfit of each lathe is 1 large and 1 small face-plate, 1 center-rest, 2 centers of tool steel, a set of 13 change gears to cut the above threads, countershaft and necessary wrenches.

Taper Attachment and Follow Rest furnished at extra cost if desired.



## Screw Cutting Engine Lathe

### 18-inch Swing

**T**HIS Barnes 18-inch Lathe is built for the Garage, the Repair Shop and Manufacturing purposes. A Lathe that has Strength, Rigidity and Convenience of Operation. Workmanship and materials of the best. The lathe is stiff and heavy; and one that has capacity and power and will machine any job that can be put on it, and will take the heaviest chips. It swings 18 inches over the bed and 12 inches over the carriage, and has a  $1\frac{5}{8}$ -inch hole in the spindle, fitted with No. 3 Morse taper.

**The Bed**—Bed has 3 V's and one flat bearing. The inside V and flat bearing are used for aligning headstock and tailstock. The outside V's are for aligning the carriage. The bed is heavy and solid and has box braces cast on the inside to increase its stiffness and strength.

**Headstock**—Headstock is web pattern, strongly braced, carries a four-step cone for 3-inch belt. Dimensions of cones, 4 to 10 inches. Head spindle is of special quality forged crucible steel, has  $1\frac{5}{8}$ -inch hole through its entire length and runs in heavy phosphor bronze boxes, which may be adjusted for wear.

**Tailstock**—Tailstock is the curved under pattern so as to allow compound rest to swing around parallel with the axis of the lathe. Has side movement for turning taper. Tail center is self ejecting, spindle is  $1\frac{15}{16}$  inches in diameter and the tailstock base has a long bearing on the bed.

**Carriage and Apron**—Carriage is unusually stiff, has a wide bridge, is carefully gibbed to bed, has a long bearing on the ways and can be locked when using cross feed. The apron is strong and stiff and so constructed that all gears are protected from chips and dirt, while at the same time they may be oiled readily from the front. The carriage has T slots so that work may be clamped for boring and milling. Lever movement to right or left gives four changes of feed without changing gears, graduating instantly from coarse to fine, or vice versa. With this lever the feed can be instantly reversed. It also serves the cross feed of the tool carriage in the same manner.

**Automatic Feed**—Lathe is equipped with power cross feed and automatic longitudinal feed. An excellent feature of the power cross and longitudinal feed is that the operator cannot possibly get both feeds in operation at the same time, as only the one feed can be operated at

one time. Another feature is that the power feed is driven by a splined screw, so that the thread on the lead screw is only used when cutting threads. This means that the lead screw should last a life time.

**Lead Screw and Thread Cutting**—Lead screw is  $1\frac{7}{16}$  inches in diameter, cut from a master lead. Change gears are furnished for lead screw that allows all standard threads from 1 to 56. An index plate is attached to each lathe, showing the proper arrangement of the different gears for cutting various threads desired.

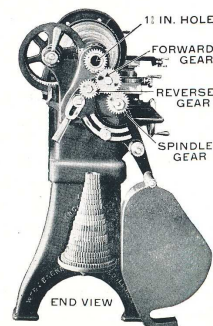
**The Rack**—The Rack is of steel; rack pinion is also of steel and machined so that it will run smoothly and noiselessly. The apron gears are especially strong and are arranged so that they may be easily reached by oil from the outside, and are protected from all chips and dirt.

**Compound Rest**—Compound Rest is graduated in degrees, swings all the way around. This rest is large and capable of supporting heavy cuts.

**Equipment**—This Lathe is equipped with compound rest and power cross-feed. The outfit of each lathe is 1 large and 1 small face-plate, 1 center-rest, 2 centers of tool steel, a set of 18 change gears to cut the above threads, countershaft and necessary wrenches.

Taper Attachment and Follow Rest furnished at extra cost if desired.

**Countershaft**—Countershaft is of the double friction pulley type, simple in construction, powerful in grip and guaranteed in every detail.



