

# Sibley

DRILLING MACHINES

20"-24"-28"

CABLE ADDRESS  
SIBLEYWARE  
SOUTH BEND  
INDIANA



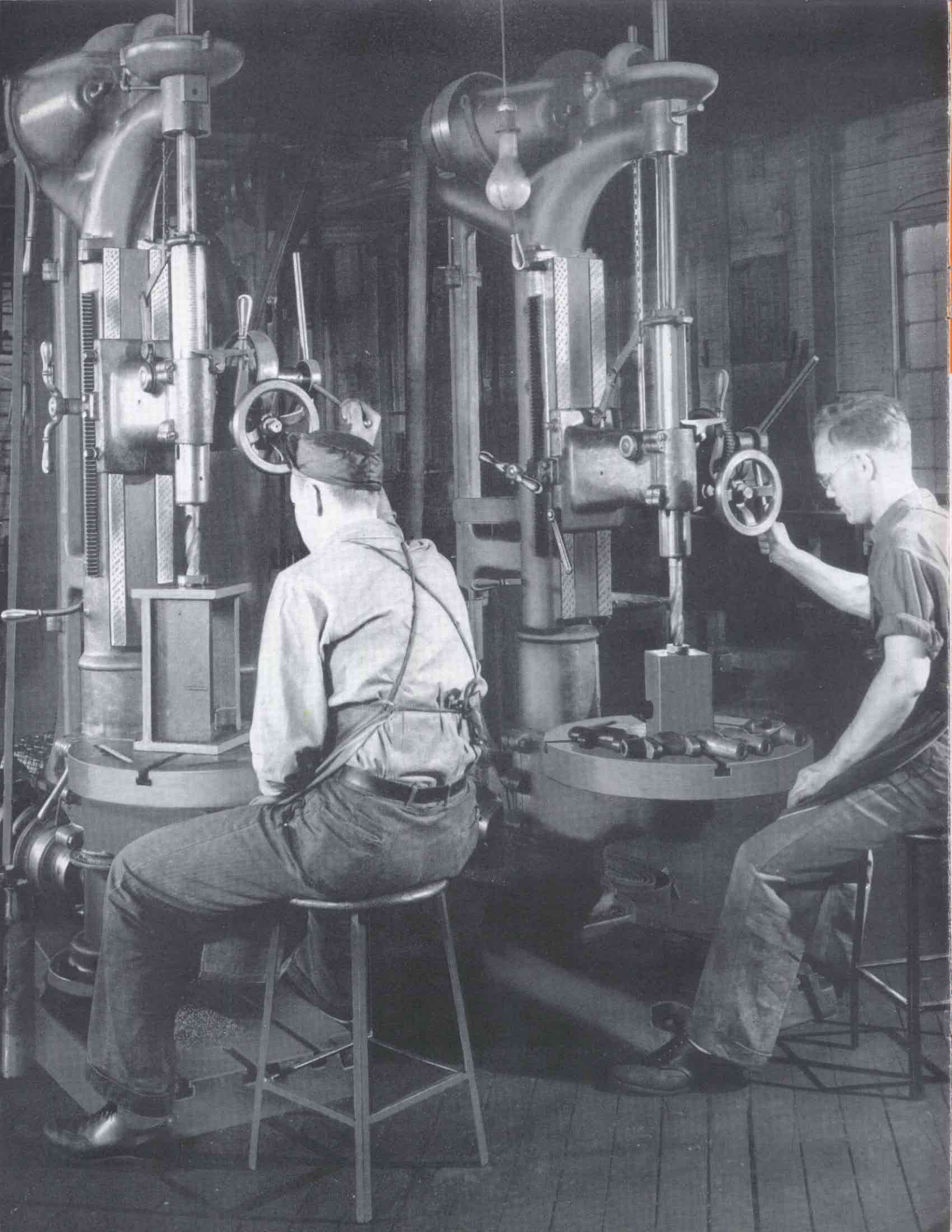
CODES  
LIEBERS  
WESTERN UNION  
UNIVERSAL  
PRIVATE



SIBLEY MACHINE & FOUNDRY CORP.

