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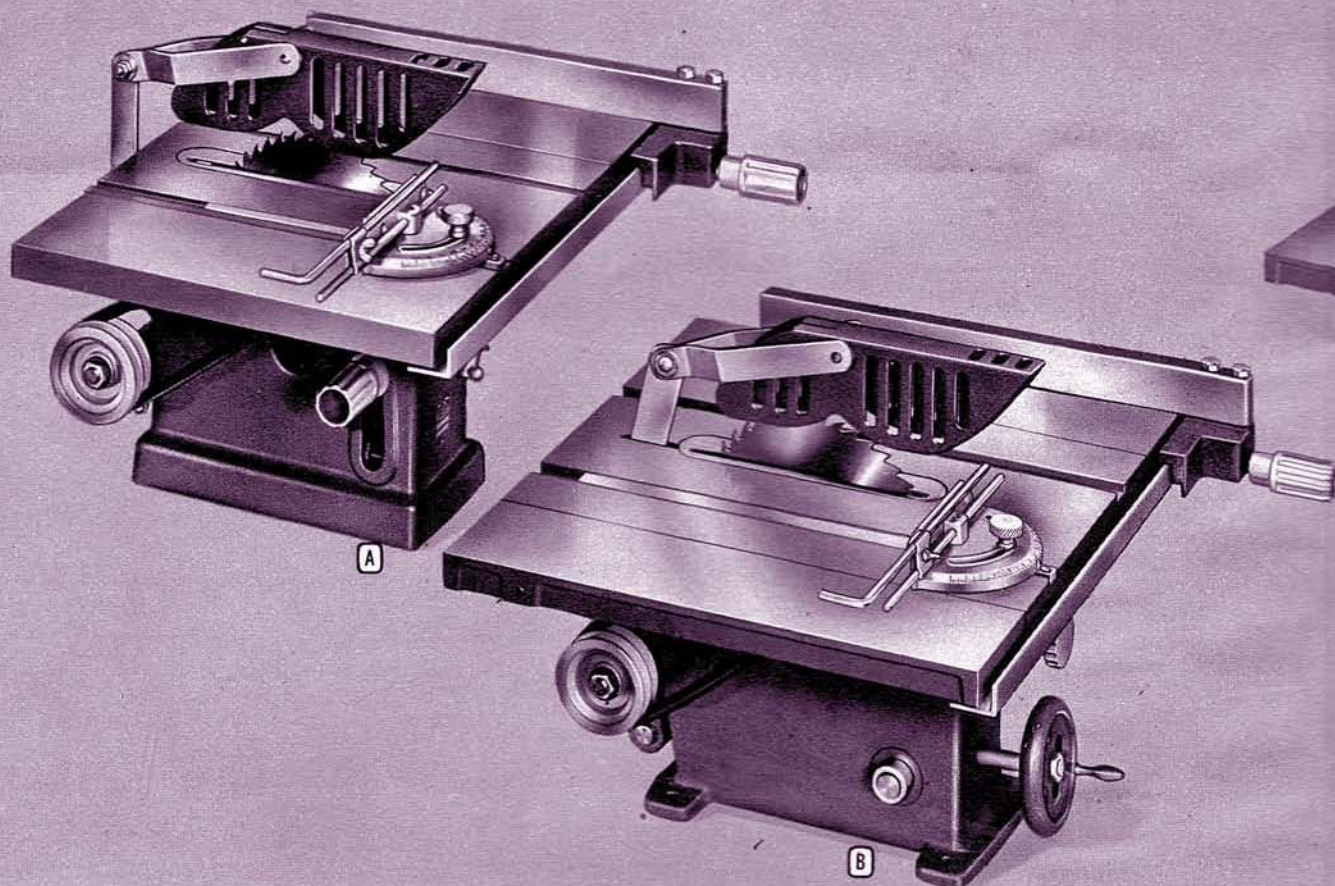


Bench saw and stand shown is listed on page 4. Index and credit terms, pages 24 and 25.

POWR-KRAFT

POWER TOOL AND WELDING CATALOG

*Montgomery Ward · 1949-50*



## POWER-KRAFT BENCH SAWS FOR HOME OR

### BENCH SAW SPECIFICATIONS

Catalog Number	(A) 84KG2253 M	(B) 84KG2260 R
Depth of Cut (Vertical)	2 inches	2 3/8 inches
Depth of Cut (At 45°)	1 7/8 inches	2 3/8 inches
Main Table size	10x14 inches	12x17 inches
Table with Extensions	20x14 inches	20x17 inches
Bearings	Self-lub. Bronze	Self-lub. Bronze
Dist. ahead of blade	5 inches	5 1/2 inches
Arbor Diameter	1/2 inch	3/8 inch
Rip Fence Length	15 inches	17 inches
Base Specifications	5 1/4 x 10 inches	6 3/4 x 10 3/4 in.
Size Overall	20 x 20 3/8 x 1 1/8 in.	20 x 23 x 1 3/2 in.
Dado Insert	1 3/4 x 9 inches	1 3/4 x 9 inches
Recom. Dado Heads	4 inch	5 or 6 in.
Recommended Speed	4000 R.P.M.	3890 R.P.M.
Recommended Motor	83 KG 4555 — 1/2 H.P.	83 KG 4551 — 1/2 H.P.
Recommended V Belt	84 KG 2876 — 1/2 x 40 in.	84 KG 2876 — 1/2 x 46 in.
Recommended Pulley	84 KG 2877 — 4-in. diam.	84 KG 2877 — 4-in. diam.

### 7 AND 8-IN. BENCH SAWS WITH BRONZE BEARINGS

Shown on this page are Tilting Table Bench Saws built to meet the requirements of the beginner, skilled hobbyist or Craftsman. Equipped with self-lubricating bronze bearings, each will miter crosscut, rip, dado and groove to exact dimensions with maximum efficiency. Tables are close grained cast-iron—ribbed for extra strength. Mounted on smooth riding trunnions which allow table to tilt to any angle up to 45°—adjusts easily and accurately. Indicator shows angle of table tilt. Heavy cast-iron base containing all working parts is enclosed to protect mechanism.

Tops ground smooth—removable dado inserts. Sturdy table extensions are included to increase working area of table. Fence extends full length of table—can be used on either side of blade. With extension stop bars on miter gauge for duplicating cuts. Miter gauges are graduated to 60° in both directions; can be used either side of blade. Clear view guard rises easily as work progresses through blade. Combination flat ground, plain tooth crosscut and rip blade included. Splitter adjusts accurately to line up with blade. Gray wrinkle finish. Motors, motor pulleys and "V" belts not included—order motors separately on Page 43, pulleys and "V" belts from Page 39. See specifications table at left for additional features.

**(A) 7-IN. TILTING TABLE BENCH SAW.** Light-duty. For the hobbyist or beginner. Blade raises and lowers by hand-knob—table remains stationary. Locks firmly at front and rear trunnions. With steel table extensions. Ship. wt. 48 lbs.  
84 KG 2253 M.....See Price List

**(B) 8-IN. TILTING TABLE BENCH SAW.** Heavy-duty. For hobbyists or skilled craftsmen. Blade raises and lowers by hand wheel—table remains stationary. Locks firmly at both front and rear trunnions. Cast-iron table extensions. Ship. wt. 77 lbs.  
84 KG 2260 R.....See Price List

### PARLEC SHAPER HEADS

**(C) PARLEC SHAPER HEADS.** To be used with all Bench, Radial, Swing Cut-off and Floor Model saws in this catalog except 84 KG 2253M bench saw. Made of hardened tempered and heat-treated Meehanite steel. Counter-bored on right side. One set of three blank knives furnished with each head. Order special shaped blades from listings at right. Choice of two sizes. State Cat. No.  
84 KG 2265 K—3 3/8-inch diameter. 7/8-in. wide. Shaper head fits saws having 3/8-inch diameter arbor. Shipping weight 3 lbs.....See Price List

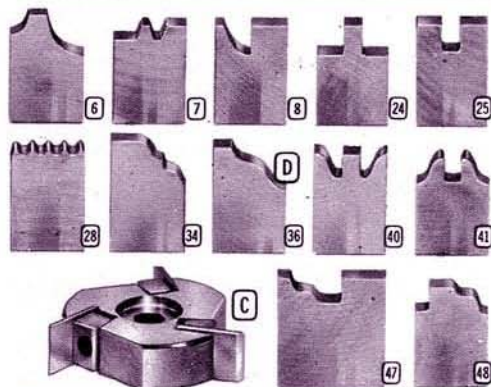
84 KG 2270 K—4 1/2-inch diameter, 1-inch wide Shaper Head. Fits saws having 3/4-inch diameter shaft arbor. Order special shaped blades from listings at right. Ship. wt. 4 lbs.....See Price List

### PARLEC SHAPER KNIVES

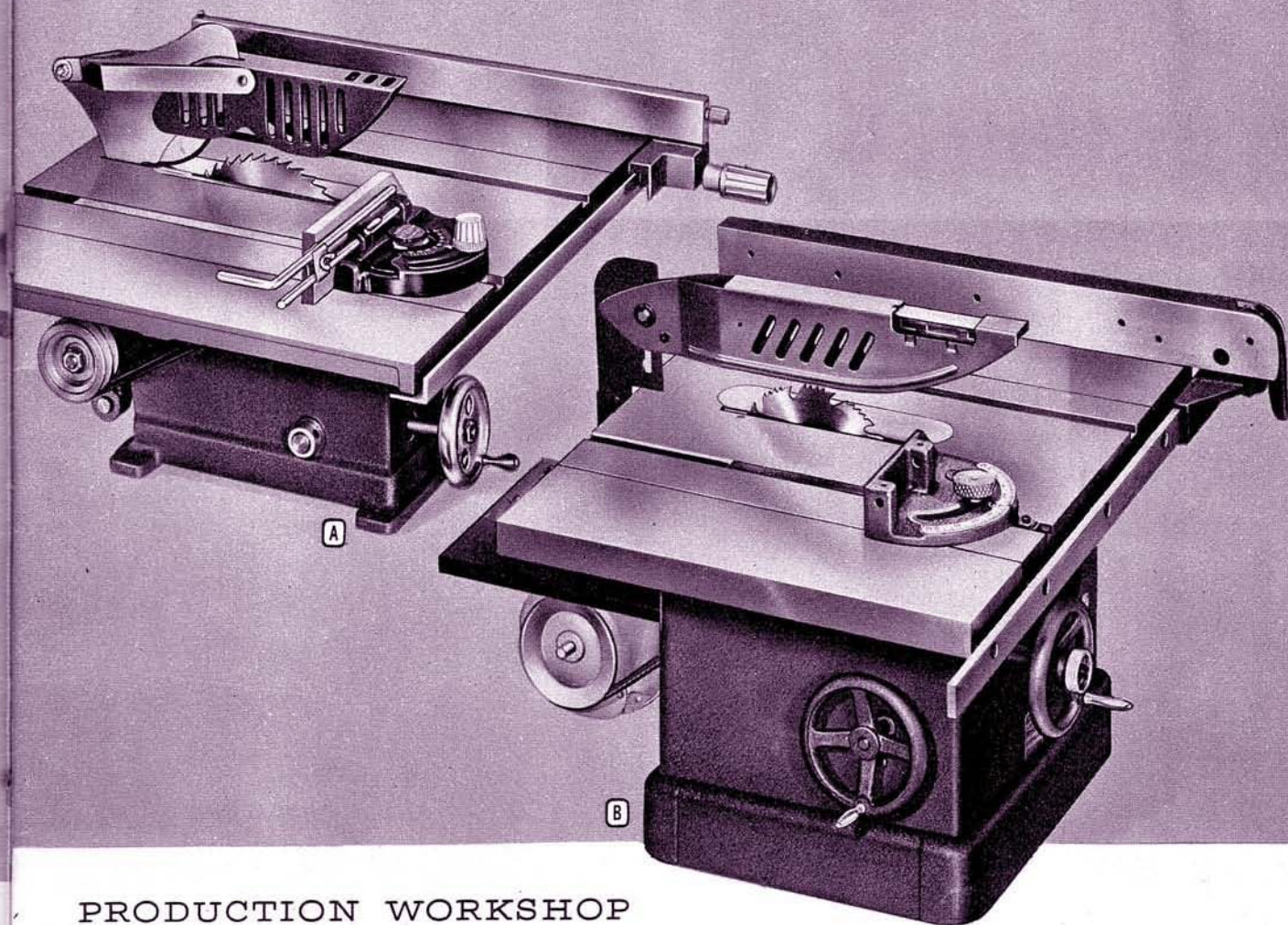
**(D) For use with Shaper Heads listed at left.** Made of tempered and hardened high speed steel. Proper clearance is ground at heel to prevent burning and to eliminate drag. Cutting edges have correct rake angle for true shaving cut. (When ordering please state Catalog Number and Profile Number shown in picture at left.)  
84 KG 2266 K—Knives 1/8-inch thick—fit 3 3/8-inch diam. head at left. Choice of profiles below. Ship. wt., set of three, 8 ounces.....See Price List

84 KG 2269 K—Knives 3/16-inch thick—fit 4 1/2-inch diameter head at left. Choice of profiles below. Shipping weight, set of three, 8 ounces.....See Price List

No. 6—1/4 and 1/2 Radius	No. 34—O.G.
No. 7—Double Glue Joint	No. 36—Moulding
No. 8—Door Lip	No. 40—C. C. Door
No. 24—Groove	No. 41—C. C. Door
No. 25—Tongue	No. 47—Sash
No. 28—Moulding	No. 48—Sash



2 WARDS



## PRODUCTION WORKSHOP

### 8-IN. BENCH SAWS WITH NEW DEPARTURE BALL BEARINGS

Shown on this page are tilting table and tilting arbor bench saws to meet the requirements of hobbyists, skilled craftsmen and production shops. Both are equipped with grease-sealed New Departure Ball Bearings—superior to bronze bearings on saws at left. Close grained cast-iron tables are larger than those on saws at left—ribbed for extra strength. Sturdy cast-iron table extensions are included to increase working area of table. Mounted on smooth riding trunnions. Easy to read indicator shows angle of tilt. Fences extend full length of table—can be used on either side of blade.

Miter gauges graduated to 60° both directions—can be used either side of blade. With extension stop bars. Clear-view guard permits operator to watch his work at all times. Splitter adjusts accurately to line up with blade. Combination flat ground, plain tooth crosscut and rip blade included. Gray wrinkle finish. Motors, Pulley, "V" belt not included—order motors separately from Page 43, pulleys and "V" belts from Page 39. For additional specifications see table at right.

**(A) 8-IN. TILTING TABLE BENCH MODEL SAW.** Heavy-duty. Blade raises and lowers by hand wheel—table remains stationary when raising or lowering blade, table locks firmly at front and rear, trunnions. Heavy cast-iron base. Shipping weight 110 lbs.  
84 KG 2257 R. . . . . See Price List

**(B) 8-IN. TILTING ARBOR BENCH SAW.** Blade, arbor and motor mount tilt as a single unit to 45°—table always remains level. Handwheels operate threaded screw to tilt, raise or lower blade. Motor bracket springs, to take up belt slack. Heavy fabricated steel base. Wt. 127 lbs.  
84 KG 2281 F. . . . . See Price List

### BENCH SAW SPECIFICATIONS

Catalog Number	(A) 84 KG 2257R	(B) 84 KG 2281F
Depth of Cut (Vertical)	2 $\frac{3}{8}$ inches	2 $\frac{1}{2}$ inches
Depth of Cut (At 45°)	2 $\frac{1}{8}$ inches	1 $\frac{13}{16}$ inches
Main Table Size	15x20 $\frac{1}{4}$ inches	14x18 inches
Table with Extensions	25x20 $\frac{1}{4}$ inches	24x18 inches
Bearings	New Dep. Ball	New Dep. Ball
Dist. ahead of Blade	8 $\frac{3}{8}$ inches	7 inches
Arbor Diameter	$\frac{5}{8}$ inches	$\frac{5}{8}$ inches
Rip Fence Length	23 inches	23 $\frac{3}{8}$ inches
Base Specifications	7 $\frac{3}{4}$ x12 inches	13 $\frac{3}{4}$ x14 $\frac{1}{2}$ in.
Size Overall	25x26 $\frac{3}{4}$ x16 $\frac{1}{2}$ in.	30x27x20 in.
Dado Insert	2 $\frac{1}{4}$ x9 $\frac{1}{2}$ inches	2 $\frac{1}{4}$ x9 $\frac{1}{2}$ inches
Recom. Dado Heads	5 or 6 inch	5 or 6 inch
Recommended Speed	3890 R.P.M.	3890 R.P.M.
Recommended Motor	83 KG 4551M 1 $\frac{1}{2}$ H. P.	83 KG 4551M 1 $\frac{1}{2}$ H. P.
Recommended V Belt	84 KG 2876— 46 inch	84 KG 2876— 34 inch
Recommended Pulley	84 KG 2877— 4-inch Diam.	84 KG 2877— 4-inch Diam.

### CROSSCUT, RIP, FANCY AND PLAIN TOOTH SAW BLADES

**(C) D LAKESIDE QUALITY SAWS.** Tough, high-carbon saw steel. Tempered hardened and hammered. Filed, spring set.

**(C) 84 KG 6950 H—State Size. Crosscut Blade.** . . . See Price List

**(D) 84 KG 6953 H—State Size. Rip Blades.** . . . . See Price List

Saw Diam.	7 in.	8 in.	10 in.	12 in.
Steel Ga. . . . .	18	18	16	14
Stand. hole . . . .	$\frac{1}{2}$ or $\frac{3}{8}$	$\frac{1}{2}$ or $\frac{3}{8}$	$\frac{5}{8}$ or $\frac{3}{4}$	$\frac{3}{4}$ or 1
Speed R.P.M. . . .	5140	4500	3600	3000
Ship. wt. . . . .	1 lb.	2 lbs.	2 lbs.	4 lbs.

**(E) MASTER QUALITY FANCY TOOTH COMB. SAW.** Miters, rips or crosscuts. Electric Furnace saw steel. Taper ground.  
84 KG 6955 H—State diam. and hole size . . . . See Price List

Diam. . . . .	7 in.	8 in.	10 in.	12 in.
Gauge Taper . . .	14 to 17	14 to 17	14 to 17	13 to 16
Size hole . . . .	$\frac{1}{2}$ or $\frac{3}{8}$	$\frac{1}{2}$ or $\frac{3}{8}$	$\frac{5}{8}$ or $\frac{3}{4}$	$\frac{3}{4}$ or 1
Ship. wt. . . . .	1 lb.	1 $\frac{1}{2}$ lbs.	2 $\frac{1}{4}$ lbs.	3 $\frac{1}{4}$ lbs.

Like (E) but flat ground. Rips, Crosscuts and Miters.

84 KG 6956 H—State size . . . . . See Price List

Saw Diam.	6 in.	7 in.	8 in.	10 in.	12 in.
Size Hole . . . .	$\frac{1}{2}$ or $\frac{3}{8}$	$\frac{1}{2}$ or $\frac{3}{8}$	$\frac{1}{2}$ or $\frac{3}{8}$	$\frac{5}{8}$ or $\frac{3}{4}$ in.	$\frac{3}{4}$ or 1 in.
Ship. wt. . . . .	9 oz.	1 $\frac{1}{2}$ oz.	1 lb. 1 oz.	1 lb. 9 oz.	2 lbs. 9 oz.

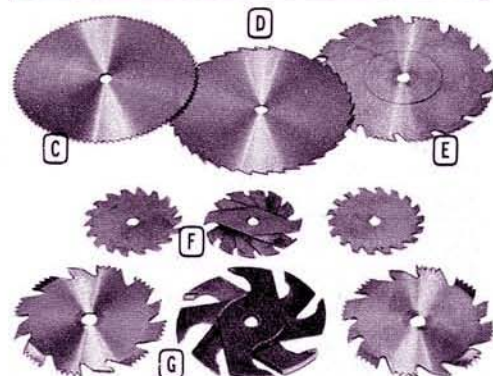
### DADO HEADS

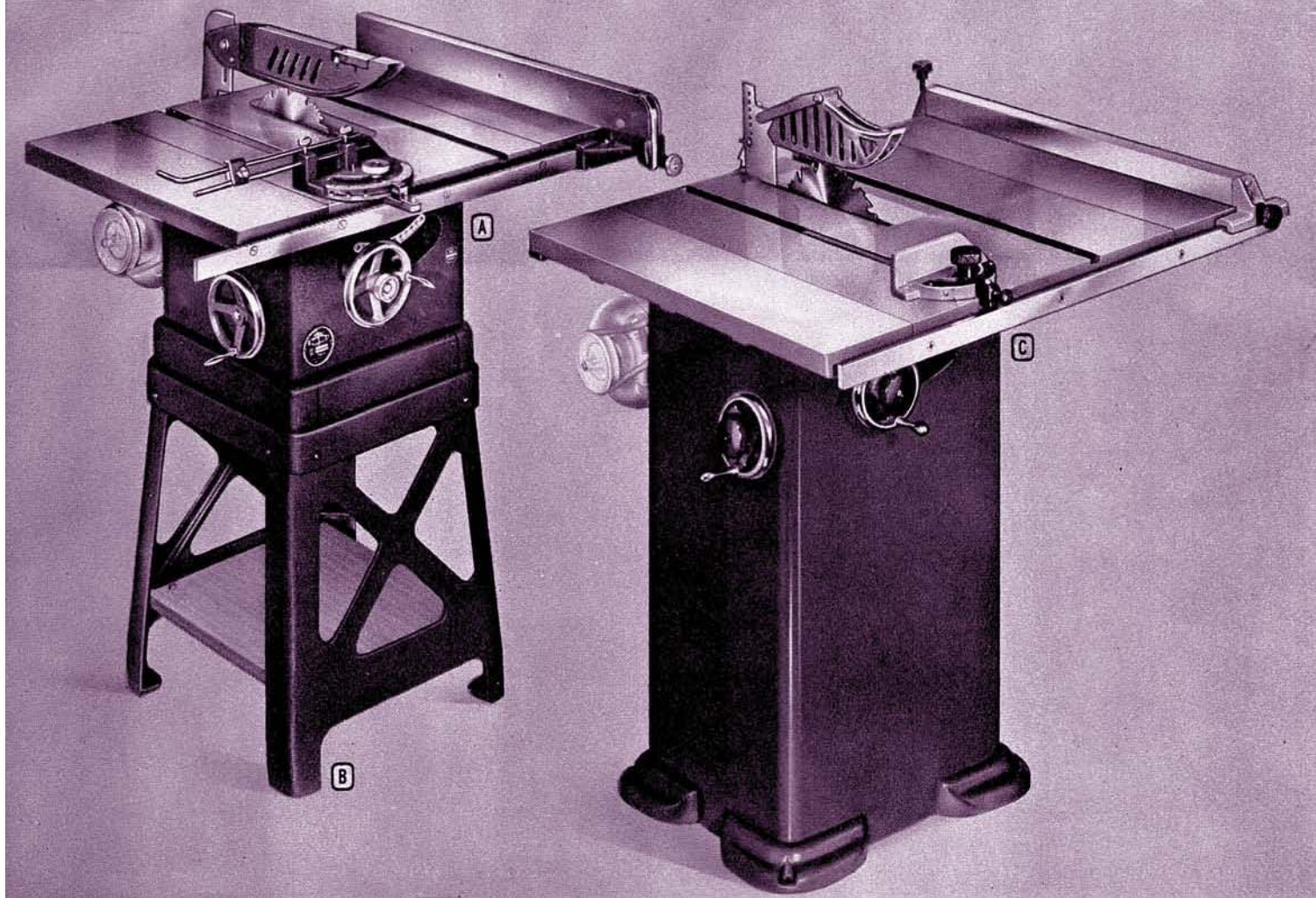
**(F) 4 AND 5-IN. DADO HEADS.** Complete set consists of 2 outside blades and 6 chippers. Chippers  $\frac{1}{16}$  in. thick.  
84 KG 2282 . . . . . See Price List

Diam. in.	Bore in.	Blade Thick.	Ship. wt.
4	$\frac{1}{2}$	$\frac{3}{32}$ in.	1 lb.
5	$\frac{5}{8}$	$\frac{1}{8}$ in.	1 $\frac{1}{2}$ lbs.

**(G) 6, 8 AND 10-IN. DADO HEADS.** Precision ground, tempered tool steel. Set of 2 outside blades  $\frac{1}{8}$  in. thick; one  $\frac{1}{16}$  in.; two  $\frac{1}{8}$  in., one  $\frac{1}{4}$  in. thick inside chippers. State Bore wanted. . . See Price List

Cat. No.	Diam.	Bore in.	Ship. wt.
84KG2283	6 in.	$\frac{5}{8}$	3 $\frac{1}{2}$ lbs.
84KG2283K	8 in.	$\frac{3}{4}$ or $\frac{3}{4}$	6 lbs.
84KG2283K10	10 in.	$\frac{3}{4}$ or $\frac{3}{4}$	9 lbs.





## WARDS POWR-KRAFT TILTING ARBOR,

### POWR-KRAFT 8-IN. HEAVY-DUTY TILTING ARBOR BENCH SAW

**A** TILTING ARBOR PRODUCTION MODEL BENCH SAW. (Also shown on front cover.) With New Departure Ball Bearings. Will miter, crosscut, rip, dado and groove. Heavy fabricated steel base—working parts entirely enclosed. Blade adjusting mechanism and motor mount tilt up to 45° on two cast-iron trunnions—table remains level. Hand wheels operate threaded screw to tilt, raise or lower blade. Motor bracket has compression springs to take up belt slack. Cuts to depth of 2½ in. in vertical position; 1¾ in. at 45°.

**TABLE CONSTRUCTION:** Close cast-iron ground table has soft metal insert—removable for dadoing. Main table 16x20 in. Cast-iron extensions increase working area to 28x20 in. Table extends 8½ in. in front of blade.

**RIP FENCE DETAILS:** Heavy cast-aluminum micro-adjustment rip fence 25½ in. long. Locks at front and rear of table on guide rails. Fence can be used on either side of saw blade—guide bar calibrated in ¼ in.

**MITER GAUGE FEATURES:** Accurately machined. Has automatic stops at 30, 45, 60 and 90°. Can be used on either side of blade.

**BLADE GUARD:** Clear-view guard permits operator to watch his work. Anti-kickback protects operator. Splitter adjusts to line up with saw blade.

Size overall 34x31¼x20 in. Includes one 8-in. combination crosscut—rip-miter blade with ⅝-in. arbor hole. Recommended motor: ½-H.P. 1725 R.P.M. Ball Bearing Capacitor (listed on Page 43). Recommended "V" motor pulley, 4-in. diam., recommended "V" belt 34 in., listed on Page 39. 84 KG 2296 R—Bench Saw only. Ship. wt. 140 lbs. . . . . See Price List

**B** ALUMINUM ALLOY STAND. Converts above saw to floor model. Also fits 84 KG 2281 F on Page 3. Height overall 19¾ in. Width at top, 15 in., depth 14½ in. Base width 16⅝ in.; depth 16 in. Wood shelf 13⅝x14⅞ in. 84 KG 2292 K—Stand only. Ship. wt. 23 lbs. . . . . See Price List



SWITCH, CORD SET

**D** SHOWN AT LEFT. Fits bench and floor model saws listed above. Consists of 4 feet of No. 12 rubber covered cord—skinned 3 inches with 7/32-inch eyelets attached to all conductors and attached to Arrow switch; 3-foot rubber covered cord and plug with 4-inch ground lead with ground jack skinned 3 inches. Shipping weight 2 lbs. 4 oz. 84 KG 2288 K. . . . . See Price List

### POWR-KRAFT 10 AND 12-INCH HEAVY-DUTY FLOOR MODEL SAWS

**C** 10-IN. TILTING ARBOR PRODUCTION MODEL SAW. With SKF ball bearings. Built to stand up under heavy use in cabinet shops, factories, etc. Heavy 16-gauge steel base with cast-iron feet. Main table made of cast-iron. Base containing all working parts is entirely enclosed to protect mechanism from dirt, chips, etc. Rip fence and table extensions are sturdy cast-aluminum. Entire blade adjusting mechanism and motor mount tilt up to 45° as a single unit on two cast-iron trunnions—table always remains level—easier to handle heavy pieces. ⅝-inch spindle arbor runs on grease-sealed SKF ball bearings. Elevating and tilting mechanism controlled by two smooth working hand wheels. Cuts to depth of 2⅞ inches in vertical position; 2¼ inches at 45°. Motor bracket fits standard ½ to 2-H.P. motors.

**MAIN TABLE CONSTRUCTION:** Smooth ground cast-iron main table has soft metal insert which is removable for dadoing work. Main table size 20 x 27 inches. Cast-aluminum extensions included to increase working area to 32 x 27 in. Table extends 12⅝ inches in front of saw blade.

**RIP FENCE DETAILS:** Heavy cast-aluminum rip fence 31½ by 2 by 1⅝ inches. Locks at both front and rear of table on guide rails. Fence can be used on either side of saw blade.

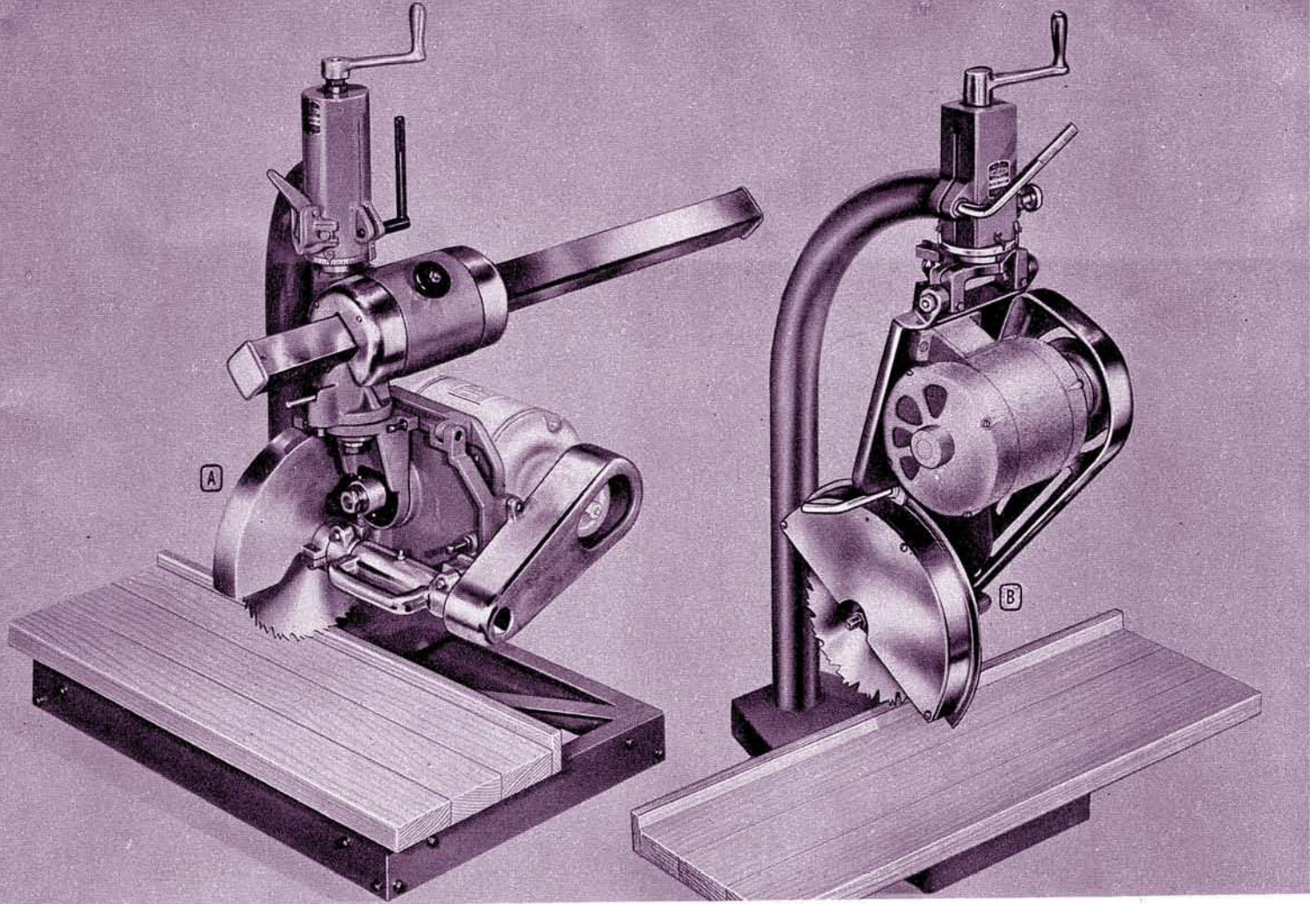
**MITER GAUGE FEATURES:** Accurately machined. Self-indexing miter gauge—adjustable to 60° right or left, with automatic stops at 90 and 45°. Can be used on either side of saw blade.

**BLADE GUARD:** One-piece cast aluminum guard rises easily as work progresses through blade—permits operator to watch his work while giving him maximum protection. Anti-kickback prevents work being thrown back toward operator. Splitter adjusts to line up with saw blade . . . keeps work spread properly so that it will not bind or burn the blade.

Height from floor to top of table 34¼-in. Saw includes one 10-in. combination crosscut, rip and miter blade with ⅝-inch arbor hole, 2¼-in. diameter "V" saw pulley, 42-in. "V" belt and 2½-diameter by ¾-in. bore motor pulley. Recommended motor, 1-H.P. 3450 R.P.M. Ball Bearing Capacitor (not included—order from Page 43). 84 KG 2272 F—Ship. wt. 200 lbs. . . . . See Price List

12-INCH TILTING ARBOR PRODUCTION MODEL SAW. Similar to tilting arbor saw (C) above but larger. Table is one-piece smooth-ground aluminum, 31x34 in. Depth of cut 4¾ in. Arbor diameter ¾ in. Saw includes double "V" motor pulleys with ¾-in. bore, 48-in. "V" belts and one 12-in. combination crosscut, rip, miter blade. Recommended motor 1½-H.P. 3450 R.P.M. Ball Bearing Capacitor listed on Page 43. 84 KG 2277 F—Ship. wt. 250 lbs. . . . . See Price List

EXTRA BLADES AND DADO HEADS LISTED ON PAGE 3, PARLEC SHAPER HEADS AND CUTTERS LISTED ON PAGE 2 NOT INCLUDED—ORDER SEPARATELY (1).



## RADIAL AND SWING SAWS...PRODUCTION TYPE

### POWR-KRAFT 12-INCH RADIAL SAW

**A** 12-INCH BALL BEARING RADIAL SAW. Has wide range of uses . . . does ripping, beveling, compound mitering, cross-cutting, bevel ripping, dadoing, mitering, shaping, etc., with proper attachments. Performs all operations pictured at right. Easily handles joists, rafters, studding, bracing, concrete forms, foundations, scaffolding, dados for beams, sills, bins, shelves, partitions, platforms, crating, etc.

Cuts 4½ inches deep through 22 inches in vertical position; 3 inches deep through 14 inches at 45 degrees on compound cuts. Travel of arm 29 in. Rips to center of 58 in. material. Cut-off capacity 4½ in. by 22 in. or 1 in. by 27 in. Swings 45 degrees in either direction . . . tilts to 90 degrees for shaping. Blade raises and lowers 6-in. All operating adjustments are easily made with wrench. Radial arm does not interfere with operations.

Radial arm is hardened and tempered, precision ground, square steel tubing. Runs on 8 grease-sealed ball bearings. Steel column. Angle-iron platform with 1½-inch by 10-inch by 36-inch adjustable wood table. ¾-inch saw spindle in ball bearing housing. Strong, lightweight cast aluminum 10-inch by 10-inch motor base. Size overall of saw: 32 in. wide, 44 in. high. One 12-inch combination crosscut, rip blade included. Double 2¼-in. diam. by ¾-in. arbor motor pulley and two 27-in. "V" belts also included.

Wards recommend the use of 1½-H.P. 3450 R.P.M. Ball Bearing Motor listed separately on Page 43. Dado Heads listed separately on Page 3.

84 KG 2278 F—Ship. wt. 250 lbs. . . . . See Price List

### POWR-KRAFT 10-INCH SWING SAW

**B** PRODUCTION MODEL. Performs all cutting operations pictured at right, except bevel, bevel rip and compound miter operations. Shaping possible in vertical position only. For cut-off, mitering, grooving, ripping and dado work. New Departure grease-sealed ball bearings. Especially designed for contractors, carpenter, lumber yards, etc. Maximum depth of cut 2½ inches by 12 inches. Index grooved at 90° cut off, 45 degree right, 45° left and 90 degree rip positions. Positive lock will hold firmly at any angle.

Pull saw forward to cut . . . spring action returns saw to its original position. Shaped handle fits hand comfortably. Vertical depth adjustable to 4 inches by screw handle at top of saw. ½-inch diameter spindle runs on New Departure ball bearings. One 10-inch combination crosscut, rip blade, 2¼-inch diam. "V" saw pulley, 2½-in. diam. motor pulley with ¾-in. diam. arbor and "V" belt, are included in selling price.

Strong, lightweight cast-aluminum removable belt guard and blade guard. Tubular steel column support for added strength and rigidity. Wood work table is mounted on steel base.

Wood work table size overall: 35½ inches by 11¼ inches; size overall of steel base: 12½ inches by 22½ inches. Saw height overall: 45½ inches. Use with 1-H.P. ball bearing 3450 R.P.M. motor listed separately on Page 43. Extra blades (combination, plain and fancy) listed separately on Page 3. Dado heads listed on Page 3. Parlec Shaper heads and knives on Page 2.

84 KG 2279 F—Ship. wt. 116 lbs. . . . . See Price List

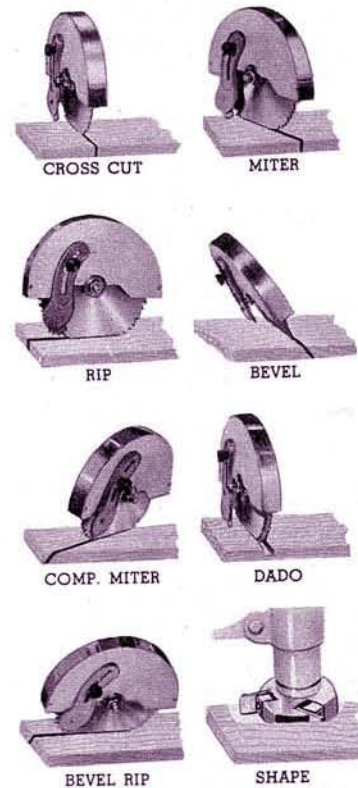
### RADIAL SAW STAND

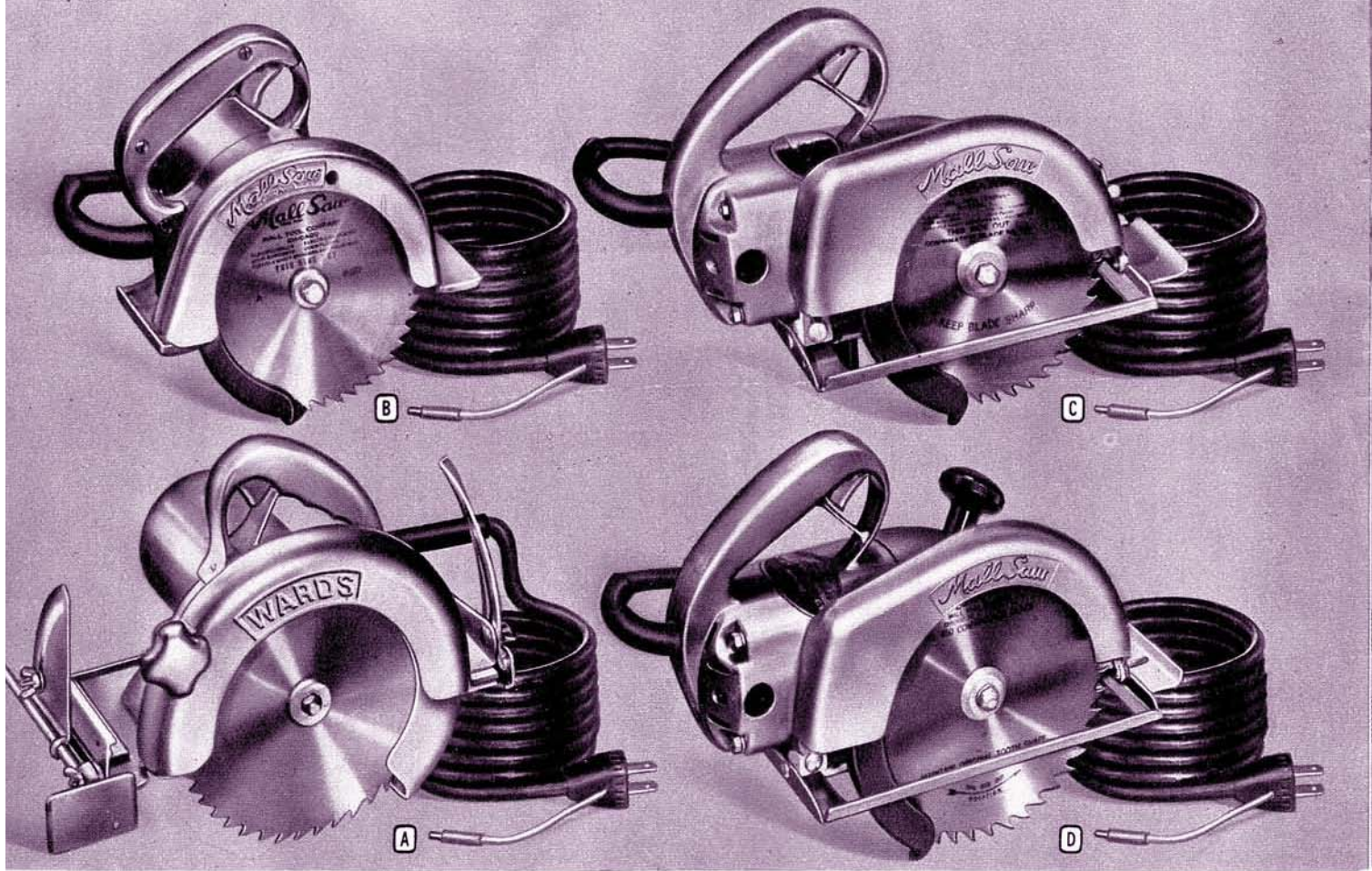


**C** Fits saw (A) above only. Four heavy sheet metal legs about ½-inch thick) attach to angle iron platform of Radial Saw. Height of legs 29½ in. Elevates saw about 26½ in. Shipping weight 38 lbs. 84 KG 2264 K—See Price List

### WARDS MONTHLY PAYMENT PLAN

Enables you to buy all your power tools with a small initial outlay of cash. Its easy to open an account at Wards—pay only 10% down and the balance in convenient monthly payments. If you already have an account with Wards, use our "Add-on" Plan which allows you to make additional purchases without delay for credit investigation and usually without a down payment. For complete information about both of these Plans, See Page 25 of this Catalog.





## POWR-KRAFT AND MALL ELECTRIC SAWS

### 8 1/2-INCH POWR-KRAFT SAW WITH RIGHT OR LEFT-HAND BLADE

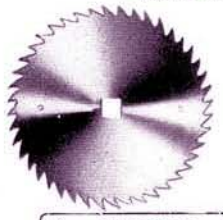
**(A)** 8 1/2-INCH ELECTRIC SAW. Durable saw built to specifications for heavy carpentry, building construction, or for home workshop use. Cutting capacity 3 1/8-in. on straight cuts without bevel and depth adj.—2 1/8-in. with bevel adj. At 45° will cut 2 1/8-in. deep. Has rip fence guide with bevel adjustment calibrated 15, 30, 45°. Powerful Universal motor develops approx. 1-H.P. on 110-120-volt, A.C. or D.C. Enclosed gears helical cut from "stressproof" steel.

No load speed 3500 R.P.M. Balanced loop handle with trigger switch for right or left-hand control. Die-cast aluminum housing. Grease sealed ball bearings. Telescoping blade guard. With wrench, 15-ft. cord and plug, 8 1/2-in. diam. combination crosscut and rip blade. Supplied with blade on right or left side.  
 84 KG 2430M—Left-hand blade with bevel adj. Wt. 23 lbs. . . . . See Price List  
 84 KG 2431M—Right-hand blade with bevel adj. Wt. 23 lbs. . . . . See Price List  
 84 KG 2432M—Left-hand blade without bevel adj. Wt. 20 lbs. . . . . See Price List  
 84 KG 2433M—Right-hand blade without bevel adj. Wt. 20 lbs. . . . . See Price List  
 84 KG 2434M—Metal carrying case for (A). Ship. wt. 7 lbs. . . . . See Price List

### ELECTRIC SAW SPECIFICATIONS

	84 KG 2430M	84 KGP 2447M	84 KGP 2440M	84 KGP 2441M	84 KGP 2443K	84 KGP 2442K
Depth of cut	2 1/8 in.	2 in.	2 1/4 in.	2 7/8 in.	3 3/8 in.	4 1/2 in.
45° position	2 1/8 in.	.....	2 in.	2 5/8 in.	2 5/8 in.	3 5/8 in.
Blade diam.	8 1/2 in.	6 in.	7 1/4 in.	8 1/2 in.	9 1/2 in.	12 in.
Blade speed	3500 RPM	5000 RPM	4800 RPM	4200 RPM	3800 RPM	3200 RPM
Rated H.P.	1 h.p.	3/4 h.p.	1 h.p.	1 1/2 h.p.	1 1/2 h.p.	1 3/4 h.p.
Dimensions	13 1/2 by 10 by 10 1/2 in.	8 1/2 by 8 by 8 5/8 in.	14 by 6 1/2 by 11 in.	15 1/4 by 6 1/2 by 12 in.	16 1/2 by 6 1/2 by 12 1/2 in.	23 by 9 1/2 by 14 in.
Act. Weight	17 lbs.	9 lbs.	15 1/2 lbs.	17 1/2 lbs.	19 lbs.	36 lbs.

### WARDS MASTER COMBINATION CIRCULAR SAW BLADES



Shown at left, 18-gauge flat ground. For above Powr-Kraft and Mall Portable Electric Saws only. Refined, heat-treated saw steel. Hand-filled.

84 KG 2449—Order from table below. See Price List

Diameter	Hole Size	Fits Saw	Ship. wt.
6 inch	1/2 in. sq.	(B)	1 lb.
7 1/4 inch	1 1/8 in. sq.	(C)	1 1/2 lbs.
8 1/2 inch	1 3/8 in. sq.	(A) and (D)	2 lbs.
9 1/2 inch	1 7/8 in. sq.	84 KGP 2443K	3 lbs.
12 inch	1 3/4 in. sq.	84 KGP 2442K	4 lbs.

### 6 TO 12-INCH MALL PORTABLE ELECTRIC SAWS

Rugged, Mall Portable Electric Saws with well balanced, comfortable loop handle and trigger switch for right or left hand control. Die-cast aluminum alloy housing to give you greatest strength with the lowest possible weight. For house framing and form work. Designed to specifications of carpenters and contractors.