### Fitting Chucks

Net cost for fitting chucks with face plate ready to screw on spindle of Nos. 4½, 5 or 13 Lathe.....	\$1 50
For 18-inch Lathe.....	3 00
Net cost for fitting a Drill Chuck with plain plug mounting.....	1 00
Net cost for threading Little Giant Drill Chuck to Nos. 4½, 5 or 13 Lathe spindle.....	1 75

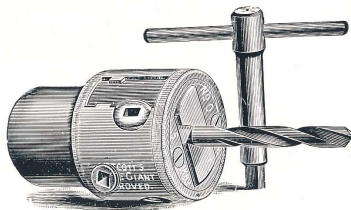
NOTE:—We cannot furnish chuck repairs; obtain of the manufacturer.

Size of chucks best suited to lathes:

- 9 inch lathe, 3 to 6 inch chucks.
- 11 inch lathe, 4 to 8 inch chucks.
- 13 inch lathe, 5 to 10 inch chucks.
- 18 inch lathe, 8 to 14 inch chucks.

### Westcott's Little Giant Drill Chuck

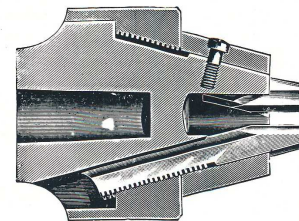
Improved



00.....	1¼ inch	0 to ¼ inch	\$ 8 00
0.....	2¼ " "	0 to ½ " "	9 00
1.....	2¾ " "	0 to ¾ " "	10 00
2.....	3½ " "	0 to 1 " "	11 00
2½.....	4 " "	0 to 1 " "	extra strong 12 00

These chucks are self-centering and hold firmly without injuring drills, bits or rods of any size or shape within limits named for such size. They have holes through the center, and rods can be held in them for cutting off.

### The Almond Drill Chuck



The Almond Drill Chuck is especially adapted for all light and rapid drilling, such as is done on "sensitive" drills and hand lathes, and where accuracy is required. This chuck is made entirely of steel, and of such grades as are best adapted to the different parts, all of which are carefully constructed by skilled workmen with the latest improved tools and machinery.

By revolving the knurled nut the jaws are moved outward or inward in the converging slots in the chuck body as may be desired. The chuck can be operated by hand and when a very firm grip is desired, it may be obtained by the use of a spanner wrench, one being furnished with each chuck.

Each chuck is ground true after the jaws are hardened.

We also carry the Jacobs Drill Chucks. (Same price as the Almond.)

It is furnished in two sizes, as follows:

No. 2.	To hold 0 to ⅜ inch.....	\$5 50
No. 3.	To hold 0 to ½ inch.....	9 00

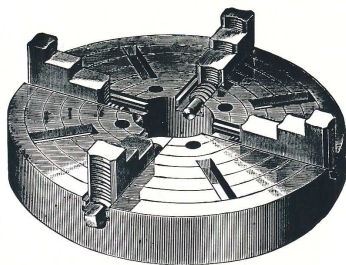
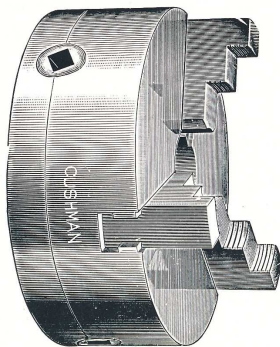


**Cushman Independent 4-Jaw Chuck**

Reversible Jaws

**Price List Including  
Keys and Bolts**

4½ inch.....	\$20 00
6 ".....	22 00
9 ".....	28 00
12 ".....	35 00
14 ".....	40 00

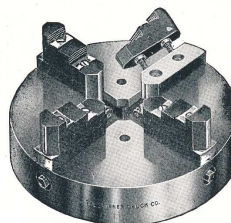
**Universal Geared Scroll Chuck**

Size	Diameter of Hole	Diameter of Face Face Recess	Price of 3 Jaws Two Sets
4 inch	1 inch	3¼ in.	\$22 00
5 "	1½ "	3¾ "	24 00
6 "	1¾ "	4¼ "	28 00
7½ "	2 "	4¾ "	32 00

This style of chuck is used for holding round pieces. It is strictly a universal chuck, the jaws being moved simultaneously by the scroll threaded plate.