ESTABLISHED 1876

SOUTH BEND, INDIANA, U. S. A.



**STANDARDIZED LINE OF**

**Sibley**

**DRILLING MACHINES**

*Sibley is now offering a new standardized line of popular size drilling machines — 20", 24" and 28" capacity. This range of sizes is designed to meet all practical drilling requirements.*

*These drilling machines are of the same high quality workmanship and materials for which Sibley has been noted for more than a half century. Their accurate design and rugged construction permit extremely close tolerances on quantity runs, as well as exacting work in the tool room.*

*Sibley Drilling Machines are designed and built entirely within the Sibley organization. Over 66 years of experience in machine tool manufacturing has made the name Sibley synonymous with quality and precision in drilling machines.*

**SIBLEY MACHINE & FOUNDRY CORP.**

ESTABLISHED 1876

50 East Tutt St.,

South Bend, Indiana, U. S. A.

# 24"

An upright drill designed to meet all requirements in the drilling field where a large table surface is required and a wide range between the table, base and spindle

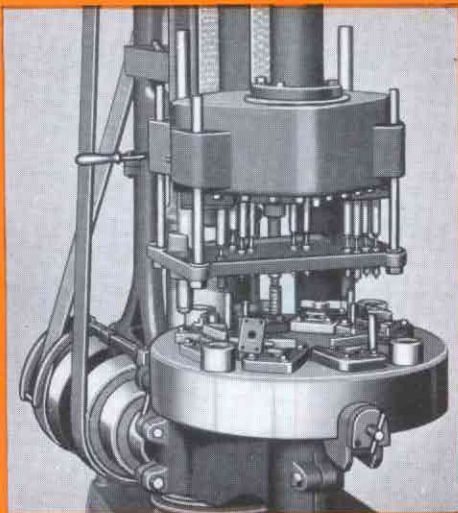
is necessary for efficient operation.

A twenty-five inch head travel on column and a spindle feed of twelve inches permit a wide range of drilling. The heavy table arm provides maximum strength and rigidity. The table arm and table rotate on the column, making the base easily accessible for a working surface. The working surface of the base is heavily ribbed, machined and provided with machined T-slots. The sliding surface of the column, as well as the bearing area of the head, are hand scraped to obtain perfect alignment when the head is locked at any position on the column. The head is easily adjusted by means of the rack and pinion elevating device. Spindle quill bearing in the head is split and can be easily adjusted to compensate

# 28"

for wear. Six spindle speeds in progression are provided, covering a standard range from 29 to 495 R.P.M. on all 24" models and from 26 to 403 R.P.M. on all 28"

models. The motor (3 H.P.—N.E.M.A. Standard Type) is mounted on a sturdy pedestal which in turn is supported by a rigid base cast integral with the machine. The V-Belt is adjusted through a hinged motor mounting plate. This drive arrangement provides spindle power far in excess of the load demanded of the machine. It is quiet and efficient. Three V-Belts, V-Groove Pulley, and V-Belt guard are furnished with Motor Drive equipment. The main drive belt guard can be purchased as extra equipment. It is made of expanded metal and is bolted to the base. A hinged door in the guard provides easy access for shifting drive belt, Push button and wiring to motor are extra. *These drilling machines may be equipped for electrical reversing when tapping is required.*

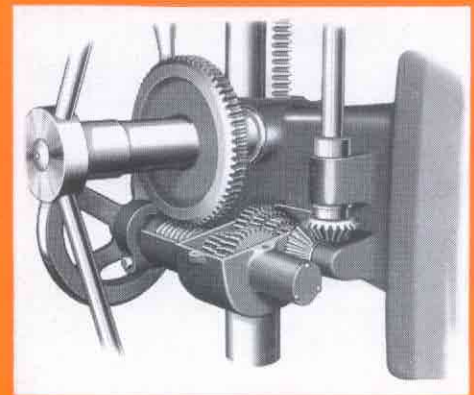


### MULTIPLE HEADS

Above: Maximum flexibility and efficiency in production on Sibley Drills can be achieved by the use of Multiple Heads and Indexing Fixtures. Flange spindle quills for use with Multiple Heads can be furnished as special equipment.