Powerful universal type motor, statically and dynamically balanced. Grease sealed ball bearings. Operates on 110-120-volt, A.C. or D.C. Helical cut gears sealed in grease chamber—assures constant lubrication. Exhaust air keeps sawdust clear of cutting line. All saws equipped with automatic telescoping blade guard. Complete with 15-foot rubber covered cord and plug, wrench, and combination crosscut and rip blade. All saws except (C) come with adjustable swivel base for bevel cuts up to 45°, saw lubricant and heavy type metal carrying case.

Order from listings below, state Catalog Number. Order extra blades for all saws from table below at left. See complete specifications at left.

**(B)** 6-INCH SAW. Has all features above. Without bevel adjustment (for straight cutting only). Cutting capacity 2 inches. No load speed 5000 R.P.M. Rated 3/4-H.P. Actual weight 9 lbs.  
 84 KGP 2447M. . . . . See Price List

**(D)** 8 1/2-IN. SAW. Has all features listed above. Cutting cap. 2 7/8 in. on straight cuts; 2 1/8 in. on dressed lumber at 45°. No load speed 4200 R.P.M. Rated 1 1/2-H.P. Wt. 17 1/2 lbs.  
 84 KGP 2441M. . . . . See Price List

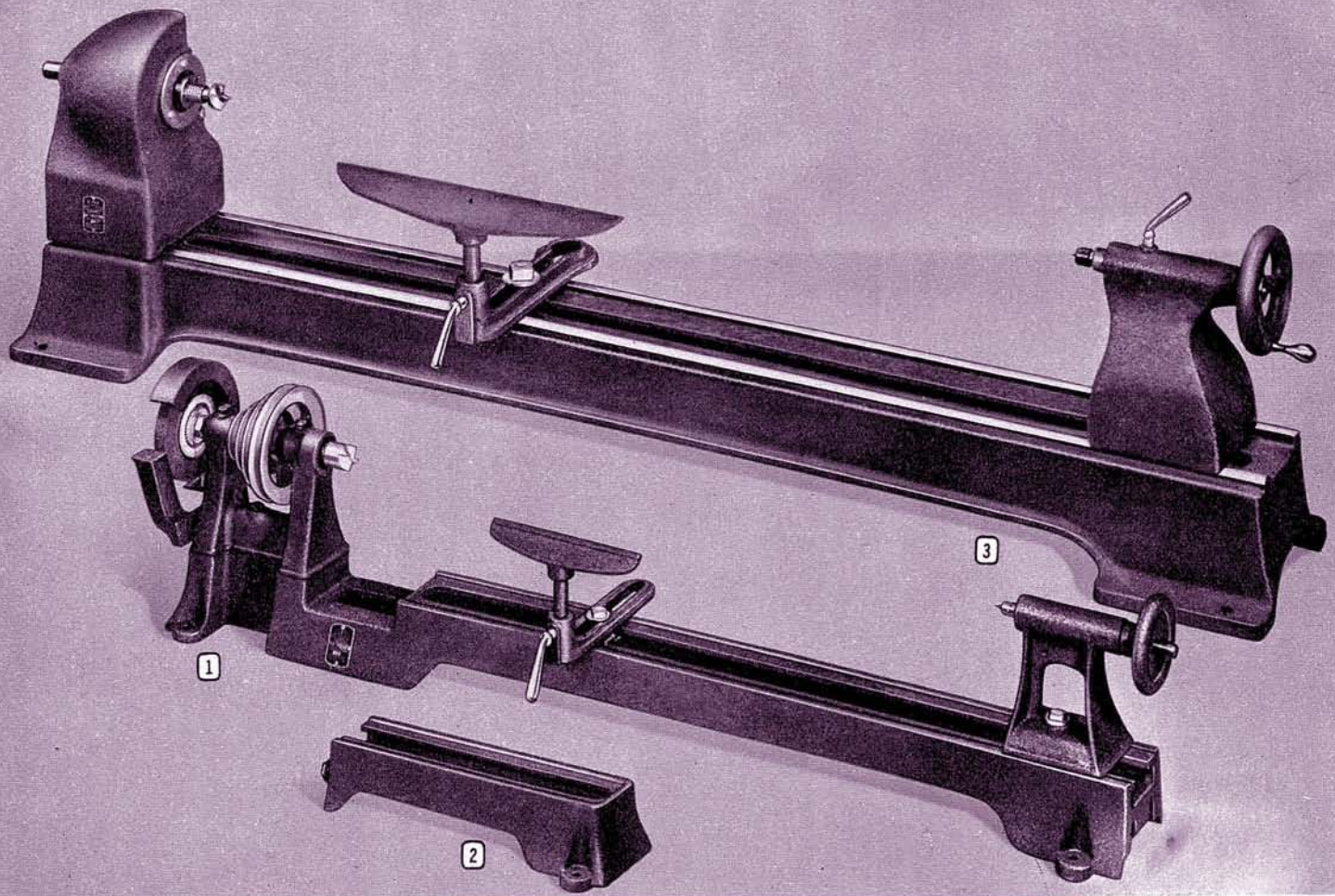
**BEVEL SHOE ATTACHMENT** (not shown). Fits saw (B) above. With bevel attachment cutting capacity is 1 1/8-in. on dressed lumber at 45°.  
 84 KGP 2446. . . . . See Price List

**9 1/2-INCH SAW.** Has features of (D) above, but larger. Cutting capacity 3 3/8 in. on straight cuts; 2 5/8 in. on dressed lumber at 45°. No load speed 3800 R.P.M. Rated 1 1/2-H.P. Actual weight 19 lbs.  
 84 KGP 2443K. . . . . See Price List

**(C)** 7 1/4-INCH SAW. Has all features listed above. Cutting capacity 2 1/4-in. on straight cuts, 2 in. at 45° on dressed lumber. No load speed 4800 R.P.M. Rated 1-H.P. Actual weight 15 1/2 lbs.  
 84 KGP 2440M. . . . . See Price List

**12-INCH SAW.** Has features listed above, but with largest saw blade. Cutting cap. 4 1/2 in. on straight cuts; 3 5/8 in. at 45° on dressed lumber. No load speed 3200 R.P.M. Rated 1 3/4-H.P. Actual wt. 36 lbs.  
 84 KGP 2442K. . . . . See Price List

Remember to use Wards Convenient Monthly Payment Plan. You pay only 10% down on any order of \$20 or more, the balance in monthly payments designed to fit your budget. If you already have an account, just write "Add this to my account" on your order, or tell the clerk to add the order to your account. See Page 25 for complete details.



## POWR-KRAFT WOOD-TURNING LATHES

### LIGHT-DUTY HOBBYISTS LATHE

**1** For beginners and hobbyists. Gap bed model with grinding wheel. Machined cast-iron flat bed, head, tailstock. Drive pulley mounted between self-lubricating bronze bearings; ball bearing to take longitudinal thrust. Cast-iron adjustable tool rest 6 in. long. Four-step drive pulley for range of speeds from 765 to 4000 R.P.M. With 1/2 by 4-in. grinding wheel, tool rest, guard mounted on outboard side of headstock. Plain head and tailstock tapers. 1/2-in. unthreaded spindle.

10-in. swing over 4 in. of bed; 8 in. swing over 23 in. Bed length 37 1/2 in.; 27 in. between centers. Use 83 KG 4555M 1/2-H.P. motor Page 43, 84 KG 2881 4-step "V" Pulley, Page 39, and 84 KG 2876 1/2 x 46-in. "V" belt Page 39. 84 KG 2002M—Gray wrinkle finish. Ship. wt. 29 lbs. . . . . See Price List

**2** LATHE BED EXTENSION. Cast iron. Fits lathe (1). Increases ctrs. 27 to 38 in. 84 KG 2011—Milled joint. Ship. wt. 5 lbs. . . . . See Price List

**4** FACE PLATES. Number 84 KG 2030 is die-cast, others are cast iron.

84 KG 2030—3 1/2-in. diam. For 1/2-in. unthreaded spindle. Fits lathe (1). Ship. wt. 2 lbs. . . . . See Price List

84 KG 2031—3 1/2-in. diam. For 3/4-in. 16-thread spindle. Fits lathe (3). Ship. wt. 2 lbs. . . . . See Price List

84 KG 2033—5 7/8-in. diam. For 3/4-in. unthreaded spindle. For outboard use on lathe (3). Shipping weight 3 lbs. . . . . See Price List

84 KG 2034—5 7/8-in. diam. For 3/4-in. 16-thread spindle. Fits lathe (3). Ship. wt. 3 lbs. . . . . See Price List

**5** to **13** MASTER QUAL. CHISELS. 4-in. steel blades. 8-in. wood handles. Wt. 12 oz. . . . . See List

- (5) 84 KG 2043—1/4-inch gouge
- (6) 84 KG 2044—1/2-inch gouge
- (7) 84 KG 2045—3/4-inch gouge
- (8) 84 KG 2046—1/4-inch skew
- (9) 84 KG 2047—1/2-inch skew
- (10) 84 KG 2048—1-inch skew
- (11) 84 KG 2050—Round nose
- (12) 84 KG 2049—Spear Point
- (13) 84 KG 2051—Parting tool

5-PC. WOOD TURNING CHISEL SET. Includes: 1/2, 3/4-in. Gouge; 1/4, 1/2-in. Skew, Parting Tool. 84 KG 2052—Wt. 3 lbs. . . . . See List

### HEAVY-DUTY PRODUCTION LATHE

**3** HEAVY-DUTY. Every detail of construction is of the best to give top performance and extra long service. For hobbyist and production shops—designed for convenience of operation. Heavier, larger and greater capacity than lathe at left. 11-inch swing, 37-in. between centers. Outboard turning possible with 3/4-in. unthreaded face plate (not included). 3/4-in.—16 thread, hollow spindle, rides on New Departure ball bearing and self-lubricating bronze bearing. Range of speed from 765 to 4000 R.P.M.

Lathe may be driven from below or behind. Self-ejecting tailstock center. 49 3/8-in. bed has V and flat ways—machined for correct alignment of spindle. Use No. 1 Morse Taper accessories in headstock and tailstock. Equipped with 12-in. adjustable tool rest of heavy cast iron and No. 1 Morse Taper Spur and Cup center. Use 83 KG 4551M 1/2-H.P. motor—on Page 43; 84 KG 2882 4-step motor pulley on Page 39; and 84 KG 2876 1/2 x 52-in. "V" belt on Page 39.

84 KG 2005R—Gray wrinkle finish. Ship. wt. 72 lbs. . . . . See Price List

**14** to **18** No. 1 MORSE TAPER LATHE ACCESSORIES. Fits lathes with No. 1 Morse taper. . . . . See List

- (14) 84 KG 2022—Spur Center. Wt. 8 oz.
- (15) 84 KG 2024—Cup Center. Wt. 8 oz.
- (16) 84 KG 2028—Screw Ctr. Wt. 8 oz.
- (17) 84 KG 2026—Wheel arbor. Wt. 12 oz.
- (18) 84 KG 2029—Chuck Ctr. Wt. 1 1/2 lbs.

**19** TOOL REST HOLDER. Fits lathe (3). Use with 18-in. tool rest below. 84 KG 2016—Wt. 3 1/4 lbs. . . . . See List

**20** TOOL RESTS. Cast iron. Fits (3). Wts., 3; 4 lbs. State size. . . . . See Price List  
84 KG 2015—Single Post—12 in. long. —Double Post—18 in. long.

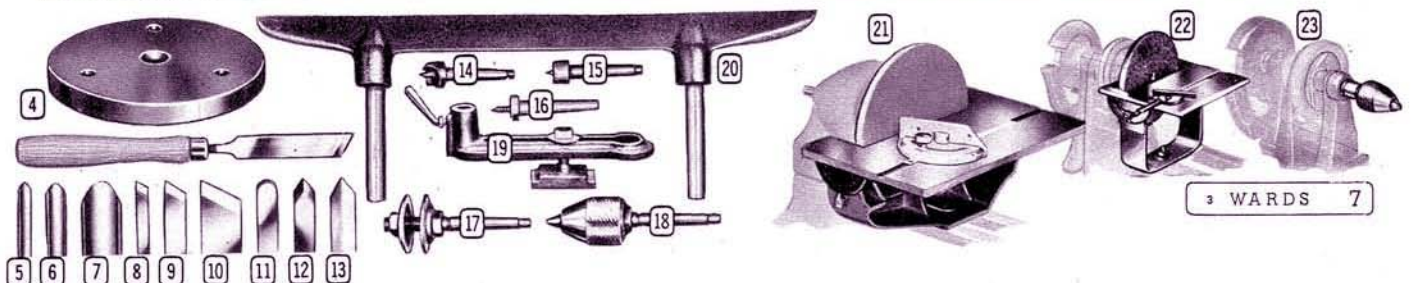
**21** 10-INCH DIAMETER SANDING DISC ATTACHMENT. Fits lathe (3).

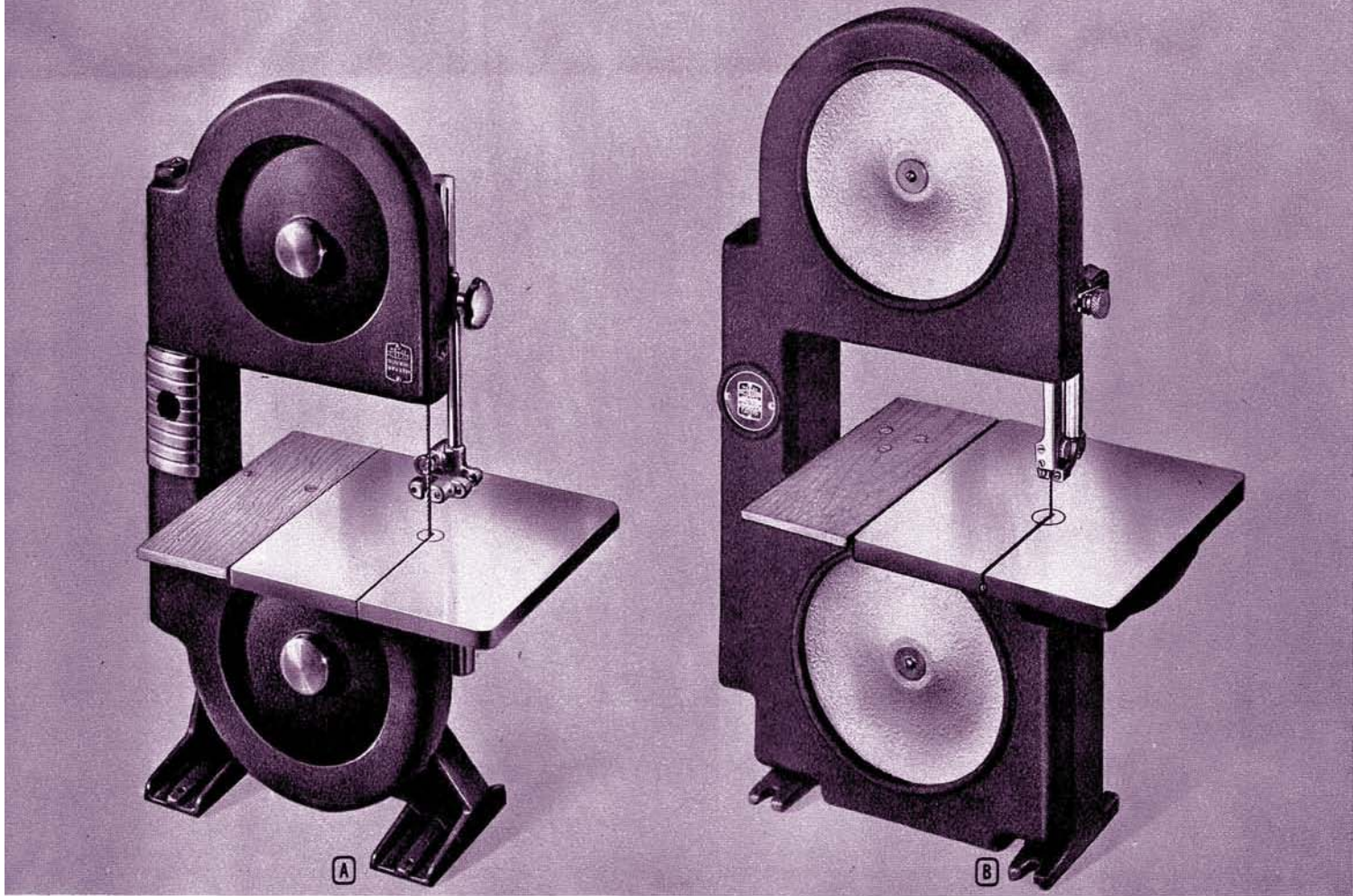
84 KG 2068M—Wt. 26 lbs. . . . . See List  
DISC SANDPAPER. 10-in. diam. fine, med., coarse grit. Pkg. of 6. 84 KG 2070—Wt. 6 oz. . . . . See List

**22** 6-IN. DIAM. SANDING DISC ATTACHMENT. Fits lathe (1).

84 KG 2066—Wt. 4 1/4 lbs. . . . . See List  
DISC SANDPAPER. 6-in. diam. Pkg. 6. 84 KG 2672—Wt. 6 oz. . . . . See List

**23** DRILL CHUCK ATTACHMENT. Fits lathe (1). 1/2-in. cap. chuck. 84 KG 2071—Wt. 1 1/4 lbs. . . . . See List





## POWR-KRAFT BAND SAWS...9¼ TO 15 INCH

### 9¼-IN. LIGHT-DUTY BALL BEARING MODEL

**A** For beginners and hobbyists. Cast-aluminum frame, disc wheels, and two-piece blade guard make this saw rigid, durable and easy to use. Depth of cut 4¼ in. Cast-aluminum table with plywood extension increases working area to 14x11 in. Table tilts to 45° on firm locking trunnion—locks at any angle. Adjustable pointer indicates angle of tilt. Soft metal insert in table protects blade from damage. 9¼-inch disc wheels are balanced, crowned and rubber covered. Wheels mounted on New Departure ball bearings. Accurate, positive blade tension adjustment puts proper degree of tension on blade. Adjustable, hardened steel blade guides above and below table. Upper guide is roller type—eliminates blade friction. With ¾x60-in. blade. Size overall 11x16¾x26½ in. Ship. wt. 29 lbs.

Fits Stand 84 KG 2962Y (not included) listed on Page 49. We recommend using ⅓-H.P. 1725-R.P.M. Motor (not incl.), see Page 43. 84 KG 2316M..... See Price List

### 10-IN. NEEDLE ROLLER BEARING MODEL

**B** Larger capacity than Saw at left. Cuts to center of a 20-in. circle. One-piece cast-aluminum guard. Strong cast-iron frame. Die-cast disc wheels. Depth capacity under foot 4⅝ in. Cast-iron table with plywood extension increases working area to 14½ x 10½ in. Table tilts to 45° on firm locking trunnion—locks at any angle. Adjustable pointer indicates angle of tilt. Soft metal insert in table protects blade from damage. 10½-inch disc wheels are balanced, crowned and rubber covered. Wheels mounted on 4-needle anti-friction bearings. Accurate, positive blade tension adjustment. Adjustable, hardened steel blade guides above and below table—roller type, eliminates blade friction. With ¾ x 68-in. blade (other width blades available at lower right). Size overall 18¼ x 10½ x 30¾ in. Shipping weight 50 lbs.

Fits Stand 84 KG 2962M (not included) listed on Page 49. We recommend using ⅓-H.P. 1725-R.P.M. Motor (not included) see Page 43. 84 KG 2304K..... See Price List

### SPECIFICATIONS FOR 9¼ AND 10-IN. BAND SAWS

Catalog Number	9¼-in. Saw 84 KG 2316 M	10-in. Saw 84 KG 2304 K
Capacity, in.	9¼	10
Depth of Cut, in.	4¼	4⅝
Main Table Size, in.	10x11	10x10½
With Wood Ext., in.	14x11	14½x10½
Bearings	New Dep. Ball	4 needle Roller
Trunnions	Single	Double
Blade Guides	Above and below table	Above and below table
Wheel Diameters, in.	9¼	10½
Size Blade Included, in.	¾x60	¾x68
Recommended Motor	⅓ H.P.	⅓ H.P.
Saw Pulley Furnished	4-in. Diam.	4-in. Diam.
Recom. Motor Pulley	2-in. Diam.	2-in. Diam.
Recommended V-Belt	44-in.	46-in.
Recommended Stand	84 KG 2962 M	84 KG 2962 M

For Motors see Page 43. For Stands see Page 49. For "V" Belts and Pulleys see Page 39.



8 WARDS

**C** POWR-KRAFT ENDLESS BAND SAW BLADES. For Powr-Kraft band Saws. For wood cutting only. Strong, flexible and long wearing. Use the 60-inch size for Powr-Kraft 9¼-in. and 9½-in. band saws; use the 78-in. size for Powr-Kraft 12-in. and 12½-in. band saws.

Blades available in the following sizes: 60x½ in., 60x¾ in., 60x¾ in., 60x¾ in., 78x½ in., 78x¾ in., 78x¾ in., 78x¾ in. State Size Wanted. Shipping weight each, 8 oz.

84 KG 2330..... See Price List

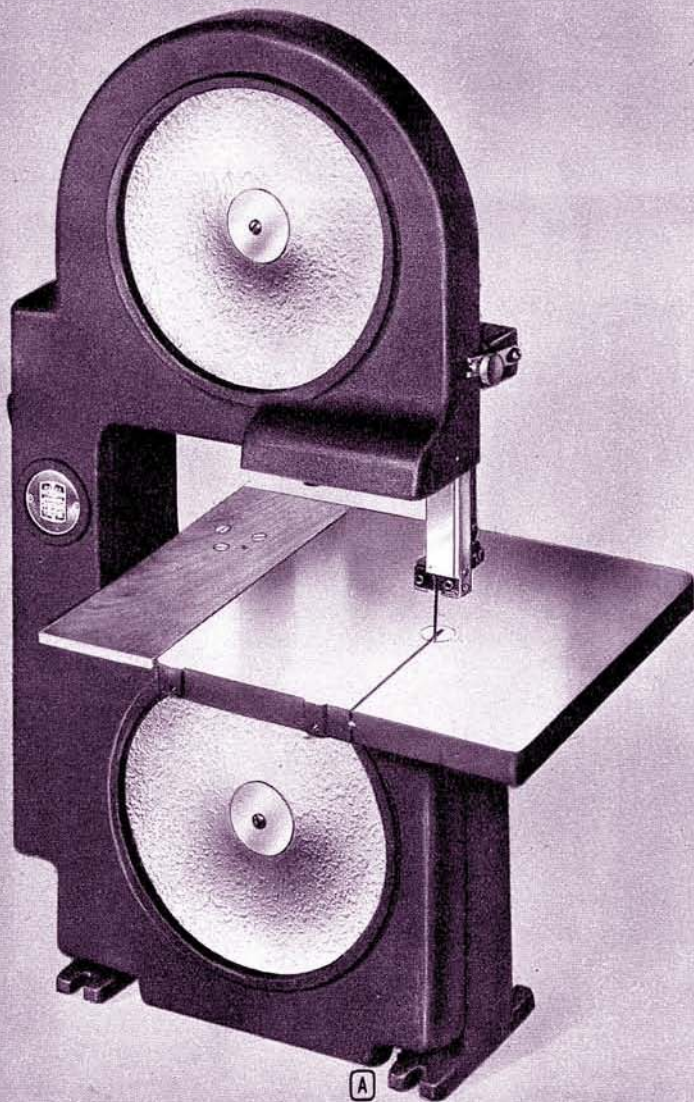
68-INCH BLADES FOR 84 KG 2304K ABOVE. Available in ⅜, ¾, 1 or 1½-in. widths. State Size.

84 KG 2335 K—Ship. wt. 8 oz..... See Price List

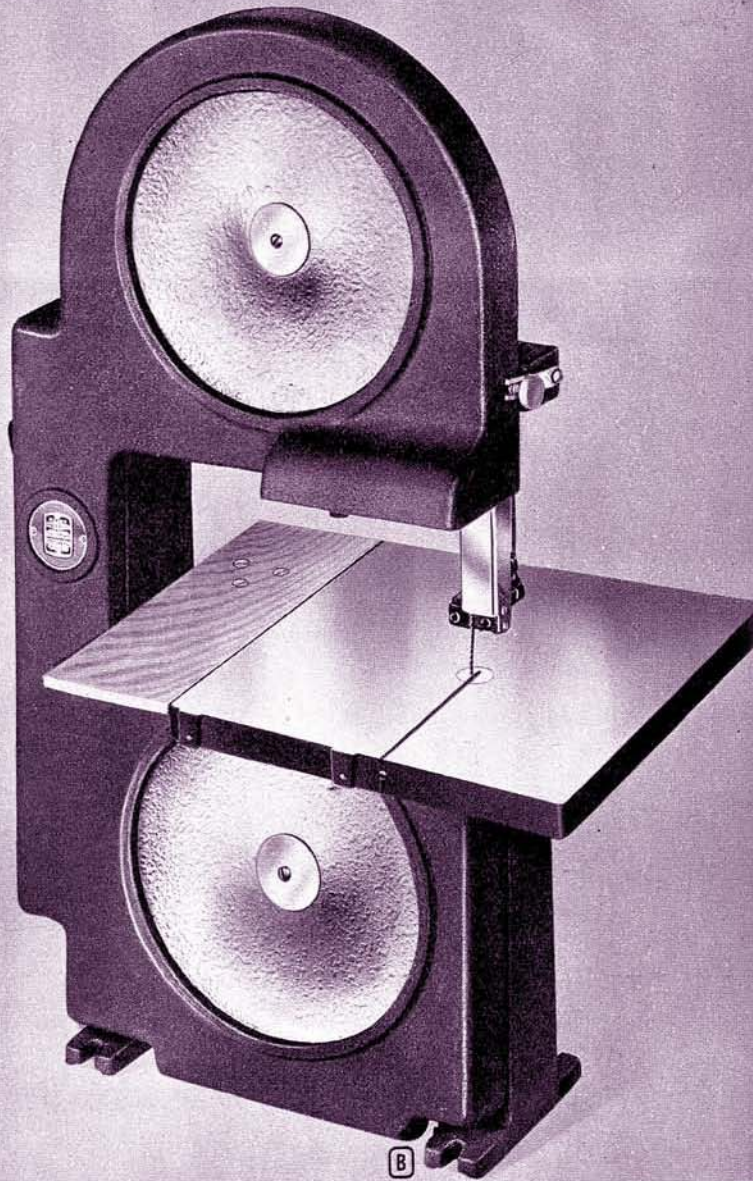
BLADES PER FOOT. For wood cutting. Sold in any length—you pay for next even foot. Not welded unless you specify (see price list for welding charges). Available in ¼, ⅜, ½, ⅝, ¾, 1, 1¼ and 1½-inch widths. State Length and Width Wanted.

84 KG 2331K—Shipping weight given in Price List





A



B

## CAPACITY MODELS...ONLY 10% DOWN

### 12-IN. NEEDLE ROLLER BEARING MODEL

**A** Heavy-Duty Model. Sturdy construction—full box frame cast in one piece of finest quality, non-warping seasoned gray iron. For hobbyist and production work. May also be used for soft metal cutting, etc. when speed is reduced. Strong cast-iron frame, one-piece guard, and upper wheel mounting separate from main frame make this saw especially convenient and dependable for heavy work. Large sturdily constructed cast-iron work table is mounted on heavy, smooth riding double trunnions and increased in work area by wood extension table. Table tilts up to 45 degrees.

One-piece guard swings away quickly and easily for inspection of blade tension and tracking on upper wheel. By releasing the guard at one point the operator can quickly swing it away from the wheels.

Deep throat permits cutting to center of 24-inch circle. Cuts material up to 5 $\frac{3}{8}$  inches thick. Wheels mounted on 4-needle anti-friction bearings. Concave ball bearing roller guides mounted above and below table, rotate in same direction as blade, eliminating friction and preventing grooving. Cast-iron table size is 13 by 13 in.; with extensions 13 by 17 $\frac{3}{8}$  in.

Wheel diameters 12 $\frac{1}{2}$  inches. Complete with light cord, plug, socket and bulb, and  $\frac{1}{4}$  by 78-inch blade. Gray wrinkle finish. Height overall is 35 $\frac{1}{2}$  inches. Motor not included—order  $\frac{1}{2}$ -H.P. 1725-R.P.M. motor separately from Page 43. Shipping weight 135 lbs.

84 KG 2314 R. . . . . See Price List

### 15-IN. NEEDLE ROLLER BEARING MODEL

**B** Heavy-Duty Production Model. One of the most useful power saws you can add to your shop. Quality built throughout. Engineered to give you accuracy and efficiency in every band saw operation. Full box frame cast in one piece of finest quality, non-warping seasoned gray iron. Strong cast-iron frame, one-piece guard, and upper wheel mounting separate from main frame make this saw especially convenient and dependable for heavy work. Large cast-iron work table with wood extension is mounted on double trunnions. Table tilts to 45°.

One-piece guard easily removed for inspection of blade tension and tracking on upper wheel. By releasing the guard at one point the operator can quickly swing it away from wheels.

Deep throat permits cutting to center of 30-inch circle. Cuts material up to 8 $\frac{1}{4}$  inches thick. Wheels mounted on 4-needle anti-friction bearings. Concave ball bearing roller guides mounted above and below table—rotate in same direction as blade, eliminates friction and prevents grooving.

Main table size 15 by 15 inches—extension increases working area to 21 $\frac{3}{4}$  by 15 inches. Wheel diameters 15 $\frac{3}{4}$  in. Light cord, plug, socket and bulb, and  $\frac{3}{8}$  by 104-inch blade included. For extra blades order 84 KG 2331K on Page 8. Gray wrinkle finish. Height overall 44 $\frac{1}{2}$  in., width 26 $\frac{3}{4}$  in., depth 17 $\frac{3}{16}$  in.

Use  $\frac{1}{2}$ -H.P. 1725-R.P.M. Motor (not included), see Page 43. Shipping weight 155 lbs.

84 KG 2315 F. . . . . See Price List

### SPECIFICATIONS FOR 12 AND 15-IN. BAND SAWS

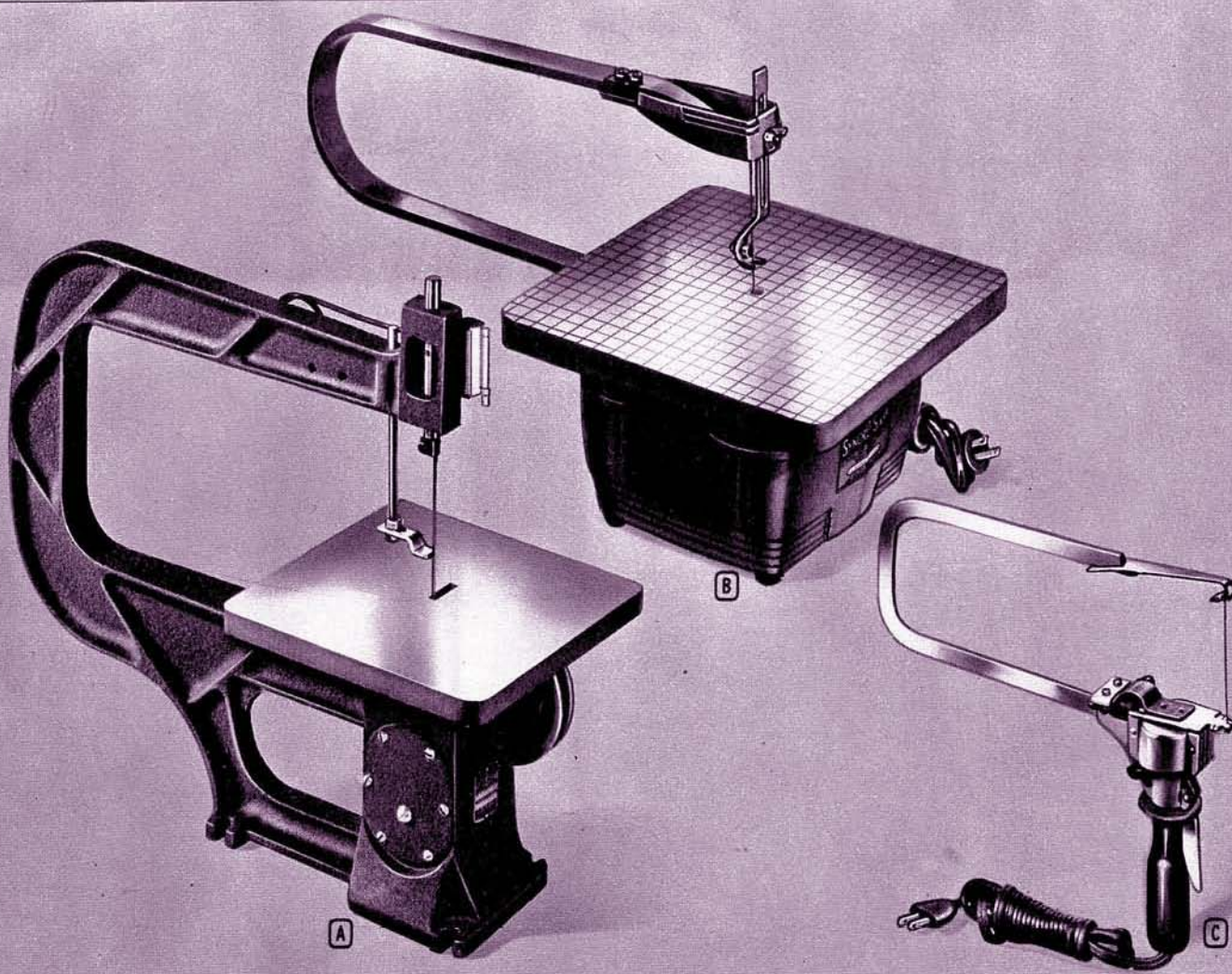
Catalog Number	12-in. Saw 84 KG 2314 R	15-in. Saw 84 KG 2315 F
Capacity, in.	12	15
Depth of Cut, in.	5 $\frac{3}{8}$	8 $\frac{1}{4}$
Main Table Size, in.	13x13	15x15
With Wood Ext., in.	17 $\frac{3}{8}$ x13	21 $\frac{3}{4}$ x15
Bearings	4 needle Roller	4 needle Roller
Trunnions	Double	Double
Blade Guides	Above and below table	Above and below table
Wheel Diameters, in.	12 $\frac{1}{2}$	15 $\frac{3}{4}$
Size Blade Included, in.	$\frac{1}{4}$ x78	$\frac{3}{8}$ x104
Recommended Motor	$\frac{1}{2}$ H.P.	$\frac{1}{2}$ H.P.
Saw Pulley Furnished	6 $\frac{1}{2}$ -in. Diam.	6 $\frac{1}{2}$ -in. Diam.
Recom. Motor Pulley	2 $\frac{1}{2}$ -in. Diam.	2 $\frac{1}{2}$ -in. Diam.
Recommended V-Belt	54 in.	56 in.
Recommended Stand	84 KG 2962 M	84 KG 2961 M

For Motors see Page 43. For Stands see Page 49.  
For "V" Belts and Pulleys see Page 39.

### BUY YOUR BAND SAW ON TERMS

Take advantage of Wards Monthly Payment Plan and use your Band Saw while you pay for it. You pay only 10% Down on orders of \$20 or more—the balance in convenient Monthly Payments. If you already have an account at Wards, use the "Add-on" Plan—no Down Payment is required.

For information of Monthly Payment Plan See Page 25.



## POWR-KRAFT AND OTHER NATIONALLY

### JIG SAW SPECIFICATIONS

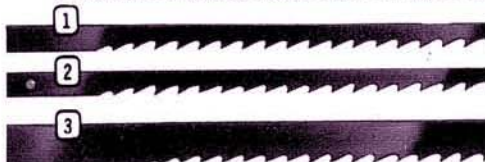
	84 KG 2355M	84KGP2397M	84 KGP 2398
Cuts to center of	24-in. circle	26-in. circle	19-in. circle
Depth of cut	2 in.	3/4 in.	1/2 in.
Table size	8 x 8 in.	10 x 10 in.	none
Blade size	Plain end 5 in.	Pin end 5 in.	Pin end 3 in.
Upper blade guides	V-type	V-type	none
Table tilts	Up to 45°		
Sawdust blower	Built-in	none	none
Height overall	16 1/2 in.	10 3/4 in.	9 1/4 in.
Width overall	8 in.	10 in.	1 3/4 in.
Shipping weight	27 lbs.	19 lbs.	2 lbs.

### POWR-KRAFT JIG SAW BLADES

① 5-INCH PLAIN END JIG SAW BLADES. Ship. wt. per package, 4 oz. State Catalog Number.

Use For	Cat. No.	Thick.	Width	Teeth	Price
Celluloid, plastics, Fast wood cutting	84 KG 2375	.016 in.	.035 in.	21	See Price List
	84 KG 2376	.017 in.	.043 in.	18	
	84 KG 2377	.020 in.	.070 in.	7	
Metals, woods, up to 1-inch (State teeth)	84 KG 2378	.020 in.	.110 in.	10	See Price List
	84 KG 2378	.020 in.	.110 in.	15	
	84 KG 2379	.020 in.	.070 in.	15	
Light woods	84 KG 2380	.010 in.	.045 in.	18	See Price List
Hard Materials	84 KG 2381	.016 in.	.034 in.	32	
General use	84 KG 2382	Assorted sizes			

② 5-INCH PIN END JIG SAW BLADES. Assortment of 12.  
84 KG 2384—Shipping weight 4 oz. . . . . See Price List



10 WARDS

### WARDS POWR-KRAFT LIGHT-DUTY JIG SAW

① 12-INCH LIGHT-DUTY MODEL JIG SAW. For beginners and hobbyists. Cuts to center of 24-inch circle, 2 inches deep. Ground cast iron table 8 by 8 inches tilts up to 45° angle on heavy trunnions. Rugged cast-iron frame keeps all parts aligned. Complete lower mechanism enclosed in oil bath—eccentric cam operates on cross head. Shafts are ground and polished—heat treated and tempered blade clamps. V-type blade guide and hold-down. Upper torsion and lower compression springs give even blade stroke. Equipped with sawdust blower. Height overall 16 1/2 inches. Gray wrinkle finish. With 5-in. plain-end blade. Recommended motor 1/4 H.P. sold on Page 43. Recommended 2-inch diam. "V" motor pulley and 38-inch V-belt sold on Page 39.

84 KG 2355M—Shipping weight 27 lbs. . . . . See Price List

### NATIONALLY KNOWN SYNCHRO MAGNETIC JIG SAW

② SYNCHRO MAGNETIC Jig Saw. Complete self-contained unit—just plug into electric outlet—no motor required. Spring action-magnetic coil, vibrating type . . . 7200 strokes per minute. Ideal for hobbyists, craftsmen in model making displays, puzzles, inlays, etc. Cuts intricate designs in soft wood up to 3/4-in. thick; in plywood, plastics, etc. to 1/2-inch. Cuts to center of 26-inch circle. 10 by 10-inch die-cast table. 6 1/2 by 5 1/2-inch die-cast base. Arm of specially formed stamping 1/4 by 1-inch. Operates on 110-120-volt, 60-cycle A.C. only. Length overall 19 inches, width 10 inches. With rubber covered cord and three 5-inch pin end blades.

84 KGP 2397 M. . . . . See Price List

### DREMEL ELECTRIC HAND-TYPE MOTO-SAW

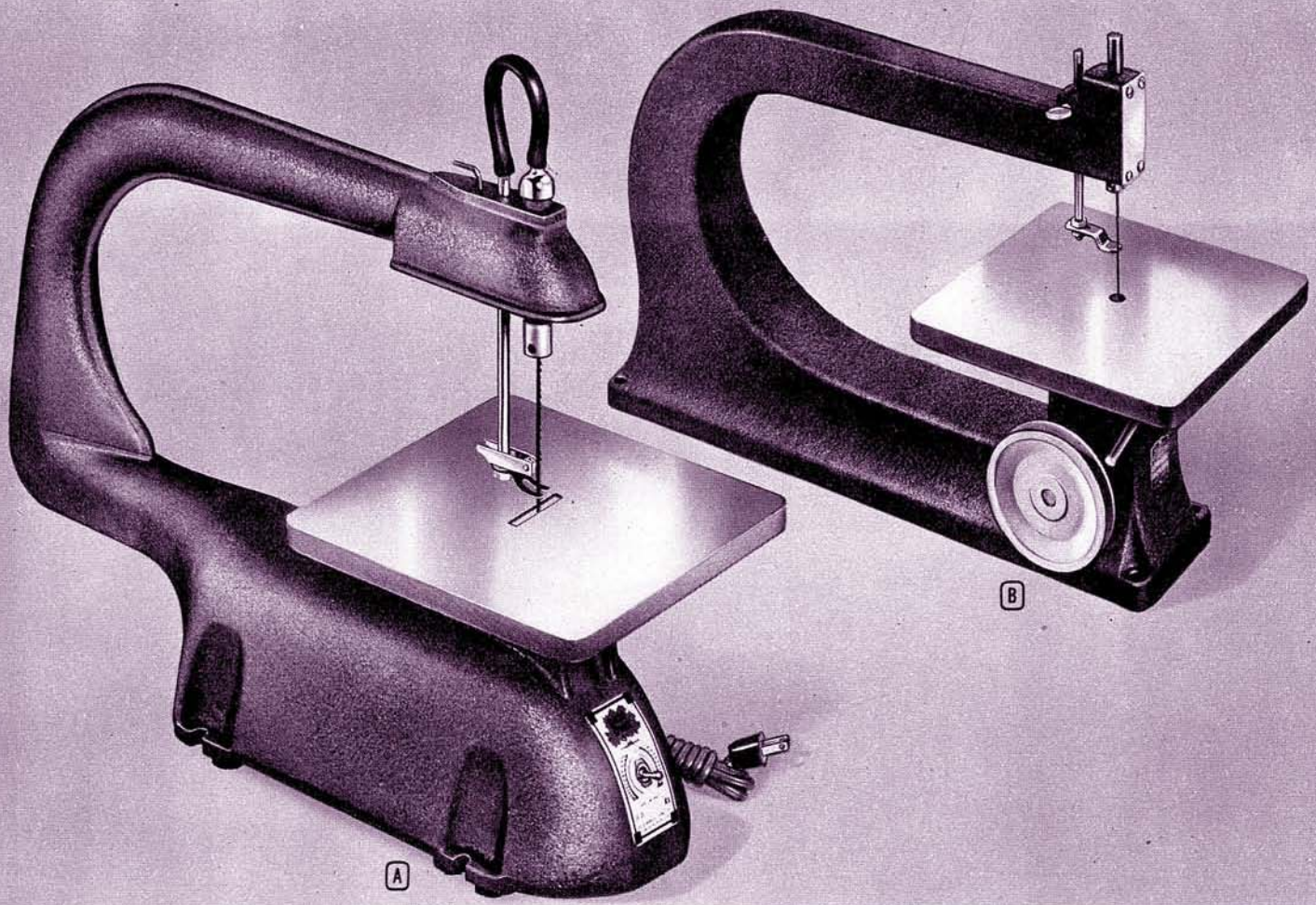
③ DREMEL ELECTRIC HAND TYPE MOTO-SAW. Spring action—magnetic coil, vibrating type. For fast sawing of intricate designs in hard or soft wood, plastics, etc. up to 1/2-inch thick. Cuts to center of 19-inch circle. Operates on 110-120 volt, 60-cycle A.C. only. 7200 strokes per minute. Strokes adjustable from 1/16 to 1/4-inch. Trigger action fiber switch. With 6-foot rubber covered cord and plug and three 3-inch pin end blades. Size overall 10 by 1 3/4 by 9 1/4 inches. Actual weight 17 oz. Extra 3-inch pin end blades for moto-saw sold below.

84 KGP 2398. . . . . See Price List

3-INCH PIN END BLADES FOR HAND-TYPE MOTO-SAW. Fit saw (C) above.  
84 KGP 2399. . . . . Package of twelve. See Price List

④ 4 1/2-INCH SABRE BLADES. Shown at left. Size .028 by .187 inch.  
84 KG 2385—10 teeth per in. Ship. wt. 4 oz. . . . . Pkg. of 3. See Price List  
84 KG 2386—Assorted Sabre Blades. Ship. wt. 4 oz. . . . . Pkg. of 12. See Price List

Use Wards Convenient Monthly Payment Plan when buying your Power tool needs. For complete information about this modern convenient way to shop—see Page 25 of this Catalog.



## KNOWN JIG SAWS...ONLY 10% DOWN

15-INCH BUSH JIG SAW WITH BUILT-IN 1/4 H.P. MOTOR

**A** 15-INCH BUSH BUILT Jig SAW. For general use by hobbyists and skilled craftsmen. Cuts to center of 30-inch circle, 2 inches deep. Base is of heavy cast-iron construction with machined surfaces. . . is mounted on four rubber feet to prevent marring of finished surfaces. Toggle switch located on front of base for convenient operation of saw and light. Ground cast-iron table 9 by 9 inches is mounted on a two-point suspension bracket which permits angular tilt from 0° to 45° in either direction—Right or Left. Bracket and table in horizontal position will rotate 360° around its axis.

Gear box houses an efficient mechanical arrangement of gears running in a bath of oil. This unit is driven by a motor directly connected to the gear box mounted underneath the base . . . eliminating belt and pulleys, thus providing an unusual safety feature and protection to the motor from dust. Overarm is cast-iron construction rigidly fastened to base—supports top blade shaft, dust blower, and saw guide assembly. Light located in the head of the arm is added feature. Overarm is easily removable for sabre sawing, sanding and light filing operations.

Saw guide is made of chrome plated tubular steel. Roller guide with spring work hold down is adjustable to all thicknesses of work and to any angle of cut. Dust blower located on overarm provides continuous flow of air on up-stroke of saw blade. Jig saw external parts made of aluminum and steel. Steel parts chrome plated for longer wear. Castings gray wrinkle finish.

84 KG 2353K—Jig Saw with built-in motor. Ship. wt. 45 lbs. . . . See Price List

15-INCH POWR-KRAFT JIG SAW

**B** 15-INCH MEDIUM-DUTY Jig SAW. For hobbyists, skilled craftsmen and production work. Larger, heavier than Saws on opposite page. Cuts to center of 30-inch circle, 2 1/4 inches deep. Husky, hollow frame and base are cast in one piece. Ground cast-iron table 9 by 9 in. tilts up to 45° angle on heavy trunnions. Pointer indicates degree of tilt. Lower mechanism enclosed in oil bath—eccentric cam operates on crosshead. Shafts are ground and polished with heat-treated blade clamps.

V-type blade guide foot acts also as hold down. Tension is controlled by a torsion type spring and by a compression type spring on the lower spindle—gives correct blade tension at all stroke positions. Piston type blower attaches to upper arm—forces air on cutting line. Height overall 15 3/4 inches, width 9 inches. Gray wrinkle finish. With 5-inch plain end blade. Recommended for use with 1/2-H.P. motor sold on Page 43. 38-inch V-belts sold on Page 39 and 2-in. diam. "V" motor pulley sold on Page 39. Order extra blades from opposite page.