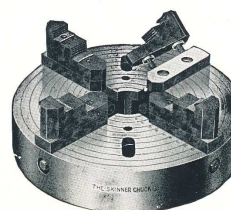
The scroll thread and the curved teeth on jaws are made by special machinery, which not only insures their properly fitting in any position they may be placed, but the wear is reduced to a minimum.

With proper care a scroll chuck will outwear any other style.

**Skinner Patent Chucks****Price List of Skinner Combination Lathe Chucks with  
Reversible Jaws**

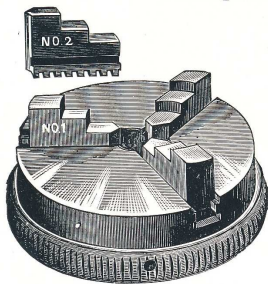
Size	3 Jaws	4 Jaws
4 inch	\$29 00	\$36 00
6 inch	35 00	42 00
8 inch	42 00	50 00
9 inch	45 00	54 00

This chuck can be either independently or universally concentric or eccentric.

**Price List of Skinner Independent Lathe Chucks with  
Four Independent Jaws**

Size	Price
4 inch	\$20 00
6 inch	22 00
8 inch	26 00
10 inch	30 00

### Champion Scroll Chucks



These chucks are very tastily designed, and are intended particularly for use on foot and light power lathes. They are light, but strong, the shells being made from malleable iron, and the scrolls and jaws of steel.

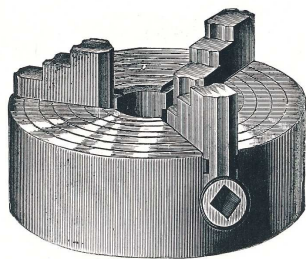
#### Price List

3	inch with two sets of jaws...	\$11 00
4	" " " " " "	12 50
5	" " " " " "	15 00
6	" " " " " "	18 00

### Champion Independent Jaw Chucks

This is a line of independent jaw chucks for all kinds of light work. They are especially adapted for foot and light power lathes.

In size and appearance they are quite similar to the scroll chucks, but are provided with three or four **Independent Reversible Steel Jaws**, each of which is operated by a separate screw. These chucks will hold with great firmness, and will take pieces considerably larger than the diameter of the chuck—a 5-inch chuck holding a 6-inch piece without difficulty.



#### Price List

Diameter	3 Jaws	4 Jaws
3 inch	\$11 00	\$13 00
4 "	13 00	15 00
5 "	15 00	17 00
6 "	17 00	20 00
7 1/2 "	19 00	22 00
9 "	22 00	25 00
10 "	25 00	28 00

### The Articles on this Page are for use on No. 4 1/2, No. 5 and No. 13 Lathes



Screw Chuck.....\$2 00



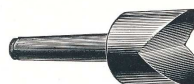
Spur Center.....\$1 50



Cup Center.....\$1 50



Square Center for Iron.....\$1 50



Crotch Center.....\$2 00

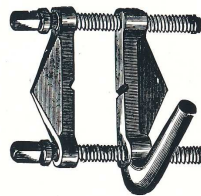


Drill Pad.....\$2 00

**Lathe Tools**


For Lathe.....	No. 4½, 5	No. 13	18" lathe
Size of Steel.....	5/16x5/8	3/8x3/4	1¼x5/8
Price.....	40c.	50c.	\$1.25

	Right-hand Diamond Point.
	Left-hand Diamond Point.
	Right-hand Side Tool.
	Left-hand Side Tool.
	Bent Right-hand Side Tool.
	Cut-off Tool.
	Thread Tool.
	Bent Thread Tool.
	Inside or Boring Tool.