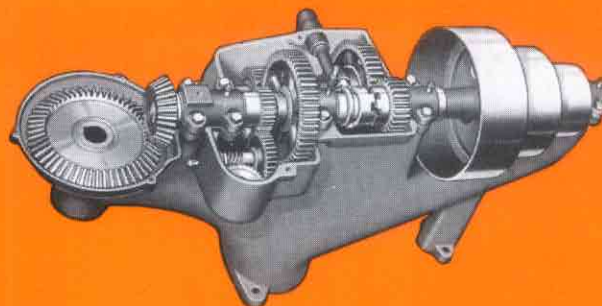
### FEED MECHANISM

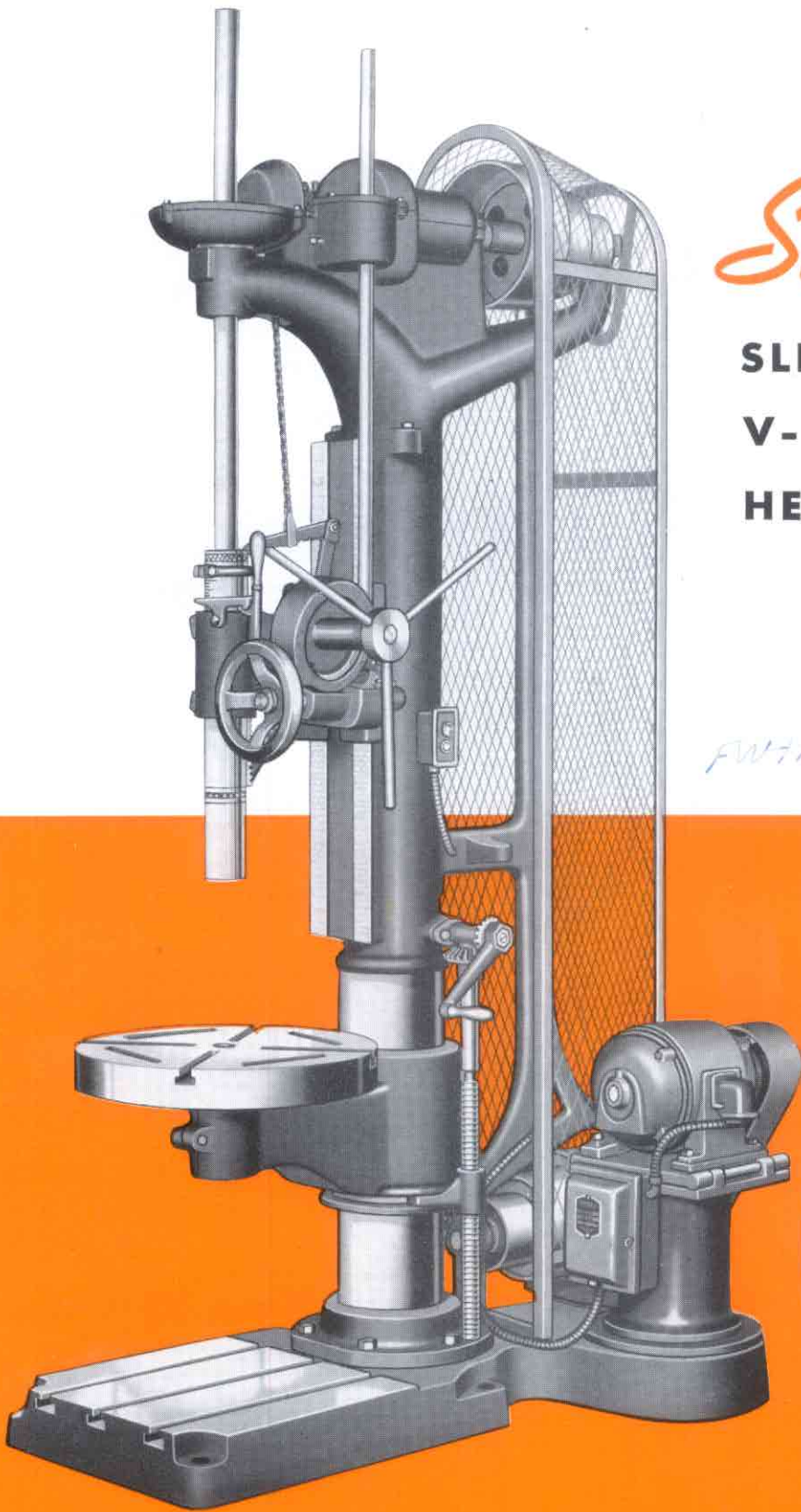
Right: Feed mechanism is driven from a main drive shaft, directly actuating the spindle. Gear ratios provide an unusually powerful feed. The gears and steel worm run in a bath of oil. For greater strength the rack pinion and shaft are made in one piece from a solid bar of high grade steel. Four feed changes are obtained by a sliding shaft in the center of the hand wheel. An adjustable stop collar on the graduated quill trips the feed at any depth.