84 KG 2356M—Jig Saw only. Ship. wt. 35 lbs. . . . . See Price List

Buy your Jig Saw on Wards Convenient Monthly Payment Plan. Remember only 10% Down is required on any order of \$20 or more. Balance paid in convenient monthly payments designed to fit your budget. If you already have an account at Wards just write on your order or tell the Retail Store clerk, "add this to my account." See Page 25 for complete details about Wards Monthly Payment Plan and Wards "Add-on" Plan.

### JIG SAW SPECIFICATIONS

	84 KG 2353 K	84 KG 2356 M
Cuts to center of	30-in. circle	30-in. circle
Depth of cut	2 inches	2 1/4 inches
Table size	9 by 9 inches	9 by 9 inches
Blade size	Plain End 5 inch	Plain End 5 inch
Upper blade guides	roller	V-type
Table tilts	up to 45°	up to 45°
Sawdust blower	built-in	built-in
Height overall	20 1/2 inches	15 3/4 inches
Width overall	9 inches	9 inches
Shipping weight	45 lbs.	35 lbs.

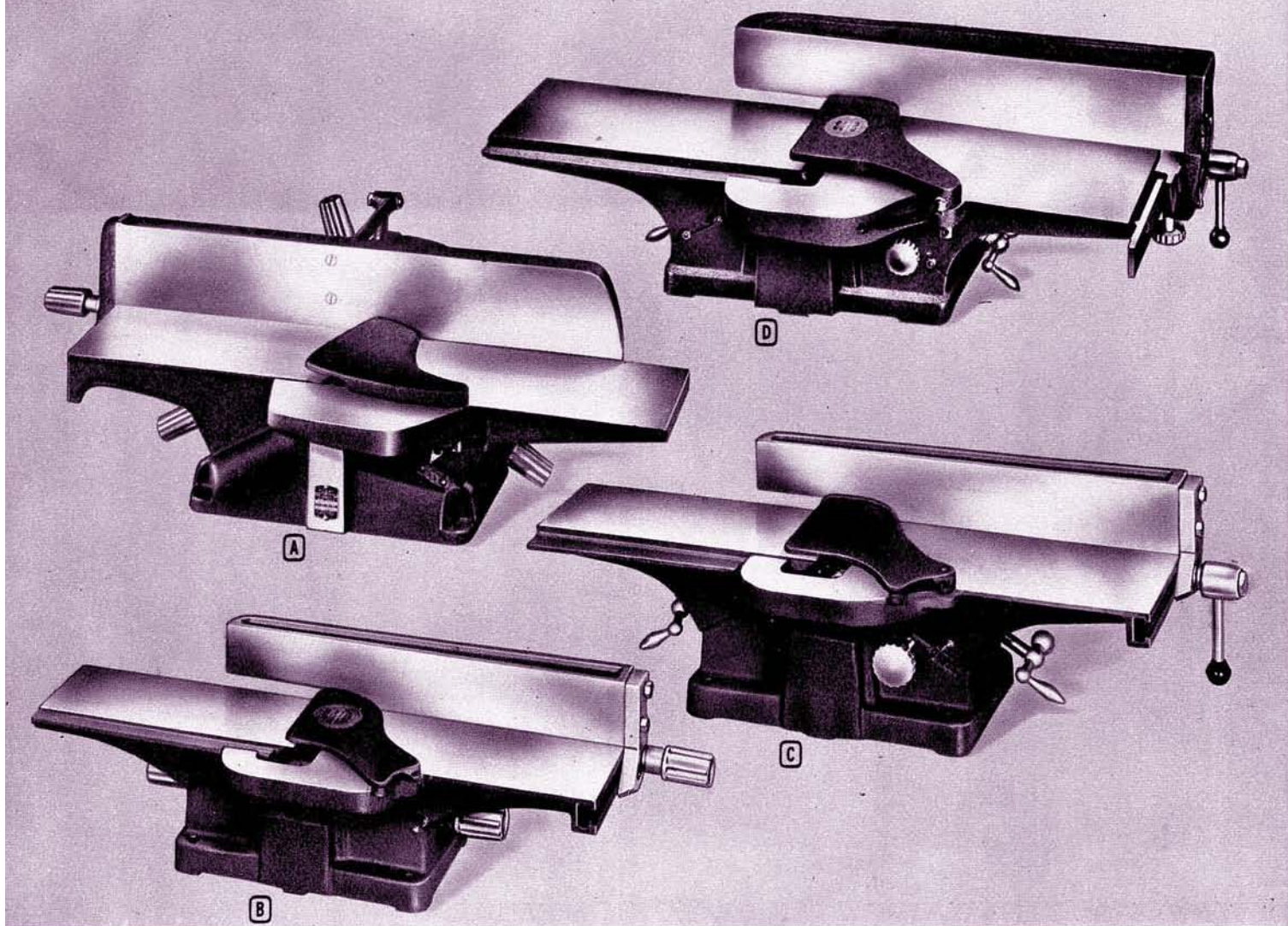
### WARDS MASTER QUALITY JIG SAW FILE SETS

**C** 12-PIECE ROUND HANDLE NEEDLE POINT FILE SET. Swiss pattern—refined file steel. Length of files 5 1/2 inches. Includes one each of following files; round, half-round, flat, oval, knife, square, three-square, equalling, barrette, joint, slitting, and marking. In sturdy wooden box. Ship. wt. 10 oz. Set of 12. 84 KG 4436. . . . See Price List

**D** 12-PIECE JIG SAW FILE SET. For metal or wood. Swiss pattern, size 00 teeth. Length 3 1/4 inches. Shank 1/4 inch. File set includes; 1 pillar, three-square, square, round, crochets, half-round, triangular, equalling, diamond, knife, and 2 oval. Individually tested for sharpness. In wooden box. Ship. wt. 12 oz. 84 KG 4435. . . . See Price List

See opposite page for additional 5-inch jig saw blades. Motors for jig saws sold on Pages 43 and 44, belts on Page 39.





## POWR-KRAFT 4½ TO 6 INCH JOINTERS

JOINTER-PLANERS . . . LIGHT, MEDIUM, HEAVY-DUTY . . . FOR HOBBYISTS, CRAFTSMEN OR INDUSTRIAL USE

**A** 4½-INCH BALL BEARING MODEL. For skilled craftsmen and industrial shop use. Cast aluminum base. Cutter head with chip breakers and 3 keen, tool steel knives—dynamically balanced after knives are installed, for guaranteed precision. Cast aluminum tables machined in pairs for perfect alignment. Has rabbeting ledge and arm. Gauges indicate depth of cut and degree of fence tilt, in either direction. New Departure ball and bronze bearing give smooth, vibrationless operation. Motor not included—order ½-H.P. separately from Page 43. Use with 5-in. diam. motor pulley and 42-in. length "V" belt shown on Page 39. 84 KG 2521M—Shipping weight 29 lbs. . . . . See Price List

**B** 4½-INCH BRONZE BEARING MODEL. For beginners and hobbyists. Close grained, gray iron base and table casting cross ribbed for strength and rigidity. Added weight has been built into the frame to give extra solid and vibration free performance. The shaft mounted in the main frame runs on extra long and extra-heavy self-lubricating bronze bearings. Cutter head is of the three blade type with three chip breakers. Blades are high-speed tool steel, heat treated to maintain the cutting edge. After assembly of blades and chip breakers, cutter head is balanced for operation at speeds of 3800 R.P.M.—results in remarkable smoothness of cut.

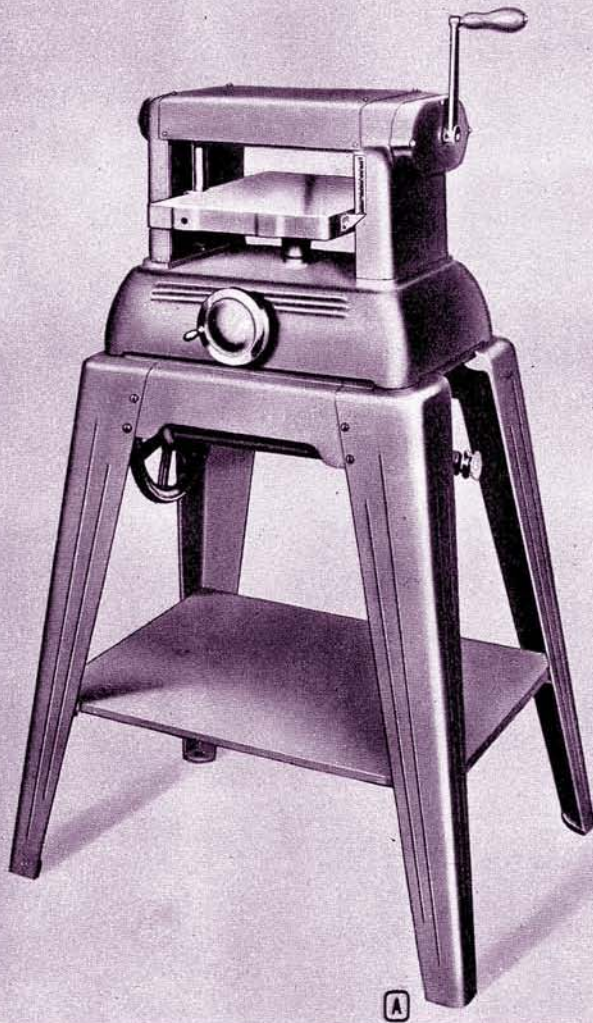
Fence may be tilted to 45° in either direction, with degree of tilt indicated by pointer on easily readable scale. Motor not included—order ½-H.P. motor separately on Page 43. Use with 4-inch diameter motor pulley and 41-inch "V" belt shown on Page 39. 84 KG 2505 K—Shipping weight 45 lbs. . . . . See Price List

**C** 5-INCH MEDIUM-DUTY BALL BEARING MODEL. For hobbyists and shop use. Cast-iron tables are ground and polished after assembly on cast-iron base. One-piece 3-blade cutter head has chip-breakers to prevent kick-backs—runs on 2 large N.D. Ball bearings mounted in base casting for permanent accuracy. Guard covers blades to protect operator. Fence can be set at any angle to 45° in either direction. Base has carefully machined ways for easy raising and lowering of table. Positive lock is provided to insure accurate settings. Rear table has rabbeting ledge; front table has rabbeting arm. Motor not included—order ½-H.P. motor separately from Page 43. Use with 5-inch diam. motor pulley and 46-inch "V" belt on Page 39. 84 KGZ 2506 M—Shipping weight 54 lbs. . . . . See Price List

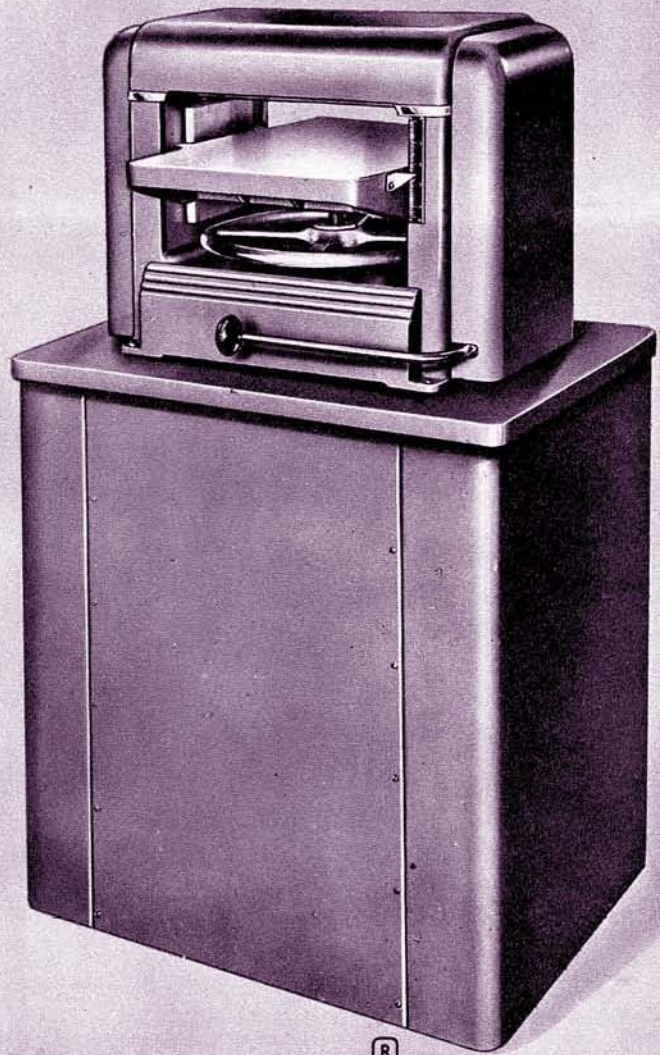
**D** 6-INCH BALL BEARING PRODUCTION MODEL. For skilled craftsmen and industrial use. Cast-iron base and tables. Has one-piece solid steel cutterhead and shaft—providing better balance for smooth, vibration-free operation. Tables are precision ground after assembly to insure perfect alignment.

Castings are high quality gray iron, machined to precision limits. Massive base insures solidity and also provides steady substantial mountings for shaft. Front table is fitted with rabbeting arm and rear table with rabbeting ledge. Guard is easily detached when doing rabbeting work. Table slides smoothly in machined dovetailed ways fitted with adjustable gibs to take-up wear. Motor not included—order ½-H.P. motor separately from Page 43. Use with 5-in. diam. motor pulley and 46-in. "V" belt shown on Page 39. 84 KGZ 2508 R—Shipping weight 110 lbs. . . . . See Price List

JOINTER-PLANER SPECIFICATIONS				
Catalog Number	(A) 84 KG 2521M	(B) 84 KG 2505 K	(C) 84 KGZ 2506 M	(D) 84 KGZ 2508 R
Width of cut	4½ in.	4½ in.	5 in.	6 in.
Max. depth of Cut	5/16-in.	¼ in.	¾-in.	½-in.
Max. depth of Rabbet	5/16-in.	¼-in.	¾-in.	½-in.
Front table	5½x13¼ in.	7½x11½ in.	6x12½ in.	7½x16 in.
Rear table	5½x11½ in.	5½x11½ in.	6x12½ in.	7½x17 in.
Bearings	New Dep. Ball and Bronze	Self Lub. Bronze	New Dep. Ball	New Dep. Ball
Knife size	4½ in.	4½ in.	5½ in.	6½ in.
Depth adjustment	Hand Knob	Hand Knob	Ball Crank	Ball Crank
Machine "V" Pulley	2¼ in. diam.	1¾ in. diam.	2 in. diam.	2 in. diam.
Fence Adjustment	Double tilt	Double tilt	Double tilt	Double tilt
Recommended Speed	3800 R.P.M.	3800 R.P.M.	4300 R.P.M.	4300 R.P.M.



A



B

## FOSTER THICKNESS PLANERS

HEAVY-DUTY 10-INCH PRODUCTION MODEL

**A** Rugged heavy-duty Foster Thickness Planer—sturdy enough to withstand the pressure of daily production work in pattern shops, cabinet shops, boat works, mills, schools and home work shops. Exceptionally accurate—holds cut to within a thousandth of an inch. Combination power feed and hand crank feed. Hand crank and power feed assemblies are interchangeable. Gives thorough dependable performance day after day.

**CAPACITY.** Handles lumber up to 2 3/4 inches thick by 10 inches wide—planes to uniform thickness. Minimum thickness is 1/16 inch. Maximum depth of cut is 1/8 inch. Minimum stock length 4 1/4 inches. Power feed rate 9 feet per minute. Stock can be fed by hand crank or power feed. Hand crank is used to prevent tearing curly grained woods. In-feed rolls are made of bar steel, corrugated—deliver ample driving power—are mounted in bronze bearings. Out-feed rolls are rubber covered to prevent marring. Feed roll pressure on stock is easily adjusted by screws on each end of in-feed and out-feed rolls—full turn of the adjusting screw exerts 18-lb. roll pressure.

**CUTTER HEAD** is machined from solid bar steel of high tensile strength and mounted on New Departure ball bearings. Machined surfaces ground to close tolerances assuring accurate balance. Three 10 3/4 by 7/8 by 1/2-inch Hi-carbon, H-chrome tool steel cutter knives. Diameter of head with knives is 2 inches. Cutter head speed is 3600 R.P.M. Knives cut 100 times per inch of travel.

**GROUND GRAY IRON TABLE.** Size 11 by 14 inches overall. Cast-iron frame and base. Conveniently placed hand wheel raises and lowers the table to accommodate various thicknesses of stock. One complete rotation of hand-wheel raises or lowers table 1/16 inch. Equipped with precision graduated gauge for accurately measuring depth of cut. Table stop eliminates the possibility of the table contacting knives in cutterhead when adjusting for thin stock.

Equipped with all pulleys and "V" belts. Size overall is 18 by 12 by 12 inches. Recommended for use with 1/2 or 3/4-H.P. Repulsion-Induction type 1725 R.P.M. motor (not included) listed separately on Page 42. No other accessories are required for operation.

84 KG 2518F—10-Inch Hand Crank and Power Feed Foster Bench Model Thickness Planer Only. Shipping weight 132 lbs. . . . . See Price List

84 KG 2519F—Cast-iron Stand for above Thickness Planer. Plywood upper and lower shelves. Ship. wt. 67 lbs. . . . . See Price List

HEAVY-DUTY 12 3/4-INCH PRODUCTION MODEL

**B** Gives greater capacity than planer at left. Easily handles big production jobs in shops and mills. Power feed drive only. Exceptionally accurate—holds cut to within a thousandth of an inch. Sturdily built.

**LARGE CAPACITY.** Handles lumber up to 4 in. thick by 12 3/4 in. wide—planes to uniform thickness. Minimum thickness is 1/16 in. Maximum depth of cut is 1/8 in. Minimum stock length 4 1/4 in. Power feed rate 9 ft. per minute. In-feed rolls machined from solid bar stock with ground bearing surfaces. Coarse straight knurl delivers ample driving power with minimum amount of gumming of roller when planing green or sappy stock. Out-feed rolls covered with neoprene rubber. Bond to steel out-feed roll shaft is firm and secure. Adjustable compression springs provided on both in-feed and out-feed rolls so tension can be readily adjusted. Chip breaker prevents chips from being thrown to operating side of planer.

**CUTTERHEAD.** Machined from solid bar stock of high tensile strength. Machined surfaces ground to close tolerances. Ample chip clearance and max. knife angularity provide least possible cutting friction. Mounted on N.D. ball bearings. Three 12 3/4 x 7/8 x 1/2 in. Hi-carbon, Hi-chrome steel knives. Power-feed cutter head speed 3600 R.P.M. Knives cut 100 times per inch travel.

**TABLE:** 12 3/4 by 20 inches. Made of close-grained, semi-steel gray iron castings—face highly polished. Adjustable steel gibs correct any wear which may occur on guide plates over period of years. Guide plates are designed with in-out adjustment so that any wear occurring on sides of table can likewise be adjusted. Stop on table eliminates possibility of table contacting knives in cutterhead when adjusting for thin stock.

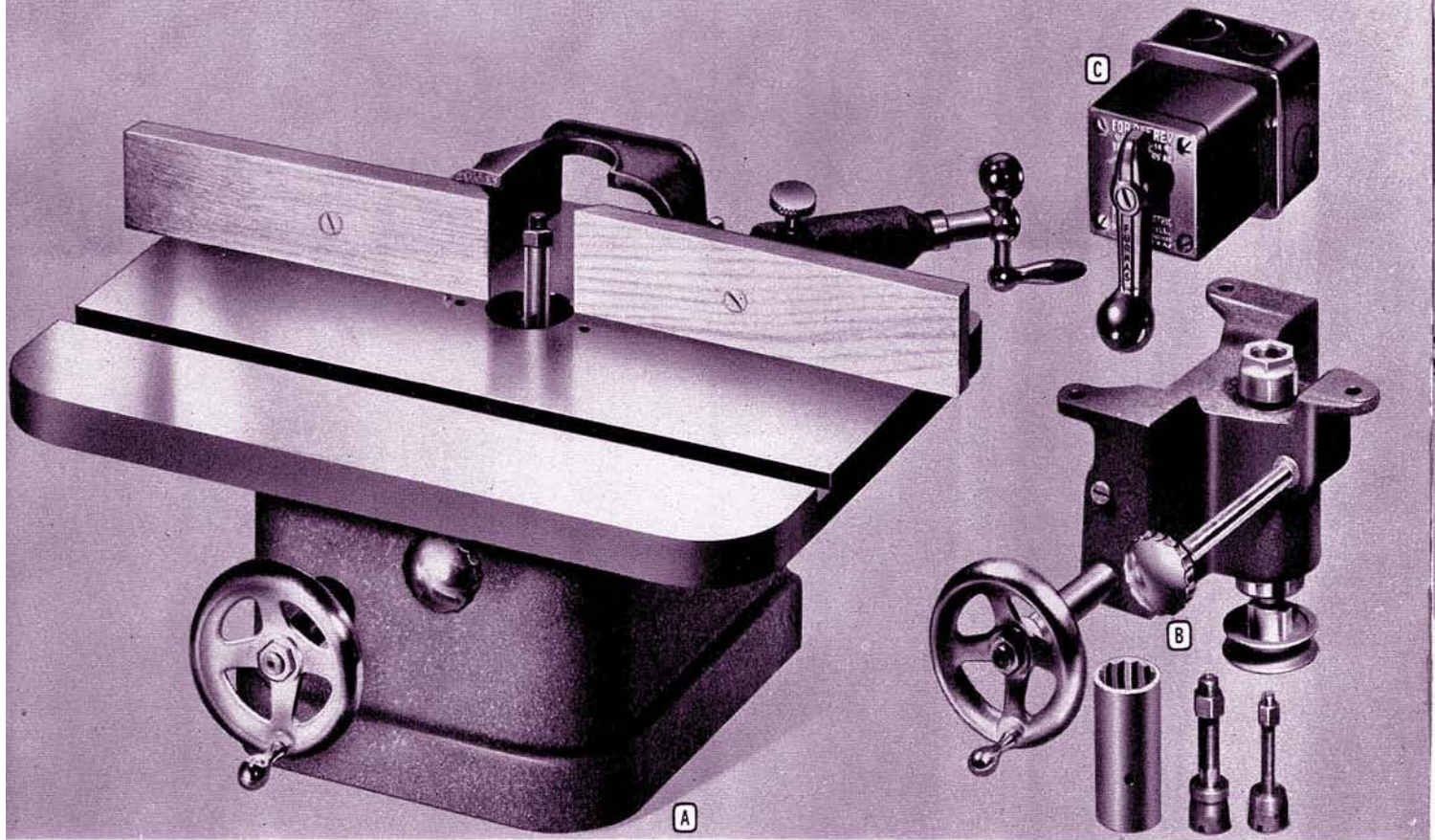
**AUTOMATIC TABLE ADJUSTMENT.** Power feed table raising and lowering device, raises table 4 inches in 30 seconds. Micrometer adj. to within .001 inch.

**AUTOMATIC BELT TENSION.** Spring swings motor from mounting. Little tension is maintained on belt when machine idles. Tension increases with load.

Equipped with pulleys and belts. Order motor separately on Page 43 Recommended for use with 1 1/2-H.P. R.I. 1725-R.P.M. motor (not included). No other accessories required. Size overall is 22 by 20 by 18 inches.

84 KG 2520F—12 3/4-in. Power Feed Foster Bench Model Thickness Planer. Shipping weight 175 lbs. . . . . See Price List

84 KG 2523F—18-ga. sheet steel Stand for above planer. 20 1/2 x 26 x 29 in. Wt. 82 lbs. . . . . See Price List



## POWR-KRAFT WOOD SHAPER AND CUTTERS

HIGH-SPEED PRECISION-BUILT PRODUCTION SHAPER . . . WITH NEW DEPARTURE BALL BEARINGS

**A** FOR PRODUCTION USE. Cuts moldings and grooves on edge and sides of straight and curved stock. 24,750 cuts per minute at recommended spindle speed of 8250 R.P.M. Stationary smooth ground cast-iron table 14 by 18 inches. 1/2-inch diameter spindle. 1 1/8-inch diameter quill. Sealed New Departure Ball Bearings spaced far enough apart to insure rigidity of spindle. Positive micrometer adjustment—turn of hand wheel lowers spindle 1/20-inch. Self-centered tapered adapter keyed to spindle for operation in both directions. Adapters for 5/16 and 1/2-inch bore cutters. Fence has two adjustable parallel faces. Micrometer screw feed adjustment for one side of fence. Gray wrinkle finish. Size 19 1/2 by 19 1/2 by 11 inches. With shaper guard, guide, adapter, wrench and starting pin. Recommended for use with 1/2-H.P. 3450-R.P.M. Ball Bearing motor, 5-inch diameter "V" motor pulley and 31-inch "V" belt. See Page 39 for pulley and belt and Page 43 for motor. 84 KG 2450 M—Shaper only. Shipping weight 55 lbs. . . . . See Price List

**B** SHAPER MECHANISM. Identical to mechanism included in complete shaper No. 84 KG 2450M shown above at left. For making your own wood shaper. Spindle 1/2-inch diameter, travels 1 inch. Spindle made of alloy steel and accurately ground, is mounted in a heavy quill and runs in two New Departure Ball Bearings. Takes 5/16 or 1/2-inch bore shaper cutters. Adapters, wrench and 2 1/4-inch diameter machine pulley included. Use with 1/2-H.P. ball bearing 3450 R.P.M. motor, 5-inch diameter "V" pulley and any length "V" belt. See Page 43 for motor—pulley and "V" belts on Page 39. 84 KG 2451—Shipping weight 20 lbs. . . . . See Price List

**C** REVERSING SWITCH. Three positions: Forward, Off and Reverse. Attaches to Shaper or stand. 110 to 500-volts, A.C. up to 1-H.P. capacity. Complete with bakelite case and lever knob. 84 KG 2491—Shipping weight 12 oz. . . . . See Price List

### SHAPER CUTTERS FOR POWR-KRAFT WOOD SHAPERS

**D** SPLIT SHAPER COLLARS AND KNIVES. Specially designed for those who prefer to grind their own shaper knives to profile required. 2 beveled edge shaper knives are clamped between 2 collars. Each knife 2 1/8 in. long x 3/16 in. thick. 84 KG 2477 K—Knives for Split Shaper Collars. Two widths—1/2, 1 in. State width. . . . . See Price List 84 KG 2478 K—Collars—1 3/4 in. diam. 1/2-in. bore. . . . . See Price List

**E** DEPTH WASHERS. Mount with shaper cutters to control depth of cut. Set of 6 assorted thicknesses. 84 KG 2467—5/16-in. bore. Ship. wt. per set, 2 oz. . . . . See Price List 84 KG 2476—1/2-in. bore. Ship. wt. per set, 6 oz. . . . . See Price List

EXTRA WIDE 5/16-IN. CUTTER (not shown). Shaped like (U) below. 1 in. wide, 1 1/4-in. diameter. Wt. 3 oz. 84 KG 2464. . . . . See Price List

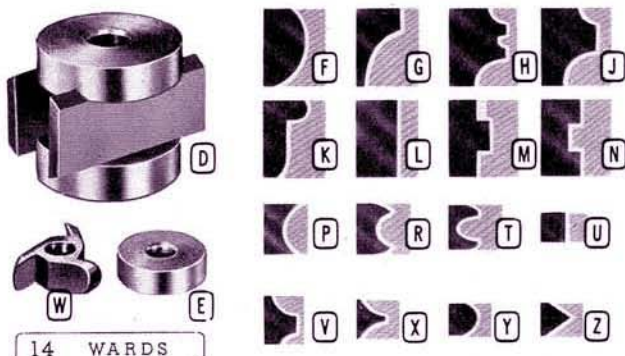
7-PIECE SHAPER CUTTER SET. 5/16-in. bore. Includes 1 each of cutters marked (\*) in table below and 6 depth washers. Ship. wt. 1 lb. 84 KG 2465—7-pc. Set. . . . . See Price List

24-PIECE SHAPER CUTTER SET. With set of assorted depth washers. 5/16-inch bore. Includes one each of sizes below plus 84 KG 2464 cutter at left. Ship. wt. 1 lb. 6 oz. 84 KG 2466—24-pc. Set. . . . . See Price List

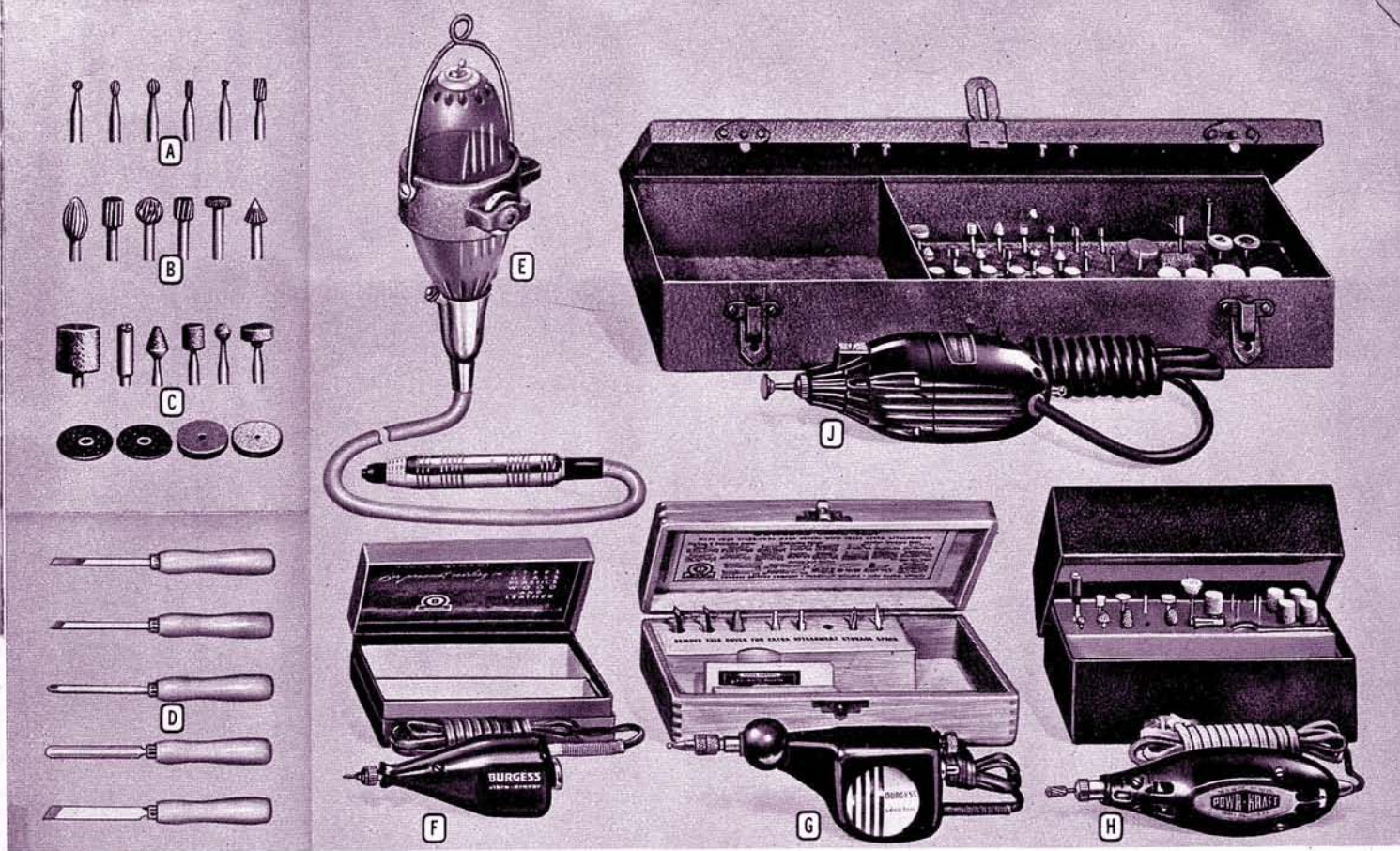
**F** to **N** 1/2-INCH BORE 3-LIP SHAPER CUTTERS. For use on shaper or drill press fitted for 1/2-in. bore cutters. Made of special alloy steel. 1-in. max. width cut, 1 3/4-in. diameter. State Catalog Number.

(F) 84 KG 2468; (G) 84 KG 2469; (H) 84 KG 2470; (J) 84 KG 2471; (K) 84 KG 2472; (L) 84 KG 2473; (M) 84 KG 2474; (N) 84 KG 2475; Ship. wt. ea., 6 oz. . . . . See Price List

**P** to **Z** 5/16-IN. BORE 3-LIP SHAPER CUTTERS. Special alloy steel, heat-treated, tempered. Use with wood shaper, shaper mechanism and drill presses. Ship. wt. ea., 3 oz. State Catalog Number and width. . . . . See Price List



Catalog Number	Width In.	Diam. In.	Catalog Number	Width In.	Diam. In.
(P) 84 KG 2455	.177	.95	(V) 84 KG 2459	.442	1.25
(P) 84 KG 2455	.264	.95	(W) 84 KG 2460	.177	1.02
(P) 84 KG 2455	.354	.95	(W) 84 KG 2460	.264	1.06
(P) 84 KG 2455	.442	.95	(W) 84 KG 2460	.354	1.09
(R) 84 KG 2456	.221	.994	(W) 84 KG 2460	.442	1.13
(R) 84 KG 2456	.442	1.03	(X) 84 KG 2461	.282	1.18
(T) 84 KG 2457	.303	1.09	(X) 84 KG 2461	.344	1.24
(T) 84 KG 2457	.388	1.16	(Y) 84 KG 2462	.194	1.13
(U) 84 KG 2458	.125	.95	(Y) 84 KG 2462	.260	1.20
(U) 84 KG 2458	.156	.95	(Z) 84 KG 2463	.177	1.12
(U) 84 KG 2458	.187	.95	(Z) 84 KG 2463	.282	1.21
(U) 84 KG 2458	.250	.95			



## ELECTRIC HAND TOOLS AND ACCESSORIES

### USEFUL ELECTRIC HAND TOOL ACCESSORIES

**A** STEEL BURR ASSORTMENT FOR WOOD. Fits rotary hand tools at right. High-grade, tempered tungsten steel. Cuts, engraves.  $\frac{1}{8}$ -in. shank diam. 84 KG 2811—6-pc. Set. Wt. 4 oz. . . . See Price List

**B** STEEL BURR ASSORTMENT FOR WOOD, SOFT METALS, ETC. Fits rotary hand tools at right. High-grade tungsten steel.  $\frac{1}{8}$ -in. shank diam. 84 KG 2813—Set of 6. Wt. 4 oz. . . . See Price List

**C** ABRASIVE SET FOR HARD MATERIALS. Fits rotary hand tools at right. 10-pc. set; 5 abrasive points, 2 corundum cutting discs,  $\frac{1}{8}$ -in. face grinding wheel, rubber polishing wheel, arbor. 84 KG 2817—Ship. wt. 6 oz. . . . See Price List

**D** MODEL MAKERS' CHISEL SET. Tempered steel. Hardwood handles. Length overall about 9 in. Includes  $\frac{1}{4}$ -in. skew,  $\frac{1}{2}$ -in. skew,  $\frac{1}{2}$ -in. gouge, round nose and cut-off tool. Wt. 3 lbs. 84 KG 2062 K—Per Set. . . . See Price List

**E** FLEXIBLE SHAFT FOR HAND TOOL. Fits (J) only. Core 36 in. long,  $\frac{9}{32}$ -in. diam. Case diam.  $\frac{3}{8}$  in. Handpiece  $\frac{3}{4}$ -in. diam. 1 ball bearing, 1 bronze bearing. Hand-piece rotates independently. End bell clamps over nose of hand tool, core fitting into chuck. Hanger assembly, 2 collets (for  $\frac{1}{8}$ ,  $\frac{9}{32}$ -in. diam.) shank access. 84 KG 2845—Ship. wt. 2 lbs. . . . See Price List

**K** MODEL MAKERS' DRILL PRESS. Use with hand tool 84 KG 2805 shown above. Spindle travels 2 in. Drills to ctr. of  $6\frac{3}{4}$ -in. circle. Gray iron base with 5x5-in. working surface. Heavy steel column. Movable machined table  $4\frac{3}{4} \times 4\frac{3}{4}$  in., gives max. cap. of 11 in. from base to chuck. Adjustable head assembly. Lever handle. Ht. 19 $\frac{3}{4}$  in. Ship. wt. 16 lbs. 84 KG 2854 K. . . . See Price List

**L** MODEL MAKERS' ROUTER. For beading, fluting, veining, routing. Hand Tool (not included—use 84 KG 2805 shown above) held by clamping blocks. Depth adjustment. Cast-iron base—gray wrinkle finish. Wt. 2 lbs. 8 oz. 84 KG 2850 K. . . . See Price List

**F** BURGESS ELECTRIC VIBRO-GRAVER. Lightweight marking, engraving and embossing tool . . . permanently marks and identifies all types of tools, engraves glass, etc. Easily operated—just like writing.

A reciprocating tool (not rotary type)  $5\frac{1}{2} \times 1\frac{3}{4} \times 1\frac{1}{8}$  in. with hard steel tantalum carbide marking point. Use on 110-120-V., 60-cycle A.C. only. Cord and plug. 84 KG 2874 K—Ship. wt. 1 lb. . . . See Price List

**G** BURGESS ELECTRIC VIBRO-TOOL MASTER KIT. Not a rotary tool—vibrates 120 vertical strokes per second. Writes on wood, metal or glass.

Tool is  $7\frac{1}{2} \times 2\frac{3}{4} \times 1\frac{1}{2}$  in. Has plastic housing. With 6-ft. rubber cord, plug. Operates on 110-120-volt, 60-cycle A.C. only. Kit includes: Vibro-tool; partitioned wood box; 8-pc. tooling points (curved chisel, "V" shaped chisel,  $\frac{1}{32}$ -in. ball point, abrasive point, tantalum carbide hard point,  $\frac{1}{8}$ -in. leather punch, deer-foot spoon, straight edged knife, sharpening stone). 84 KG 2873—Ship. wt. 3 lbs. . . . See Price List

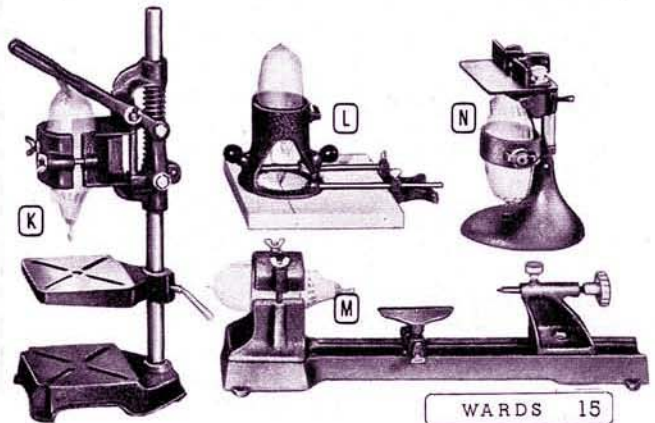
**H** POWR-KRAFT ELECTRIC HAND TOOL KIT. Rotary type. Plastic case. 110-120-V., 60-C. A.C.-D.C. motor. 30-W. output. N.D. ball bearings. Takes  $\frac{1}{8}$  and  $\frac{3}{32}$ -in. diam. shank access. On-off switch. Runs at 20,000 R.P.M. Incl. Hand tool, 2 metal, 3 wood burrs, 4 mtd. abrasive points, sanding drum, 4 sleeves, 2 bristle brushes, access. tray. 84 KG 2803—Shipping weight 2 pounds. . . . See Price List

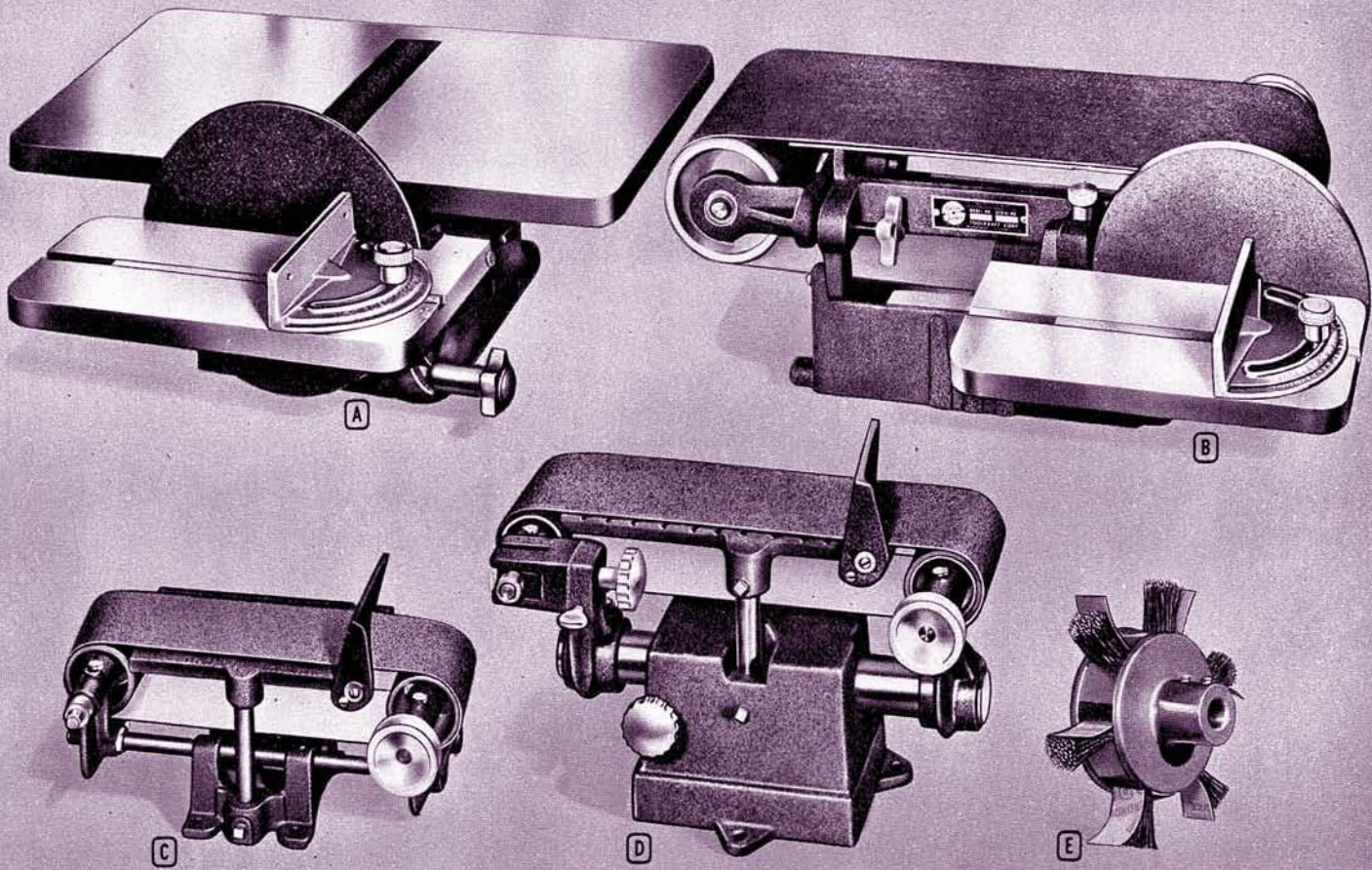
**M** MODEL MAKERS' LATHE. Turn your own model parts. Cast-iron base, tailstock and headstock. Hand Tool (not included—use 84 KG 2805 shown above) clamps in headstock and is held in rigid alignment. 12 in. between centers, 6-in. swing over bed. Length 24 in. Height  $6\frac{3}{4}$  in. With tool rest, driving and dead center. Gray wrinkle finish. Ship. wt. 12 lbs. 84 KG 2853 K. . . . See Price List

**N** MODEL MAKERS' SHAPER-CARVER. Makes many different cuts. Removable table, upright—use as bench stand or carver.  $3\frac{3}{4} \times 5$ -in. cast-iron table. Adjustable guide fence. Wt. 3 lbs. 84 KG 2852 K—Shaper-Carver. (Use with 84 KG 2805 above). . . See Price List

**J** POWR-KRAFT ELECTRIC HAND TOOL KIT. Rotary type. A real production tool for die sinkers, patternmakers, modelers, etc. Use free hand or with tools below. With Universal G.E. motor. 110-120-volt, 60-cycle or less A.C.-D.C. Develops 40-watt output. Runs on N.D. grease-sealed ball bearings at 20,000 R.P.M. Develops maximum power at 10,000 R.P.M. Square cartridge-type brushes. Toggle type switch. Chuck takes  $\frac{3}{32}$  and  $\frac{1}{8}$ -inch diameter shank accessories. Large bearings take radial load and end thrust. Locking device holds chuck securely while changing bits. Fan pulls air over motor. Length of hand tool is 7 inches. Includes chuck wrench, 8-ft. rubber cord and plug.

HAND TOOL KIT INCLUDES: Hand tool in sturdily constructed hinged steel box, 6 wood cutting burrs, 3 metal cutting burrs, 8 mounted abrasive points, 1 dressing stone, 1 sanding drum, 6 mounted sleeves, 1 felt wheel, 1 bristle brush, 1 rubber polishing wheel, 2 corundum cutting discs, 1 grinding wheel, 1 combination mandrel and 48 assorted sanding discs. Wts. 8, 3 $\frac{1}{2}$  lbs. 84 KG 2806—Hand Tool Kit. . . . See Price List  
84 KG 2805—Hand Tool Only. . . . See Price List





## BELT, DISC, DRUM, CONTOUR SANDERS

### POWER-KRAFT COMBINATION DRUM AND DISC SANDER

**(A)** For the hobbyist or production shop. With 9x3 $\frac{3}{8}$ -in. drum and 8-in. diam. disc. Spindle runs smoothly on two New Departure ball bearings. Main table is 12x18 in.

Disc table 11 $\frac{1}{4}$ x6 in. wide with 8-in. diam. sanding disc. Table tilts up to 45°. Miter gauge variable through 120°. Any angle or compound angle can be obtained by using protractor quadrant and miter gauge. Joints may be cut out roughly, then trued up on sander. Gray enamel finish. (Order extra size 9x11-in. sanding sheets at right.) Size overall 18x20 $\frac{1}{2}$ x8 $\frac{1}{4}$  in. Recommended motor— $\frac{1}{2}$ -H.P. 83 KG 4551M—see Page 43. Recommended "V" pulley—3-in. diam.; recommended "V" belt—44 in., see Page 39. Recommended stand No. 84 KG 2962M—see Page 49. 84 KG 2709 M—Sander only. Ship. wt. 34 lbs. . . . . See Price List

#### SPECIFICATIONS FOR SANDERS (B), (C) AND (D)

	(B) 84 KG 2724M	(C) 84 KG 2702M	(D) 84 KG 2712M
Width of sanding belt	6 in.	3 in.	4 in.
Length of sanding belt	44 $\frac{1}{2}$ in.	29 $\frac{1}{2}$ in.	34 in.
Size of table under belt	6 $\frac{1}{4}$ x12 $\frac{1}{4}$ in.	4x8 in.	4 $\frac{1}{4}$ x10 $\frac{5}{8}$ in.
Width overall	17 in.	6 $\frac{5}{8}$ in.	7 $\frac{1}{2}$ in.
Length overall	22 in.	13 $\frac{1}{2}$ in.	15 $\frac{5}{8}$ in.
Bearings	Ball	Cast iron	Bronze
"V" Pulley on machine	3-in. diam.	2 $\frac{1}{4}$ -in. diam.	2 $\frac{1}{4}$ -in. diam.
Recommended motor	$\frac{1}{2}$ -H.P. 83 KG 4551M	$\frac{1}{4}$ -H.P. 83 KG 4555M	$\frac{1}{3}$ -H.P. 83 KG 4551M
Recommended motor "V" pulley	2 $\frac{1}{2}$ in. 84 KG 2877	2 in. 84 KG 2877	2 in. 84 KG 2877
Recommended stand	84 KG 2962M	84 KG 2960M	84 KG 2962M
Recommended "V" belt	46 in.	46 in.	46 in.