**Lathe Dogs****Steel Clamp Dogs**

No. 1.	1¾ inches between screws.....	\$1 50
No. 2.	2¼ " " " .....	2 00
No. 3.	2¾ " " " .....	2 50

**Common Dogs**

	¼-inch.....	25c
	3/8 " .....	25c
	3/4 " .....	35c
	1 " .....	35c
	1¼ " .....	50c
	1½ " .....	50c
	Price per set of six.....	\$2 20

**Cast Steel Turning Chisels**

Warranted



Size,	1/8	3/16	1/4	5/16	1/2	5/8	3/4	7/8	1	1¼	1½	1¾	2	inch
Price,	.35	.35	.35	.35	.50	.50	.50	.75	.75	.75	.80	\$1.00	\$1.25	each

**Cast Steel Turning Gouges**

Warranted



Size,	1/8	3/16	1/4	5/16	1/2	5/8	3/4	7/8	1	1¼	1½	1¾	2	inch
e,	.45	.45	.45	.45	.70	.70	.70	.75	.75	.95	\$1.25	\$1.50	\$1.75	each



**Steel Lathe Arbors**

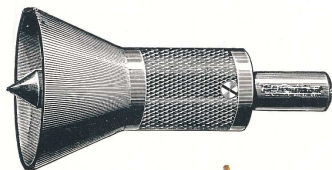
For holding Saws, Emery Wheels, etc.



Diameter.....  $\frac{1}{2}$        $\frac{5}{8}$        $\frac{3}{4}$  inch  
 Price.....\$2.50      \$2.50      \$3.00 each

**Turner's Sizer**

Price.....\$1.25

**Bell Centering Punch**

This is a full size illustration of a very handy and useful tool. It needs no explanation, as every machinist knows its usefulness and that his kit of tools is incomplete without it.

It is very accurate, finely finished and made of the best material suitable. Its capacity is up to  $1\frac{1}{2}$  inch; weight, 5 ounces.