### TOP FRAME ASSEMBLY

Left: Spindle driving gears are Sibley High-Tensile Semi-Steel Machine Tool Iron. Bevel drive gears on 24" Drills are 2:1 ratio; on 28" Drills are 2½:1 ratio. Back gear ratios on 24" and 28" Drills are 4½:1. Back gears are sliding type and operated by a single lever. The upper feed worm has a double lead; is made of steel and meshes with the bronze worm gear.





# *Sibley* DRILL

**SLIDING HEAD  
V-FLAT MOTOR DRIVE  
HEAVY DUTY**

*FW112*



# SPECIAL FEATURES OF 24" AND 28" DRILLS

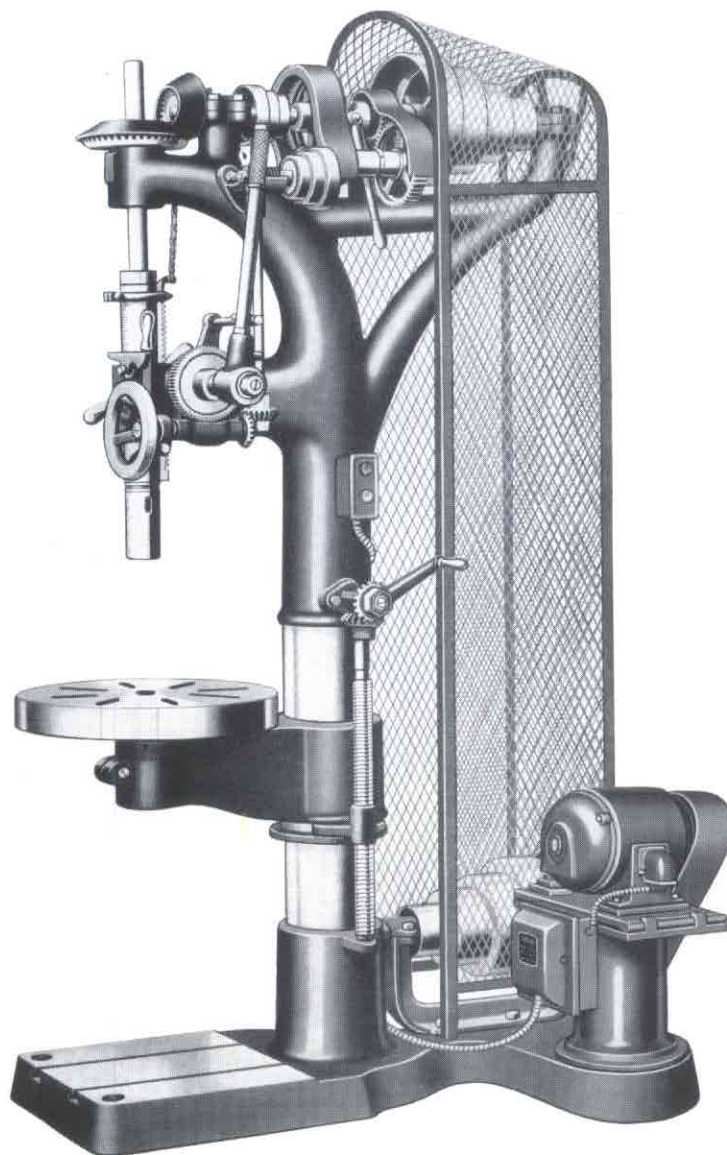
- 1 Upright drills especially designed to meet the requirements of modern production methods.
- 2 In manufacturing, all parts are tooled to obtain accuracy and interchangeability.
- 3 All drive shafts are turned and ground, and mounted in interchangeable die cast split bearings.
- 4 Spindles are forged high quality steel, turned and accurately ground. Spindles and quills are carefully lapped together. A No. 4 Morse taper is bored in the spindle after the assembly is complete. Heavy-duty ball thrust bearings are provided on all spindles.
- 5 Large back gears of correct ratio deliver ample power to the spindle for every load.
- 6 Accurate alignment of the table is assured by boring the table arm with the same spindle furnished on the machine. The surface of the table is held at right angle to the spindle to seven ten-thousandths in six inches.
- 7 Adequate means for thorough lubrication of all moving parts are provided. All bearings are grooved, channelled, and equipped with oil cups. Safety is assured through enclosure of all gears.
- 8 All drills are run under their own power and carefully tested for accuracy before shipping.
- 9 High-tensile semi-steel castings are made in Sibley modern foundries.