For Motors see Page 43; for "V" belts and pulleys see Page 39; for stands see Page 49.

### POWER-KRAFT BELT AND DISC SANDER

**(B)** For high-speed work on wood, metal or plastics. Sands both curved and flat surfaces. Uniform cutting speed across the entire face of the belt gives a smooth, even surface for sanding flat work. Rubber covered drive drum gives a cushioned surface for sanding concave pieces.

Cast-aluminum construction. Equipped with four grease-sealed ball bearings. Miter gauge table is 5 $\frac{7}{8}$ x11 $\frac{1}{8}$  in.—adjustable to 45° angle—for use as sanding disc table, or removable to opposite side to serve as fence and stop. Tension and aligning knobs on both sides of sander. Includes miter gauge, 8-in. diam. sanding disc and 6x44 $\frac{1}{2}$ -in. medium grit sanding belt. 9 $\frac{1}{4}$  in. high. Base size 8 $\frac{5}{8}$ x11 $\frac{1}{8}$  in. Gray enamel finish. (Order extra sanding belts and sanding discs at right).

84 KG 2724 M—Belt and Disc Sander. Ship. wt. 32 lbs. . . . . See Price List

### POWER-KRAFT 3-IN. BELT DRIVEN SANDER.

**(C)** A handy, compact sander that can be bolted to a bench in the most convenient position. Gray iron frame assures proper alignment of two rubber covered rollers—mounted on 3-in. cast-iron bearings. Cups for oiling. 4x8-in. adjustable table. Guide fence pivots to 45°. One medium grit sanding belt, 3x29 $\frac{1}{2}$  in. included. (Order extra sanding belts at right).

84 KG 2702 M—3-in. Belt Sander. Ship. wt. 13 lbs. . . . . See Price List

### WARDS HANDY SANDER

**(F)** Zinc plated steel frame. 1 $\frac{3}{8}$ x20-in. med. grit abrasive cloth.  $\frac{1}{2}$ -in. rubber cushion. 84 KG 4109—Ship. wt. 6 oz. . . . . See Price List

**(G)** HANDY REFILLS FOR ABOVE SANDER. 84 KG 4110—Ship. wt. 2 oz. . . . . See Price List

**(G)** SPINDLE SANDER. Rubber drum expands to hold sandpaper. Fits  $\frac{1}{2}$ -in. unthreaded shaft. With garnet paper, forming roller. 84 KG 2713 K—Ship. wt. 2 lbs. See Price List

### POWER-KRAFT 4-IN. BELT DRIVEN SANDER

**(D)** For horizontal, vertical sanding—table tilts 90° to left. Gray iron frame. Rubber faced drums run on bronze bearings. Table under belt raises or lowers. Removable guide fence tilts 20 to 90°. With 4x34-in. belt. 84 KG 2712 M—Wt. 33 lbs. . . . . See Price List

**(E)** SAND-O-FLEX CONTOUR SANDER. Fits motor shafts, etc. For sanding carvings, removing paint and rust. Satin finishes metal, removes tool marks. 3-in. diam. head.

84 KGP 2730—Fits  $\frac{1}{2}$ -in. shaft. See Price List

84 KGP 2731—Fits  $\frac{5}{8}$ -in. shaft. See Price List

EXTRA GARNET REFILLS. Use on wood, plastic, etc. State fine, medium or coarse grit. 84 KGP 2732 . . . . . See Price List

ALUMINUM OXIDE REFILLS. Use on metals. State fine, medium or coarse grit. 84 KGP 2733 . . . . . See Price List

EXTRA SAND-O-FLEX BRUSHES. Set of six. 84 KGP 2734 . . . . . See Price List

### SANDING DISCS, SHEETS AND BELTS

GARNET DISCS. Fit sanders (A) and (B). 8-in. diam. State fine, medium or coarse grit. 84KG2740—Pkg. of 12. Wt. 1 lb. See Price List

GARNET SHEETS. Fit drum of sander (A) above. 9x11 in. State fine, med., coarse. 84KG2741—Pkg. of 12. Wt. 1 lb. See Price List

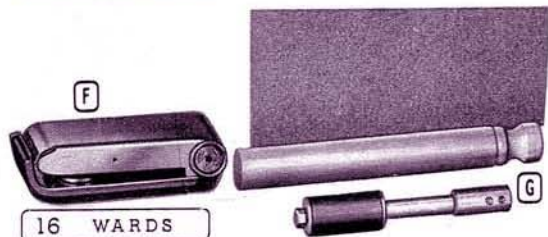
ENDLESS BELTS FOR ABOVE SANDERS. Cloth backed. State fine, medium or coarse grit. 84 KG 2715—Fits sander (C) above and (D) on opposite page. For wood. 3x29 $\frac{1}{2}$  in. Ship. wt. 4 oz. . . . . See Price List

84 KG 2716—Fits sander (C) above and (D) on opposite page. For metal. 3x29 $\frac{1}{2}$  in. Ship. wt. 4 oz. . . . . See Price List

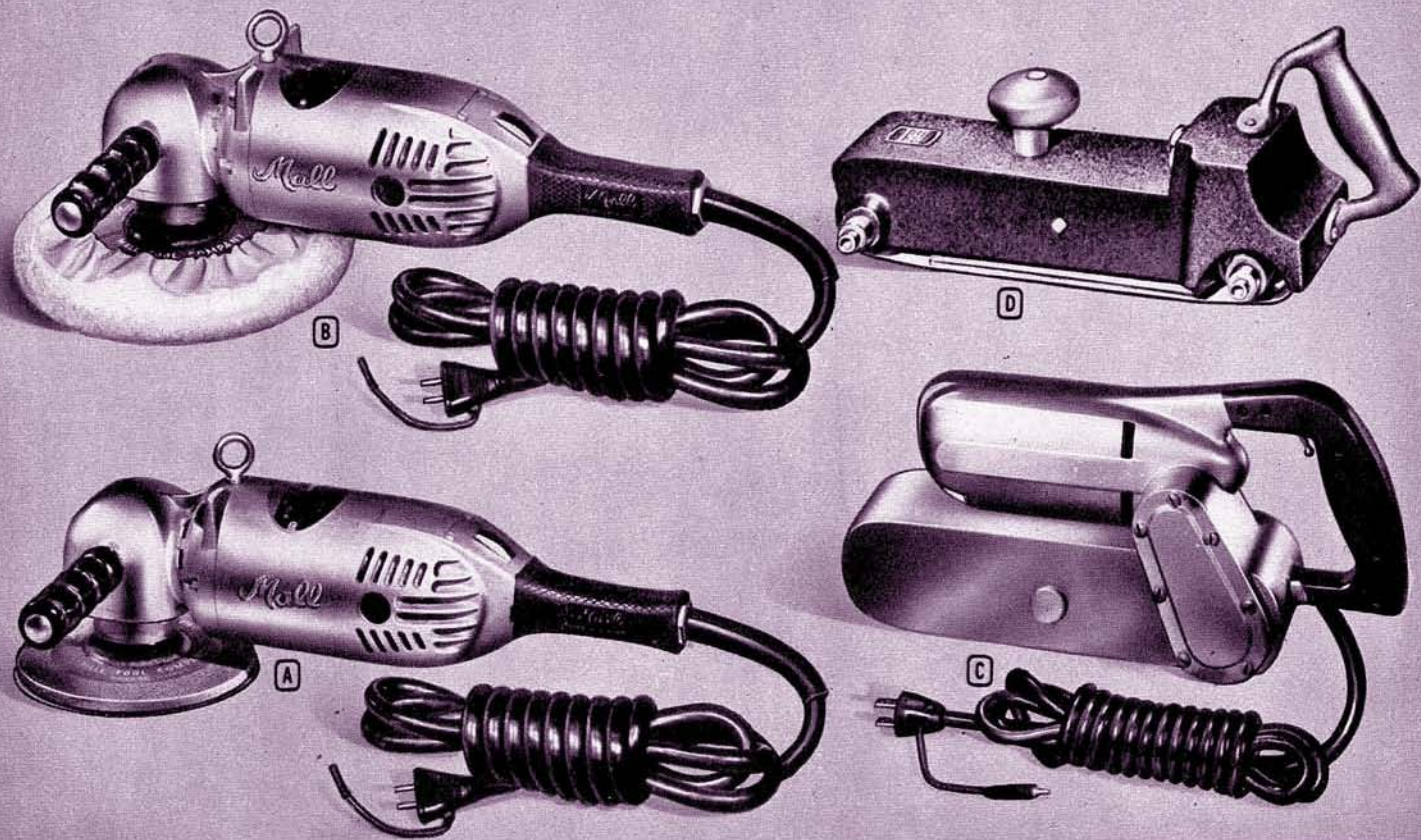
84 KG 2721—Fits sander (D) above. For wood. 4x34 in. Ship. wt. 4 oz. . . . . See Price List

84 KG 2722—Fits sander (D) above. For metal. 4x34 in. Ship. wt. 4 oz. . . . . See Price List

84 KG 2717—Fits sander (B) above. For wood. 6x44 $\frac{1}{2}$  in. Ship. wt. 12 oz. See Price List







## AND POLISHERS FOR EVERY PURPOSE

### NATIONALLY KNOWN MALL PORTABLE SANDER AND POLISHER

**A B** New, lightweight rotary type. Saves time and effort on all sanding and polishing jobs. Eliminates tiresome rubbing . . . all you do is guide it. Housing is made of magnesium castings to give greatest strength with lowest possible weight . . . withstands hours of steady use. Completely enclosed, conveniently located on-off switch near rubber gripped handle. Detachable handle . . . fits either side for right or left-hand operation.

#### SPECIFICATIONS:

**MOTOR:** Heavy-duty universal type. 110-120-volt, 60-cycle A.C. or D.C. Equipped with thermal overload fuse—protects motors from burning out. Totally enclosed commutator—protected from dust, grit, chips, etc. Removable brushes.

**BEARINGS:** Smooth running, long lasting New Departure ball bearings. Grease sealed—lubricated for life.

**GEARS:** Helical cut, hardened alloy steel. Accurately meshed with a relative hardness difference between gears and pinions for long life and smooth operation.

**VENTILATION:** Blower type fan pulls large volume of air over motor.

**CORD:** 15-foot heavy-gauge rubber-covered cord and plug.

**SIZE OVERALL:** 20 by 10 by 6 inches.

**A** MALL 7-IN. PORTABLE ELECTRIC SANDER. Used by woodworking shops, garages, body and fender repair shops for sanding wood, metal, plastics, wallboard, stone, concrete, etc. Ideal for resurfacing furniture, floors, woodwork, etc. Excellent for sanding curved or irregular surfaces. Takes 7-in. diameter sanding discs—easily changed with conveniently placed positive spindle lock. No load speed 4200 R.P.M. Full load speed 2520 R.P.M. Rated one horsepower. One disc pad and three sanding discs (fine, medium and coarse grit), and wrench included. Actual weight 14 lbs.

84 KGP 2707 K. . . . . See Price List

**SANDING DISCS FOR ABOVE SANDER.** 7-inch diameter. Aluminum oxide, for steel, etc. Fine, medium or coarse. *State grit wanted.*

84 KGP 2708. . . . . See Price List

**B** MALL PORTABLE ELECTRIC POLISHER. Saves work in home, shop or garage. Takes 8-in. diameter sheepswool buffer. For buffing or polishing on curved or flat surfaces. Used in garages for polishing cars, in wood working shops . . . for polishing wood, metal, tile, plastics, linoleum, etc. Has positive spindle lock for quick changing of pads. No load speed 2000 R.P.M. Full load speed 1200 R.P.M. Motor is rated 7/8-horsepower. Complete with 8-in. sheepswool buffing bonnet and pad. Actual weight of polisher 13 lbs. (See Page 28 for extra sheepswool bonnets.)

84 KGP 2758 K. . . . . See Price List

### MALL PORTABLE 3-IN. BELT SANDER

**C** Makes floor sanding easy. Ideal for home craftsmen, boat builders, cabinet makers, pattern makers, etc. Excellent for sanding furniture, doors, sash, stairs, veneer, plywood, boats, etc. Streamlined, lightweight aluminum alloy housing. 110-120-volt, 60-cycle, A.C.-D.C. heavy-duty motor—mounted directly over center of belt. Handy trigger type switch, for right or left hand operation, is UL approved. Oil-impregnated sleeve bearings for quiet, trouble-free operation. Precision meshed gears. Saw-type grip. 24x3-in. belt. Belt tension is maintained by coil spring. Right side of belt is flush with side of sander for close work. Size overall 13½ by 4½ by 6½ in. 10-ft. cord, one medium grit belt included.

84 KG 2735 K—Ship. wt. 13 lbs. . . . . See Price List

**REPLACEMENT BELTS FOR SANDER 84 KG 2735K ABOVE.** Aluminum oxide abrasive. 24 by 3 in. Fine, medium or coarse grit. *State grit wanted.*

84 KG 2736—Ship. wt. ea. 3 oz. . . . . See Price List

### FLEXIBLE SHAFT SANDER

**D** POWA-KRAFT. For fast, smooth sanding of desks, tables, cabinets, doors, floors, sash, stairs, plywood, etc. Lightweight—easy to operate. Length overall 16¾ in. Belt size 3x29½ in. Rubber-covered crowned rollers run on self-lubricating bronze bearings. Belt is backed at sanding surface by an adjustable cast aluminum table with cork pad and sheet metal cover plate. Convenient saw grip handle. Use with any flexible shaft having ½-in. 24-thread spindle. Flexible shafts listed on Page 28. Recommended motor: ¼- or ⅓-H.P. 1725 R.P.M.—motor listed on Page 42. Extra sanding belts on opposite page.

84 KG 2703 M—Sander only. Ship. wt. 11 lbs. . . . . See Price List

### MALL 7-IN. DRILL-POLISHER-SANDER

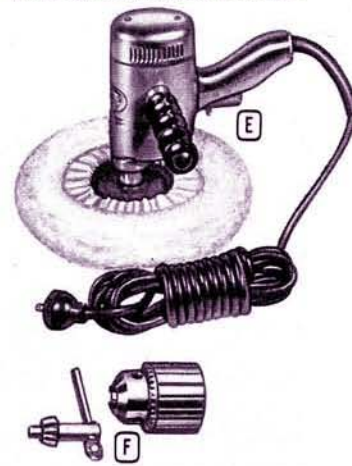
**E** New rotary disc type. A new, versatile tool for fast, easy polishing or sanding on curved or flat surfaces. Use in garages for polishing cars, in wood working shops, or any place where a high luster is required on wood, metal, plastics, tile, etc. Die-cast aluminum alloy frame provides greatest strength with lowest possible weight. 110-120-volt, 60-cycle A.C.-D.C. heavy-duty motor mounted directly over disc for perfect balance. Handy trigger type switch. Side handle for two-hand operation.

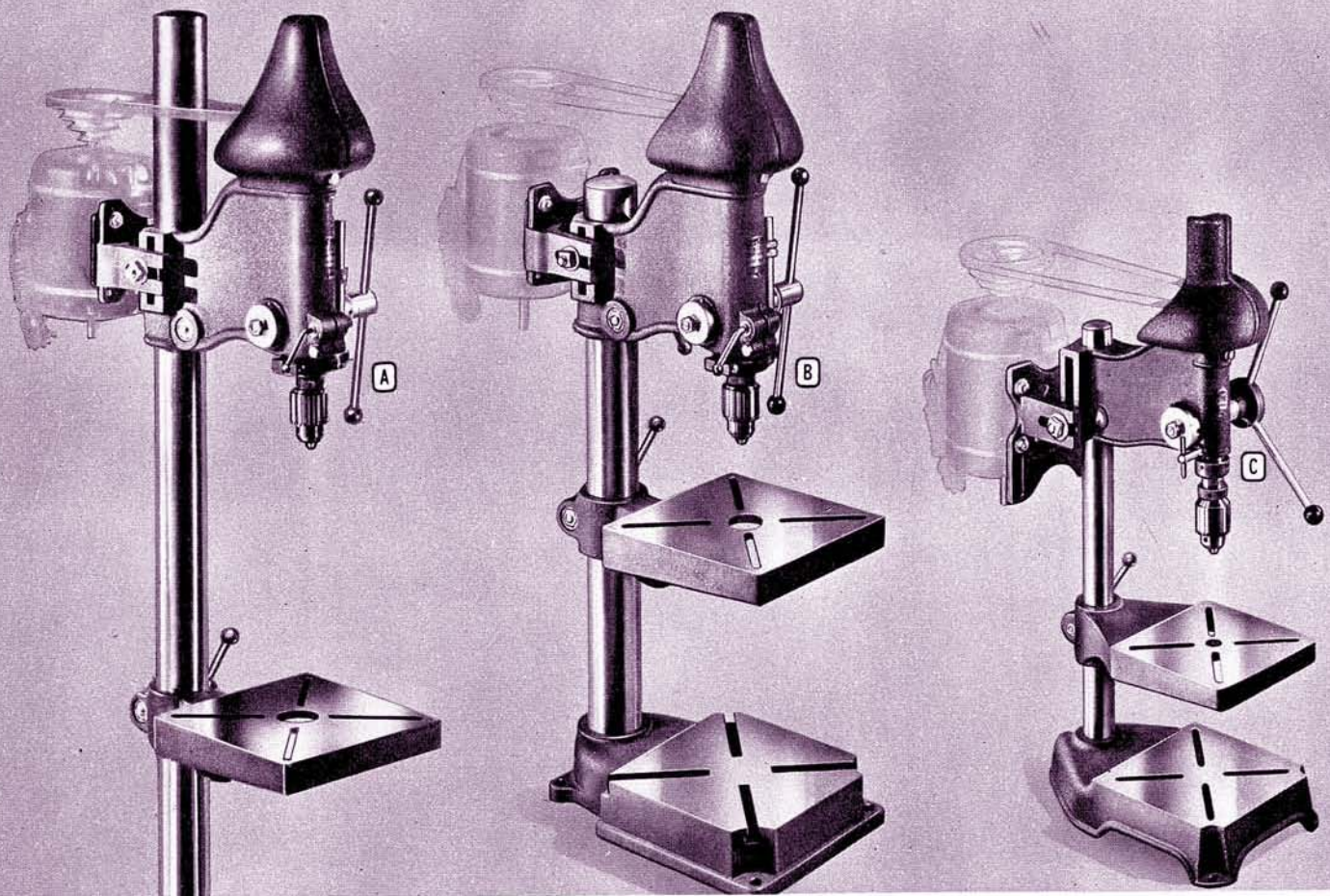
Helical cut spur gears accurately meshed for smooth, quiet operation. Grease sealed ball bearings for trouble-free service. Blower type fan. Takes 7-in. diam. sheepswool buffer (one included), 7-in. diam. sanding discs (4 included). Height 8¾ in. Can be used as Electric Drill with 84 KGP 3497 Chuck listed below (not included).

84 KGP 2646 M. . . . . See Price List

**F** ¾-IN. CHUCK FOR ABOVE DRILL POLISHER. Jacobs 3-jaw geared chuck.

84 KGP 3497. . . . . See Price List





## POWR-KRAFT DRILL PRESSES

### SIX-SPLINED SPINDLE DRILL PRESSES . . . FLOOR AND BENCH MODELS

You get massive, heavy construction with built-in accuracy capable of meeting the most exacting standards when you use Powr-Kraft Drill Presses. All models have features that make a smooth-running drill with strength, rigidity, and lack of vibration. Production Model presses drill to a depth of 4 inches, to center of a 15-inch circle. Light-Duty Model drills to depth of 3½ in., to center of 14¼-in. circle. All are adaptable to routing, mortising, planing, hole cutting, drum sanding, etc. 15-in. models recommended for wood shaping.

**FREE-FLOATING SPINDLE.** A good test of the quality of any drill press is its spindle construction. There is no finer type of spindle mounting than that used in these drill presses! All models have 6-splined, automotive type spindle. Production Models have New Departure ball spindle and thrust bearings. Light-Duty Model has self-lubricating bronze spindle bearings and New Departure ball thrust bearings. Upper spindle guard allows quick belt change.

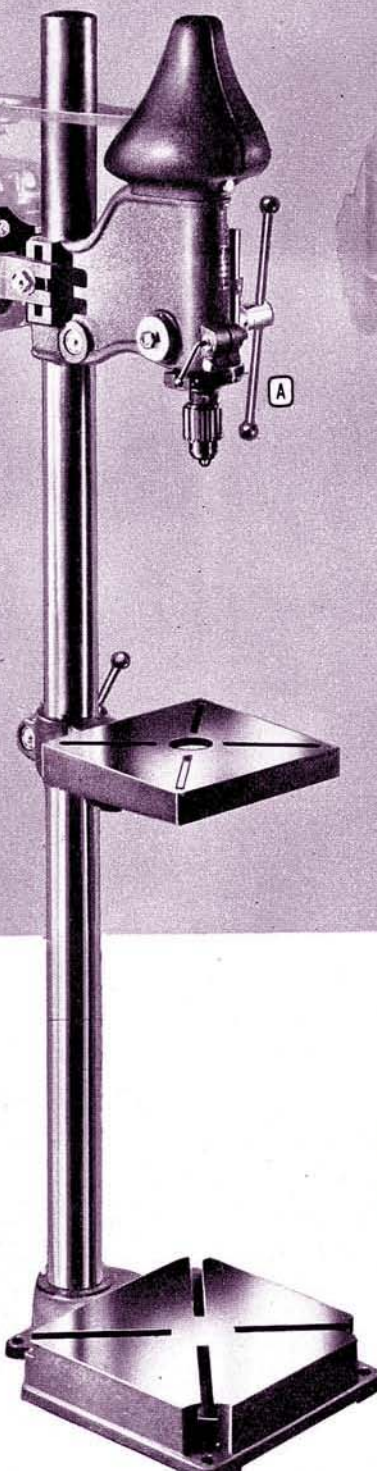
**ADJUSTABLE MOTOR MOUNT.** Single nut controls both vertical and horizontal adjustment of motor. Provides correct belt tension, speeds up work.

**EXTRA CONVENIENCE.** Quill housing is split on Production Models—permits easy take-up for any wear that may occur. Quill on all models can be locked in any position for routing. Coil spring returns it to its original position after drilling. Adjustable cast-iron head.

Table swings out of way and base used as auxiliary table if work is unusual shape or size. Table and base diagonally slotted for fastening jigs, etc. Ground tubular steel columns.

Table on 15-in. models firmly held in proper alignment by taper pin. Pin is removable for tilting table up to 45 degrees either to right or left. 14¼-in. model has non-tilt table.

**DEPTH GAUGE.** Production models have accurate adjustable depth gauges. Exact depth of drill point always visible. Stop screw for duplicate depth drilling. No adding or subtracting necessary, no need to change level of table for different sized work to get accurate measurements. Light-duty Model has gauge showing depth at any position of spindle. All Drill presses complete with ½-in. Jacobs key chuck and 4-step machine pulley. Motors on Pages 42-43.



#### 15-INCH FLOOR MODEL

**A** Production Model—for heavy-duty use. Precision built to the finest degree; streamlined design for efficiency and compactness. A sturdy, rugged drill press that will consistently give excellent service and performance on the steady day-in-day-out production jobs. It's especially designed for manufacturers, garages, blacksmiths, machinists, industrial shops, etc.

See complete "Drill Press Specifications" at left. Accessories listed on opposite page.

84 KG 2534 R—Drill Press. Ship. wt. 126 lbs. . . . See Price List

#### 15-INCH BENCH MODEL

**B** Production Model—for heavy-duty use. Precision built—accurate to .005 of an inch. If you need extra working space, here's the drill for you! Streamlined design for efficiency and compactness—overall height is only 43½ inches. Packed with the power necessary to handle the tough jobs. Equipped with an exceptionally heavy gray iron base with a large working surface.

See complete "Drill Press Specifications" at left. Accessories listed on opposite page.

84 KG 2533 R—Drill Press. Ship. wt. 110 lbs. . . . See Price List

#### 14¼-INCH BENCH MODEL

**C** Light-duty Model—for hobbyists and craftsmen. Same precision workmanship and quality materials as in heavy-duty models, but built for lighter duty. Streamlined design—increases efficiency, requires little space. Easy to handle wide variety of drilling jobs in wood or metal as well as routing, mortising and sanding. Heavy gray iron base with large working surface.

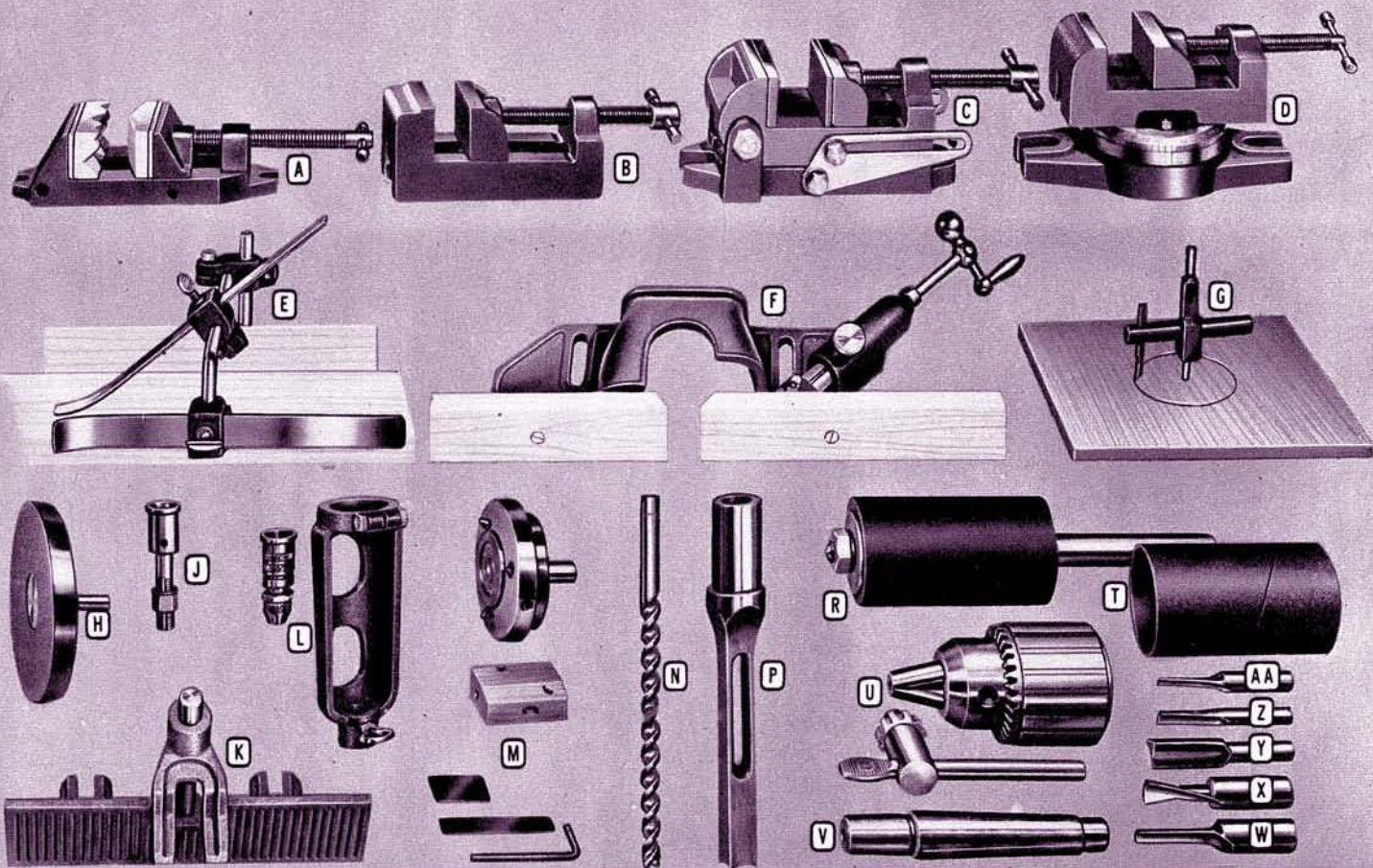
See complete "Drill Press Specifications" at left. Accessories listed on opposite page.

84 KG 2530 M—Drill Press. Ship. wt. 57 lbs. . . . See Price List

#### DRILL PRESS SPECIFICATIONS

Catalog No.	84 KG 2534R	84 KG 2533R	84 KG 2530M
Height overall	72 in.	43½ in.	33½ in.
Chuck to table	43 in.	13 in.	11 in.
Chuck to base	48½ in.	18½ in.	14 in.
Column diam.	2¾ in.	2¾ in.	1¾ in.
Table Area	10x10 in.	10x10 in.	7½x7½ in.
Base Area	12x12 in.	10x10 in.	8x8 in.
Speed R.P.M.	600-5200	600-5200	700-4000
Rec. "V" Belt	84 KG 2876 ½ x 42 in.	84 KG 2876 ½ x 37 in.	84 KG 2881
Rec. Pulley	84 KG 2882	84 KG 2881	
Rec. Motor	83 KG 4551M—½-H.P. capacitor		

See Page 39 for listings of "V" belts and pulleys.



## ACCESSORIES FOR DRILL PRESSES

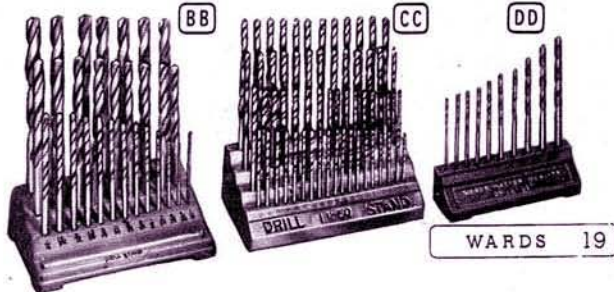
ACCESSORIES AND ATTACHMENTS FOR DRILL PRESSES... ONLY 10% DOWN ON CONVENIENT TERMS

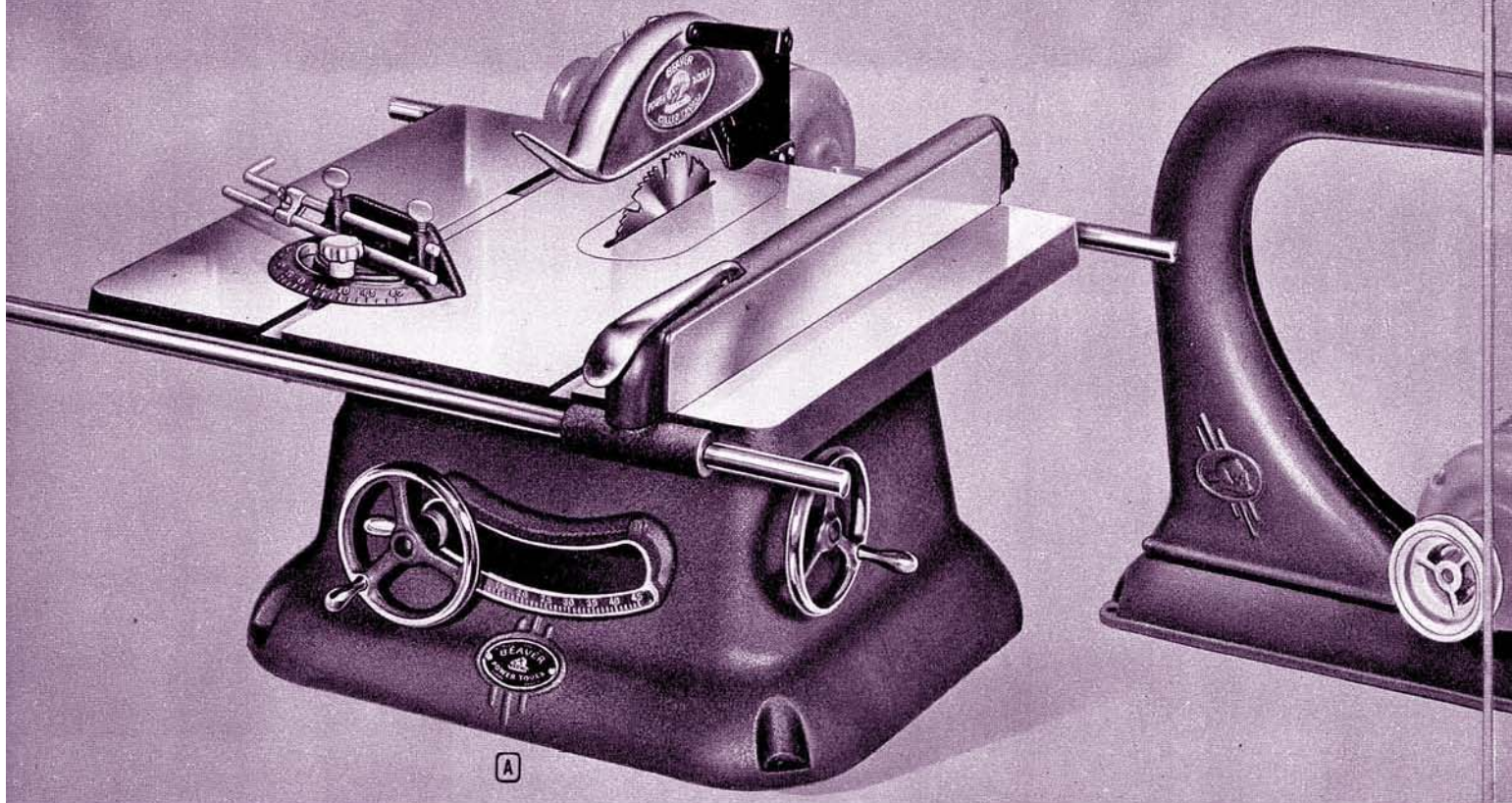
- A** DRILL PRESS OR HAND VISE. Die-cast base 8 1/4 in. long. Jaws 2 3/8 in. wide, opens to 3 in. Extra set of jaws for irregular shaped objects. 84 KG 2563—Ship. wt. 4 lbs. . . . . See Price List
- B** PALMGREN REGULAR VISE. Cast-iron jaws 2 1/2 in. wide, open to 3 in. Depth of jaws 1 1/2 in. Size overall 2 1/2 x 7 3/4 x 2 3/4 inches. 84 KG 2595 . . . . . See Price List
- C** PALMGREN TILTING ANGLE VISE. For production work. Cast iron. Grooved (for round pieces) steel jaws 2 1/2 inches wide, open to 2 1/2 inches. Depth of jaws 1 7/16 inches. Vise adjusts to 90 degree angle. Size 4 x 9 x 3 3/8 inches. 84 KGP 2596 . . . . . See Price List
- D** MACHINE SWIVEL VISE. Secures work to Drill Press table. Makes work with small pieces more convenient. Steel jaws 2 7/8 inches wide, open to 3 inches. Jaw depth 1 1/2 inches. Swings in 360 degree arc. 84 KG 2593 K—Ship. wt. 21 lbs. . . . . See Price List
- E** HOLD DOWN ATTACHMENT. Clamps to table. Springs hold work flat and against fence. Long bars adjust to width and depth of work. 84 KG 2480—Ship. wt. 4 lbs. . . . . See Price List
- F** SHAPER GUARD, FENCE. Converts drill presses for straight cut shaping. Hardwood faces. 84 KG 2560—Ship. wt. 4 lbs. . . . . See Price List

- G** HANDY HOLE CUTTER. Hardened and tempered tool steel. Accurately cuts round holes 7/8 to 4 inches in diameter in steel, wood, plastic, etc. Easily adjusted. Combination square and round shank for use in bit brace hand or breast drill. 84 KG 3656—Ship. wt. 12 oz. . . . . See Price List  
84 KG 3657—Extra Blade. Wt. 2 oz. . . . . See Price List
- H** BERRY ROTARY DISC SANDER. Produces smooth sanded surfaces. 6-in. diam. Fits any press with 1/2-in. chuck. Flexible spring steel top plate; aluminum body. 3 ass't sanding discs and glue. 84 KG 2590—Ship. wt. 2 lbs. 8 oz. . . . . See Price List
- I** SHAPER CUTTER ADAPTORS. Fit on spindle of drill presses (A) and (E) only on opposite page. Ship. wt. each, 4 oz.  
84 KG 2558—Fits 5/8-in. bore cutters. See Price List  
84 KG 2559—Fits 1/2-in. bore cutters. . . . . See Price List
- J** MORTISING HOLD DOWN ATTACHMENT. Insures straight mortising cuts. For stock up to 4 inches fast. Fastens to drill press table. 84 KG 2554—Ship. wt. 6 lbs. . . . . See Price List
- K** MORTISING HEAD AND CHUCK. Head fits on quill; chuck replaces regular Jacobs Chuck—holds hollow chisels and bits. Ship. wt. ea., 4 lbs. For Drill Presses listed on opposite page. 84 KG 2555—Fits Press (C) only. . . . . See Price List  
84 KG 2556—Fits (A) and (B) only. . . . . See Price List

- M** BERRY ROTARY PLANER. Fits any drill press with 1/2-in. chuck. Zinc alloy cutter body 3 1/8-in. diam. With 3 tool steel blades, sharpener, wrench, 2 feeler gauges. Width of cut 2 7/8 in. 84 KG 2566—Ship. wt. 2 lbs. . . . . See Price List
- N** HOLLOW CHISELS, BITS. Tool steel. Wt. ea., 6 oz. 1/4, 3/8, 1/2-in. State Size. . . . . See Price List  
(N) 84 KG 2553—Bits; (P) 84 KG 2552—Chisels.
- R** SANDING DRUMS. Expanding rubber type. 3-in. sanding area. 1 5/8-in. size has adjusting nut. Wts. 1 lb. 4 oz., 2 lbs. . . . . See Price List  
84 KG 2548—1 5/8-in. diam. 1/2-in. shank.  
84 KG 2549—2 3/16-in. diam. 13/32-in. shank.
- T** SANDING SLEEVES (for Drums above). Fine, Med., Coarse grit. State grit. Ship. wt. 12 oz.  
84 KG 2564—1 3/8-in. diam. . . . . See Price List  
84 KG 2666—2 5/16-in. diam. . . . . See Price List
- O** JACOBS CHUCK. Jacobs No. 33 taper. 0-1/2-in. cap. 84 KG 2550 K—Wt. 1 1/4 lbs. . . . . See Price List
- P** JACOBS ARBOR. Fits (U). No. 2 M.T. shank. 84 KG 2551 K—Ship. wt. 10 oz. . . . . See Price List
- Q** BERRY ROUTING CUTTERS. Wt. 6 oz. State Size. 84 KG 2545—1/2-in. diam. shank. 1/8, 1/4, 3/16, 3/8, 7/16, 1/2-in. diam. . . . . See Price List
- X** BERRY DOVETAIL CUTTER. Shank, diam., 1/2-in. 84 KG 2546—Wt. ea., 6 oz. . . . . See Price List

- Y Z AA** POWR-KRAFT ROUTING CUTTERS. Ship. wt. each, 3 oz. State diameter. . . . . See Price List  
84 KG 2479—(AA) 1/16, 1/8-in.; (Z) 3/16, 1/4-in.; (Y) 3/8, 1/2, 5/8-in.
- BB** 60-Pc. WIRE GA. DRILL SET, STAND. Die-cast metal stand, aluminum finish. 84 KG 4532—Size 2 5/8 x 5 1/4 x 1 1/4 in. Ship. wt. 6 lbs. . . . . See Price List
- CC** 29-Pc. SET OF JOBBERS' DRILLS IN STAND. Sizes 1/16 to 1/2-in. by 64ths. In handy metal stand 6 1/8 x 3 1/8 x 1 3/4 in. Ship. wt. 4 lbs. 8 oz.  
84 KG 4533—High-Speed Steel; 84 KG 4534—Carbon Steel. . . . . See Price List
- DD** 10-Pc. STRAIGHT SHANK DRILL SET. 1/16, 3/64, 3/32, 7/64, 1/8, 3/64, 5/32, 3/16, 7/32, 1/4 in. In stand 4 1/2 x 1 1/2 x 1 inches. Ship. wt. 2 lbs.  
84 KG 4530—High-Speed Steel; 84 KG 4531—Carbon Steel. . . . . See Price List





## BEAVER TILTING ARBOR BENCH,

### FACTS ABOUT BEAVER WOODWORKING POWER TOOLS

On the following four pages Wards offer Beaver Woodworking Power Tools. These tools offer the utmost in modern engineering developments and smart appearance. They are built to professional requirements. Only the most satisfactory features, and only the best construction were considered for these tools . . . the result is a line of woodworking power tools that Wards recommend unconditionally in every detail.

These power tools have features beyond many competitive national brand lines and are constructed to the highest possible standards for the Production Shop, Skilled Craftsman and Hobbyist who want the finest in performance, quality and value that money can buy . . . tools that stand in a class by themselves—to please the discriminating buyer.

These Beaver power tools have everything—power, speed, precision, balance and streamlined design. Heavy construction cuts down on vibration; the result is smoother, quieter operation and reduction on wear parts. Beaver tools have every built-in convenience for easy accurate work.

The entire line of Beaver Power Tools is built for durable, lasting service . . . all are manufactured with the same exacting care. You get precision machining, plus massive, heavy construction . . . all are balanced for real production work, built for daily work in your shop.

The uniform streamlined design of these Beaver Power Tools create a harmonious unity in the appearance of your workshop . . . tools that have top quality appearance as well as top performance.

Beaver Power Tools and accessories are made in Canada by highly skilled Canadian Craftsmen. All Beaver Power Tools, accessories and service parts are shipped from Factory Warehouse in Detroit, Mich.

### USE WARDS CONVENIENT MONTHLY PAYMENT PLAN

When buying your power tools. Save your Bonds, maintain your savings account balance. You pay only 10% down and the balance in convenient monthly payments. Just ask your Wards Retail Store or Catalog Office clerk about this modern way to shop, or use the Catalog Order Blank . . . fill in the requested information on back of the Order Blank . . . include it with the necessary down payment of 10% along with your order.

If you already have an account at Wards, investigate our "Add-On" Plan which allows you to make purchases without a down payment . . . usually without an increase in your monthly payments. Just tell the clerk "Add this to my account," or write in on your order. For information See Page 25 of his book.

### BEAVER 8-INCH TILTING ARBOR BENCH SAW

**A BALL BEARING.** Built to meet the requirements of the discriminating hobbyist, skilled craftsman and production shop owner. Will miter, cross-cut, rip, dado and groove to exact dimensions with maximum efficiency. Blade, arbor and motor mount tilt as a single unit from 0° to 45°—table always remains level. Hand wheels operate threaded screws to tilt, raise or lower blade. Maximum depth of cut 2 5/8 inches.

**TABLE:** Semi-steel, one-piece casting, machined and ground to a smooth finish. Size: 24 inches long by 22 inches wide by 13 1/2 inches high. Equipped with two chrome finished rip fence guide bars mounted on front and back to support rip fence. Rip fence travel along guide bars allows full 12-in. rip cut on either side of blade. Two grooves for miter gauge, one on either side of blade. Removable aluminum dado insert.

**ARBOR BRACKET:** Supported on sawdust chute which rides on cast semi-steel machined trunnion ways attached to underside of table. Equipped with alloy steel spindle, 5/8-inch diameter. Spindle mounted on grease-sealed SKF ball bearings. Bracket is arranged to receive demountable motor base so that motor and arbor swing at the same time—takes standard ball bearing 1/2 and 1/2-H.P. motors. Arbor bracket tilts from 0° to 45° . . . tilt of arbor is shown by large angle scale on base. Cam locks both angular and elevation adjustment at the same time.

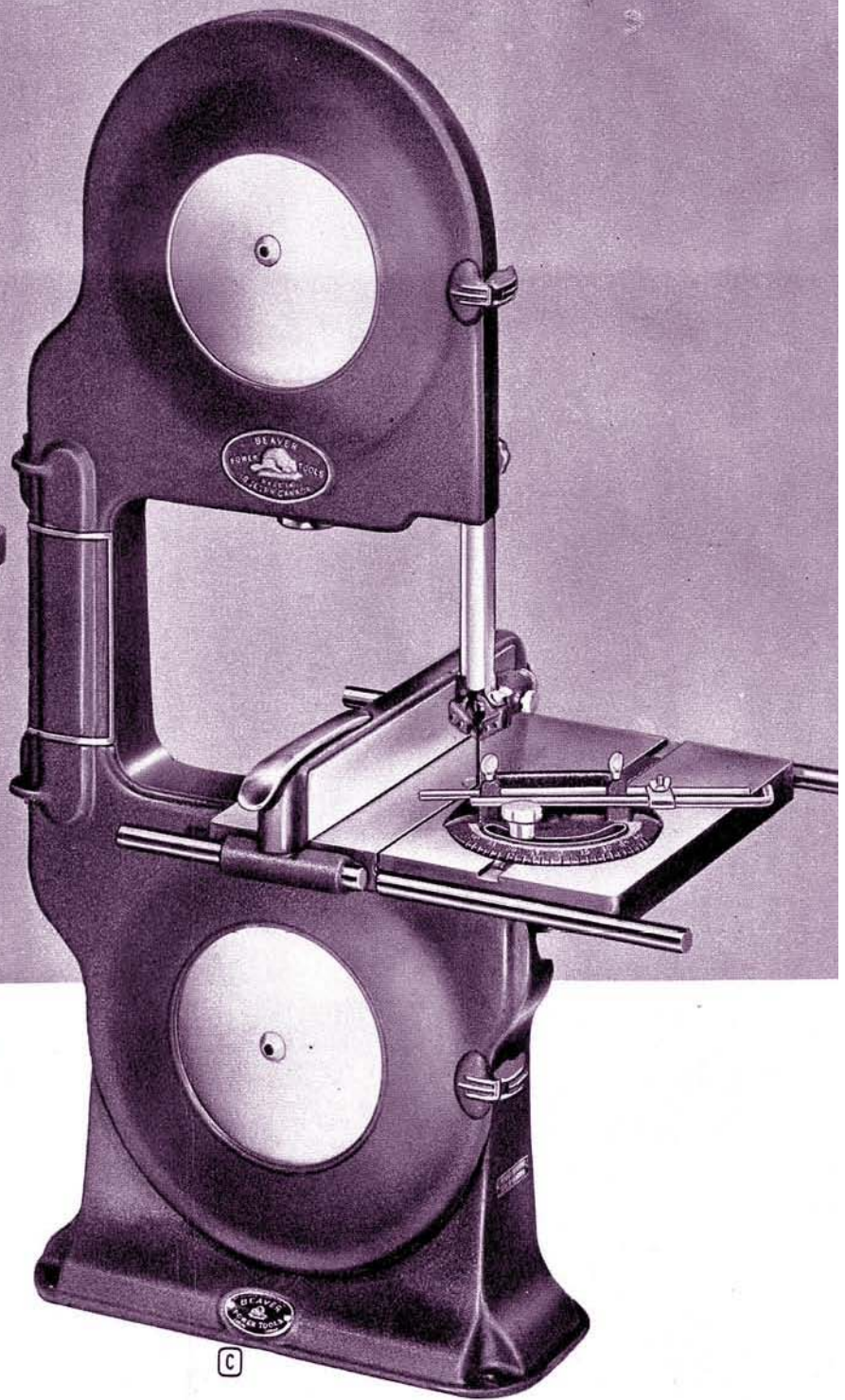
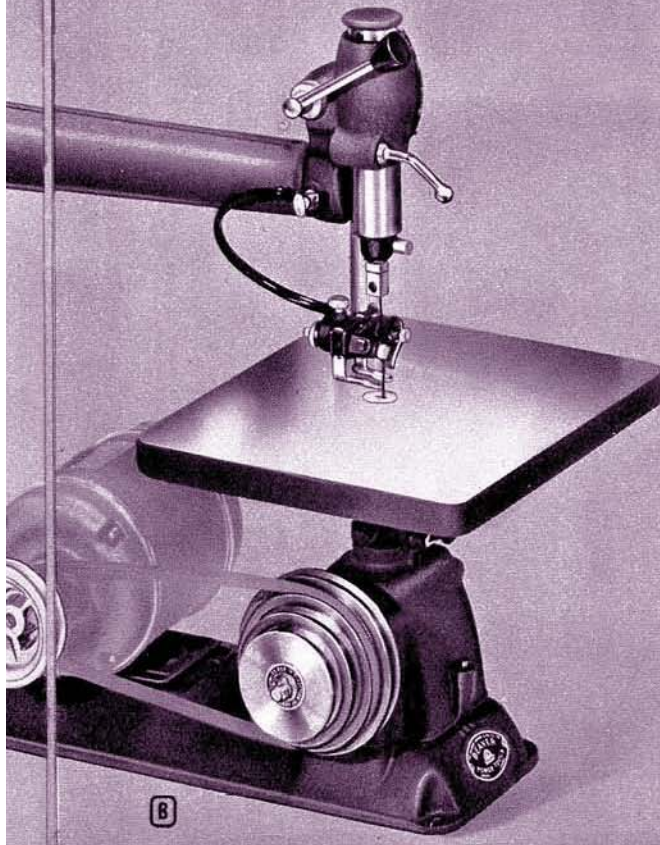
**RIP FENCE:** Made of semi-steel casting—ground smooth on both sides for use on either side of blade. Runs free and slides smoothly on two solid steel guide bars fastened to table. Readily clamps in position by means of a lever clamp on front end which actuates a link-clamping bar, locking both ends at once.