Price.....\$1.25

**Morse Patent Twist Drills**

Taper Shanks			Straight Shanks			
Diameter of Drills	Length in Inches	Price Each	Diameter of Drills	Length in Inches	Price per Dozen	Price Each
1-4	6 $\frac{1}{2}$	\$ 60	1-16	21 $\frac{1}{2}$	\$1 00	09c
9-32	6 $\frac{1}{2}$	65	5-64	23 $\frac{1}{2}$	1 10	10
5-16	6 $\frac{1}{2}$	70	3-32	25 $\frac{1}{2}$	1 20	11
11-32	6 $\frac{1}{2}$	75	7-64	27 $\frac{1}{2}$	1 30	12
3-8	7	80	1-8	3	1 45	13
13-32	7	85	9-64	3 $\frac{1}{2}$	1 60	15
7-16	7 $\frac{1}{2}$	90	5-32	3 $\frac{1}{2}$	1 80	16
15-32	7 $\frac{1}{2}$	95	11-64	3 $\frac{1}{2}$	2 00	18
1-2	7 $\frac{1}{2}$	1 00	3-16	3 $\frac{1}{2}$	2 20	20
17-32	8	1 10	13-64	3 $\frac{1}{2}$	2 40	21
9-16	8 $\frac{1}{2}$	1 20	7-32	3 $\frac{1}{2}$	2 65	23
19-32	8 $\frac{1}{2}$	1 30	15-64	3 $\frac{1}{2}$	2 90	26
5-8	8 $\frac{1}{2}$	1 40	1-4	4	3 15	28
21-32	9	1 50	17-64	4 $\frac{1}{2}$	3 40	30
11-16	9 $\frac{1}{2}$	1 60	9-32	4 $\frac{1}{2}$	3 65	32
23-32	9 $\frac{1}{2}$	1 70	5-16	4 $\frac{1}{2}$	3 90	35
3-4	9 $\frac{1}{2}$	1 85	21-64	4 $\frac{1}{2}$	4 20	37
25-32	9 $\frac{1}{2}$	2 00	11-32	4 $\frac{1}{2}$	4 50	40
13-16	10	2 15	23-64	4 $\frac{1}{2}$	4 80	42
27-32	10 $\frac{1}{2}$	2 30	7-8	5	5 10	45
7-8	10 $\frac{1}{2}$	2 45	25-64	5 $\frac{1}{2}$	5 40	48
29-32	10 $\frac{1}{2}$	2 60	27-64	5 $\frac{1}{2}$	5 70	50
15-16	10 $\frac{1}{2}$	2 75	13-32	5 $\frac{1}{2}$	6 00	53
15-32	10 $\frac{1}{2}$	2 90	27-64	5 $\frac{1}{2}$	6 40	55
31-32	10 $\frac{1}{2}$	3 00	7-16	5 $\frac{1}{2}$	6 80	59
1	11	3 20	29-64	5 $\frac{1}{2}$	7 20	63
1 1-32	11 $\frac{1}{2}$	3 40	15-32	5 $\frac{1}{2}$	7 50	65
1 1-16	11 $\frac{1}{2}$	3 60	31-64	5 $\frac{1}{2}$	7 75	67
1 3-32	11 $\frac{1}{2}$	3 80	1-2	6	8 00	70
1 5-32	12	4 00				
1 3-16	12	4 20				
1 7-32	12 $\frac{1}{2}$	4 40				
1 1-4	12 $\frac{1}{2}$	4 50				
1 9-32	14 $\frac{1}{2}$	4 65				
1 5-16	14 $\frac{1}{2}$	4 80				
1 11-32	14 $\frac{1}{2}$	5 00				
1 3-8	14 $\frac{1}{2}$	5 20				
1 13-32	14 $\frac{1}{2}$	5 40				
1 7-16	14 $\frac{1}{2}$	5 60				
1 15-32	14 $\frac{1}{2}$	5 80				
1 1-2	15	6 00				
1 17-32	15 $\frac{1}{2}$	6 30				
1 9-16	15 $\frac{1}{2}$	6 60				
1 19-32	15 $\frac{1}{2}$	6 90				
1 5-8	15 $\frac{1}{2}$	7 20				
1 21-32	15 $\frac{1}{2}$	7 50				
1 11-16	15 $\frac{1}{2}$	7 80				
1 23-32	15 $\frac{1}{2}$	8 10				
1 3-4	16	8 40				
1 25-32	16 $\frac{1}{2}$	8 60				
1 13-16	16 $\frac{1}{2}$	8 80				
1 27-32	16 $\frac{1}{2}$	9 00				
1 7-8	16 $\frac{1}{2}$	9 20				
1 29-32	16 $\frac{1}{2}$	9 35				
1 15-16	16 $\frac{1}{2}$	9 50				
1 31-32	16 $\frac{1}{2}$	9 65				
2	16 $\frac{1}{2}$	9 80				

**Numbered Sizes by Stubbs' Steel Wire Gauge**

Number by Gauge	Length in Inches	Price per Dozen	Price Each
1 to 5	4	\$2 35	22c
6 to 10	3	2 25	21
11 to 15	3	2 10	20
16 to 20	3	1 95	19
21 to 25	3	1 75	17
26 to 30	2	1 55	15
31 to 35	2	1 40	14
36 to 40	2	1 25	12
41 to 45	2	1 10	10
46 to 50	2	1 00	9
51 to 60	1	95	9
61 to 70	1	90	8

### Steel Sockets for Taper Shank Drills



Morse Taper Sockets

No. 1 holds 1/4 to 19/32 inch, inclusive.....	\$1 20
No. 2 holds 5/8 to 29/32 inch, inclusive.....	1 80
No. 3 holds 15/16 to 1 1/14 inch, inclusive.....	2 50
No. 4 holds 1 9/32 to 2 inch, inclusive.....	4 00

**Note:** Extra cost \$1.00 net, for fitting shank to lathe spindle.

### Steel Sleeves for Taper Shank Drills



No. 1, fitted to No. 2 or 3 Socket.....	\$1 80
No. 1, fitted to No. 4 Socket.....	3 00
No. 2, fitted to No. 3 Socket.....	2 40
No. 2, fitted to No. 4 Socket.....	3 00
No. 3, fitted to No. 4 Socket.....	3 00