## SPECIFICATIONS—Sibley Sliding Head Drills

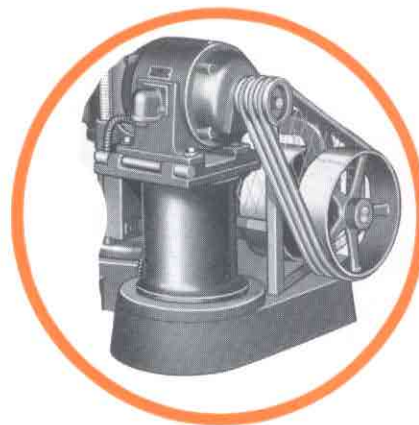
	24"	28"		24"	28"
Drilling Capacity in Cast Iron.....	2"	2"	Range of Spindle Speeds with Back Gears.....	29	26
Drilling Capacity in Mild Steel.....	1 $\frac{3}{4}$ "	1 $\frac{3}{4}$ "		59	47
Tapping in Cast Iron (U.S. Threads), up to.....	1 $\frac{3}{4}$ "	1 $\frac{3}{4}$ "		116	93
Tapping Standard Pipe Threads in Cast Iron, up to.....	2"	2"	Number of Power Feeds.....	4	4
Drills to center of circle on Base or Table.....	24 $\frac{1}{2}$ "	29"	Range of Power Feeds.....	.006"	.008"
Maximum Distance—Spindle to Base.....	52 $\frac{1}{2}$ "	52 $\frac{1}{2}$ "		.010"	.012"
Minimum Distance—Spindle to Base.....	20"	20"		.015"	.016"
Maximum Distance—Spindle to Table.....	35 $\frac{1}{2}$ "	35 $\frac{1}{2}$ "		.020"	.024"
Minimum Distance—Spindle to Table.....	0"	0"	Steps on Drive Cones.....	3	3
Traverse of Table on Column.....	13"	13"	Diameter of Large and Small Step Cones.....	11 $\frac{5}{16}$ " - 5 $\frac{1}{2}$ "	11 $\frac{7}{16}$ " - 5 $\frac{1}{2}$ "
Distance from floor to table top, with table in lowest position.....	20 $\frac{3}{4}$ "	20 $\frac{3}{4}$ "	Width of Belt on Cones.....	3 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "
Distance from floor to table top, with table in highest position.....	33 $\frac{3}{4}$ "	33 $\frac{3}{4}$ "	Diameter and Width of Tight and Loose Pulleys 12" x 3 $\frac{1}{2}$ ".....	12" x 3 $\frac{1}{2}$ "	12" x 3 $\frac{1}{2}$ "
Traverse of Head on Column.....	25"	25"	Speed of Lower Cone Shaft, R.P.M.....	500	500
Diameter of Column.....	8"	8"	Horsepower Required for Maximum Duty.....	3	3
Diameter of Table.....	21"	25"	Height Over-All, Top of Cone Pulley.....	95"	95"
Diameter of Spindle—smallest.....	1 $\frac{1}{8}$ "	1 $\frac{1}{8}$ "	Height Over-All, Spindle Up.....	119"	119"
Diameter of Spindle Sleeve.....	3"	3"	Working Surface of Base Plate.....	20 $\frac{1}{2}$ " x 21 $\frac{1}{2}$ "	20 $\frac{1}{2}$ " x 21 $\frac{1}{2}$ "