**MITER GAUGE:** Graduated to 60° in both directions from center. Equipped with extension stop bars for duplicating cuts. Can be used on either side of saw blade. With 12-inch miter gauge guide bar.

**GUARD:** Made of cast aluminum. Raises and lowers easily and smoothly as work progresses through the blade. Equipped with splitter to spread work—prevents blade binding during ripping operations. Anti-kickback prevents work from being thrown back toward operator.

Size overall 16 7/8 inches high, 29 1/2 in. wide, 27 1/2 inches long. Complete with one 8-in. combination crosscut, rip, miter blade, 5-in. diameter "V" motor pulley—can be used on 1/2 or 3/8-in. diameter motor shafts and motor mounting bracket. Dark gray wrinkle finish. Recommended motor (not included) 1/2-H.P. ball bearing 1725 R.P.M.—order separately from Page 43. Recommended "V" belt, 42 in.—listed on Page 39.

84 KG 2294F—Ship. wt. 142 lbs. . . . . See Price List



## JIG AND BAND SAWS

### BEAVER 24-IN. PRODUCTION MODEL SCROLL-JIG SAW

**B** BALL BEARING. Heavy-duty. For hobbyists, skilled craftsmen or production work. Throat depth 24 in. Depth of cut 2¾ in. Construction and good workmanship make this a strong, sturdy machine with minimum vibration. Ball bearing crankshaft runs in forced-feed oil bath to convert rotary pulley movement to reciprocating saw movement. Rotary air pump supplies constant air stream to adjustable nozzle for keeping working lines clear of sawdust. Friction lock secures quill in and desired tensioning position—blade tension readily adjustable to take all types of plain end blades from 5 to 7 in.—tension indicated on scale.

**TABLE:** Made of smooth ground semi-steel. 15x13 in. Mounted on semi-steel machined trunnions to permit angle tilting to 45°. Table may be turned 90° clockwise for longer ripping operations. Adjustable steel blade backing block located under table to take thrust.

**HEAD:** Blade guide is universally adjustable . . . built up of two individual side guides, a blade thrust roller and two hold-down feet, which are adjustable for working at any angle. Place for mounting lamp—lamp not included. Complete housing easily removed when filing or using saber type jig-saw blades.

**BASE:** Heavy cast-iron. 7½ in. wide, 33 inches long. Base casting accommodates all standard frame motors.

**CHUCKS:** Specially designed Universal type. One on drive shaft and one on upper shaft. . . takes all types of plain end blades. Lower chuck will take files and sanding sticks up to ¼-in. diam. shanks also saber blades.

**DRIVING UNIT:** Consists of ball bearing crankshaft with forced feed lubrication. Includes heavy four-step semi-steel balanced "V" machine pulley and four-step motor pulley which will fit ½ or ⅝-in. diameter motor shafts. Recommended motor ¼-H.P. 1725 R.P.M. (not included—order from Page 43). Recommended "V" belt 34 in.—see Page 39. For stands see Page 22. Size overall 15x36½x27 in. Dark gray wrinkle finish. 84 KG 2371F—Ship. wt. 114 lbs. . . . . See Price List

### BEAVER HEAVY-DUTY 14-INCH BALL BEARING BAND SAW

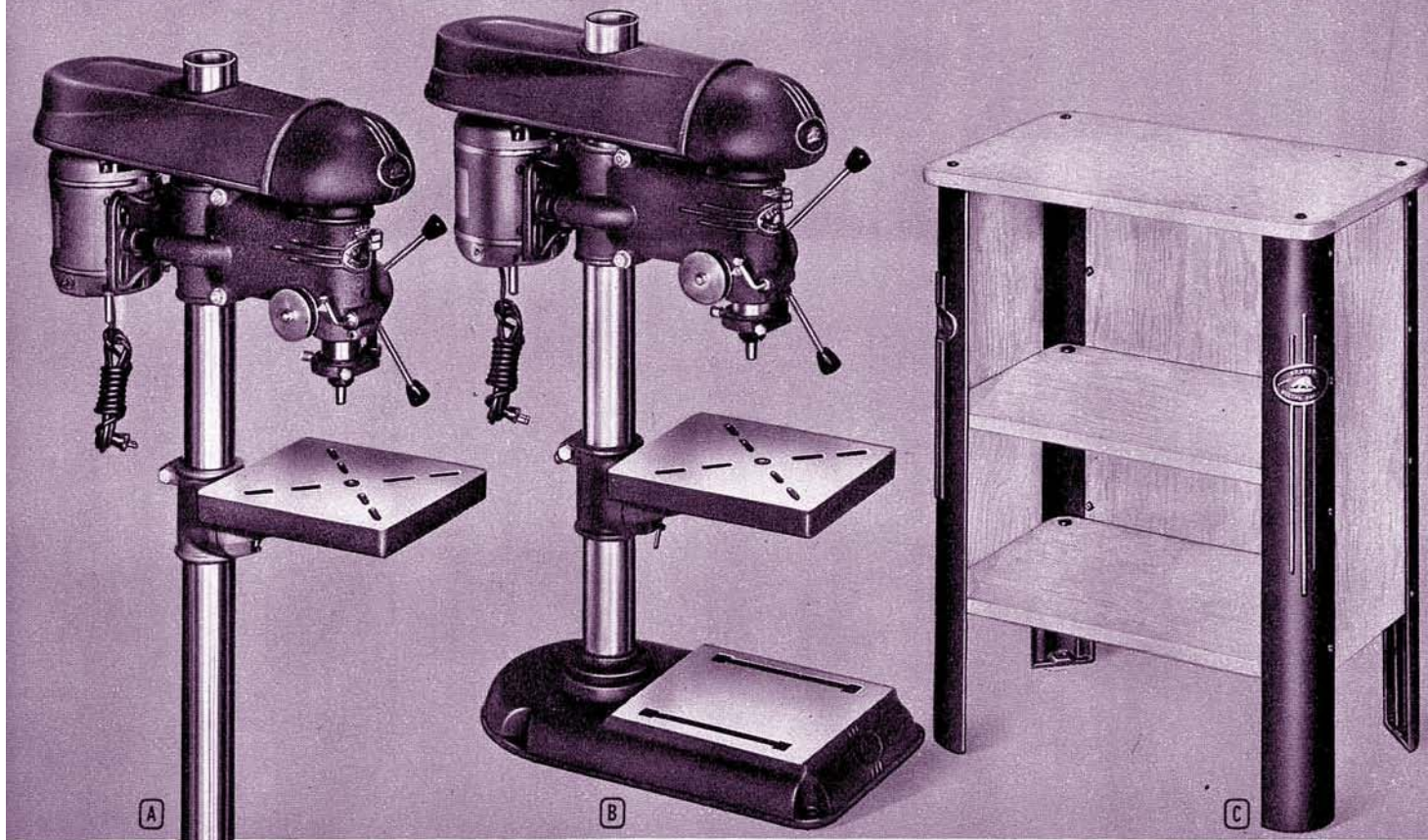
**C** PRODUCTION TYPE BAND SAW. For hobbyists, skilled craftsmen and production shops. Cuts to center of 28-inch circle—7½ in. thick. Saw wheels mounted on ball bearings. Interchangeable upper, lower saw guides have adjustable tilted ball bearing blade thrust guide, hardened steel side guides. Compensating spring mounting maintains blade tension. Saw wheels are machined cast-aluminum, rubber banded, balanced; interchangeable. Cast aluminum frame.

**TABLE:** Cast semi-steel. 15x15 in. Accurately machined and ground. Distance ahead of blade, 8½ in. Mounted on cast semi-steel trunnion. Easy-to-read adjustable angle indicator. Tilts 45° ahead, 10° back—with positive stop for returning table to horizontal position. With soft metal insert for blade protection. Machined miter gauge groove.

**DRIVE PULLEY:** Cast semi-steel. 8-inch diameter. Machined and balanced to act as flywheel for a smoother operation. Completely covered, permitting drive from below or behind.

**RIP FENCE AND MITER GAUGE:** Cast semi-steel fence, 18½ inches long, 2½ inches high. Accurately machined and ground on both sides. Slides smoothly on chrome finished rip fence guide bars and locks both ends of rip fence, by means of single clamping lever. Can be used on both sides of blade. Miter gauge graduated 60 degrees in both directions. With extension stop bars. Height overall 45 in. Height of table from base 19½ in. Saw blade length 101 in. For extra blades order No. 84 KG 2331K sold by the foot on Page 8. Base size 19½x8½ in. Dark gray wrinkle finish. Includes ¼x101-in. saw blade, Recommended motor ½-H.P. 1725 R.P.M. (not included—order from Page 43). Recommended "V" belt 58 in.; motor pulley 4-in. diameter—order from Page 39. Stands for Band Saw listed above, on Page 22 of this Catalog. 84 KG 2345F—Ship. wt. 123 lbs. . . . . See Price List

USE YOUR CREDIT WHEN BUYING YOUR BEAVER POWER TOOLS — FOR COMPLETE DETAILS ABOUT MONTHLY PAYMENT PLAN SEE PAGE 25.



## BEAVER HEAVY-DUTY DRILL PRESSES,

BEAVER HEAVY-DUTY PRODUCTION FLOOR AND BENCH MODEL 16-IN. DRILL PRESSES

**(A) (B) FLOOR AND BENCH MODELS.** Represent the utmost in fine engineering and appearance. Provide sturdy, long-wearing, versatile tools for discriminating hobbyists, skilled craftsmen and production shops. May be adapted for mortising when used with 84 KG 2543K Mortising attachment shown below, or routing, planing, hole cutting and drum sanding when used with proper accessories listed on Page 19. **HEAD:** Accurately machined semi-steel casting. Incorporates adjustable motor bracket, mounting rod, recesses and friction clamps on column and quill. Easily adjustable Timken tapered roller bearings—this permits free-floating pulley sleeve and eliminates belt pull on the spindle. Spindle end equipped with No. 33 Jacobs taper. Chuck not included. Order No. 84 KG 2550 Jacobs Chuck on Page 19.

**SPINDLE:** Nickel chrome steel alloy six-spline spindle. Travels 4½ in. Distance spindle to column 8 in. Machined, heat-treated and accurately ground. Mounted in quill on two Timken taper roller bearings. Five-step Spindle pulley is double keyed and mounted on two adjustable Timken tapered roller bearings—this permits free-floating pulley sleeve and eliminates belt pull on the spindle. Spindle end equipped with No. 33 Jacobs taper. Chuck not included. Order No. 84 KG 2550 Jacobs Chuck on Page 19.

**TABLE:** Cast semi-steel construction with ground top. Size 12½x11¼ in. Rigidly mounted on a knee bracket. Swings full 360° right or left—a complete circle—can be swung out of way and base used as auxiliary table. Automatically sets at zero by positioned pin. Table tilts fully either direction. Locks at any height on column. Diagonally slotted to hold jigs and clamps.

**COLUMN:** Machined, ground and polished heavy tubular steel. 3-in. Diameter. Equipped with integral flange for bolting to base.

**BASE:** Heavy cast semi-steel. Size 23½x14 in. Ground top. With T slots for work hold down bolts.

**PULLEY CONSTRUCTION:** Motor and spindle pulley are cast semi-steel—accurately machined in five matching steps and balanced for smooth operation. Upper belt guard easily and quickly removed for changing belt speed range from 600 to 4840 RPM. Complete with five step machine pulley and 5-step motor pulley fitting ½ or ⅝-in. diam. motor shafts. Recommended motor ½-H.P. 1750-R.P.M. Ball Bearing. Order separately from Page 43. Use with 46-in. "V" belt shown on Page 39. Dark gray wrinkle finish.

**(A) BEAVER 16-INCH FLOOR MODEL DRILL PRESS.** Height overall 70 inches. Distance spindle end to table 41¾ in.—spindle to base 48 inches. 84 KG 2542F—Ship. wt. 210 lbs. .... See Price List

**(B) BEAVER 16-INCH BENCH MODEL DRILL PRESS.** Height overall 40 inches. Distance spindle end to table 11¾ in.—spindle to base 18 inches. 84 KG 2544F—Ship. wt. 185 lbs. .... See Price List

### CHECK BEAVER FEATURES

The Beaver Drill Presses on this page have all the fine quality construction and design features described on Page 20, under "Facts About Beaver Woodworking Power Tools." For accessories and attachments that will make your Beaver Drill Press adaptable for sanding, hole cutting, routing and planing—See Page 19 of this Catalog.

Remember, you can use Wards Convenient Monthly Payment Plan when purchasing your Beaver Tools. Pay only 10% down and the balance in monthly payments—read the facts about this modern way to shop on Page 25.

Wards Guarantee applies to everything sold in this Catalog. If you aren't satisfied completely, return it and your money will be refunded... including all transportation charges.

### BEAVER MORTISING ATTACHMENT

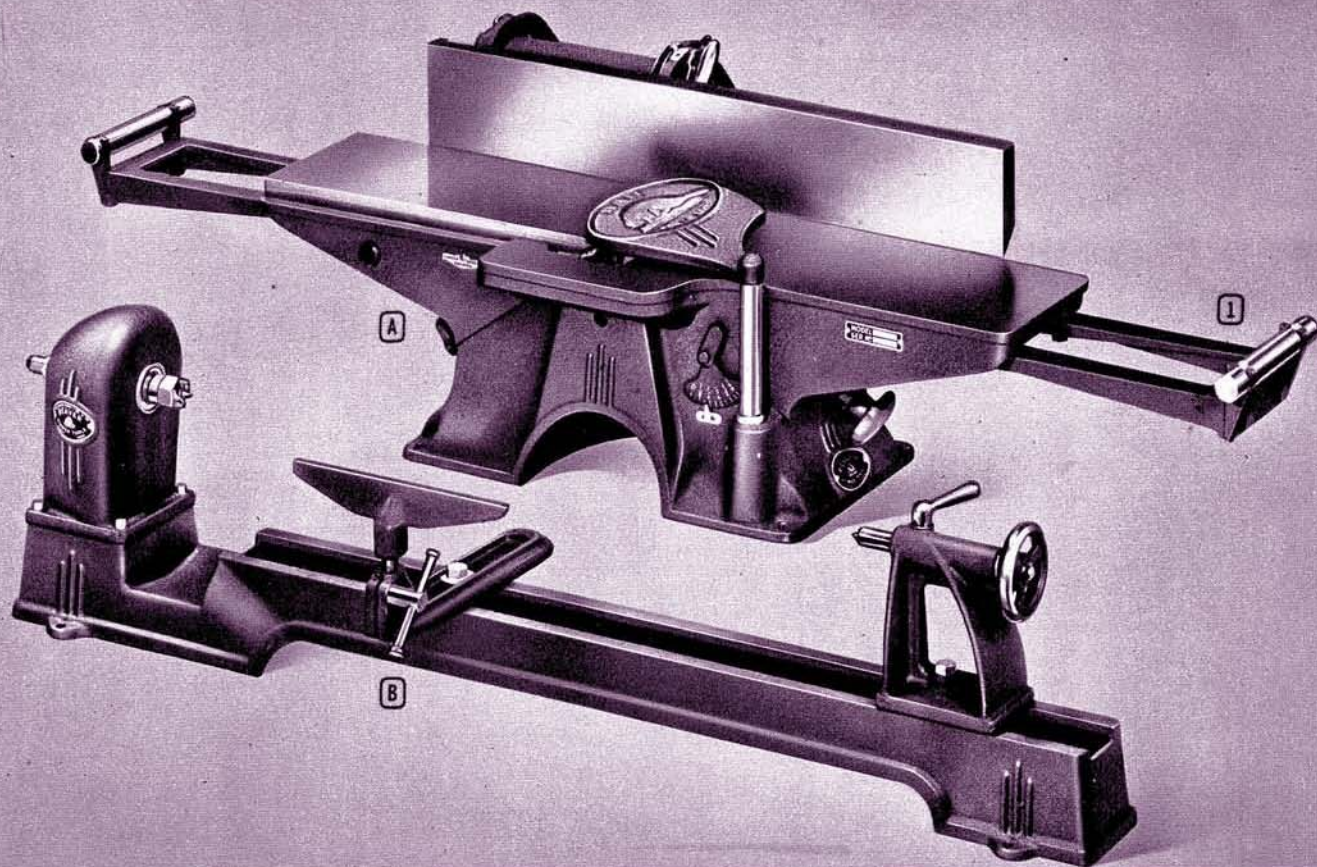
**(D) BEAVER MORTISING AND HOLD-DOWN ATTACHMENT.** Shown at left. Fits Beaver Drill Presses only. Ruggedly constructed. Complete with adjustable fence, hold-down shoes and hold-in rods. Clamps to table of Drill Press—hold-down arms hold work flat on table. Mortising head completely guards all rotating parts from operator in front of Drill Press. Fence adjusts for different widths of stock. When base has been lined up and secured to table it is necessary to loosen one thumb screw and fence will slide smoothly in or out... always remaining square to chisel. This saves time when changing from one stock width to another. Hold-down shoes are easily adjusted on two vertical rods... quickly clamps in position by two friction clamps—won't mark up or score the rods. Hold-in rods are universally adjustable for various stock widths. For mortising chisels and bits order Numbers 84 KG 2553 and 84 KG 2552 on Page 19. Dark gray wrinkle finish. 84 KG 2543K—Ship. wt. 16 lbs. .... See Price List

### BEAVER POWER TOOL STAND LEGS

**(C) Cast semi-steel construction.** Build your own stands to fit all Beaver Power tools. All necessary holes have been drilled in legs. Plans for making the proper stands for all Beaver power tools from wood, metal or masonry are included with each set of legs. Plans allow ample room in stands for housing the motor where required and to provide a maximum of shelf space for small tools and accessories. Dark gray wrinkle finish. State Cat. No. 84 KG 2957K—Set of four Legs for making stands to fit Beaver Jointer, Band saw or Bench saw. Height of legs 24½ inches. Ship. wt. 26 lbs. .... See Price List

84 KG 2958K—Set of four Legs for making stands to fit Beaver Jig saw, Lathe, Drill Press. Height of legs 31¼ inches. Ship. wt. 31 lbs. .... See Price List





## LATHE, JOINTER AND ACCESSORIES

### BEAVER 6-IN. JOINTER-PLANER

**A** HEAVY-DUTY ROLLER BEARING JOINTER-PLANER. Designed and constructed to give the best in performance and appearance to the discriminating hobbyist, skilled craftsman, production shop owner.

**CUTTER HEAD AND PULLEY:** Machined, with three slots for cutter knives—permits exact balancing of the unit for smooth efficient operation with minimum vibration. Runs on Timken roller bearings between heavy adjustable steel trunnions.

**TABLE:** Accurately machined. Easily and quickly adjustable to working height by means of large easy-to-grip hand knobs. Both tables drilled and tapped to receive roller extension sold separately below.

**FENCE:** Heavily constructed of machined cast semi-steel. Tilts up to 90° on double trunnions—rigid in any position of fence. Accurate degree scale incorporated in fence, indicates angle of tilt. Cam clamp conveniently located, firmly locks fence at any angle. Fence assembly mounted on two 1-inch ground bars that are securely fastened in rear table.

**DEPTH SCALE:** Fastened to base. Actuated by movement of front table—greatly simplifies accurate depth-of-cut settings. Max. depth of rabbet 5/8 in.

**FRONT BLADE GUARD:** Cast-aluminum. Steel support rod mounted on base permits any depth of cut without changing clearance between guard and rear table. Guard assembly removable for rabbeting.

**REAR BLADE GUARD:** Cast-aluminum. Fastened securely to fence. Gives complete blade coverage behind fence regardless of fence position. Has six-inch scale cast in guard for setting cutting width.

**BASE:** Heavy cast semi-steel. Incorporates belt and pulley housing. Permits drive from below or behind. Accurately machined table ways. Bottom ground to insure level set-up. With machined socket and return spring for front blade guard.

Size overall 22x35x13 1/2 in. Dark gray wrinkle finish. Accessories: High-speed steel knives, chip breakers and 50-in. "V" belt. Recommended motor 1/2-H.P., 1725 R.P.M. (Order on Page 43).

84 KG 2516F—Ship. wt. 165 lbs. . . . . See Price List

**L** TABLE EXTENSION ROLLERS. Machined. Attaches to underside of table. Support work 13 inches from end of tables. Gives 26 inches more of table working area. May be left on table for supporting work when rabbeting.

84 KG 2517K—Ship. wt. 13 lbs. . . . . See Price List

### BEAVER 36-IN. BALL BEARING GAP BED WOODTURNING LATHE

**B** BEAVER HEAVY-DUTY WOODTURNING LATHE. For the hobbyist, skilled craftsman or production shop owner who wants the best in a woodworking lathe. Embodies all construction and superior design features on Page 20. Bed is made of one-piece, semi-steel casting—fully machined ways. 36-in. between centers. Swing: 15-in. diam. over gap for 3-in., 11-in. over ways, 9 1/2 in. over tool rest.

**HEADSTOCK:** Heavy cast semi-steel housing encloses 4-step "V" pulley and hollow spindle center—driven between grease-sealed ball bearings. Spindle is ground smooth to receive No. 2 Morse Taper in front end and threaded 3/4-in. 16 left-hand thread on back for outboard work. Includes adapter and draw bar which permits the use of any No. 1 Morse taper accessory. Adapter is threaded on front and 7/8-in. 14-thread to take spur center, face plate, sanding disc, etc. The draw bar, when inserted in back of spindle and threaded into adapter, prevents slippage when turning large work.

**TAILSTOCK:** Machined cast semi-steel. Easily moved to different positions on bed ways. Friction clamp easily and quickly locks center in required position. Hardened steel barrel houses cup center. Hand wheel moves cup center 2 full inches.

**TOOL REST ASSEMBLY:** Cast semi-steel construction. Base easily adjustable along bed with wrench. Has friction clamp with handle for locking tool rest. Top is plated and polished to insure free movement of cutting tools.

Dark gray wrinkle finish. Accessories include: draw bar, adapter, spur center, wrench, 4-step motor pulley to fit 1/2 and 3/8-in. diam. motor shaft and 46-in. "V" belt. Recommended motor, 1/2-H.P., 1725 R.P.M. (not included—order separately from Page 42). Order accessories below and on Page 7 to increase usefulness of your Beaver Lathe.

84 KG 2098K—Shipping weight 64 lbs. . . . . See Price List

**C** FACE PLATES. Accurately machined.

84 KG 2092K—6-in. diam., 3/4-16 left-hand thread. Fits to back of headstock spindle for outboard work. Ship. wt. 2 lbs. 4 oz. . . . . See Price List

84 KG 2091K—6-inch diameter, 7/8-inch—14 right hand thread. For inboard turning. Shipping weight 2 lbs. 4 oz. . . . . See Price List

84 KG 2090K—3-in. diam. 7/8-in.—14 right-hand thread. Fits to front of headstock spindle for inboard turning. Ship. wt. 1 lb. . . . . See Price List

**D** ANGLE TOOL REST. Right angle tool rest. Hardened, ground 3-in. surfaces. Shank diam. 1 in.

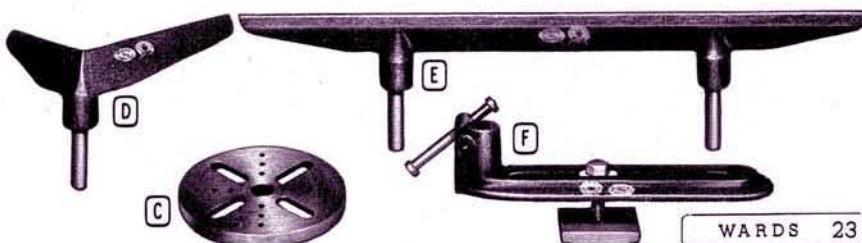
84 KG 2093K—Ship. wt. 5 lbs. 4 oz. . . . . See Price List

**E** DOUBLE TOOL REST. Hardened, ground. Length 24 in. Shank diam. 1 in. Use with (F).

84 KG 2097K—Ship. wt. 5 lbs. . . . . See Price List

**F** TOOL REST HOLDER. Friction clamp handle. Shank hole 1-in. Slides smoothly along ways.

84 KG 2099K—Ship. wt. 5 lbs. 4 oz. . . . . See Price List



Powr-Kraft is Your Assurance of

## SUPERIOR QUALITY AT LOWER PRICES

**ADVANCED DESIGN.** Powr-Kraft tools satisfy the critical requirements of experienced home craftsmen, manual training instructors and production shops where good design, accuracy and dependable service at reasonable prices are essential. They are designed by master craftsmen and include all essential new features and late developments that make for greater efficiency and faster, smoother operation. They are built for Wards by some of America's leading power tool manufacturers in shops equipped with the latest precision machinery and employing craftsmen of long experience. We take pride in offering Powr-Kraft equipment to discriminating users.

**SUPERIOR QUALITY.** In the manufacture of Wards Powr-Kraft tools each part must

pass many exacting tests before assembly of the complete machine. Bearings and other critical parts are machined to tolerances that insure smooth operation, long service and a high degree of accuracy.

**MONEY SAVING PRICES.** Wards sell Powr-Kraft tools in hundreds of Retail Stores and by mail through millions of catalogs. This vast, nation-wide distribution, coupled with the economies of Wards methods of doing business, make it possible for us to offer these fine tools at surprisingly low prices. If you never have used Ward Power tool equipment in your shop or production plant you will be agreeably surprised, not only at the saving in cost but at the excellence of these tools. Get the most for your money with Powr-Kraft Tools and Welding equipment.

**REPAIR PARTS ARE ALWAYS AVAILABLE AT WARDS.** In buying power tools, it is important that repair parts are readily available in the event you should accidentally break or lose a part.

Remember if you ever want to replace any part of any Wards Powr-Kraft Tools, you can do it easily, quickly and economically. Each power tool sold by Wards includes complete, illustrated list of parts with selling prices.

Equip your workshop completely with Powr-Kraft Tools at Wards money saving prices... read how to do this without a large initial outlay of cash... by means of Wards Convenient Monthly Payment Plan. This plan, plus the advantages of Wards "Add-on" Plan, is fully explained on the opposite page.

### INDEX—FOR YOUR CONVENIENCE

Apron, Workshop.....	28	Milling Machine and Accessories.....	35
Band Saws.....	8, 9, 21	Milling Head.....	36
Band Saw Blades.....	8	Model Makers' Tools.....	15
Beaver Woodworking Tools.....	20-23	Motors, Electric.....	42, 43
Bench Saws.....	1-4, 20	Motor Rails.....	42
Bench Saw Blades.....	3	Planer, Thickness.....	13
Bench Saw Shaper Heads.....	2	Polishers, Electric.....	17
Benches, Woodworking.....	49	Polishing Heads.....	29
Bolt Assortment.....	48	Radial Saw.....	5
"C" Clamps.....	49	Saws	
Chisels, Woodworking.....	7, 15	Band.....	8, 9, 21
Chucks		Bench.....	1-4, 20
Jacobs.....	19, 38	Floor Model.....	4
Lathe.....	7, 38	Hack.....	40
Drill.....	19, 38	Jig.....	10, 11, 21
Clamps, Woodworking.....	49	Portable Electric.....	6
Gutters, Hole.....	19	Radial.....	5
Dado Heads.....	3	Scroll.....	10, 11, 21
Drill Presses & Accessories.....	18-19, 22	Swing.....	5
Drill Sets.....	19	Sanders	
Drills, Electric.....	26, 27	Belt Driven.....	16
Electric Tools		Electric.....	17
Drills and Accessories.....	26, 27	Hand.....	16
Grinders.....	29	Sand-O-Flex.....	16
Hand Tools and Accessories.....	15	Spindle.....	16
Motors.....	42, 43	Sander-Polishers.....	17
Saws.....	6	Sanding Belts.....	16
Vibro Tool.....	15	Screw Assortments.....	48
Welders.....	45, 46	Scroll Saws.....	10, 11, 21
Flexible Shafts and Accessories.....	28	Shaper Heads, Bench Saw.....	2
Floor Model Saws.....	4	Shaper Cutters, Wood.....	14
Gas Welding Equipment.....	44	Shapers, Metal & Accessories.....	35
Glue.....	49	Shapers, Wood.....	14
Grinders		Sheet Metal Tools and Accessories.....	41
Belt Driven Bench.....	29	Shopsmith and Accessories.....	50-52
Electric Bench.....	29	Soldering Irons.....	48
Grinding Wheels.....	29	Stands, Power Tool.....	49
Hand Tools, Electric.....	15	Swing Saws.....	5
Hand Tool Accessories.....	15	Thickness Planers.....	13
Hacksaws, Power and Blades.....	40	Tilting Arbor Saws.....	3, 4, 20
Jacobs Chucks.....	19, 38	Tin Snips.....	48
Jig Saws.....	10, 11, 21	Tool Boxes.....	49
Jig Saw Blades.....	10	Tool Stands.....	22, 49
Jig Saw Files.....	11	Transmission Equipment.....	39
Jointer-Planers.....	12, 23	"V" Belts and Pulleys.....	39
Lathe Accessories, Metal.....	30, 31, 33, 36-38	Vises	
Lathe Accessories, Wood.....	7, 23	Garage.....	48
Lathes		Machinists.....	48
Hand Screw Machine.....	33	Woodworkers.....	48
Metal.....	30-34	Washer Assortment.....	48
Quick Change Gear.....	34	Welders	
Screw Cutting.....	30-34	Electric.....	45, 46
Turret.....	33	Oxy-acetylene.....	44
Wood.....	7, 23	Welding Accessories.....	44, 45, 47
Magnetic Jig Saw.....	10	Wood Lathes and Accessories.....	7, 23
Mandrels, Ball Bearing.....	39	Wood Shaper and Accessories.....	14
Metal Lathes.....	30-34	Work Benches.....	49
Metal Lathe Accessories.....	30, 31, 33, 36-38	Wrenches, Set Screw.....	39
Metal Shapers and Accessories.....	35		



It's Easy to Buy on Wards

## MONTHLY PAYMENT PLAN

You don't need all cash when you buy from Wards. A Down Payment of only 10% is required on all power tools and welding equipment listed in this Catalog. No down payment is required if you already have an account with Wards—use your "Add-On" privilege as explained below.

### HOW TO OWN A WORKSHOP

Wards Monthly Payment plan will help you to own a workshop, as it has helped thousands of other customers . . . and a far more complete workshop, with finer quality tools than you might find it convenient to buy for cash. It is wiser to use a limited amount of cash as a down payment on several really fine tools than to limit your purchase to just one lower-priced tool which may soon prove inadequate for your needs.

Start your workshop right. Plan to set aside a few dollars every month regularly to build up a fine, planned workshop. Here's how easy it is to own a workshop:

- (1) Select the Powr-Kraft tools and accessories you'll need, considering the types of work you expect to do.
- (2) Figure exactly what the down payment and monthly payments will be. If they are more than you can conveniently afford, omit some of the tools . . . they can be added to your account later without straining your budget and usually at no increase in your monthly payment rates. Buy your tools immediately; enjoy them now.

### IF YOU DO NOT HAVE AN ACCOUNT

It's easy to open one. Wards Monthly Payment Plan is available to any responsible person with a regular income. No security is asked, no co-signers are required. (If under legal age, parent or guardian must sign). As little as \$20 is sufficient to start. Simply place your order in the usual way . . . then fill in the application for credit—(on the back of any Ward order blank, or at your nearby Ward retail store). Enclose it with your order along with the required down payment. That's all there is to it. As soon as your credit is established you are entitled to place "Add-On" orders to your account without need of further down payment.

You may exercise this "Add-On" privilege at any Ward Retail Store, Catalog Office or Mail Order House. Use this simple plan to get needed things quickly, whenever you need them, by simply having us add them to your account. No further credit application is necessary. We will ship your orders immediately and inform you if there is any change in your monthly payment rate.

### NO EXTRA CHARGE FOR CREDIT

Wards price is the same whether you pay cash or buy on credit . . . with a small carrying charge added to the unpaid balance as shown in table at right. Monthly Payments—(See Table)—are the same on any unpaid balance up to \$55. (The unpaid balance is that amount remaining after the Down Payment has been deducted). The Table of Terms at right shows the amount to pay monthly on any unpaid balance.

### IF A WARD STORE OR CATALOG OFFICE IS NEAR YOU

Trained clerks will give you personal attention, write and mail orders for you, save you postage and Money Order Fees. Goods will be shipped to your home or you can call for them if you prefer and save part of the shipping costs.

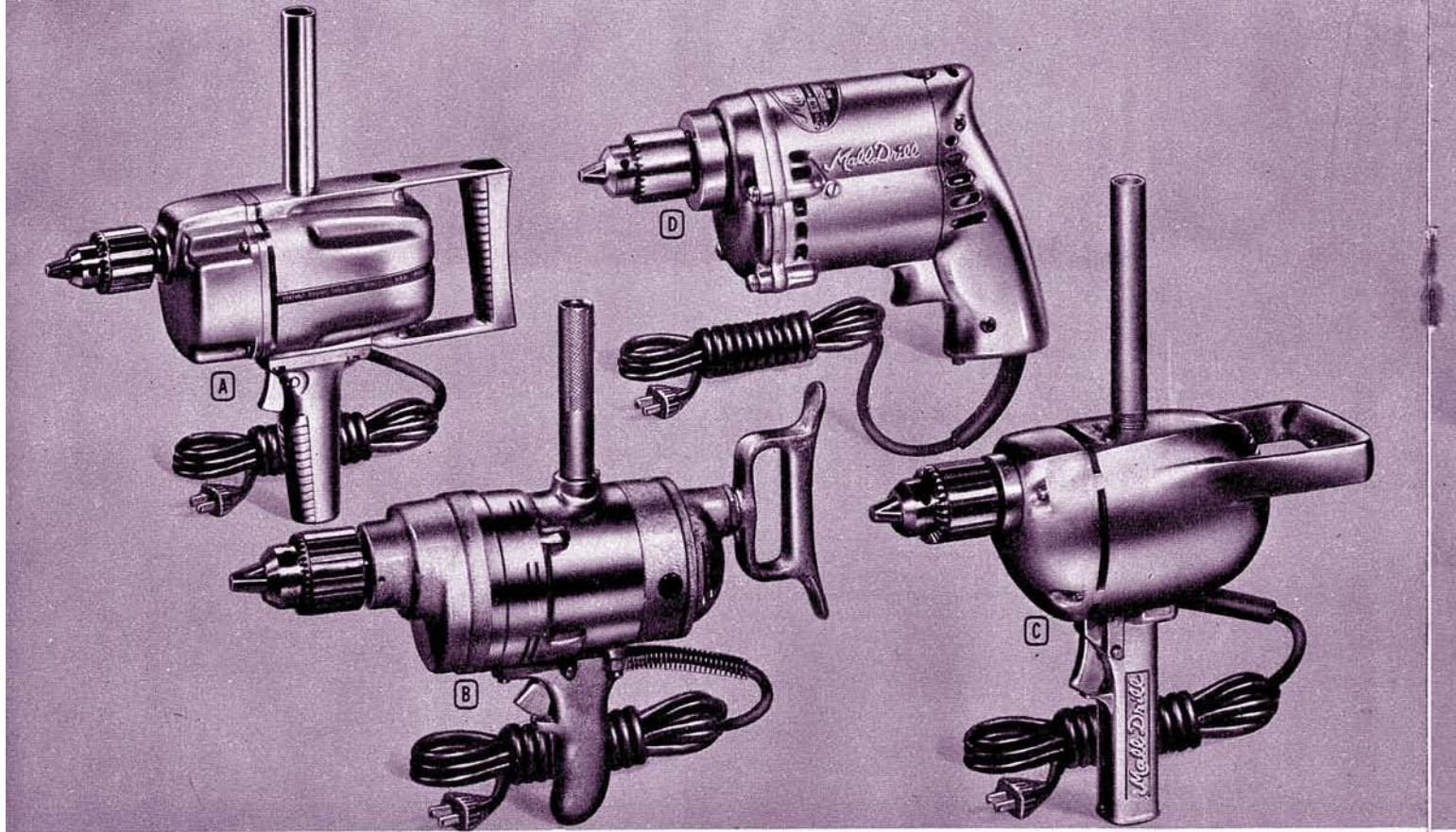
### WARDS GUARANTEE

If for any reason you are not entirely satisfied with any purchase made at Wards, you may rescind your purchase by returning the merchandise. We refund all you paid including any transportation charges paid by you. Or, if you prefer, we will exchange it for something that does satisfy you.

TABLE OF TERMS

If Unpaid Balance is	We Will Add for Carrying Charge	Monthly Payment
20.00 to 22.00	2.00	5.00
22.01 to 24.00	2.25	
24.01 to 26.00	2.50	
26.01 to 28.00	2.70	
28.01 to 30.00	2.90	
30.01 to 32.00	3.10	
32.01 to 34.00	3.30	
34.01 to 36.00	3.45	
36.01 to 38.00	3.70	
38.01 to 40.00	3.80	
40.01 to 45.00	4.25	
45.01 to 50.00	4.75	
50.01 to 55.00	5.00	
55.01 to 60.00	5.50	
60.01 to 65.00	6.00	
65.01 to 70.00	6.50	
70.01 to 75.00	7.00	
75.01 to 80.00	7.50	
80.01 to 85.00	8.00	
85.01 to 90.00	8.50	
90.01 to 95.00	9.00	9.00
95.01 to 100.00	9.50	
100.01 to 110.00	10.00	
110.01 to 120.00	11.00	
120.01 to 130.00	12.00	
130.01 to 140.00	12.75	
140.01 to 150.00	13.50	
150.01 to 160.00	14.25	
160.01 to 170.00	14.50	
170.01 to 180.00	15.50	
180.01 to 190.00	16.50	13.00
190.01 to 200.00	17.50	
200.01 to 210.00	18.00	
210.01 to 220.00	19.00	
220.01 to 230.00	20.00	
230.01 to 240.00	21.00	
240.01 to 250.00	22.00	
250.01 to 260.00	22.50	
260.01 to 270.00	23.50	
270.01 to 280.00	24.50	
280.01 to 290.00	25.50	18.00
290.01 to 300.00	26.50	

For terms on orders over \$300, write us or inquire at any Retail Store or Catalog Order Office.



## POWR-KRAFT AND MALL PORTABLE

### HEAVY-DUTY PRODUCTION DRILLS . . . 1/2 to 3/4-INCH CHUCK CAPACITY

**A B C** There's a Mall or Powr-Kraft Electric Production Drill to meet your needs—whether for occasional use or for continuous light and heavy production work. These drills are especially adapted for heavy construction, repair and maintenance work on wood or metals. Housings are made of light-weight die-cast aluminum alloy to give greatest strength with lowest possible weight.

Drills can be serviced with ease—commutator and brushes can be inspected through special openings in housing; brushes, switch and cord can be quickly and easily replaced without dismantling drill.

All these drills have powerful universal type motors, statically and dynamically balanced for improved performance; operate on 110-120-volt, 25 to 60-cycle A.C. or D.C. Gears are helical cut, hardened alloy steel—accurately meshed and with a relative hardness difference between gears and pinion for long life and quiet operation.

Drills provide maximum efficiency and operating ease. Have two side handles: Upper one is removable for close corner drilling; lower handle formed to fit the hand. Handle in rear for straight down drilling or carrying.

Jacobs chuck is high-quality 3-jaw geared type threaded to spindle—chuck key included. Use with straight shank drills. Forced draft ventilation system pulls large volume of air over moving parts—keeps motor cool—lengthens the life of your motor.

**A** LAKESIDE ELECTRIC DRILL. 1/2-in. capacity. Jacobs chuck (choice of two types). Oil retaining bronze bearing, with ball thrust bearing on chuck spindle. Cutler-Hammer lock type switch. No load speed 450 R.P.M. Polished finish. Size overall 13 1/2 by 14 3/4 by 4 inches. Complete with 7-ft. cord with third wire for ground. Ship. wt. each, 11 lbs.

84 KG 2635 M—Gear-type chuck.....See Price List  
84 KG 2636 M—"Hex-Key" chuck.....See Price List

**B** POWR-KRAFT HEAVY-DUTY 5/8 AND 3/4-IN. DRILLS. Jacobs 3-jaw, geared type chuck—with key. Grease sealed New Departure ball bearing. Complete with 9-ft. rubber covered cord and plug—with third wire for ground.

84 KG 2612 K—5/8-in. capacity. No load speed 475 R.P.M. Ship. wt. 21 lbs.....See Price List  
84 KG 2613 K—3/4-in. capacity. No load speed 425 R.P.M. Ship. wt. 22 lbs.....See Price List

**C** NATIONALLY KNOWN MALL DRILL. Has the added power needed for those tough jobs. 1/2-in. chuck capacity. Jacobs 3-jaw geared-type chuck—key included. True-running, trouble-free precision ball bearings—grease sealed to insure longer life. No load speed 500 R.P.M. Full load speed 300 R.P.M. Size overall is 12 1/2 by 9 3/8 by 3 7/8 inches. With 10-ft. rubber covered cord and plug—third wire for ground. Actual weight is 8 lbs.

84 KGP 2649 M.....See Price List

### MALL 1/4-IN. ELECTRIC DRILL

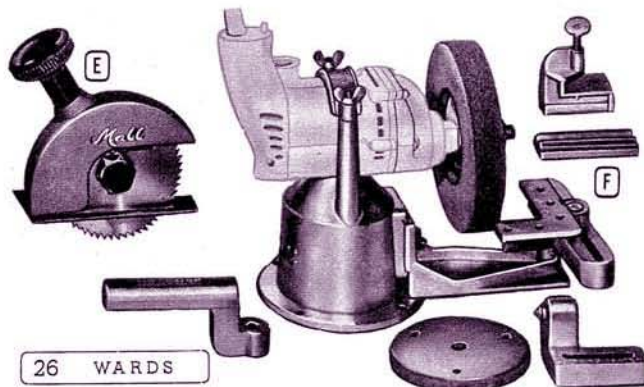
**D** NATIONALLY KNOWN MALL DRILL. For continuous production in shops, garages, etc. on wood or metal. Lightweight aluminum alloy housing gives greatest strength with lowest possible weight.

Drill can be serviced with ease—commutator and brushes can be inspected through special openings in housing; brushes, switch and cord can be quickly replaced without dismantling drill.

Universal type motor, 110-120-volt, 25 to 60-cycle A.C. or D.C. Gears are helical cut, hardened alloy steel—accurately meshed with a relative hardness difference between gears and pinion for long life, quiet operation. True running, trouble-free precision ball bearings on all shafts—grease sealed. High-quality, 3-jaw Jacobs chuck threaded to spindle. Key included. Use with straight shank drills. Blower type fan pulls large volume of air over moving parts—keeps motor cool. Complete with 10-ft. rubber covered cord and plug.

1/4-in. chuck capacity. No load speed 2500 R.P.M. Full load speed 1500 R.P.M. Size overall is 8 1/2 by 5 1/8 by 2 3/4 inches. Actual weight is 3 3/8 lbs.