#### Price of Drills per set

Set of Taper Shank Drills, 1/4 to 1 in., varying by 16ths.....	\$20 00
Set of Taper Shank Drills, 3/8 to 1 1/4 in., varying by 16ths.....	34 50
Set of Taper Shank Drills, 3/8 to 3/4 in., by 32nds; 3/4 to 1 1/4 in., by 16ths.....	42 00
Set of Drills, straight shanks, 1/16 to 1/2 in., by 64ths, mounted ..	10 00
Set of Drills, straight shanks, 1/16 to 1/2 in., by 32nds., mounted ..	5 40
Set of Drills, steel wire gauge, from Nos. 1 to 60, mounted.....	8 10
Half Set of Drills, alternate Nos. 1 to 60, mounted.....	4 30

### Memorandum of Dimensions and Approximate Weights of Machines Packed for Export

#### LATHES

##### No. 4 1/2 Lathe: two boxes.

One 37 1/2 x 25 1/2 x 11 inches.	Gross weight 200 pounds.
One 45 1/2 x 10 1/2 x 13 " "	" " 150 "

##### No. 5 Lathe: regular length bed; two boxes.

One 37 1/2 x 25 " x 13 inches.	Gross weight 205 pounds.
One 58 1/2 x 13 " x 15 " "	" " 280 "

##### No. 13 Lathe: 5 ft. bed; three boxes.

One 36 " x 27 " x 11 inches.	Gross weight 210 pounds.
One 22 1/2 x 22 1/2 x 10 " "	" " 170 "
One 68 " x 19 " x 18 1/2 " "	" " 510 "

##### 6 ft. bed: three boxes.

One 37 1/2 x 27 " x 11 inches.	Gross weight 210 pounds.
One 22 1/2 x 22 1/2 x 10 " "	" " 170 "
One 80 1/2 x 19 " x 18 1/2 " "	" " 580 "

##### 7 ft. bed: four boxes.

One 32 1/2 x 26 " x 10 inches.	Gross weight 230 pounds.
One 44 " x 13 1/2 x 13 1/2 " "	" " 250 "
One 90 " x 10 " x 8 1/2 " "	" " 300 "
One 22 1/2 x 22 1/2 x 10 " "	" " 170 "

##### 8 ft. bed: four boxes.

One 44 " x 18 " x 14 inches.	Gross weight 280 pounds.
One 36 " x 27 " x 11 " "	" " 250 "
One 102 1/2 x 10 1/2 x 10 1/2 " "	" " 380 "
One 22 1/2 x 22 1/2 x 10 " "	" " 170 "

##### 10 ft. bed: five boxes.

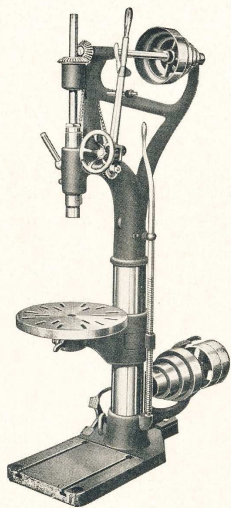
One 36 " x 27 1/2 x 11 inches.	Gross weight 171 pounds.
One 36 " x 27 1/2 x 11 " "	" " 185 "
One 44 " x 18 " x 14 " "	" " 286 "
One 128 " x 10 " x 8 1/2 " "	" " 452 "
One 22 1/2 x 22 1/2 x 10 " "	" " 170 "

##### 18-inch Lathe:—

6-ft. bed, boxed, 36x33x90 in.....	2300 pounds.
8-ft. bed, boxed, 36x33x112 in.....	2600 pounds.
10-ft. bed, boxed, 36x33x136 in.....	3000 pounds.

**We Also Make a Complete  
Line of  
UPRIGHT DRILLS**

For Power only, not Foot Power.



**Sizes with Stationary Head.**

8-inch Bench Drill.  
10-inch Friction Drill.  
15-inch Drill.  
20-inch Drill.  
22½-inch Drill.  
25-inch Drill.

**Sizes with Sliding Head.**

22-inch Drill.  
26-inch Drill.  
28-inch Drill.  
34-inch Drill.  
42-inch Drill.  
50-inch Drill.