Spindle Feed—Traverse.....	11 $\frac{1}{2}$ "	11 $\frac{1}{2}$ "	Floor Space Required T & L.....	23" x 63"	23" x 63"
Hole in Spindle—Morse Taper Number.....	4"	4"	Floor Space Required—"V" Flat Motor Drive.....	35" x 63"	35" x 63"
Ratio of Bevel Gears.....	2:1	2 $\frac{1}{2}$ :1	Floor Space Required—Geared Motor Drive.....	23" x 75"	23" x 75"
Ratio of Back Gears.....	4 $\frac{1}{2}$ :1	4 $\frac{1}{2}$ :1	Weight (net) Drill with T & L Pulley Drive.....	1900 lbs.	2000 lbs.
Number of Spindle Speeds without Back Gears.....	3	3	Weight (crated) Drill with T & L Pulley Drive.....	2125 lbs.	2225 lbs.
Number of Spindle Speeds with Back Gears.....	3	3	Weight (boxed for export) Drill with T & L Drive.....	2500 lbs.	2600 lbs.
Range of Spindle Speeds without Back Gears.....	126	104	Weight: Drills with Motor Drive including motors, add to each of the above weights.....	350 lbs.	350 lbs.
	250	200	Contents of box in cubic feet.....	80	80
	495	403	Telegraphic Code Word.....	CHOIR	CORAL

*Sibley* 20" COMPLETE — WITH  
V-FLAT MOTOR DRIVE AND BELT GUARD

20"



The motor is mounted on a sturdy pedestal which in turn is supported by a rigid base cast integral with the machine. The V-Belt is adjusted through hinged motor mounting plate. Two V-Belts, V-Groove Pulley, and V-Belt Guard are furnished with motor drive equipment. Main belt guards can be provided at slight extra cost. Push button and wiring to motor are extra.



The 20" Drill has a capacity up to  $1\frac{1}{4}$ " in cast iron, or its equivalent in other metals. The machined part of the column is  $5\frac{1}{4}$ " in diameter. Table rotates on the arm, and both table and arm swing on column to provide working space on base. Both power and hand feed are furnished. Adjustment is provided for wear between worm and worm gear. Both the top and bottom feed worm gears run in a bath of oil.