84 KGP 2648 K.....See Price List



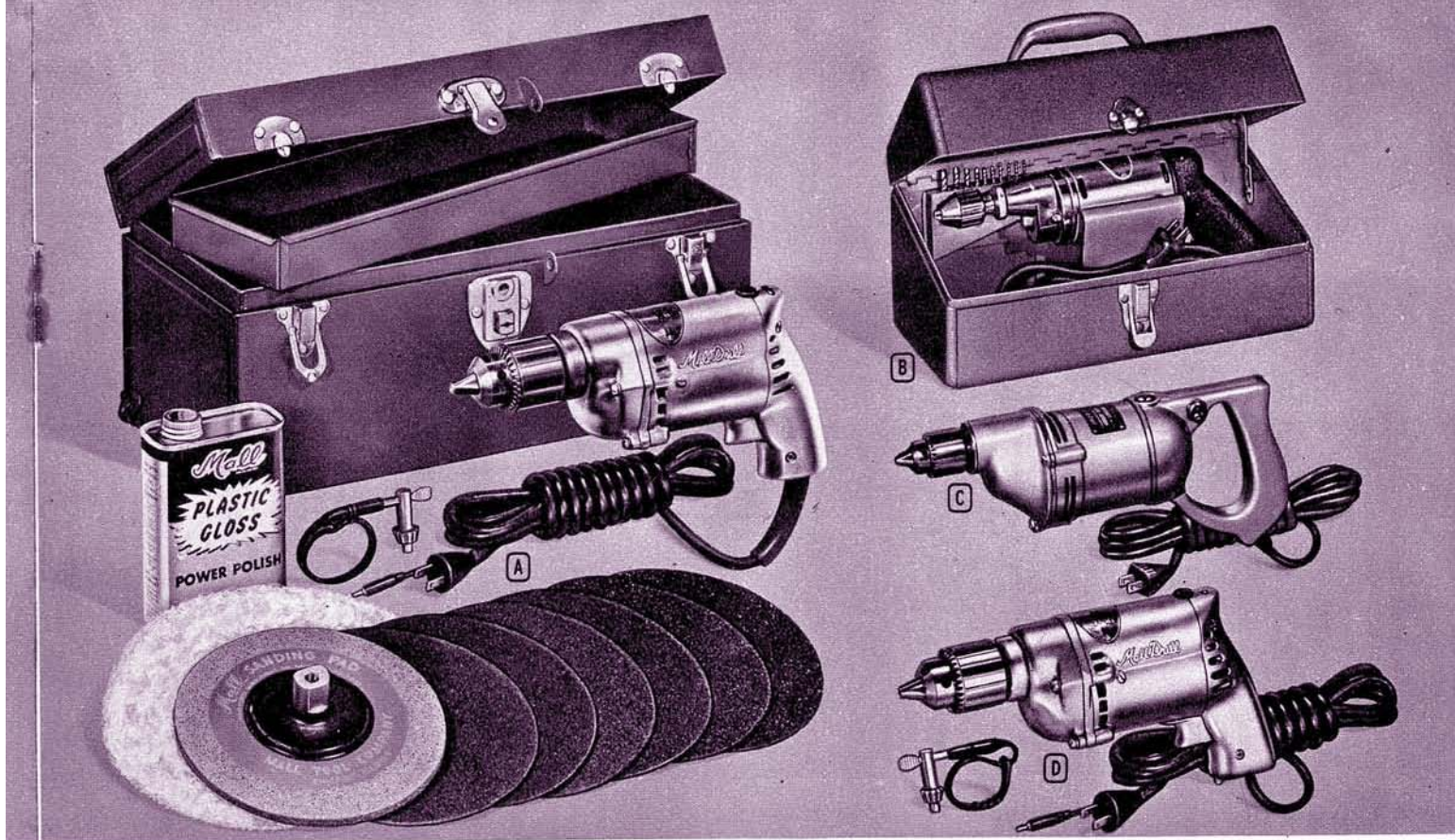
**E** MALL CIRCULAR SAW ATTACHMENT. Can be used with any 1/4-inch or larger electric drill. For cutting wood or metal when used with proper blades. With self-lubricating bronze bearings. Depth of cut adjustable from 0 to 7/8 inches. Easily guided for accurate cutting. Includes one 4-inch combination crosscut, rip blade for cutting wood, plywood, plaster board, etc. Die-cast aluminum housing. Easily attached—simply screw chuck of 1/4-inch drill onto circular saw attachment.

84 KGP 3490 K—With Wood Cutting Blade.....See Price List  
84 KGP 3491 K—Metal Cutting Blade only for above.....See Price List

**F** MALL DRILL PEDESTAL AND GRINDING KIT. To be used with 84 KGP 2614K on opposite page or 84 KGP 2648K above. Converts your drill into efficient woodturning lathe, grinding tool and sharpening outfit. For smooth, faster work on small pieces. Drill not included. Stand fastens horizontally on work bench—screw holes in base. Cast aluminum stand. Easily installed, removed.

Kit includes: drill stand, 6x1-in. straight cup grinding wheel (med. grit for general grinding), flanges and adapter to thread directly on 3/8, 24-thread spindle, tool rest, arm assembly, guides and instr.

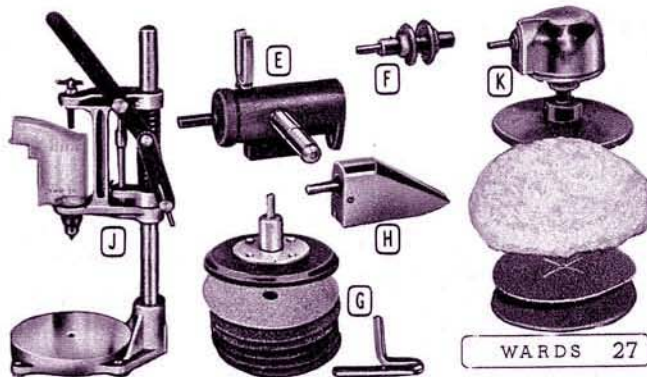
84 KGP 3492 K—Complete Kit.....See Price List

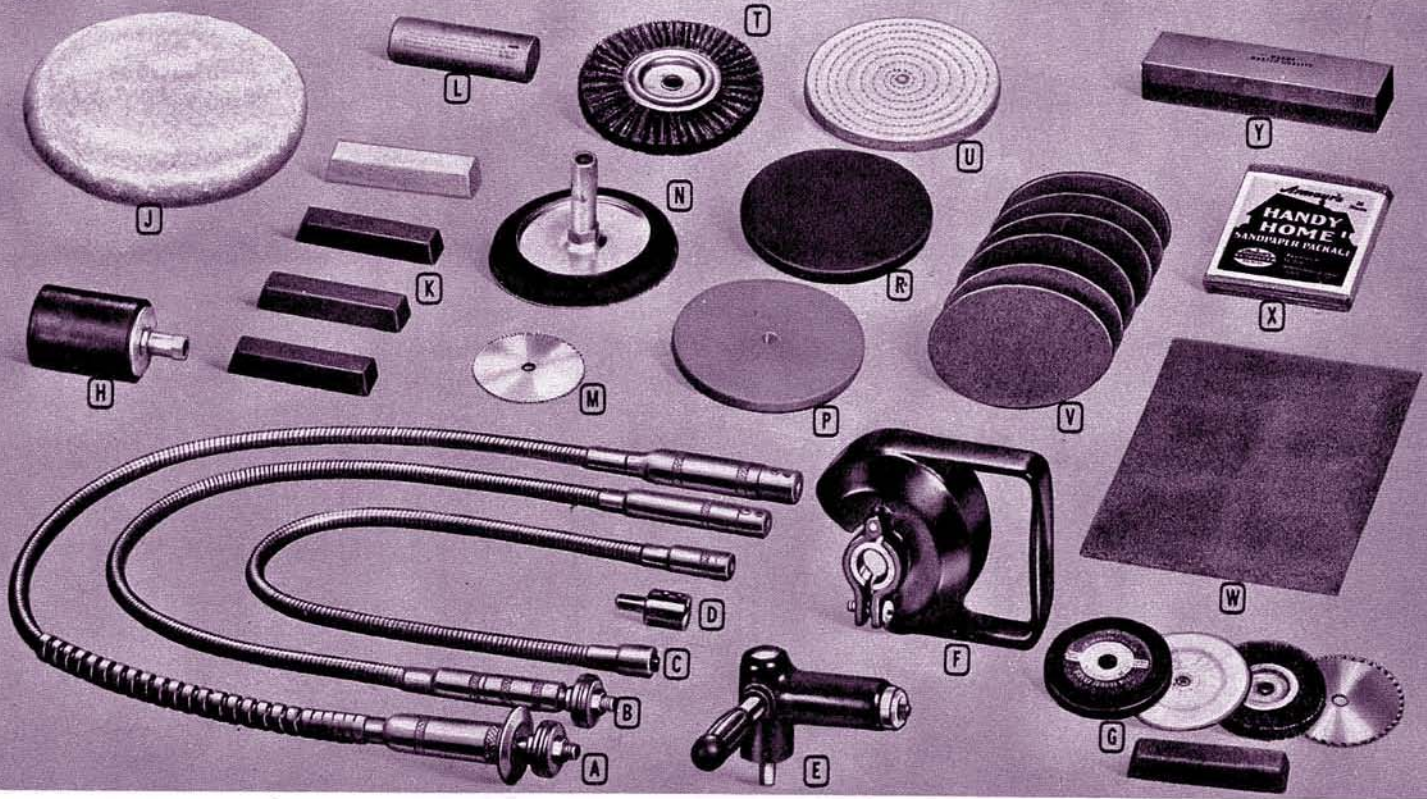


## ELECTRIC DRILLS AND DRILL KITS

FOR SKILLED CRAFTSMEN OR HOBBYISTS . . . 1/4 AND 3/8-INCH CHUCK CAPACITY

- A** MALL ELECTRIC DRILL KIT. For heavy-duty use by skilled craftsmen, garages, shops, etc. Used for sanding and polishing autos, furniture, etc. Complete polishing and sanding kit with handy carrying case. Includes 3/8-in. capacity Mall Drill (D)—see complete description at right.  
Metal case 16 by 7 by 7 in. with accessories tray 1/2-inch deep. Kit includes 7-inch felt backing pad, polishing bonnet, can of polish, 6 assorted abrasive discs, clamping nut, wrench and instructions.  
84 KGP 2637 M—Complete Kit with 3/8-in. drill..... See Price List  
84 KGP 2638—Sanding and Polishing Kit only. For use with (A) above or drill 84 KGP 2614 K listed at right..... See Price List
- B** 1/4-IN. ECLIPSE ELECTRIC DRILL KIT. For light-duty use by home craftsmen and hobbyists. Drill has 1/4-in. capacity Jacobs Hand-tite chuck. Chrome plated steel tube housing. Bronze bearings. Pistol grip handle. Trigger switch. For 110-120-volt, 60-cycle or less A.C. or D.C. No load speed 1700 R.P.M. Length 11 1/2 in. 6-ft. rubber covered cord and plug. Kit contains: 1/4-in. drill 10 high-speed ground drill bits in sizes from 1/16 to 1/4 in., strong 22-gauge steel box with gray wrinkle finish. Actual wt. of drill 3 1/2 lbs.  
84 KG 2605—Complete Drill Kit. Ship. wt. 7 lbs..... See Price List  
84 KG 2603—Portable Electric Drill only. Ship. wt. 4 lbs..... See Price List
- C** POWR-KRAFT 1/4-IN. ELECTRIC DRILL. Low-priced powerful drill for hobbyists. Die-cast aluminum housing. Saw-type grip with switch. G.E. Universal motor operates on 110-120-volt, 60-cycle or less A.C. or D.C. New Departure thrust ball bearing. Jacobs 3-jaw chuck. For drill bits up to 1/4-in. diam. Alloy steel, double reduction helical cut gears. No load speed 2150; full load 1400 R.P.M. 8-ft. cord and chuck key. Length 11 1/2 in.  
84 KG 2606—Shipping wt. 5 lbs..... See Price List
- D** NATIONALLY KNOWN MALL 3/8-IN. ELECTRIC DRILL. For continuous production in shops, garages, etc. on wood or metal. Universal type motor, 110-120-volt, 25 to 60-cycle A.C. or D.C. Housing made of lightweight aluminum alloy. Gears are helical cut, hardened alloy steel—accurately meshed with a relative hardness difference between gears and pinion for long life, quiet operation. True running, trouble-free precision ball bearings on all shafts—grease sealed. High-quality, 3-jaw Jacobs chuck threaded to spindle. Key included. Use with straight shank drills. Blower type fan pulls large volume of air over moving parts—keeps motor cool. With 10-ft. rubber covered cord and plug. 3/8-inch chuck capacity. No load speed 800 R.P.M. Full load speed 480 R.P.M. Size 10 1/4 by 5 by 2 3/4 inches. Actual weight of drill is 5 lbs.  
84 KGP 2614 K..... See Price List
- E** ELECTRIC DRILL HACK SAW ATTACHMENT. For fast cutting in all metals, etc. Reciprocating action. Takes hacksaw type blades. For electric drills having 1/4-in. or larger chuck capacity. Blade included.  
84 KG 2645 K—State chuck size..... See Price List  
Med.-Duty (For 1/4 in. chuck). Wt. 2 lbs. 5 oz.  
Heavy-Duty (For 3/8 in. or larger chuck). Wt. 3 lbs.
- F** ARBOR FOR ELECTRIC DRILLS. Precision made of carbon steel. Used to hold wire wheels, buffing wheels, grinding wheels, etc. 1/4-in. shank. Arbor is 1/2 by 20 thread. 35/16-in. long. 1 1/4-in. flanges and nuts in one piece. Shipping weight 6 oz.  
84 KG 3496..... See Price List
- G** MALL 4-IN. DIAM. FLEXIBLE SANDING PAD. Fits 1/4-in. or larger chucks. 6 assorted discs.  
84 KGP 2617—With wrench..... See Price List  
84 KG 2618—Extra Sanding Discs. Assortment of 10. Ship. wt. 10 oz..... See Price List  
84 KG 3499—5-in. Rubber Sanding Pad. 2 sanding discs, buffer. Ship. wt. 1 lb..... See Price List
- H** ELECTRIC DRILL SHEAR ATTACHMENT. Fits drills with 1/4-in. or larger chuck. Cuts .040-in. thick sheet iron. Cutter blades are replaceable.  
84 KG 2625 K—Shipping weight 1 lb. 6 oz..... See Price List
- J** MALL ELECTRIC DRILL STANDS. Convert (D) above or (D) on opposite page into drill press. Drills to center of 8 1/2-in. circle. Spindle travels 2 1/2 in. 8-in. diam. table. Ht. 22 in. State drill No. to be used.  
84 KGP 2615 K..... See Price List  
84 KGP 2616 K—Larger than above. Fits (C) on opposite page. Spindle travels, 4 in. Drills to center of 10-in. circle. 9 1/4-in. diam. table. Height 36 1/4 in. State drill number to be used with stand..... See Price List
- K** BULL BUFFER OUTFIT. Fits 1/4-in. or larger chuck. For sanding, polishing. Includes two 5-in. sanding discs (fine, coarse), bonnet.  
84 KGP 2639—Complete Outfit..... See Price List  
84 KG 2641—Extra Sheepswool Polishing Bonnets. Ship. wt. 2 oz..... See Price List  
84 KG 2640—Extra Sanding Discs. Fine, Medium or Coarse Grit. State Grit wanted. Ship. wt. ea., 1 oz..... See Price List





## FLEXIBLE SHAFTS AND ACCESSORIES

### MEDIUM AND LIGHT-DUTY FLEXIBLE SHAFTS

**A to C** Most versatile tool in your shop . . . has hundreds of uses . . . gets in where other tools can't reach. Highly portable; can be used with wide range of accessories for grinding, drilling, sanding, polishing, paint removing, etc. Attach to any 1/2-in. diameter motor or line shaft 1/4 or 1/2-H.P. running in counter-clockwise direction at 1725 R.P.M. Ball bearing hand-piece. Flanges for holding grinding wheels, wire brushes, etc. 1/2-in. diameter, 24-thread spindle. 2 high-carbon steel wires wound in combination with soft, dead filler wire makes up casing assembly. Ball bearing motor coupling with positive connection. Fits 1/2-in. diam. shaft (use adapter (D) to fit 5/8-in. diam. shaft). Core assembly of transversely wound layers of high-carbon steel. Has steel end fittings.

**A** MEDIUM-DUTY FLEXIBLE SHAFT. For garages, carpenter, paint shops, etc. 60-in. shaft with 3/8-in. core. Oversize handle with hand guard. Cadmium plated to resist rust.  
84 KG 2657 M—Ship. wt. 9 lbs. . . . . See Price List

**B** LIGHT-DUTY FLEXIBLE SHAFT. For light grinding, polishing, etc. 50-in. shaft with 5/16-in. core. Cadmium plated. Has torque release clutch to release load equal to 1/2-H.P. motor. Prevents cable damage if overloaded.  
84 KG 2695 M—Ship. wt. 6 lbs. . . . . See Price List

**C** FLEXIBLE SHAFT EXTENSION. For (B) only. Length 36 in., 5/16-in. core. Extends length of 84 KG 2695 M (and former 2655) shaft to 86 in.  
84 KG 2696 M—Ship. wt. 3 lbs. 8 oz. . . . . See Price List

**D** FLEXIBLE SHAFT ADAPTER. Adapts flexible shafts (A) and (B) above fitting 1/2-in. diam. shaft to 5/8-inch diameter motor or line shaft.  
84 KG 2661—Ship. wt. 4 oz. . . . . See Price List

**E** FLEXIBLE SHAFT ANGLE HEAD. Cast aluminum head. Ball bearing. 1/2-in. 24-thread spindle.  
84 KG 2660—Ship. wt. 3 lbs. . . . . See Price List

**F** FLEXIBLE SHAFT WHEEL GUARD. Fits shafts at left. Clamps on hand-piece. Takes 4-in. diameter wheels. Made of cast aluminum.  
84 KG 2659—Ship. wt. 1 lb. 8 oz. . . . . See Price List

**G** 5-PIECE UTILITY KIT. Includes saw blade, grinding wheel, buffing wheel and wire scratch wheel (4-in. diameter with 1/2-in. arbor hole), and 4-oz. cake of Tripoli polishing compound.  
84 KG 2766—Ship. wt. 2 lbs. . . . . See Price List

**H** SANDING DRUM. Rubber cushioned sanding drum . . . expansion type. Fits shafts at left. 2 5/16-in. diam. Extra sanding sleeves on Page 19.  
84 KG 2665 K—Ship. wt. 2 lbs. . . . . See Price List

**J** SHEEPSWOL BUFFER. Use on any 6 to 8-in. sanding disc or face plate. Fastens with draw-string. 8-in. diam. Ship. wt. 3 oz.  
84 KG 2674 . . . . . See Price List

**K** POLISHING COMPOUND ASSORTMENT. Four-piece set consists of 1 each: red, white rouge; emery and tripoli compound. Ship. wt. 2 lbs.  
84 KG 2785 . . . . . See Price List

POLISHING COMPOUND. 1-lb. cakes. Wt. 1 lb. 4 oz.  
84 KG 2786—Tripoli . . . . . See Price List  
84 KG 2787—Red Rouge . . . . . See Price List  
84 KG 2788—White Rouge . . . . . See Price List  
84 KG 2789—Emery . . . . . See Price List

**L** SANDING DISC ADHESIVE. Fastens sanding sheets to sanding discs. 5-in. stick.  
84 KG 2673—Ship. wt. 6 oz. . . . . See Price List

### FLEXIBLE SHAFT ANGLE HEAD, GUARD AND ACCESSORIES

**M** LIGHT-DUTY SAW BLADE. 1/2-inch arbor hole.  
84 KG 2675—4-in. diam. Wt. 2 oz. See Price List

**N** RUBBER SANDING DISC. No gluing necessary. Fits any 1/2-in., 24-thread shaft or polishing head. Pliable pad held to metal back plate by threaded center piece.  
84 KG 2669 K—Ship. wt. 1 lb . . . . . See Price List

**P** SANDING DISC. Rigid type. 6-in. diam. fits 1/2-in. 24-thread spindle. Die-cast metal.  
84 KG 2668—Ship. wt. 1 lb. . . . . See Price List  
84 KG 2670 K—Sanding Sheets for above Sanding Disc. Med. grit. 6-in. diam. Wt. 4 oz. See List.

**R** RUBBER CUSHIONING PAD. 6-inch diameter.  
84 KG 2680—Ship. wt. 4 oz. . . . . See Price List

**T** WIRE SCRATCH BRUSHES. Hardened steel wires firmly set in steel core.

Diam. In.	Arbor Hole	Ship. Wt.	Fine Wire 84 KG 2778	Coarse Wire 84 KG 2779
4	1/2 in.	8 oz.	See List	See List
6	1/2 in.	12 oz.	See List	See List
8	3/8 in.	1 1/4 lb.	Not Avail.	See List

**U** CLOTH BUFFING WHEELS. Machine sewed. 1/2-in face, arbor hole. State Size. See Price List.  
84 KG 2784—4-inch diameter. Ship. wt. 4 oz.  
6-inch diameter. Ship. wt. 7 oz.  
8-inch diameter. Ship. wt. 12 oz.

**V** SANDING DISCS. Ass't. grits. 6-in. diam.  
84 KG 2672—Ship. wt. 6 oz. . . . . See Price List

**W** EMERY CLOTH. Six 4 1/2 x 5 1/2-in. sheets. Ass't. grits. Ship. wt. per package, 4 oz.  
84 KG 4119 . . . . . See Price List

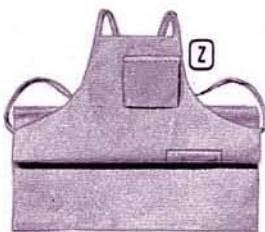
**X** SANDPAPER. Assorted grits. Twenty 4 1/2 x 5-in. sheets. Ship. wt. per package, 4 oz.  
84 KG 4113 . . . . . See Price List

**Y** BENCH STONE. Master quality. Vitrified silicon carbide. Contains a combination of both fine and coarse grits.

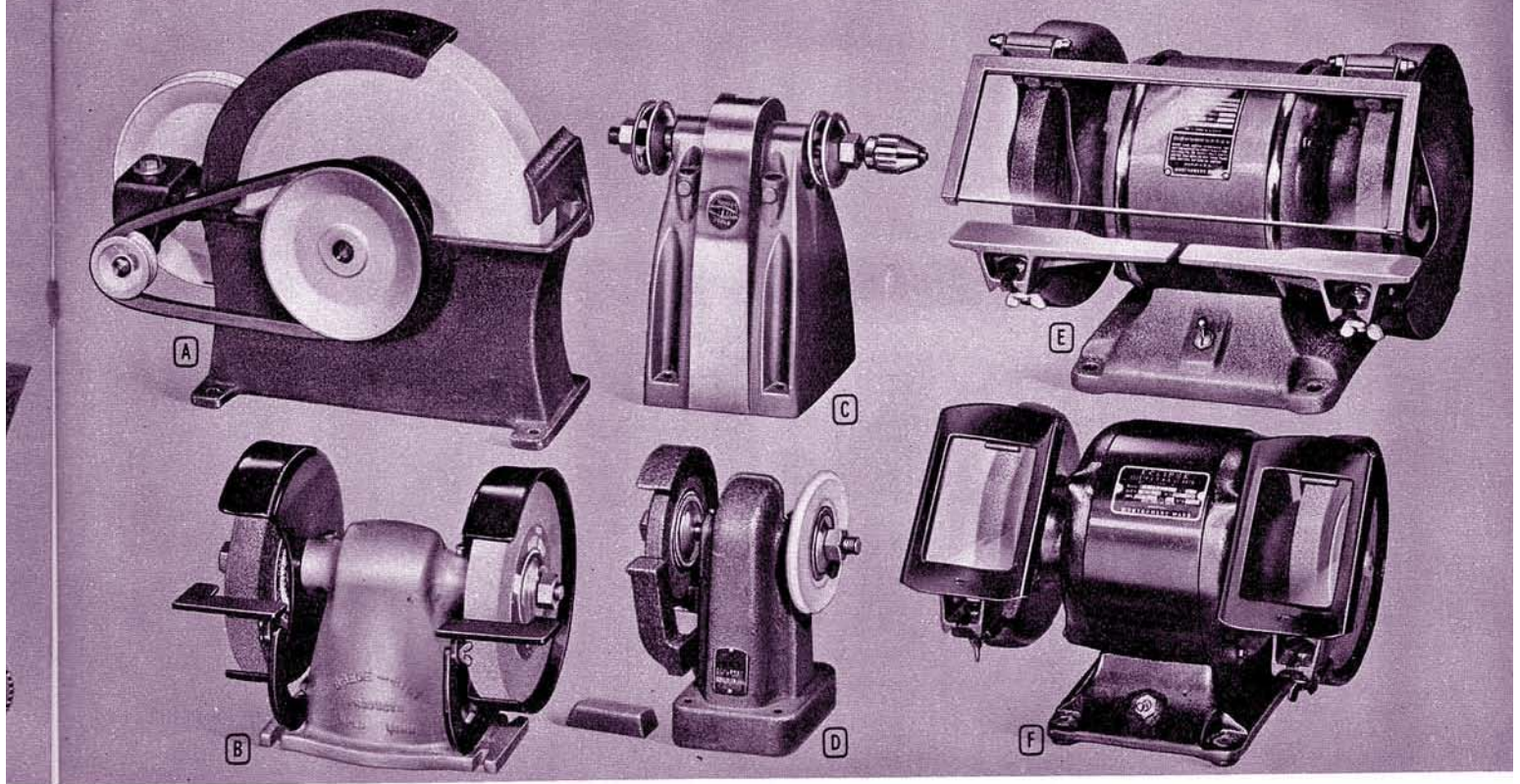
Cat. No.	Size in in.	Ship. wt.	Price
84 KG 4127	5 x 2 x 3/4	12 oz.	See Price List
84 KG 4128	6 x 2 x 1	1 lb.	See Price List
84 KG 4129	7 x 2 x 1	1 lb. 4 oz.	See Price List

### LONG-WEARING, FULL LENGTH WORKSHOP APRON

**Z** BIB STYLE WORKSHOP APRON. Full length to protect your clothes from dirt and wear. Two pockets—reinforced at strain points—one on bib swings free; roomy lower pocket for carrying pencils, nails, tapes, chalk, etc. right along with you. High bib protects your shirt front; full length to protect your trousers. Made of excellent quality, long-wearing, unbleached 8-oz. duck—withstands unlimited washings. Strong neck loop and tie strings. Size overall 28 by 40 inches.  
84 KG 4176—Shipping weight 8 ounces. . . . . See Price List



WHEN YOU BUY SHOP EQUIPMENT FROM WARDS you don't have to spend ready cash . . . use Wards Monthly Payment Plan or "Add-on" Plan if you have an account already. See Page 25 of this Catalog for details.



## BELT DRIVEN AND ELECTRIC GRINDERS

### BELT DRIVEN BENCH GRINDERS

**A** POWER DRIVEN WET GRINDSTONE. The correct grinder to sharpen tempered tools. Operates at low speed and in water to prevent drawing the temper from your tools. This rugged motor driven grindstone especially constructed to withstand heavy industrial use. Natural Ohio sandstone wheel with 10-inch diameter and 1½-inch face. Made of heavy cast-iron construction with a large base; reduces vibration. 5/8-inch diameter shaft runs on self-lubricating bronze bearings. Jack shaft reduces speed to 150 R.P.M. Has adjustable tool rest. Height 11½ inches; length 16½ inches. Three pulleys and "V" belt included. Use ½-inch motor pulley on 1/3-H.P. 1750 R.P.M. motor. Has splash guard which can be raised to allow grinding on top of grindstone. Has gray wrinkle finish. Motor not included.

84 KG 5285 M—Ship. wt. 31 lbs. . . . See Price List

**B** CAST ALUMINUM BENCH GRINDER. Runs smoothly on oilite bronze bearings. Has oil reservoir and spring cap oilers. Comes equipped with two 6-inch diameter by 1-inch thick vitrified grinding wheels. Has 2-inch diameter pulley which takes "V" round or flat belts up to 1½ inches wide. Shaft is 10 inches long and ½ inch in diameter. 24-thread shaft, 8 inches high. Base is 7½ by 3¼ inches.

84 KG 5181 M—Ship. wt. 13 lbs. . . . See Price List

84 KG 5180 M—Same as the Grinder listed directly above but without the grinding wheels. Shipping weight 8 lbs. . . . See Price List

### POWR-KRAFT POLISHING HEADS

**C** POLISHING HEAD WITH JACOBS CHUCK. 5-purpose tool . . . for polishing, grinding, wire brushing, buffing and drilling in wood, metal or plastics. With Jacob's Hand Tite chuck. Takes straight shank drills up to ¼-in. diameter. Made of sturdy cast aluminum. Shaft 8¼ in. long, ½-in. diameter, 24-thread. Two sets of 2½-in. diam. flanged washers to support wheels, etc. Bronze bearings. With 1½-in. diam. "V" pulley. Pulley can be driven from behind or below. Base size 4 x 4½ in. Height to center of spindle 6 in. For polishing accessories see opposite page.

84 KG 2761—Ship. wt. 4 lbs. 8 oz. . . . See Price List

**D** HEAVY-DUTY POLISHING OUTFIT. Strong die-cast metal base with belt and pulley guarded by frame. Driven from below or behind. ½-inch diameter, 24-thread shaft runs smoothly in two self-lubricating bronze bearings. The shaft is 7½ inches long. Pulley 2¼-inch diameter for "V" belt drive. Height overall 7¾ inches. Outfit includes: 4-inch diameter grinding wheel, 4-inch diameter cloth buffer, wheel guard, tool rest and 4-oz. cake of Tripoli polishing compound. For additional polishing accessories see opposite page.

84 KG 2752—Ship. wt. 9 lbs. 8 oz. . . . See Price List

POLISHING HEAD ONLY (not shown). Same as Polishing Head (D) in Heavy-Duty Polishing Outfit described above but without grinding wheel, cloth buffer, wheel guard, tool rest and compound.

84 KG 2751—Ship. wt. 7 lbs. 8 oz. . . . See Price List

### ELECTRIC BENCH GRINDERS

**E** LAKESIDE QUALITY GRINDER. High-speed electric bench grinder with full length shatter-proof eyeshield to protect the operator from flying sparks and particles. Extra long adjustable tool rests are removable. Runs smoothly on New Departure ball bearings, sealed in grease to keep out abrasive dust. Split phase motor with Thermotron protection against overload. No load speed 3600 R.P.M.; full load 3450 R.P.M. 2 Master Quality grinding wheels; 1 fine. Shaft diam. 5/8 in. Gray wrinkle finish with convenient built-in on-off toggle switch in front of grinder. 7½-ft. rubber cord, plug. Meets American Abrasive Safety Code requirements. For 115-volt, 60-cycle Alternating Current only.

84 KG 5111 M—¼-H.P. 7x¾-in. wheel. Shaft lgth. 13⅞ in. Ship. wt. 50 lbs. . . . See Price List

84 KG 5112 M—½-H.P. 7x¾-in. wheel. Shaft lgth. 13⅞ in. Ship. wt. 55 lbs. . . . See Price List

84 KG 5113 M—½-H.P. 7x1-in. wheel. Shaft length 13⅞ in. Ship. wt. 60 lbs. . . . See Price List

**F** ECLIPSE QUALITY GRINDER. High-speed electric grinder equipped with individual glass shields over each wheel to protect the operator from flying sparks and particles. Smooth running New Departure ball bearings sealed in grease to keep out abrasive dust. Removable tool rest and wheel guards. Convenient built-in on-off toggle switch. No load speed 3600 R.P.M.; full load 3450 R.P.M. ½-in. shaft diameter. 2 Master Quality 6-in. diam. by ¾-in. thick grinding wheels . . . 1 fine, 1 medium grit. 6-ft. rubber cord with plug. Has black enamel finish. For 115-volt, 60-cycle A.C. only.

84 KG 5108 M—¼-H.P. Shaft length 11⅞ in. Ship. wt. 35 lbs. . . . See Price List

84 KG 5109 M—½-H.P. Shaft length 12⅞ in. Ship. wt. 38 lbs. . . . See Price List

### GRINDING, SAW GUMMING AND CUT-OFF WHEELS

**G** COARSE, MEDIUM, FINE AND EXTRA-FINE GRIT GRINDING WHEELS. Precision made. Fully vitrified. Uniformly hard and correctly balanced. Select the correct grit for your purpose. Use Coarse 24 Grit for grinding rough iron and steel castings, surfacing plow shares, scrapers, etc. Use Medium 60 Grit for grinding welds, forgings, castings of malleable iron, cast iron, brass and aluminum. Use Fine 100 grit for axes, bits, dies, chisels, planes, etc. Use Extra-Fine 200 Grit for sharpening scissors, knives, shears, etc. Wheels are dressed on both sides and face. Have lead centers with steel bushings to meet the sizes you specify. State Catalog Number, Thickness, Diameter and Hole Size.

84 KG 5202 L—Coarse 24 Grit. . . . See Price List

84 KG 5201 L—Medium 60 Grit. . . . See Price List

84 KG 5200 L—Fine 100 Grit. . . . See Price List

84 KG 5203 L—Extra-Fine 200 Grit. . . . See Price List

**H** SAW GUMMING WHEELS. 60 Grit Master Quality. Two types. . . Vitrified for gumming and grinding; Bakelite for gumming and cut off use, better than vitrified for high-speed use. State Catalog Number, Diameter, Thickness and Hole Size.

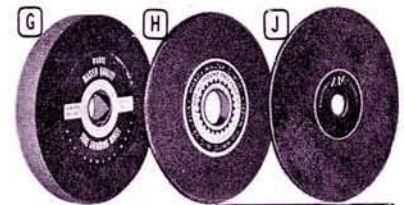
84 KG 5209 L—Vitrified. . . . See Price List

84 KG 5211 K—Bakelite. . . . See Price List

**J** "MX" CUT-OFF WHEELS. For fast cutting of steel, aluminum, brass, copper, Masonite, Celotex, Bakelite. Use for finish grinding on edge or side. Merging cotton fabric with abrasive compound provides for greater safety, will not shatter. All have 1-inch hole . . . metal bushing furnished for smaller holes. State Catalog Number, diameter, thickness, hole size.

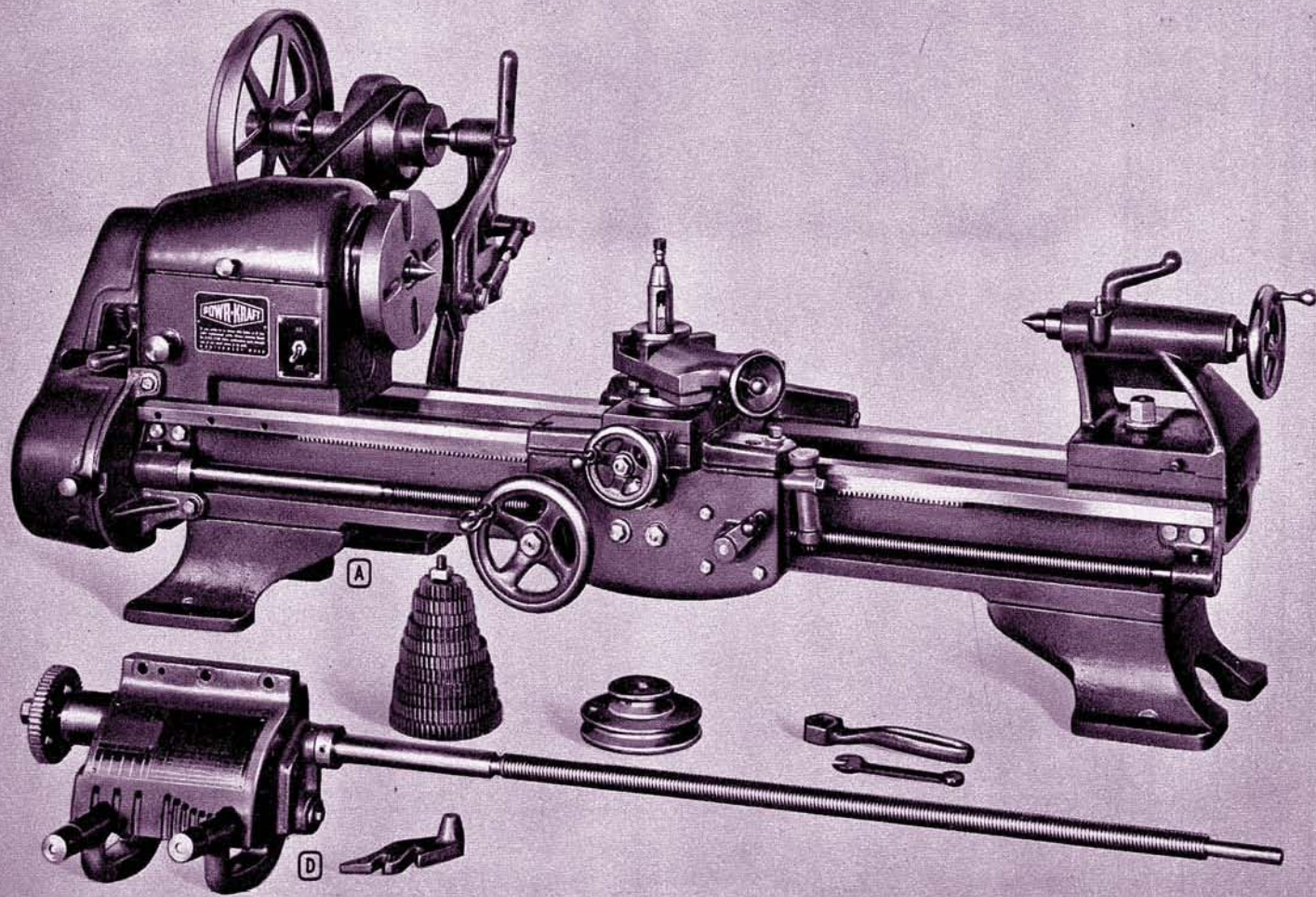
84 KG 5241—Fine 80 Grit. . . . See Price List

84 KG 5242—Coarse 24 Grit. . . . See Price List



BUY ON TERMS

+ WARDS 29



## POWR-KRAFT 10-INCH METAL LATHE

BACK-GEARED, SCREW-CUTTING LATHES... CHOICE OF 24 OR 31 IN. BETWEEN CENTERS

**A** A fine production tool developed for the machine shop requiring a high-speed lathe of sustained accuracy. It will greatly increase the amount of work you can produce in your shop. Built to perform within .001-inch, all lathe operations within its capacity. Widely used by master mechanics, garages, trade schools, etc. Headstock has pre-loaded New Departure ball bearings which permit high-speed operation with minimum spindle deflection and greater sustained accuracy. They are grease sealed and require no further lubrication or adjustment for their entire life. Self-lubricating bronze bearings at 18 other points of wear reduce maintenance—result in high-speed low-cost production.

**CAPACITY:** 10-inch swing over bed; 6 $\frac{1}{8}$ -inch swing over saddle cross slide. Bed made of seasoned alloy castings—internal stresses removed. Width of bed across ways is 6 $\frac{1}{16}$  in. Two flat and two prismatic "V" ways precision ground to within .0005-inch of parallelism over entire operating area, assure dependable accuracy.

**GEARS** are machine cut semi-steel. Precision made—far superior to the usual die-cast type. Extra wide face; bull gear and back gears are  $\frac{5}{8}$ -inch wide, change gears are  $\frac{7}{16}$ -inch wide. Gears are included for 46 thread selections—4 to 216 right-hand or left-hand threads.

**BACK GEARS ENCLOSED IN LATHE HEADSTOCK.** Advanced back gear design permits placing the patented back gear shifter rack where it belongs—at the operator's finger tips; he doesn't have to reach over the headstock. Assembly is kept free from dirt and chips. A more convenient design.

**HEADSTOCK:** Tempered, precision-ground steel spindle rides on two sets of New Departure ball bearings. Spindle nose diameter is  $1\frac{1}{2}$  inches—8 right-hand threads per inch. No. 3 Morse Taper spindle with adapter to No. 2 Morse Taper. Hole through spindle is  $\frac{25}{32}$  inch. Maximum collet capacity is  $\frac{1}{2}$  inch.

**TAILSTOCK, CARRIAGE AND COMPOUND REST:** Tailstock spindle travels  $2\frac{3}{8}$  inches, is graduated in 16ths—takes No. 2 Morse taper accessories.  $1\frac{1}{16}$ -inch offset for taper turning. Self-ejecting center. Carriage fully equipped with power cross feed and power longitudinal feed. Cross slide graduated in thousandths—travels  $6\frac{1}{4}$  inches.

Cross feed screw mounted in self-lubricating bronze bearings. Compound rest top slide graduated in thousandths—travels  $2\frac{1}{4}$  inches; swivels 90 degrees in both directions, locks at any angle.

Carriage has 9-inch bearing surface on "V" and flat ways. Tool post opening for tool holder: shank  $\frac{3}{8}$  by  $\frac{3}{4}$  inch. Use up to  $\frac{1}{4}$ -inch cutter bits.

**DRIVE:** Three-step cone pulley with flat belt drive to lathe. Two-step "V" belt drive from "V" type motor pulley to flat counter-shaft pulley. Counter-shaft and motor bracket included, giving 12 spindle speeds—30 to 1450 R.P.M.

**LATHE INCLUDES:** 17 change gears (6 are installed on lathe); 6-inch face plate; two 60 degree centers; tool post holder; thread cutting dial; flat belt; motor pulley—(state bore desired,  $\frac{1}{2}$ ,  $\frac{5}{8}$ , or  $\frac{3}{4}$  inch); wrenches, parts list and instructions. Gray enamel finish.

Available in two sizes: 24 in. between centers and 31 in. between centers. Sold without motor. See Page 43 for  $\frac{1}{2}$ -H.P. 1725 R.P.M. ball bearing capacitor type motor to fit these lathes. Use with 41-in. "V" belt shown on Page 39.

**WIDE ASSORTMENT OF ACCESSORIES AVAILABLE** for above lathes. See Pages 36, 37 and 38 for additional accessories to obtain the maximum utility and value from your metal turning lathe.

84 KG 2130R—24 inches between centers; 43 $\frac{1}{8}$ -inch bed length. Metal Lathe only. Shipping weight 320 lbs. .... See Price List

84 KG 2136R—31 inches between centers; 50-in. bed length. Metal Lathe only. Shipping weight 357 lbs. .... See Price List

### ACCESSORIES FOR POWR-KRAFT 10-INCH LATHES ABOVE

**B** STEEL CHIP PAN. For Powr-Kraft lathes only. Heavy-gauge steel. Fits legs (C) below and Back Geared Screw Cutting Lathes (A) above. Rounded corners for extra strength. Rolled rim. Two sizes. State Cat. No. Ship. wts. 22 and 27 lbs.  
84 KG 2141 M—For 24-in. lathe. .... See Price List  
84 KG 2137 M—For 31-in. lathe. .... See Price List

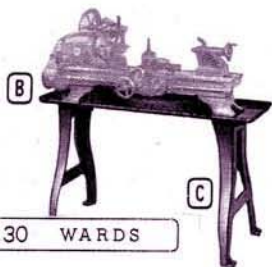
**C** CAST-IRON LEGS. Gray finish. Fit Powr-Kraft lathes only. Set of two. For Back Geared Screw Cutting lathes above. Give steady support—feet have bolt holes so legs can be fastened firmly to floor. Bolts not included. Ship. wt. per pair, 81 lbs.  
84 KG 2140 R. .... See Price List

### QUICK CHANGE GEAR BOXES

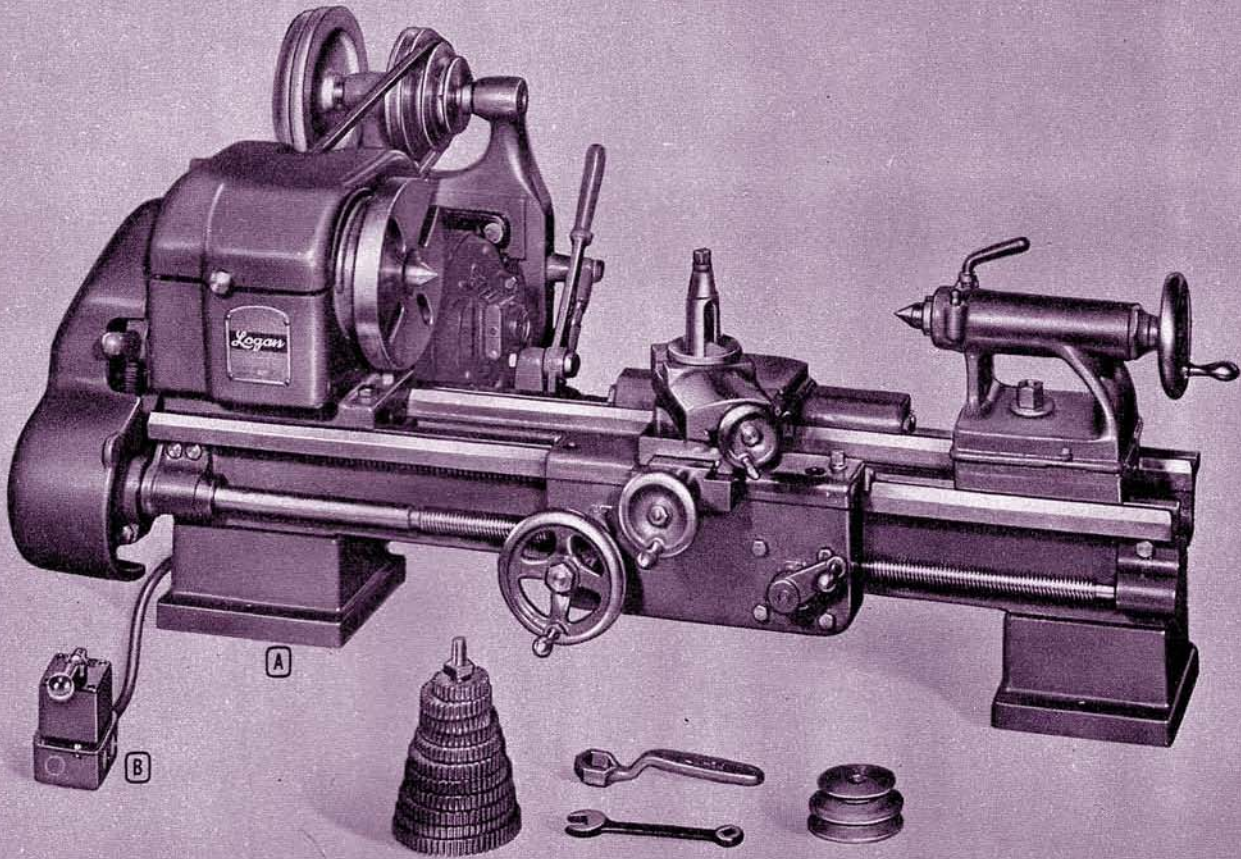
**D** Convert Powr-Kraft metal lathes to quick change gear lathes. Corrected lead screw included. Box provides 48 threads and feeds in either direction to carriage of lathe. By adjusting two levers, screw threads from 8 to 224 per in. are available. Changing 24-tooth stud gear for 48-tooth stud gear furnished with lathe, adds threads from 4 to 7 per in. Longitudinal power feeds .0015 to .1000 in. per revolution of spindle. Power cross feed .25 times longitudinal feed. Semi-steel gears and bronze self-lubricating bearings. Instructions included.

84 KG 2138 Y—Fits 84 KG 2130R listed above and old lathe No. 700. Ship. wt. 16 lbs. .... See Price List

84 KG 2139 Y—Fits 84 KG 2136R lathe listed above. Ship. wt. 25 lbs. .... See Price List



30 WARDS



## LOGAN 9-INCH METAL LATHE

BACK GEARED, SCREW-CUTTING LATHE . . . 18 INCHES BETWEEN CENTERS

**A** Has same basic features as Powr-Kraft lathes on opposite page but smaller capacity. Suitable for production work within its capacity. Headstock has pre-loaded, grease-sealed New Departure ball bearings—adapted to high-speed work. Bronze bearings at other wear points.

**CAPACITY:** Distance between centers 18 in. Swing over bed and saddle wings 9 in.; swing over cross slide 5 in. Length of bed 33¼ in. Width of bed across ways 6½ in. Two flat and two "V" ways of iron bed precision-ground to within .0005 inch of parallelism. Total spindle runout 12 in. from bearings is less than .001 in. Reversible power longitudinal feed. 46-thread selections 4 to 216 right or left-hand threads.

**HEADSTOCK:** Tempered, precision-ground steel spindle rides on grease-sealed New Departure ball bearings. Spindle nose diam. 1½ in.—8 right-hand threads per in. No. 3 Morse Taper with adapter to No. 2 Morse Taper. Hole through spindle 2½ in. Back gear shaft has bronze bearings.

**TAILSTOCK, CARRIAGE AND COMPOUND REST:** Tailstock spindle travels 2¾ in. is graduated in 1/16ths—takes No. 2 Morse Taper accessories. ½ in. offset for taper turning. Cross slide graduated in thousandths—travels 5½ in. Cross feed screw mounted on self-lubricating bronze bearings. Compound rest swivel graduated 90° in both directions. Tool post opening for tool holder shank ¾ by ¾ inch. For use with cutter bits up to ¼-inch size.

**DRIVE:** Countershaft assembly equipped with self-lubricating bronze bearings. Three-step "V" belt cone pulley on countershaft—motor mounts on countershaft bracket. With 30 by ½-inch "V" belt from motor pulley to countershaft and 44 by ½-inch "V" belt from countershaft to headstock. 12 spindle speeds—30 to 1450 R.P.M.

**LATHE INCLUDES:** 17 change gears (6 installed on lathe); 6-in. face plate; two 60° centers; tool post holder; two-step motor pulley (state bore desired ½ or ¾ in.); wrench; parts list and instructions.

Recommended for use with ½-H.P. 1725 R.P.M. single shaft motor listed on Page 43. Accessories listed below fit Logan 9-in. lathe only. Collets, under-cutter blades, carriage stops, face plates, lathe dogs, tailstock turret, drill and countersink bits, tool holders, boring bars on Pages 36, 37 and 38 also fit 9-inch Logan lathe. Shipping weight 240 lbs.

84 KG 2129 F—Lathe only. . . . . See Price List

**B** DRUM REVERSING SWITCH. For Logan Lathe 84 KG 2129 F—listed above. Switch reverses spindle direction by reversing motor. Capacity up to 1-H.P. 550-volts, A.C. With switch box and three-foot rubber covered cord. Shipping weight 3 lbs. 8 oz.

84 KG 2216 K. . . . . See Price List

### SPECIAL ACCESSORIES FOR 9-INCH LOGAN LATHE

**C** FOLLOWER REST. Adjustable jaws. Wt. 3 lbs. 84 KG 2211 K—Cast-iron frame. See Price List

**D** CENTER REST, Adjustable jaws. Wt. 9 lbs. 84 KG 2210 K—Cast-iron frame. See Price List

**E** MICA UNDERCUTTER. For armature servicing. Mounts on back of cross slide. With 2 saws—.015 and .020 inches thick. 84 KG 2212 K—Ship. wt. 8 lbs. . . . . See Price List

**F** THREADING DIAL. Indicates proper point at which to engage half-nut lever when cutting threads so that tool will enter same groove for each cut—eliminates reversing the drive at the end of cut. Ship. wt. 1 lb. 8 oz.

84 KG 2215 K. . . . . See Price List

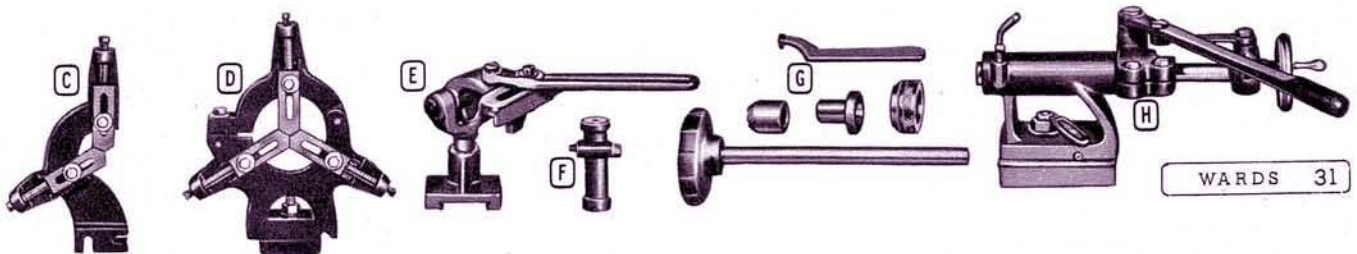
**G** DRAW-IN COLLET CHUCK ATTACHMENT. Chucks round work 1/16 to ½ inch. Hollow draw-in bar extends through head-stock. Threaded at spindle

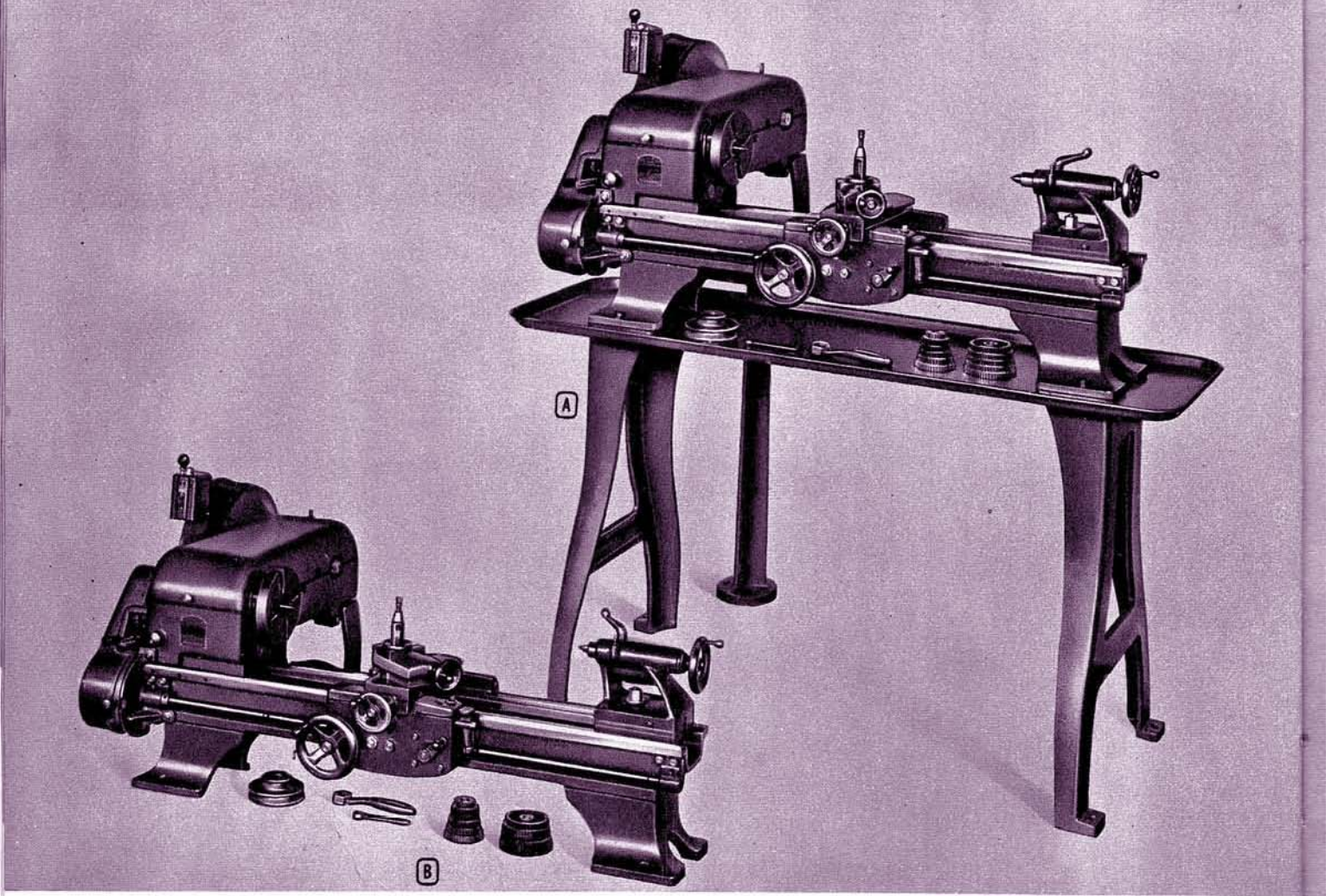
end. Consists of hollow draw bar, tapered closing sleeve, spindle nose cap and spindle cap wrench. Use with 84 KG 2162 Collets on Page 37.

84 KG 2214 K—Ship. wt. 5 lbs. . . . . See Price List

**H** LEVER TAILSTOCK. Can be set to operate as standard tailstock. Lever stroke 2¾ in. Hand wheel spindle travels 2¾ in. Fitted for No. 2 Morse Taper. With wrench.

84 KG 2213 K—Ship. wt. 29 lbs. . . . . See Price List





## NATIONALLY KNOWN LOGAN METAL LATHES.

### LOGAN BACK GEARED SCREW CUTTING LATHES—FLOOR AND BENCH MODELS

**(A) (B)** Fine quality production lathes built to rigid and exacting specifications. Designed for shops requiring a high speed lathe of sustained accuracy. Performs all lathe operations within .001 inch. Widely used by master mechanics, garages, trade schools, etc. Headstock has sealed, pre-loaded New Departure ball bearings of highest precision type. Self-lubricating bronze bearings at 24 other points. Patented countershaft assembly with three-point suspension and rubber mountings.

**CAPACITY:** Swing over bed 10½ in.; swing over saddle cross slide 6⅞ in. Bed made of seasoned alloy castings—internal stresses removed. Width of bed across ways 61⅝ in. Two flat and two precision-ground prismatic "V" ways. Machine cut semi-steel gears—not die cast. Extra wide face—bull gear and back gears ⅝-in. wide, change gears 7/16 in. Gears included for 46 thread selections—4 to 216 right or left-hand threads.

**HEADSTOCK:** Tempered, precision-ground steel spindle rides on two sets of New Departure ball bearings . . . gives greater accuracy, less friction, less wear and requires no adjustment or lubrication. Spindle nose diameter 1½ inches—8 right-hand threads per inch. No. 3 Morse taper spindle with adapter to No. 2 Morse taper. Hole through spindle 2⅝ in. Max. collet capacity ½ in. with draw-in collets and ⅝ in. with push type collets.

**TAILSTOCK, CARRIAGE AND COMPOUND REST:** Tailstock spindle travels 2⅜ in., is graduated in 16ths—takes No. 2 Morse taper accessories. 1⅛-in. offset for taper turning. Carriage is fully equipped with power cross feed and power longitudinal feed. Cross slide graduated in 1000ths, travels 6¼ in. Cross feed screw mounted in self-lubricating bronze bearings. Compound rest top slide graduated in 1000ths, travels 2¼ in.—swivels 90° in both directions. Tool post opening for tool holder shank ⅜x¾ in. Use up to ¼-in. square cutter bits.

**COUNTERSHAFT ASSEMBLY:** Patented assembly used in this machine is carried on a three-point suspension . . . is insulated by rubber at all points of contact to prevent vibration being transmitted to lathe.

**DRIVE:** 40x½-in. "V" belt included—used on flat of 2-step countershaft pulley. 3-step flat belt cone pulley mounted on countershaft. With 2-step "V" motor pulley (state ½, ⅝ or ¾-in. bore). Countershaft and motor bracket included, giving 12 spindle speeds—30 to 1450 R.P.M.

**ACCESSORIES INCLUDED:** 17 change gears; 6-in. face plate; two 60° centers; one threading dial; one threading chart; one No. 3 to No. 2 Morse taper adapter; one tool post holder and wrench; one tailstock wrench; parts list; instruction book.

**(A) FLOOR MODELS.** With chip pan and legs. Chip pan is made of heavy-gauge steel with welded corners and a rolled rim. Legs are made of close-grained gray iron. (Motor not included.) Order ½-H.P. ball bearing motor on Page 43. See specifications below.

84 KG 2234 F—24 in. between centers. Bed length 43⅞ in. Size overall—length 54 in., width 30 in., height 48½ in. Ship. wt. 500 lbs. . . . . See Price List

84 KG 2235 F—31 in. between centers. Bed length 50 in. Size overall—length 61 in., width 30 in., height 48½ in. Ship. wt. 535 lbs. . . . . See Price List

**(B) BENCH MODELS.** Without chip pan or legs. See specifications below. (Motor not included.) Order ½-H.P. ball bearing motor on Page 43.

84 KG 2232 F—24 in. between centers. Bed length 43⅞ in. Size overall—length 54 in., width 30 in., height 21 in. Ship. wt. 400 lbs. . . . . See Price List

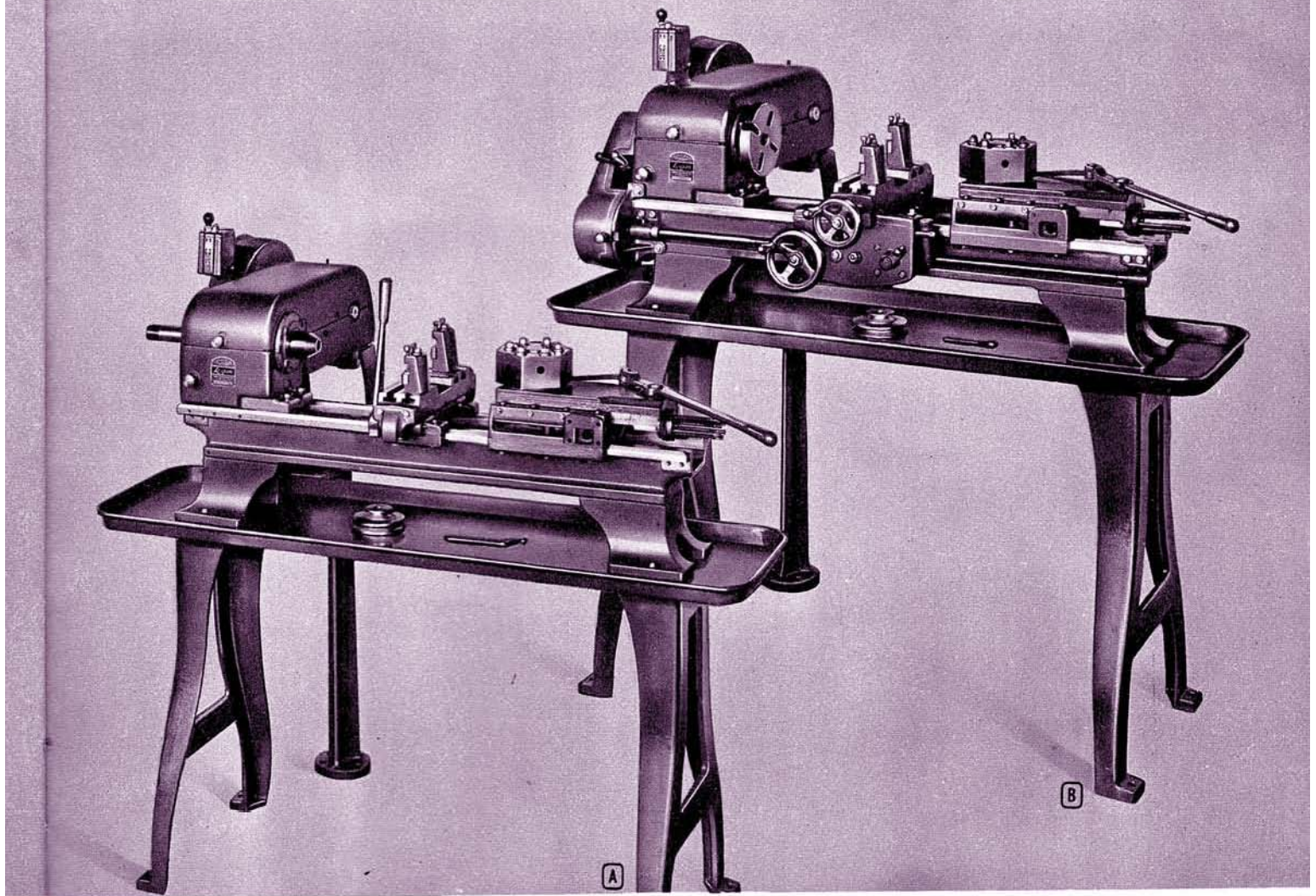
84 KG 2233 F—31 in. between centers. Bed length 50 in. Size overall—length 61 in., width 30 in., height 21 in. Ship. wt. 435 lbs. . . . . See Price List

### SPECIFICATIONS FOR LATHES (A) AND (B) ABOVE

	(A)	(A)	(B)	(B)
	84 KG 2234 F	84 KG 2235 F	84 KG 2232 F	84 KG 2233 F
Distance between centers	24 in.	31 in.	24 in.	31 in.
Swing over bed	10½ in.	10½ in.	10½ in.	10½ in.
Swing over cross slide	6⅞ in.	6⅞ in.	6⅞ in.	6⅞ in.
Bed width across ways	61⅝ in.	61⅝ in.	61⅝ in.	61⅝ in.
Bed length	43⅞ in.	50 in.	43⅞ in.	50 in.
Collet capacity—push type	⅝ in.	⅝ in.	⅝ in.	⅝ in.
Collet cap.—draw-in type	½ in.	½ in.	½ in.	½ in.
No. of bronze bearings	24	24	24	24
Tailstock spindle	Morse taper No. 2	Morse taper No. 2	Morse taper No. 2	Morse taper No. 2
Cross slide travel	6¼ in.	6¼ in.	6¼ in.	6¼ in.
Compound rest travel	2¼ in.	2¼ in.	2¼ in.	2¼ in.
Size of cutter bits req.	¼-in. sq.	¼-in. sq.	¼-in. sq.	¼-in. sq.
Recommended motor	½-H.P. B.B.	½-H.P. B.B.	½-H.P. B.B.	½-H.P. B.B.

See Pages 36 to 38 for accessories to fit these lathes.





## HAND SCREW MACHINE AND TURRET LATHE

### LOGAN HAND SCREW MACHINE—BALL BEARING PRODUCTION MODEL

**A**  $\frac{3}{8}$ -inch capacity. Swing over bed  $10\frac{1}{2}$  inches. Designed for the continuous production of small parts. Built throughout to rigid and exacting specifications to give accurate results and trouble-free service. Turret holes are bored from the headstock. Lever-operated hexagonal head turret permits the mounting of tools on block face as well as in standard tool hole. Precision-ground bed and pre-loaded ball bearing spindle mounting permit high-speed operations, greater accuracy. Precision ground ways—2 prismatic "V" ways and 2 flat ways. Self-lubricating bronze bearings at 13 separate points in lathe. See specifications listed in table below.

**HEADSTOCK:** Spindle mounted on New Departure ball bearings. Spindle nose diameter  $1\frac{1}{2}$  in.—8 threads per inch. Hole through spindle  $\frac{25}{32}$  in. Maximum collet capacity  $\frac{3}{8}$  in. 12 spindle speeds. Back gear shaft has self-lubricating bronze bearings. Bull and back gears  $\frac{3}{8}$  in. wide.

**TURRET:** Diameter of head 5 in. Six positions with adjustable stops.  $\frac{5}{8}$ -in. diameter turret holes. Maximum stroke of turret  $4\frac{1}{4}$  inches.

**DRIVE:** 3-step flat belt cone pulley mounted on countershaft. 2-step "V" motor pulley. (State  $\frac{1}{2}$ ,  $\frac{5}{8}$  or  $\frac{3}{4}$ -in. bore). 2-step countershaft flat pulley. Countershaft assembly independently supported on 3-point suspension—rubber insulated.

**SIZE OVERALL:** Length 54 inches; width 30 inches; height 50 inches.

84 KG 2131F—Hand Screw Machine. Ship. wt. 540 lbs. . . . . See Price List

### LOGAN TURRET LATHE—BALL BEARING PRODUCTION MODEL

**B** An accurate, durable tool developed for continuous production of small parts. Lever-operated hexagonal block turret permits the mounting of tools on block face as well as in standard tool hole. Precision ground bed and pre-loaded ball bearing spindle mounting permit high speed operations, greater accuracy. Reversible power cross feed and longitudinal feed. 46 threads—4 to 216 per inch. See specifications below.

**HEADSTOCK:** Spindle mounted on New Departure ball bearings for greater accuracy, less friction. Spindle nose diam.  $1\frac{1}{2}$  in.—8 threads per inch. Hole through spindle  $\frac{25}{32}$  inch. When the cone pulley guard is raised, belt tension is automatically released for quick belt change.

**CARRIAGE AND CROSS SLIDE:** Cross slide graduated in 1000ths—travels 6 in. Adjustable double tool posts. Tool post slots  $\frac{7}{16}$  in. by  $1\frac{1}{16}$  in.

**TURRET:** Diameter of head 5 in. Six positions with adjustable stops. Diameter of turret holes  $\frac{5}{8}$  in. Maximum stroke of turret  $4\frac{1}{4}$  in.

**DRIVE:** 3-step flat belt cone pulley mounted on countershaft. 2-step "V" motor pulley. (State  $\frac{1}{2}$ ,  $\frac{5}{8}$  or  $\frac{3}{4}$ -in. bore). 2-step countershaft flat pulley. Countershaft assembly independently supported on 3-point suspension—rubber insulated at all points of contact to prevent vibration.

**SIZE OVERALL:** Length 54 inches; width 30 inches; height 50 inches. *343.50*

84 KG 2132 F—Turret Lathe. Ship. wt. 560 lbs. . . . . See Price List

#### SPECIFICATIONS FOR (A) AND (B) ABOVE

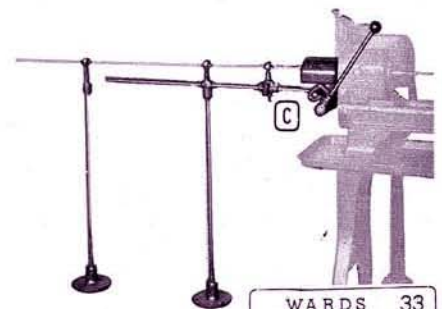
	(A) 84 KG 2131F	(B) 84 KG 2132F
Swing over bed	$10\frac{1}{2}$ in.	$10\frac{1}{2}$ in.
Swing over cross slide	$4\frac{1}{2}$ in.	$4\frac{1}{2}$ in.
Bed width across ways	$6\frac{15}{16}$ in.	$6\frac{15}{16}$ in.
Bed length	$43\frac{1}{8}$ in.	$43\frac{1}{8}$ in.
Collet capacity	$\frac{3}{8}$ in.	$\frac{3}{8}$ in.
Number of self-lubricating bronze bearings	13	24
Size motor recommended (Not included)	$\frac{1}{2}$ -H.P. Cap. 83 KG 4551M	$\frac{1}{2}$ -H.P. Cap. 83 KG 4551M
Size "V" belt furnished	$\frac{1}{2} \times 51$ in.	$\frac{1}{2} \times 51$ in.

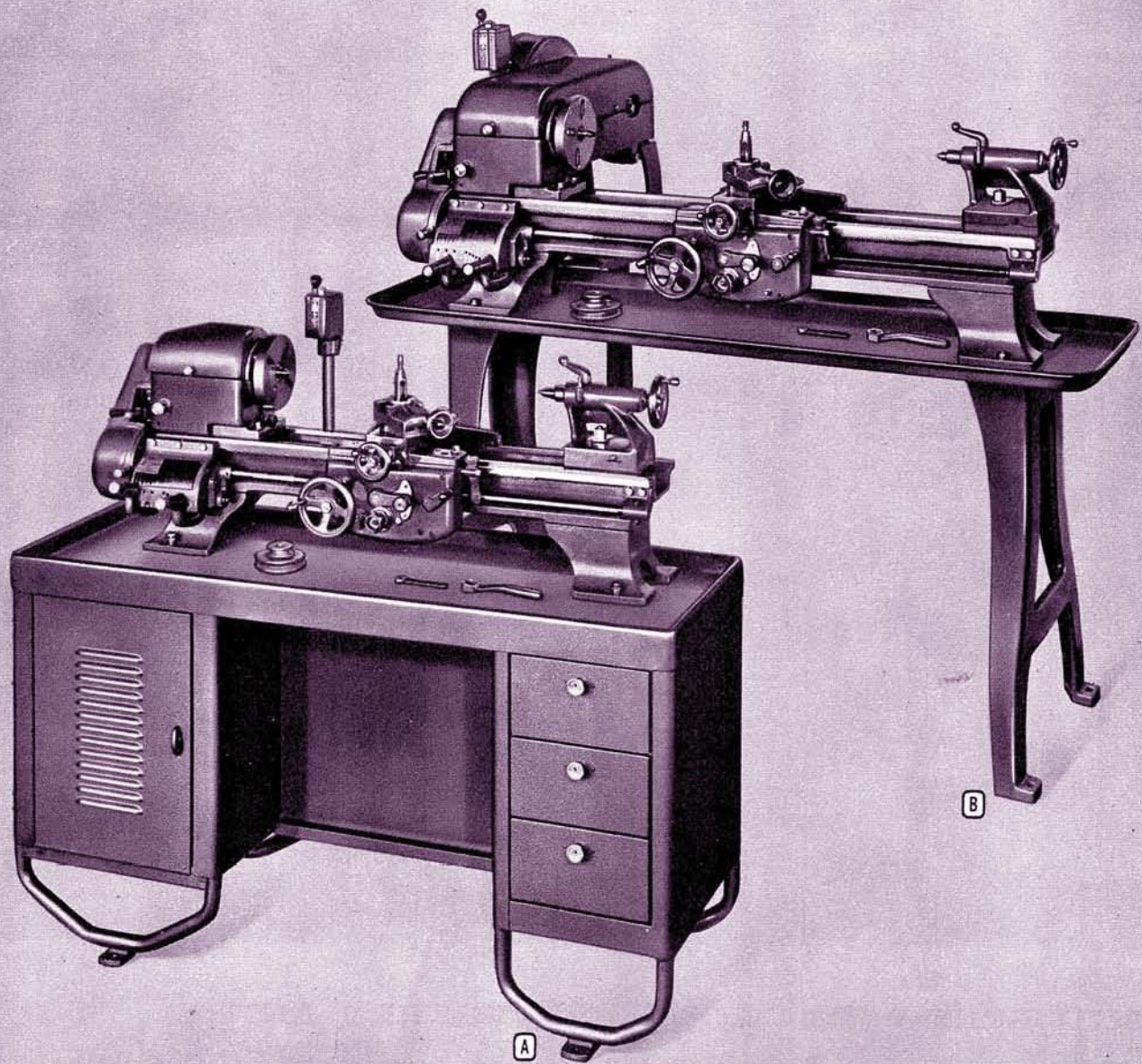
Motors for these lathes listed on Page 43.

#### LOGAN BAR FEED

**C** For use with Hand Screw Machine 84 KG 2131F shown above. All parts are precision machined for accurate operation, longer life. Has maximum capacity of  $\frac{5}{8}$ -in. round stock. Maximum feed per stroke 2 in. Patented cam action, which locks collet and operates bar feed, is so designed that there is no feed while bar is being locked and no locking action while bar is being fed. Feed and locking mechanism are protected by shield. Easily attached or detached. Order push type collets 84 KG 2163F on Page 37 in sizes required. Ship. wt. 45 lbs.

84 KG 2184 F. . . . . See Price List





## LOGAN CABINET, FLOOR, BENCH LATHES

LOGAN QUICK CHANGE GEAR CABINET, FLOOR AND BENCH MODEL LATHES WITH AUTOMATIC APRON . . . ONLY 10% DOWN ON TERMS

**A B** Durable, dependable lathes adaptable to tool room work, training or production. Friction feed apron travels over bed that is ground to within .0005 in. of absolute accuracy. Total run out of headstock spindle 12 inches from bearings is less than .001 in. Lead screw held to within .002 in. in 12 inches. Headstock spindle runs on double row of pre-loaded New Departure ball bearings.

**CAPACITY:** Distance between centers 24 or 31 inches—10½-inch swing over bed and saddle wings. Swing over saddle cross slide 6½ inches. Collet capacity with draw-in collets ⅝-inch (none included).

**THREADS AND FEEDS:** Quick change gear box and automatic apron. Worm drive from lead screw spline for power feeds. Friction clutch on power feeds. Longitudinal feed .0015 to .0010 in. per spindle revolution. Cross feed .25 times longitudinal feed. Half nut drive from lead screw thread for thread cutting. Threads 48 selections, right or left hand, 4 to 224 threads per in.

**BED:** Length 43⅞ or 50 inches. Precision ground ways—two prismatic "V" ways, 2 flat ways. Bed width 6½ inches across ways.

**HEADSTOCK AND SPINDLE:** Tempered and precision-ground steel spindle rides on two sets of pre-loaded, grease-sealed New Departure ball bearings. Spindle nose diameter 1½ inches—8 right-hand threads per in. Number of spindle speeds 12. Hole through spindle 2⅝ in. Spindle taper, No. 3 Morse with adapter to No. 2 Morse taper. Back gear shaft bearings—self-lubricating bronze. Width of face of bull gear and back gears ⅝ inch.

**CROSS SLIDE AND COMPOUND REST:** Cross feed screw mounted on bronze bearings. Graduated in thousandths—travels 6¼ in., compound rest top slide travels 2¼ in. Compound rest swivels 90° in either direction. Tool post holder for tool holder shank, ⅜x¾ in. Takes ¼-in. sq. cutter bits.

**TAILSTOCK SPINDLE:** Spindle travels 2⅝ in.—graduated in 16ths. No. 2 Morse taper center, 1¼-inch offset for taper turning.

**COUNTERSHAFT ASSEMBLY:** Mounted on self-lubricating bronze bearings. Three-step cone pulley with flat belt drive to lathe. Two-step "V" belt drive from "V" type motor pulley to flat countershaft pulley. Adjustable motor mounting bracket.

**LATHE INCLUDES:** 6-inch face plate; two 60° centers; threading dial; tool post holder and wrench; tailstock wrench; drum reversing switch; "V" Belt, 2 step "V" motor pulley (state ½, ⅝ or ¾-inch bore), (chip pan and legs on floor model only), (cabinet with cabinet model only); parts list and instructions. Lathes have gray enamel finish.

**RECOMMENDED (not included), ½-H.P. 1725-R.P.M. Ball Bearing Capacitor motor sold on Page 43.**

**A CABINET MODEL LATHE.** Has all features listed above with 24 inches between centers and 43⅞-inch bed length. Has 39 self-lubricating bronze bearings. Steel constructed cabinet—drawers provided for tool storage. Countershaft assembly mounted in cabinet for underneath drive. Has oil drain in center rear of pan. Size overall 55½ by 20½ by 52 inches high.

84 KG 2134F—Shipping weight 785 lbs. . . . . See Price List

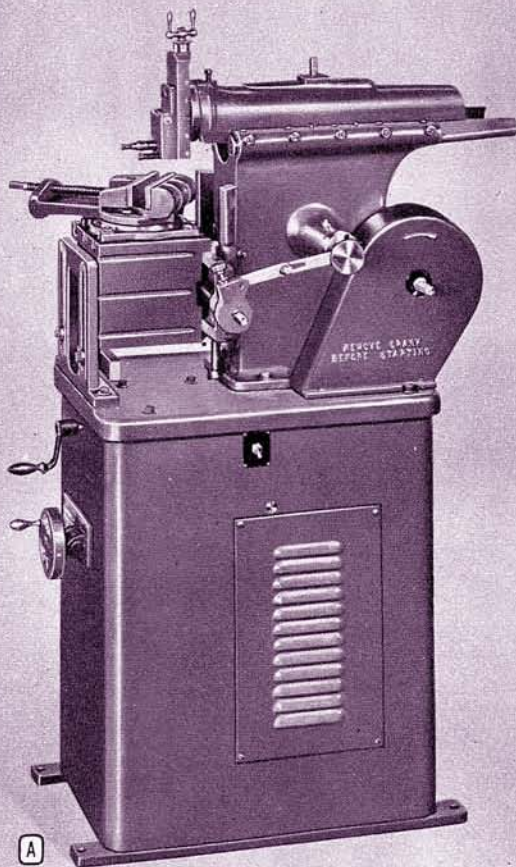
**B FLOOR MODEL LATHE.** Has all features listed above with 31 inches between centers and 50-inch bed length. Size overall, 61 by 30 by 48½ in. high.

84 KG 2135F—Floor Model Lathe same as (B) above but with 24 inches between centers and 43⅞-inch bed length. Size overall, 54 by 30 by 48½ in. high. Shipping weight 540 lbs. . . . . See Price List

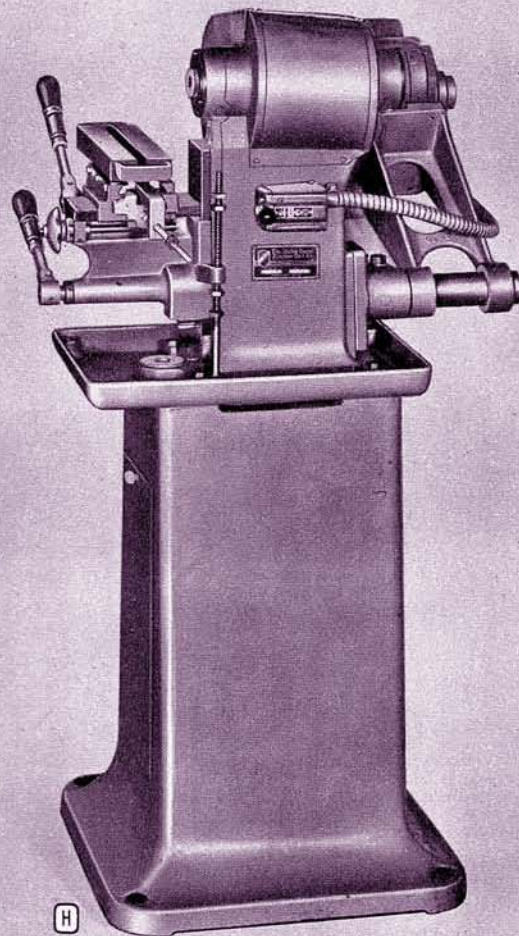
84 KG 2219F—Bench Model Lathe same as 84 KG 2217F above but without legs, pan, and countershaft pedestal. Size overall, 61 by 30 by 21 inches high. Shipping weight 475 lbs. . . . . See Price List

84 KG 2218F—Bench Model Lathe same as 84 KG 2135F above but without legs, pan, and countershaft pedestal. Size overall, 54 by 30 by 21 inches high. Shipping weight 440 lbs. . . . . See Price List

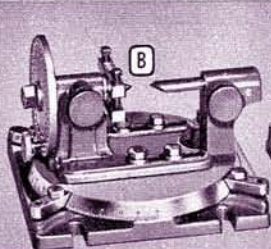
**BUY NOW ON WARDS MONTHLY PAYMENT PLAN.** You can buy any of the equipment in this book now on Wards Monthly Payment Plan. All you need pay is 10% down on orders of \$20 or more, the balance in convenient monthly payments. See Page 25 for details. The added profits and savings from faster, more accurate production will help pay for the equipment as you use it.



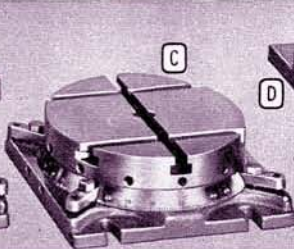
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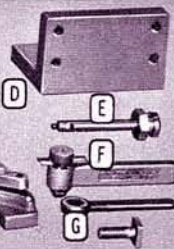
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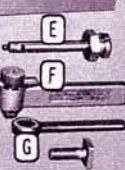
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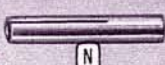
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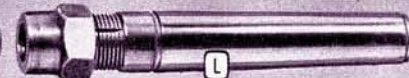
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## LOGAN SHAPER, BURKE MILLING MACHINE

### LOGAN HEAVY-DUTY 8-INCH METAL SHAPER

**A** Logan shaper is thoroughly proved in actual work — a dependable machine for tool room, maintenance shop, factory, repair shop or school. Made of steel and cast-iron parts. Has six automatic feeds in either direction, from .002 to .012, with a half turn of feed handle in either direction reversing the feed. Feed dials graduated to read .001 in.

Has maximum ram stroke of 8½ inches — permits full machining of work 8 inches long. Ram reciprocations range from 35 to 180 strokes per minute. Speeds can be changed instantly without stopping motor or shifting belt by turning hand wheel control. Ram is 5¼ inches wide with extra large bearing surface—51 square inches.

Tool head swivels 360°, travels vertically 2¾ in. Slide block on crank is SAE phosphor bronze, crank pin hardened steel. Table, 8 by 8 in., has vertical travel of 5½ in., and 10½-in. traverse. Shaper vise 5 by 5 by 1½ in. is heavily ribbed. Floor model base, ½-H.P. 1 phase 1725-RPM 115-230-Volt, 60-Cycle A.C. motor, and V-belt included. Width 15 in., depth 35 in., ht. 51 in.  
84 KG 3353F—Shipping weight 700 lbs. . . . . See Price List

**B** SHAPER INDEX CENTERS. Capacity of 5 inches between centers and a 3-inch swing. Provided with index plate with divisions between 22-30.  
84 KG 3360K—Dog included to hold work. Ship. wt. 16 lbs. . . . . See Price List

**C** 4-INCH ROTARY TABLE. Has work surface 7-in. diam. with 3 "T" slots on face.  
84 KG 3361K—Shipping weight 23 lbs. . . . . See Price List

**D** ANGLE PLATE. For handling irregularly shaped work. Clamps to top or side.  
84 KG 3362K—Shipping weight 7 lbs. . . . . See Price List

**E** KEYWAY TOOL HOLDERS. Used in place of tool post in shaper. Wt. 1 lb.  
84 KG 3366K—7/16-in. size 84 KG 3367K—5/8-in. size. See Price List

**F** SHAPER TOOL HOLDER. High grade steel, with high-speed cutter.  
84 KG 3368K—Shipping weight 1 lb. . . . . See Price List

**G** "T" HEADED BOLTS. Three sizes: 1, 2¼, and 3¼ in. Ship. wt. each, 1 lb.  
84 KG 3363K—1-in. 84 KG 3364K—2¼-in. 84 KG 3365K—3¼-in. See List

### BURKE NO. 1 MILLING MACHINE AND ACCESSORIES

**H** An accurate, versatile, well constructed machine tool. Used by thousands of exacting manufacturers, tool makers, hobbyists, and schools. Made of steel and prime gray iron castings. All bearing surfaces hand scraped. Precision ground steel spindle equipped with Timken roller bearings. Furnished with No. 9 Brown and Sharpe taper hole.

Table has working surface 3½ by 12 in. Longitudinal feed 8 in.; traverse feed 3⅝ in.; and vertical feed 4½ in. Equipped with ½-inch T-slot. Table operated by hand lever or crank. Stops may be locked in any position. Knee raised and lowered by handle . . . locks in any position. Adjustable hand-scraped gibs are provided for knee, saddle, and table.

Spindles are equipped with pre-loaded Timken roller bearings. Drive is from 6-step motor pulley by V-belt to 6-step spindle pulley giving speeds from 375 to 2500 RPM. With ½-H.P. 1 phase 115-volt, 60-cycle A.C. motor. Gray fin.

84 KG 3405F—Milling Machine with motor, but without cast-iron base. Ship. wt. 340 lbs. . . . . See Price List  
84 KG 3406F—Cast-iron Base. 28 inches high. Ship. wt. 210 lbs. See Price List

**J** ARBOR. 1-in. hole, No. 9 Brown & Sharpe taper shank. Use cutters below.  
84 KG 3407K—Shipping weight 3 lbs. . . . . See Price List

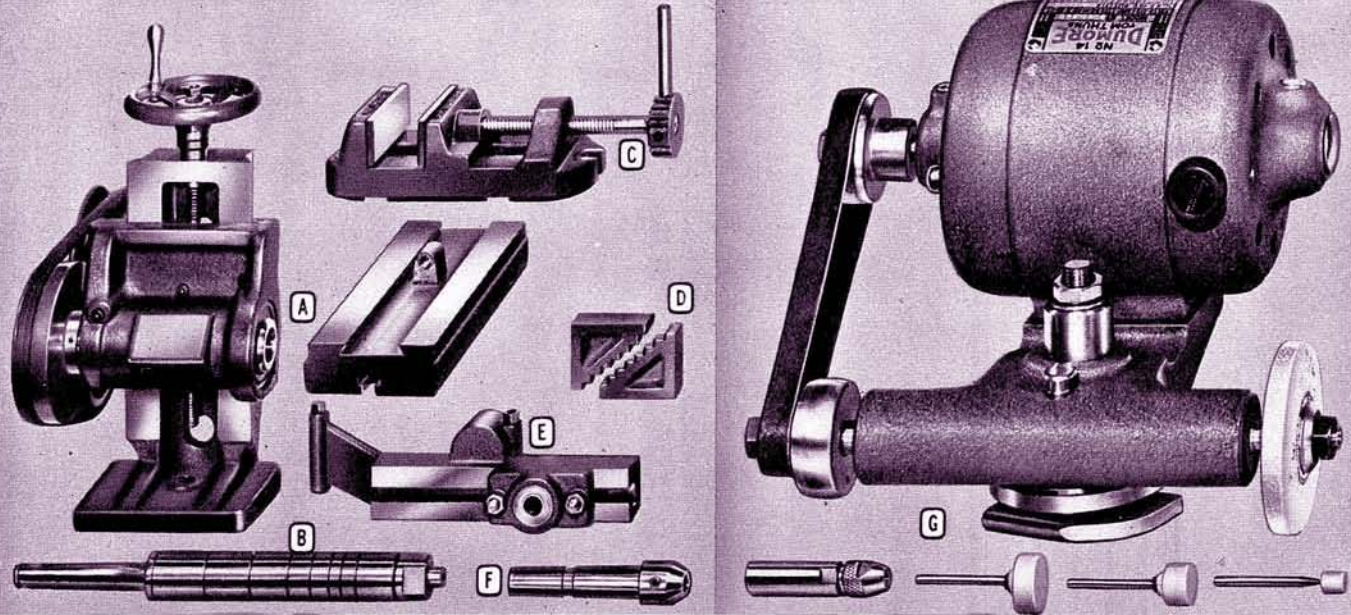
**K** MILLING CUTTERS. 2½-in. diam. 1-in. hole. 3/16, 1/2, 1-in. face widths.  
84 KG 3412K—State face width. Ship. wt. each, 8 oz. See Price List

**L** SPRING COLLET. With ½-in. straight shank, No. 9 Brown & Sharpe taper.  
84 KG 3408K—For holding woodruff cutters. Wt. 2 lbs. See Price List

**M** WOODRUFF KEY SEAT CUTTERS. Right-hand cut. ½-in. diam. shanks 2 in. long. Sizes 3/8x1/8; 1/2x1/8; 5/8x3/16; 3/4x1/4; and 1x3/8 in. State size wanted.  
84 KG 3410K—Shipping weight each, 6 oz. . . . . See Price List

**N** SPRING COLLET ADAPTER. Use with corresponding size end mills below.  
84 KG 3409K—Sizes 1/4, 5/16, 3/8 in. State size. Wt. ea., 6 oz. . . . . See List

**P** TWO-LIPPED END MILLS. Straight shank. Sizes 1/4x3/8; 5/16x15/32; 3/8x9/16 in.  
84 KG 3411K—State size wanted. Ship. wt. each, 4 oz. . . . . See Price List



## ATTACHMENTS AND ACCESSORIES FOR

### GLOBE MILLING HEAD . . . QUICKLY AND EASILY CHANGES LATHE TO MILLING MACHINE

**A** Globe Milling unit quickly attaches to Powr-Kraft and Logan 10-inch lathes. Performs most milling operations. Unit consists of: column, spindle assembly complete with drive pulleys, "V" belts and clamp and milling table with nut and gib.

**EASY TO OPERATE.** Spindle moved into position to engage work, rather than work lifted to engage spindle. Controls are simple and accurate.

**EASY TO INSTALL.** Can be attached to your lathe in three minutes or less. Base of column is accurately machined to fit ways of the lathe and to insure that the face of the column is parallel with the ways of the lathe.

**USES ALL LATHE SPEEDS.** Speed ratio between lathe and miller spindle is 1 to 1. Faster speeds possible with larger drive-shaft pulley.

**DURABLY BUILT.** Large double-shielded sealed ball bearings and rugged construction employed throughout, enable it to withstand the hardest use. Wt. 86 lbs. 84 KGP 3415F. . . . . See Price List

**B** MILLING ARBORS. Made from alloy steel, complete with hardened and ground spacers in standard increments. Tapped for draw-in bolt, No. 9 Brown & Sharpe taper. Two sizes: 1x4 in. and 1x8 in. Arbor Support (E) should always be used with the 8-in. arbor (shown) for more accurate work. State size. Ship. wts. 4 lbs. and 6 lbs. 84 KGP 3417K. . . . . See Price List

**C** MILLING TABLE VISE. Close-grained, normalized casting . . . hardened, replaceable jaw plates. Jaws 3½ inches wide, 2⅞-inch opening, 1⅜ inches deep, ⅝-inch Acme thread screw. 84 KGP 3420K—Ship. wt. 13 lbs. . . . . See Price List

**D** STEP BLOCKS. Handy wherever work is clamped to the milling table or face plate—holds pieces firmly. High quality, close grained casting with finished bases. Two sizes: 2½ and 4½ in. high. Wts. 2 lbs. and 5 lbs. 84 KGP 3419K—Pair. State size. . . . . See Price List

**E** BALL BEARING ARBOR SUPPORT. Double sealed. Serves same purpose as over-arm on large millers. Should be used with 8-in. arbor 84 KG 3417K. 84 KGP 3416K—Ship. wt. 7 lbs. . . . . See Price List

**F** END MILL HOLDER. Alloy steel holders for double end mills are made with No. 9 Brown & Sharpe taper and tapped for draw-in bolts. ½-inch size—fits Woodruff Cutters. 84 KGP 3418K—Ship. wt. 1 lb. . . . . See Price List

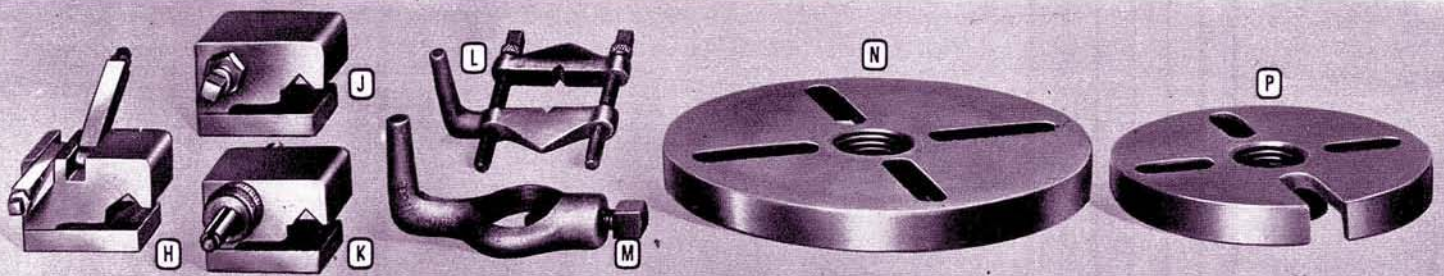
### DUMORE TOOL-POST GRINDERS

**G** Mounts on compound rest of Powr-Kraft and Logan 10-in. lathes. Compact and sturdy—designed for portability. With dynamically balanced armatures and rotating parts, to prevent vibration and increase precision. Used for sharpening tools, cylindrical grinding, etc. Unique frame construction assures rigid mounting, essential in precision grinding. Ideal for industrial schools and shops. Free from vibration and chatter. Two spindle speeds, 10,000 and 22,500 R.P.M., obtained with ¼ H.P. Universal motor. Uses wheels ⅞ to 2-in. diam. Internal grinding capacity from ½-in. or larger diam. to 2¼-in. deep. Accurate to .0001 inch. Has pre-loaded ball bearing spindle with Dumore patented ailing system, removable tool post, and interchangeable chuck setup for internal work. Securely mounted on "T" bolt. Distance from center line of spindle to base of frame ½ in., from spindle to mounting post base ¾ in.