Spindle drive gears of 1:2 and back gears of 1:4 ratios are included. Long life of worm gear and worm is provided. Automatic feed trip operates through full spindle travel and can be adjusted quickly to trip at any desired depth. The standard motor recommended is 1 H.P., 1800 R.P.M. A.C. *These Sibley Drilling Machines may be equipped for electrical reversing when tapping is required.*

# SPECIAL FEATURES OF 20" DRILLS

- 1 Sibley 20" Drills are designed to meet all the drilling requirements within their range.
- 2 In manufacturing, all parts are tooled to obtain accuracy and interchangeability.
- 3 To assure absolute alignment, the top shaft, crown gear bearing, and quill box in the column are completely and accurately machined in one operation on special equipment.
- 4 The spindles are forged, turned, and accurately ground. Spindles and quills are lapped together, and the No. 3 Morse Taper is bored in the spindle after the assembly is complete. Spindles are counterbal-

anced and heavy-duty ball thrust bearings are provided on all spindles.

- 5 Perfect alignment is assured by boring the table arm with the same spindle furnished with the machine. The surface of the table is checked for accuracy and held at right angle to the spindle to seven ten-thousandths in six inches.
- 6 All machines are run under their own power and carefully tested for accuracy before shipping.
- 7 Large back gears of correct ratio deliver ample power to the spindle for every load.
- 8 High tensile semi-steel castings are made in Sibley modern foundries.

*FWHE*

## SPECIFICATIONS — 20" Sibley Stationary Head Drills

Drilling capacity in Cast Iron.....	1½"	Number of Power Feeds.....	3
Drilling capacity in Mild Steel.....	1"	Range of Power Feeds.....	.003"
Tapping (U.S. Threads) in Cast Iron, up to.....	¾"		.005"
Tapping Standard Pipe Threads in Cast Iron, up to.....	¾"		.007"
Drills to center of circle on base or Table.....	20½"	Steps on Drive Cones.....	4
Maximum Distance—Spindle to Base.....	40½"	Diameter of Large and Small Step Cones.....	8½" - 4½"
Maximum Distance—Spindle to Table.....	24"	Width of Belt on Cones.....	2"
Traverse of Table on Column.....	16½"	Diameter and width of tight and loose Pulleys.....	9½" x 3"
Diameter of Column.....	5½"	Speed of lower cone shaft, R.P.M.....	300
Diameter of Table.....	16½"	Horsepower required for Maximum Duty.....	1
Diameter of Spindle—Smallest.....	1½"	Height over-all, top of cone pulley.....	72"
Diameter of Spindle Sleeve.....	2½"	Height over-all, Spindle up.....	75"
Spindle Feed—Traverse.....	8"	Working Surface of Base Plate.....	16½" x 15"
Hole in Spindle—Morse Taper Number.....	3	Floor Space Required—T & L Pulley Drive.....	17" x 45"
Ratio of Bevel Gears.....	1:2	Floor Space Required—"V" Flat Motor Drive.....	25½" x 42"
Ratio of Back Gears.....	1:4	Floor Space Required—Geared Motor Drive.....	17" x 49½"
Number of Spindle Speeds without Back Gears.....	4	Weight (net) Drill with T & L Pulley Drive.....	690 lbs.
Number of Spindle Speeds with Back Gears.....	4	Weight (crated) Drill with T & L Pulley Drive.....	900 lbs.
Range of Spindle Speeds without Back Gears.....	75	Weight (boxed for export) Drill with T & L Pulley Drive.....	1100 lbs.
	110	Weight: Drills with Motor Drive including motors, add to each	
	175	of the above weights.....	150 lbs.
	275	Contents of Box in Cubic Feet.....	37
Range of Spindle Speeds with Back Gears.....	20	Telegraphic Code Word.....	CHILD
	25		
	45		
	70		