Equipment includes: ⅞-in. chuck assembly for internal grinding; 2 belts, 10½x3½ in.; can of oil; straight wheel 2x¼x¼ in.; 3 mounted wheels; steel carrying case. Act. wt. 6¼ lbs. Ship. wt. 14 lbs.

84 KGP 2237K—External and internal grinder with case and accessories. . . . . See Price List

84 KGP 2236K—External grinder only. Same as above less ⅞-in. chuck assembly, 1 belt, 3 mounted wheels, carrying case. Ship. wt. 8 lbs. . . . . See Price List



**H** DOUBLE CARRIAGE STOP. Adjustable screw in end of each finger—can be accurately set for two desired positions. Either finger of stop can be quickly brought into position. Stop clamps to lathe bed for use on either side of carriage. 84 KG 2196K—Ship. wt. 3 lbs. . . . . See Price List

**J** CARRIAGE STOP. Provides positive position stop for lathe carriage. May be used either to right or left of carriage. Adjustment screw with locknut for accurate adjustment. Clamps, over front "V" Way. 84 KG 2197—Ship. wt. 2 lbs. . . . . See Price List

**K** LOGAN MICROMETER CARRIAGE STOP. Used to locate the carriage position with accuracy on the lathe bed. Graduated micrometer collar is clearly marked in thousandths—easy to read. Setting may be locked for duplicate work. 84 KG 2195K—Ship wt. 3 lbs. . . . . See Price List

**L** CLAMP TYPE LATHE DOG. For square, hex, rectangular, round work. Mounts without removing work. Drop-forged steel. Machined and hardened, 1¼ inch. Shipping weight 1 lb. 4 oz. 84 KG 2182. . . . . See Price List

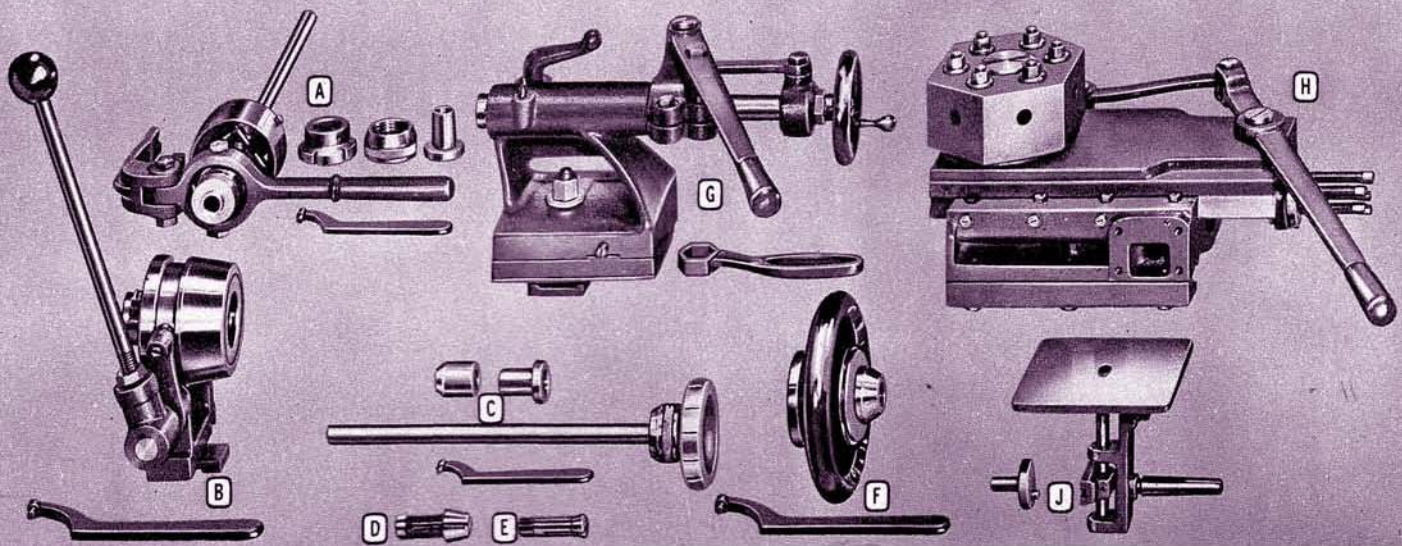
**M** STANDARD LATHE DOGS. Made of highest quality heavy drop-forged bar steel with square head alloy steel set screw. Wt. 10 oz. 84 KG 2183—State Size. ½ inch. . . . . See Price List ¾ inch. . . . . See Price List 1 inch. . . . . See Price List 1½ inch. . . . . See Price List

**N P** FACE PLATES. Fit Powr-Kraft, Logan or any other lathe with 1½-inch 8-thread spindle nose. Precision machined and perfectly balanced for accurate fit. Made of gray cast iron. The 6-inch size has three closed and one open slot for lathe dogs. 8-inch size has all closed slots. State size wanted.

(N) 84 KG 2155—8-inch diameter. Shipping weight 5 lbs. 10 oz. . . . . See Price List

(P) 84 KG 2154—6-inch diameter. Shipping weight 3 lbs. 6 oz. . . . . See Price List

**WARDS MONTHLY PAYMENT PLAN.** Wards offer you a means of purchasing all your needs without a large outlay of cash. Any items in this book may be purchased for only 10% Down. Balance is payable in equal monthly amounts. Opening an account is simple. No security asked—no co-signers necessary. Just fill in monthly payment application on the back of the order blank and include required down payment.



## POWR-KRAFT AND LOGAN METAL LATHES

PRECISION MACHINED ATTACHMENTS . . . INCREASE THE USEFULNESS OF YOUR METAL CUTTING LATHE

**A** PRODUCTION COLLET ATTACHMENT. For draw-in collets up to 1/2-in. capacity. Lever-operated—opens and closes while spindle is in motion. Easily attached. Adjustable to provide any collet tension. Ship. wt. each, 12 lbs.

84 KG 2157 K—Fits lathes 84 KG 2130, 2136 on Page 30; 84 KG 2232, 2233, 2234 and 2235 listed on Page 32. . . . .See Price List

84 KG 2158 K—Fits lathes 84 KG 2217, 2218, 2219, 2132, 2134, 2135 on Pages 33-34. . . . .See Price List

**B** PRODUCTION COLLET ATTACHMENT. For push type collets up to 5/8-in. cap. Lever operated—opens and closes while spindle is in motion. Work can be brought against a stop and locked in position without longitudinal movement. Chuck is attached to spindle by fitted back plate. Fits Powr-Kraft and Logan 10-inch Lathes.

84 KG 2156 K—Ship. wt. 25 lbs. . . . .See Price List

**C** DRAW-IN COLLET CHUCK ATTACHMENT. For draw-in collets. Fits Powr-Kraft and Logan 10-inch lathes. Chucks round work 1/16 to 1/2 in. Hollow draw-in bar. Threaded at spindle end. Allows rod to pass through spindle. Includes spindle cap, closing sleeve, wrench (no collets). Ship. wt. 5 lbs.

84 KG 2160. . . . .See Price List

**D** PUSH TYPE COLLET. Used with (B) at left and (F) below. Also with 84 KG 2184K on Pg. 33. Made of alloy tool steel, correctly heat treated for maximum wear. Precision ground inside and out. Work must be within .005 in. of collet size. Sizes: 1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 13/32, 7/16, 15/32, 1/2, 17/32, 9/16, 19/32, 5/8 in. Be sure to state size wanted. Shipping weight each, 6 oz.

84 KG 2163 K. . . . .See Price List

**E** DRAW-IN COLLETS. For round work. Sizes: 1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 13/32, 7/16, 15/32, and 1/2-in. Ship. wt. each, 6 oz. State size.

84 KG 2162. . . . .See Price List

**F** HAND WHEEL COLLET CHUCK. Fits lathes with 1/2x8-in. thread spindle nose. Capacity: Round work up to 3/8-in. diameter which may be fed through lathe spindle. Its positive squeeze grip closes concentrically on work without longitudinal movement of collet. Minimum overhang assures accuracy. Only 3 moving parts. 7-in. diam. closing wheel in easy reach. Uses Push Type Collet (D) listed above. Ship. wt. 6 lbs.

84 KG 2161 K. . . . .See Price List

**G** LEVER TAILSTOCK. Supplies added advantages of production tailstock and can also be set to operate as standard tailstock. Lever stroke, 2 3/4 inches. Handwheel spindle travel 2 3/8 in. Fitted for No. 2 Morse Taper. Fits Powr-Kraft and Logan 10-inch lathes.

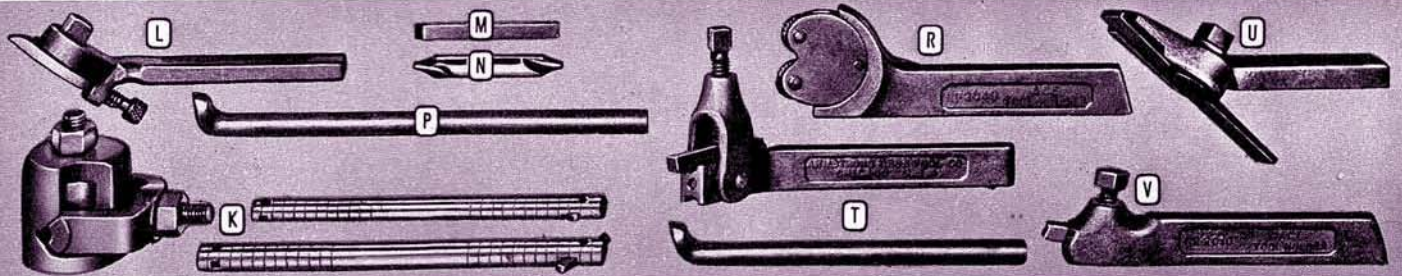
84 KG 2187 K—Ship. wt. 30 lbs. . . . .See Price List

**H** LEVER OPERATED TURRET ASSEMBLY. Excellent for machining small parts. Identical to turret furnished in lathes 84 KG 2131 and 2132 on Pg. 33. Can be fitted to lathes 84 KG 2130, 2136, on Page 30; 84 KG 2232, 2233, 2234, 2235 on Page 32; 84 KG 2217, 2218, 2219, 2134; 2135 on Page 34; however, careful workmanship in fitting is required. Where possible lathes 84 KG 2131 and 84 KG 2132 are recommended as a complete unit to obtain maximum utility and accuracy. Has 6 positions with adjustable stops. Self-indexing. Diameter of turret head is 5-inches, maximum stroke 4 1/4 in. Furnished rough bored to 3/16-in. diameter. Must be finished bored to 3/8-in. diameter while in position on lathe.

84 KG 2166 F—Ship. wt. 75 lbs. . . . .See Price List

**J** FILING ATTACHMENT. Reciprocating action. For metal or wood lathes. No. 2 Morse Taper fits in tailstock, 1/2-in. shank diam. in lathe chuck or collet. Takes 1/4-in. diameter shank files. Chuck split to take hacksaw blades. Instructions included.

84 KG 2248—Ship. wt. 5 lbs. 8 oz. . . . .See Price List



**K** GLOBE BORING BAR SET. Holder has 3/8-3/4-in. diam. cap. Steel boring bars machined from solid bar stock. 1/4-in. calibrations. Tool bit holes broached 90° one end, 45° other. Includes: holder; 3/8 and 1/2-in. boring bars; 2 wrenches. Wt. 4 lbs. 8 oz.

84 KGP 2238 K. . . . .See Price List

EXTRA GLOBE BORING BARS. With bit and Allen wrench. State size.

84 KGP 2239 K. . . . .See Price List

Bar size	Bit size	Ship. wt.
3/8 x 7 in.	1/8 sq. in.	4 oz.
1/2 x 8 in.	3/16 sq. in.	8 oz.
5/8 x 9 in.	3/16 sq. in.	12 oz.
3/4 x 10 in.	3/16 sq. in.	1 lb.
7/8 x 11 in.	1/4 sq. in.	1 lb. 8 oz.

TOOL BITS. Fit 2239 at left. 1/8x1 3/16, 1/8x2 1/2, 3/16x1 1/4, 3/16x1 3/16, 3/16x2 1/2, 1/4x1 1/4, 1/4x2 1/2 in.

84 KGP 2249 K—Wt. 8 oz. State size. . . . .See Price List

**L** THREADING TOOL HOLDER. Shank 3/8 by 3/4 in. Drop-forged steel.

84 KG 2171—Ship. wt. 8 oz. . . . .See Price List

**M** BLANK CUTTER BITS. 1/4x1/4x2 in. steel. Set of 6.

84 KG 2203—Wt. 1 lb. . . . .See Price List

HIGH-SPEED FORMED STEEL BITS (not shown). Includes round nose, rt. and left-hand turning, rt. and left-hand facing and threading bit.

84 KG 2204—Wt. 1 lb. . . . .See Price List

84 KG 2205—Same as 2204 above except Tungsten carbide tipped. Wt. 1 lb. Set of 6. See Price List

**N** 60 DEGREE CENTER DRILL, COUNTERSINK. In sizes 1/16, 3/32, 1/8 inches.

84 KG 2181—Ship. wt. 3 oz. . . . .See Price List

**P** BORING BARS. Fit (T) below. Sizes: 1/8x4, 3/16x4 1/2, 1/4x5, 5/16x6, 3/8x7 inches. Shipping weight 3 oz. State size.

84 KG 2180. . . . .See Price List

**R** KNURLING TOOL HOLDER. With med. knurl. Ship. wt. 10 oz.

84 KG 2175. . . . .See Price List

DIAMOND FORMED KNURLS. Wt. 2 oz. State Cat. No. See Price List

84 KG 2176—Fine; 84 KG 2177—Medium; 84 KG 2178—Coarse

**T** BORING TOOL HOLDER. With 1/4-in. boring bar, bit.

84 KG 2179—Ship. wt. 1 lb. 4 oz. . . . .See Price List

**U** CUT-OFF TOOL HOLDER. Ship. wt. 9 oz. . . . .See Price List

84 KG 2173—Right Hand; 84 KG 2172—Straight.

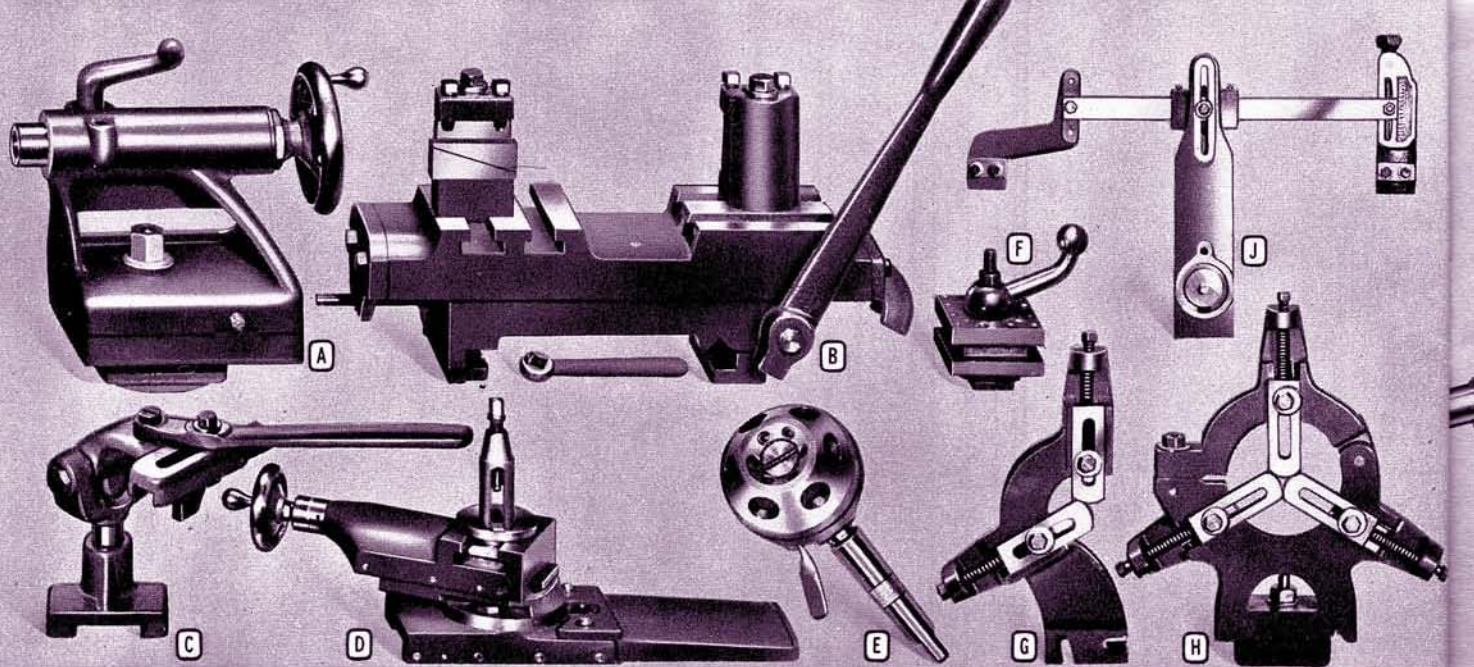
84 KG 2174—Extra Blade. Shipping weight 1 oz. . . . .See Price List

**V** DROP FORGED TOOL HOLDERS. For 1/4-in. sq. bits. 3/8x3/4-in. shank. State Catalog Number.

84 KG 2168—Right-Hand. Ship. wt. 8 oz. . . . .See Price List

84 KG 2169—Left-Hand. Wt. 8 oz. See List

84 KG 2170—Straight. Wt. 9 oz. See List



## METAL CUTTING LATHE ACCESSORIES

ACCESSORIES FOR POWR-KRAFT AND LOGAN METAL CUTTING LATHES LISTED ON PAGES 30 TO 34

**A** **TAILSTOCK ASSEMBLY.** Fits in place of lever operated hexagonal block turret of Lathe 84 KG 2132F listed on Page 33. Spindle travels  $2\frac{3}{8}$  in., is graduated in  $\frac{1}{16}$ ths—takes No. 2 Morse taper accessories.  $\frac{1}{16}$  in. offset for taper turning. Less 60° center. Wrench included. 84 KG 2186K—Ship. wt. 24 lbs. . . . See Price List

**B** **DOUBLE TOOL POST CROSS SLIDE.** Fits Powr-Kraft, Logan 10-in. lathes. Lever operated cross slide has adj. stops with max. travel of 3 in. Adj. wedges for tool holder slot included. 84 KG 2189K—Ship. wt. 30 lbs. . . . See Price List

**C** **MICA UNDERCUTTER.** For armatures up to 5-inch diameter. Mounts on back of cross slide. 2-in. stroke With one each .015 and .020 saws. Fits Powr-Kraft and Logan 10-inch lathes. 84 KG 2208—Ship. wt. 8 lbs. . . . See Price List

**EXTRA SAWS FOR ABOVE MICA UNDERCUTTER.** Size .015 or .020. Package of six. State size wanted. 84 KG 2209—Ship. wt. 6 oz. . . . See Price List

**D** **COMPOUND REST ASSEMBLY.** Top slide graduated in 1000ths—travels  $2\frac{1}{4}$  in.; swivels 90° in both directions, locks at any angle. Tool post opening for tool holder shank  $\frac{3}{8} \times \frac{3}{4}$  in. Use up to  $\frac{1}{4}$ -in. cutter bits. Assembly is same as furnished with lathes 84 KG 2130R and 84 KG 2136R. Fits turret lathes 84 KG 2132F and 84 KG 2131F—fits saddle in place of double tool post cross slide. 84 KG 2188K—Ship. wt. 13 lbs. . . . See Price List

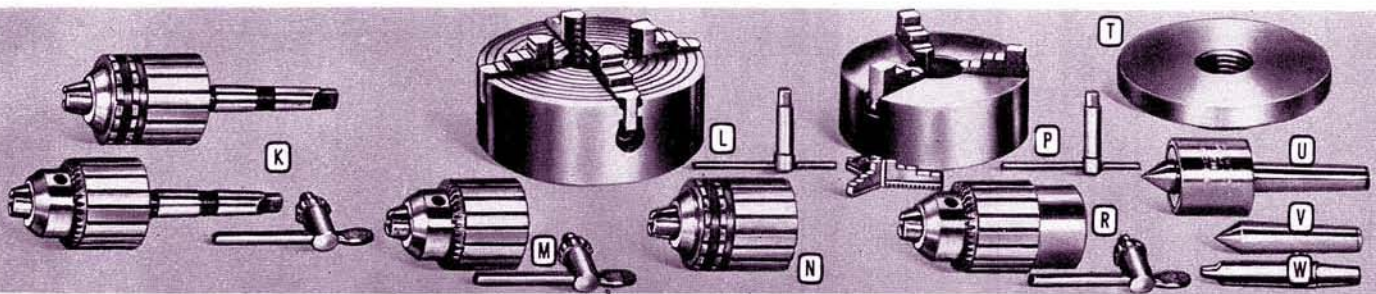
**E** **TAILSTOCK TURRET.** Fits all Powr-Kraft and Logan back-gear screw cutting lathes. Fingertip control. Six  $\frac{5}{8}$ -in. bore holes. No. 2 Morse taper shank. 84 KG 2167—Ship. wt 3 lbs. . . . See Price List

**F** **SQUARE TURRET TOOL POST.** Speeds up production . . . saves time on runs of parts by eliminating many second operation jobs. Mounts in the Tee slot of a compound rest. Twelve indexing positions. Accommodates tools up to  $\frac{3}{8}$  in. Case hardened construction insures long wear. 84 KG 2191K—Ship. wt. 4 lbs. . . . See Price List

**G** **FOLLOWER REST.** Used for supporting thin work. Fits Powr-Kraft and Logan 10-inch lathes. Mounts on back of carriage and follows cutting tool. Sturdy cast-iron frame. Jaws are adjustable. All parts precision machined. 84 KG 2164—Ship. wt. 4 lbs. . . . See Price List

**H** **CENTER REST.** Clamps to inner bed ways to support long pieces. Fits Powr-Kraft and Logan 10-inch lathes. Top is hinged for easy inserting or removing of shafts. Cast-iron frame; machined cast-iron jaws are adjustable. 84 KG 2165—Ship. wt. 10 lbs. . . . See Price List

**J** **TAPER ATTACHMENT.** Fits Powr-Kraft and Logan 10-inch lathes. Tapers up to 4 inches per foot in either direction. All parts precision machined. Replace lathe cross slide with taper attachment cross slide—becomes permanent part of lathe. All parts except cross slide are easily detached when straight turning is performed. Microscrew adjustment of slide bar—quick, precise. 84 KG 2206—Ship. wt. 18 lbs. . . . See Price List



**K** **JACOBS COMMUTATOR KIT.** Jacobs chucks hold armature shaft during reconditioning. Kit includes  $\frac{1}{4}$  to  $\frac{3}{4}$ -in. capacity armature driving and center rest chucks. No. 2 Morse taper arbors included to fit headstock and tailstock. Packed in sturdy metal box. 84 KGP 2151—Complete Kit. . . . See Price List

**L** **4-JAW, 6-IN. INDEPENDENT CHUCK.** Fits metal turning lathes having  $1\frac{1}{2}$ -in. 8-thread spindle. Semi-steel body—outer edge and face ground. Four reversible jaws with independent screw adjustments. For round or irregular work—outside or inside grip. 84 KG 2143—Ship. wt. 13 lbs. . . . See Price List

**UNION 4-JAW, 6-IN. INDEPENDENT CHUCK** (not shown). Fits metal turning lathes having  $1\frac{1}{2}$ -in. 8-thread spindle. Cast semi-steel body—heat-treated reversible jaws for inside or outside grip. 84 KG 2247—Ship. wt. 10 lbs. . . . See Price List

**M** **JACOBS DRILL KEY CHUCKS.** Fits headstock or tailstock on all lathes. Use with arbors at right to adapt chucks to No. 2 Morse taper. 84 KGP 2146—Capacity 0 to  $\frac{1}{2}$  in. See Price List 84 KGP 2147—Capacity  $\frac{3}{16}$  to  $\frac{3}{4}$  in. See Price List

**N** **JACOBS CENTER REST CHUCK.** Requires No. 2 Morse taper arbor (84 KGP 2153) to mount in tailstock to support centerless work. 84 KGP 2150— $\frac{1}{4}$  to  $\frac{3}{4}$  in. . . . See Price List

**P** **3-JAW, 5-IN. MEDIUM-DUTY UNIVERSAL CHUCK.** Fits  $1\frac{1}{2}$ -in. 8-thread spindle. Self-centering jaws. For round or hex. work. 84 KG 2142—Ship. wt. 9 lbs. . . . See Price List

**3-JAW, 5-IN. HEAVY-DUTY UNIVERSAL CHUCK** (not shown). Similar to above except heavy-duty. 84 KG 2207—Ship. wt. 11 lbs. . . . See Price List

**UNION 3-JAW, 5-IN. UNIVERSAL CHUCK** (not shown). Fits  $1\frac{1}{2}$ -in. 8-thread spindle. Semi-steel body. 84 KG 2246—Ship. wt. 7 lbs. 8 oz. . . . See Price List

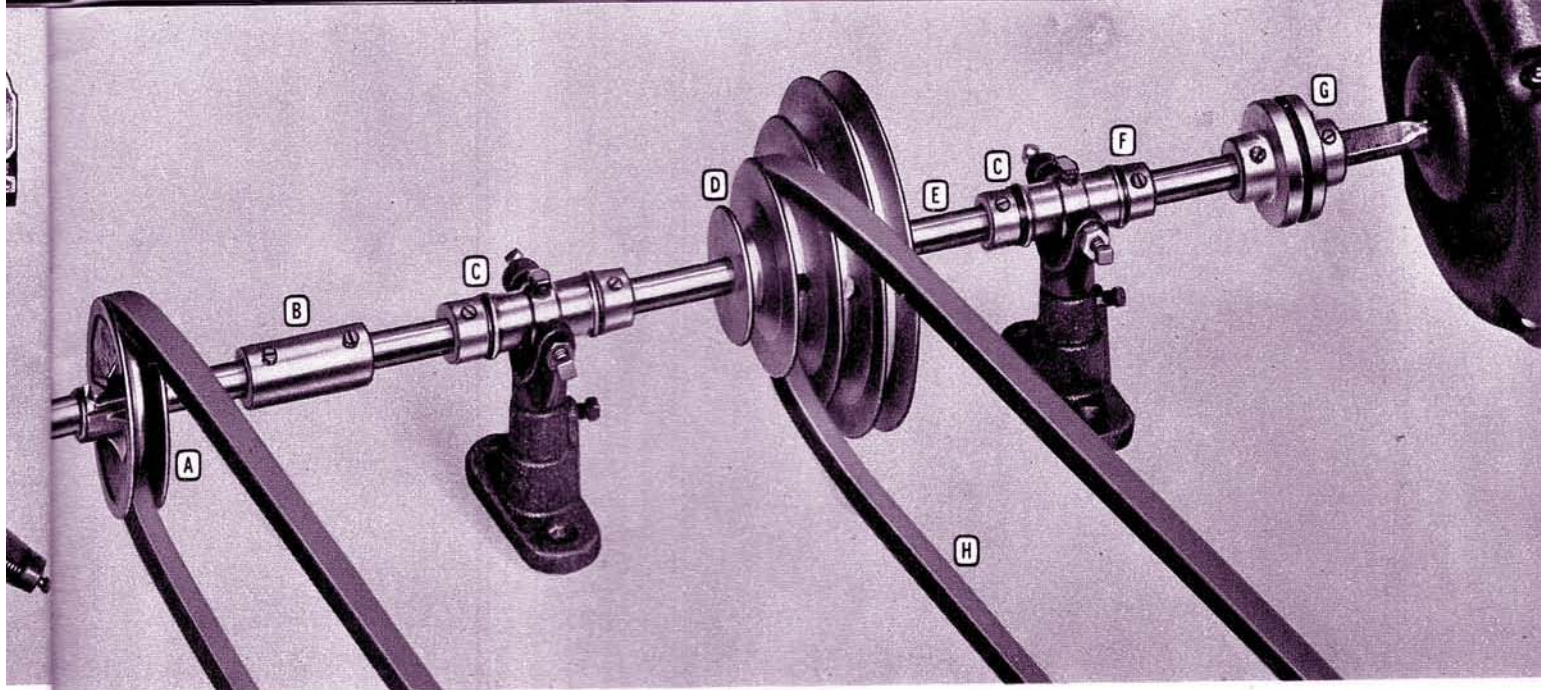
**R** **JACOBS HEADSTOCK CHUCKS.** Screw to  $1\frac{1}{2}$ -in. 8-thread spindle. Hollow body. 84 KGP 2148— $\frac{1}{8}$  to  $\frac{3}{8}$ -in. cap. . . . See Price List 84 KGP 2149— $\frac{3}{16}$  to  $\frac{3}{4}$ -in. cap. . . . See Price List

**T** **CHUCK BACK PLATES FOR 5 AND 6-IN. CHUCKS.** Threaded for  $1\frac{1}{2}$ -in. 8-thread spindles. Unfinished face. Ship. wts. 3 lbs. 8 oz.; 7 lbs. 84 KG 2144K—For 5-in. chuck . . . See Price List 84 KG 2145K—For 6-in. chuck . . . See Price List

**U** **ANTI-FRICTION 60° CENTER.** N. D. ball and Timken roller bearings. No. 2 Morse taper shank. 84 KG 2200K—Ship. wt. 2 lbs. . . . See Price List

**V** **60° CENTER.** Tool steel No. 2 Morse taper shank. 84 KG 2201K—Ship. wt. 8 oz. . . . See Price List

**W** **JACOBS CHUCK ARBORS.** Use to fit chucks to No. 2 Morse taper. Wt. ea., 12 oz. . . . See Price List 84 KGP 2152—Fits chuck 84 KGP 2146 listed at left. 84 KGP 2153—Fits chucks 84 KGP 2147, 84 KGP 2150.



## WARDS POWER TRANSMISSION EQUIPMENT

FINE QUALITY RUBBER "V" BELTS, PULLEYS, LINE SHAFTS, COLLARS AND COUPLINGS

**A** SINGLE GROOVE "V" PULLEYS. Die-cast. For 1/2-in. "V" belts. State diam., bore size. 84 KG 2877—See Price List.

Outside Diam.	Bore	Ship. wt.
1 1/2-inch	1/2 or 5/8 in.	4 oz.
2-inch	1/2 or 5/8 in.	6 oz.
2 1/2-inch	1/2, 5/8 or 3/4 in.	8 oz.
3-inch	1/2, 5/8 or 3/4 in.	10 oz.
4-inch	1/2, 5/8 or 3/4 in.	12 oz.
5-inch	1/2, 5/8 or 3/4 in.	1 lb.
6-inch	1/2, 5/8 or 3/4 in.	1 lb. 12 oz.

**B** SOLID COUPLINGS. For connecting shafts. Machined from solid bar steel—cadmium plated to prevent rust. Flush set screws. State bore size wanted. 84 KG 2886—1/2-in. bore. Wt. 6 oz. See Price List  
3/4-in. bore. Wt. 8 oz. See Price List

**C** SHAFT HANGERS. Adjustable to permit perfect shaft alignment. Equipped with oil cups and bronze bushings. State bore size wanted. 84 KG 2890—1/2-in. bore. Wt. 2 lbs. See Price List  
3/4-in. bore. Wt. 2 lbs. See Price List

**D** FOUR-STEP DIE-CAST "V" PULLEYS. For 1/2-in. "V" belts. Choice of 1/2, 5/8 or 3/4 in. bore. State Catalog Number and bore size wanted. 84 KG 2881—4, 3 1/4, 2 1/2 and 1 3/4-inch diameter steps. Ship. wt. 2 lbs. See Price List  
84 KG 2882—5, 3 7/8, 2 1 5/16 and 1 3/4-inch diameter steps. Ship. wt. 2 lbs. 8 oz. See Price List

**E** STEEL LINE SHAFTING. Centerless ground to .002 inch. State Cat. No. Ship. wts. 2 lbs.; 7 lbs. 84 KG 2888—1/2-in. diam., 24 in. long. See Price List  
84 KG 2889 M—3/4-in. diam., 48 in. long. See Price List

**F** SHAFT COLLARS. Prevents end play in line shaft. Flush set screws. State bore size. 84 KG 2887—1/2-in. bore. Wt. 2 oz. See Price List  
3/4-in. bore. Wt. 3 oz. See Price List

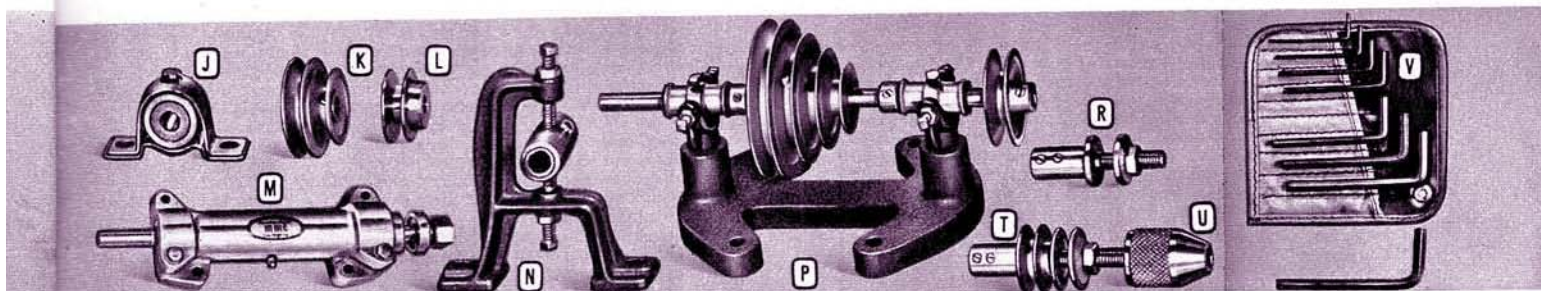
**G** FLEXIBLE COUPLINGS. Connect motor shaft to line shaft. Self-adjusting for minor misalignment. Rubber cushioned; die cast. State bore size. 84 KG 2885—1/2-in. bore. Wt. 7 oz. See Price List  
3/4-in. bore. Wt. 10 oz. See Price List

**H** RUBBER "V" BELTS. "A" section type. Approximately 3/32 in. thick, 1/2 in. wide. Two rubber-impregnated fabric wrappers surround body of belt. Use with pulleys listed at left and below.

How to Order: Measure around outside of first pulley (not in groove) along lines around outside edges of opposite pulley and back.

84 KG 2876—State size wanted. See Price List

Size	Ship. Wt.	Size	Ship. Wt.	Size	Ship. Wt.
20 in.	3 oz.	37 in.	5 oz.	56 in.	7 oz.
22 in.	3 oz.	38 in.	5 oz.	58 in.	7 oz.
24 in.	4 oz.	39 in.	5 oz.	60 in.	8 oz.
25 in.	4 oz.	40 in.	5 oz.	62 in.	8 oz.
26 in.	4 oz.	41 in.	5 oz.	64 in.	8 oz.
28 in.	4 oz.	42 in.	5 oz.	66 in.	8 oz.
29 in.	4 oz.	43 in.	6 oz.	70 in.	8 oz.
30 in.	4 oz.	44 in.	6 oz.	72 in.	8 oz.
31 in.	4 oz.	45 in.	6 oz.	74 in.	8 oz.
32 in.	4 oz.	46 in.	6 oz.	77 in.	9 oz.
33 in.	5 oz.	48 in.	7 oz.	82 in.	10 oz.
34 in.	5 oz.	50 in.	7 oz.	87 in.	10 oz.
35 in.	5 oz.	52 in.	7 oz.	92 in.	10 oz.
36 in.	5 oz.	54 in.	7 oz.	.....	.....



**J** PILLOW BLOCKS. Bronze bushing. Self-aligning. State Cat. No. See Price List  
84 KG 2920—1/2-in. bore. Ship. wt. 8 oz.  
84 KG 2921—3/4-in. bore. Ship. wt. 12 oz.

**K** TWO-STEP DIE-CAST "V" PULLEYS. Diamond bored. Steps 2 1/2 and 2-in. diam. For 1/2-in. "V" belts. 1/2 or 5/8 in. bore. State bore size. 84 KG 2879—Ship. wt. 10 oz. See Price List

**L** SINGLE GROOVE STEEL "V" PULLEYS. For 1/2-in. "V" belts. State diam., bore size. Turned down from solid steel bar stock. 84 KG 2910. See Price List

Outside Diam.	Bore Size	Ship. Wt.
2 inches	1/2 or 5/8 in.	10 ounces
2 1/2 inches	1/2 or 5/8 in.	14 ounces
3 inches	1/2 or 5/8 in.	1 lb. 4 oz.
3 1/2 inches	1/2 or 5/8 in.	1 lb. 12 oz.

**M** HIGH-SPEED SAW MANDREL. Precision made with SKF bearings. Adjustable aluminum housing. Zerk fittings. State diameter wanted. 84 KG 7002 M—1/2-in. diam. Wt. 3 lbs. See Price List  
5/8-in. diam. Wt. 4 lbs. See Price List

**N** SHAFT HANGER. Open side. Height adj. 4-5 in. Two bronze bushings—with oil well. 3/4-in. bore. 84 KG 2891 K—Ship. wt. 5 lbs. 8 oz. See Price List

**P** JACK SHAFT. Bronze bushing. Single pulley 2 1/2-in. diam. Four-step pulley with 4, 3 1/4, 2 1/2 and 1 3/4 in. steps. Shaft diam. 1/2 in. Height adjusts from 3/4 to 4 1/2 in. Length 12 in. 84 KG 2884—Ship. wt. 12 lbs. See Price List

**R** MOTOR ARBORS. Hold grinding wheels, buffers, wire brushes, etc., up to 3/4-in. thick. 1/2-in. 24 thread spindle. Ship. wt. ea., 10 oz. 84 KG 2915—Fits 1/2-in. shaft. See Price List  
84 KG 2916—Fits 3/8-in. shaft. See Price List

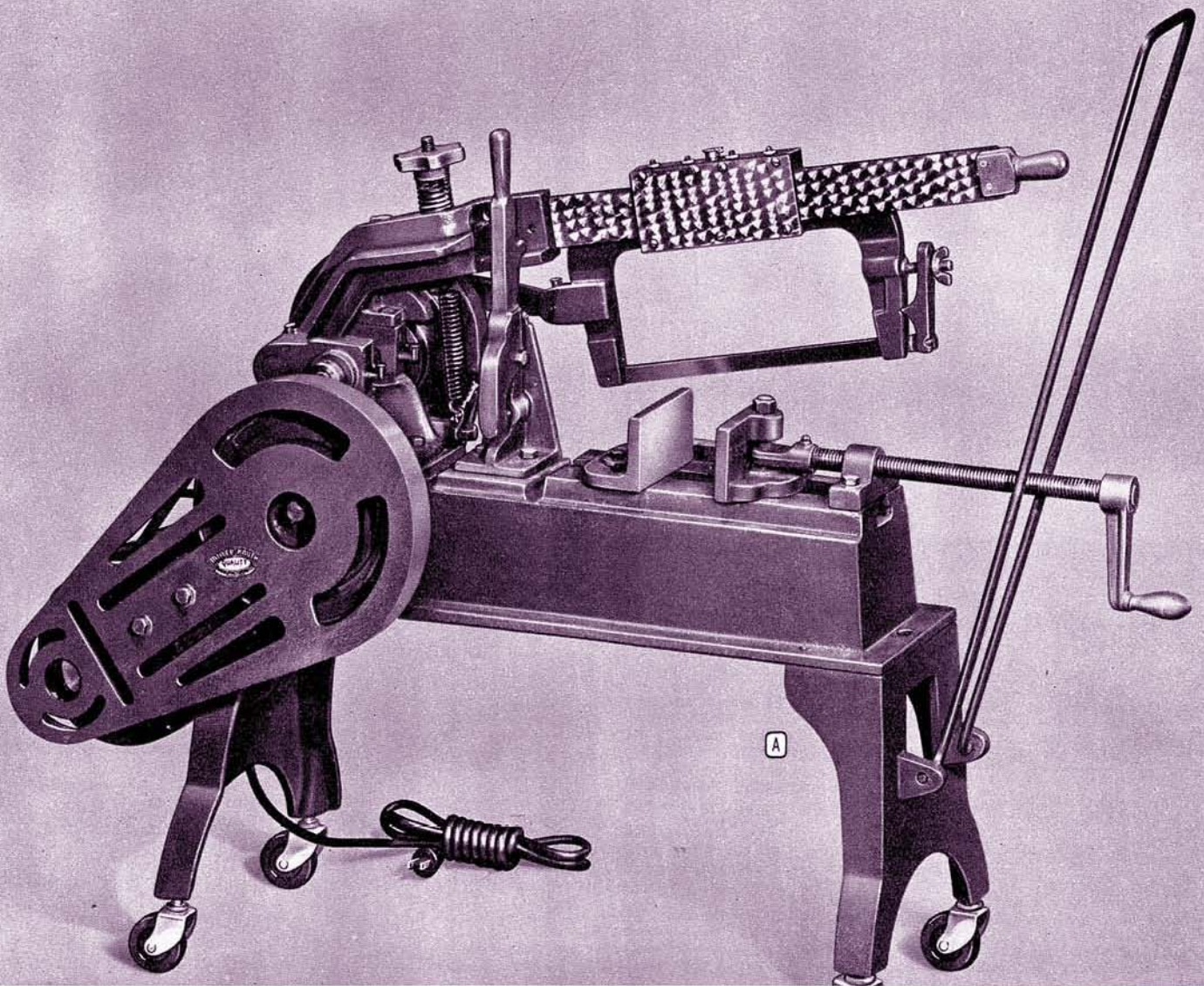
**T** MOTOR ARBOR WITH CHUCK. With single pulley. Fits 1/2-in. diam. shaft. Wt. each, 1 1/2 lbs. 84 KG 2892—With 1/4-in. chuck. See Price List  
84 KG 2893—With 1/2-in. chuck. See Price List

**U** 3-JAW CHUCKS. Fit 1/2-in. 24-thread spindles. Ship. wts. 3 oz. 6 oz., State size wanted. 84 KG 2764—1/4-in. capacity. See Price List  
1/2-in. capacity. See Price List

**V** HOLLOW HEAD SET SCREW WRENCH SET. Made of hardened tool steel. Consists of 8 wrenches to fit hollow head set screws from No. 6 to 1/2 in. Fit hollow head cap screws from No. 4 to 5/16 in. Packed in handy case which folds to fit pocket. 84 KG 2901—Ship. wt. 3 oz. See Price List

INDIVIDUAL HOLLOW HEAD SET SCREW WRENCHES. Fit 1/4, 5/16, 3/8 in. hollow head set screws. Wt. ea., 3 oz. 84 KG 2900—State size. See Price List

SATISFACTION  
GUARANTEED



## SAWMASTER JR. PORTABLE HACKSAW

STURDILY CONSTRUCTED SAWMASTER JR. PORTABLE HACK SAW WITH MOTOR

**A** Ruggedly built power Hack Saw. Capacity 4x4 in. Designed for ease of operation, dependable performance. Fast cutting self-contained unit. Cuts iron, steel, brass, bakelite, etc. Use for production work and for every day run of cuts now made expensively by hand or with heavy-duty power saw. Especially designed for use in smaller machine shops, garages, farms, etc.—wherever electricity is available. Reduces operating costs—speeds up production. Portable—saw is mounted on easy-rolling casters—makes it easy to move saw to stock rather than bringing heavy stock to saw. Fully automatic in action—just set the work in place, turn on the switch . . . saw makes the cut while operator does other work.

All castings are made of high-grade, close-grained gray iron. All bearings provided with removable bushings or gibs. Cam is integral with the large machine cut gear—attached by pitman directly to saw frame. Gear is driven by steel pinion on drive shaft. Controls and times the pressure on the forward cutting stroke. The positive pressure relief on the back stroke insures long blade life.

Important parts are machined and accurately fitted. Slide bearing on saw frame is large, closely fitted and provided with an oil well—made adjustable with a bronze gib. Equipped with a cast-iron vise. Accurately machined steel threaded screw works easily and smoothly—holds work firmly. Vise jaws 4 inches wide and 2 inches deep. Jaws open to 4 inches. Machined jaws slide to work on steel base. Vise swivels to permit angle cuts 0 or 45 degrees.—can be quickly set to cut square with the blade. Length of blade stroke 4½ inches—90 to 100 strokes per minute. Thumb screw blade tension adjustment. Takes any standard 12-inch power hacksaw blade—one included. Order extra blades listed (C) below.

Complete with ¼-H.P. 1725 R.P.M. 110-120-volt, 60-cycle A.C. motor, 10-foot rubber covered cord and plug, On-off switch, "V" belt and pulleys—ready to operate.

Dimensions overall 40 by 29½ by 13 inches. Use your credit to buy your power hack saw—see Page 25 for details.

84 KG 2404 F—Shipping weight 215 lbs. . . . . See Price List

### POWR-KRAFT POWER HACK SAW . . . STATIONARY TYPE

**B** For use in small production shops or for general, everyday run of small stock cutting. Castings are made of close-grained gray iron. Cam is integral with machine cut gear . . . controls pressure on forward stroke of the blade and insures pressure relief on the back stroke . . . for smooth even cutting and longer blade life. Bronze bushed bearings.

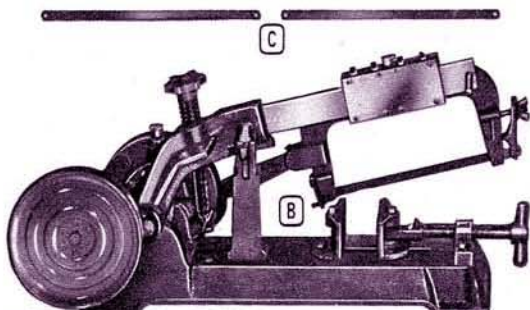
Equipped with a cast-iron vise . . . jaws 4 inches wide and 2 inches deep . . . open up to 4 inches. Swivels to permit angle cutting from 0 to 45 degrees.

Length of stroke is 4½ inches . . . 90 to 100 strokes per minute. Size overall: 8¼ inches wide, 29 inches long and 13 inches high. Selling price includes: one 12-inch by ⅝-inch power blade (for additional power blades see (C) directly below); and 8-inch diameter machine "V" pulley. Recommended motor 1725 R.P.M., ¼-H.P. (not included), see Page 43. Also recommended: 2½-in. diam. "V" motor pulley and 44-in. "V" belt listed on Page 39. Shipping weight 80 lbs.

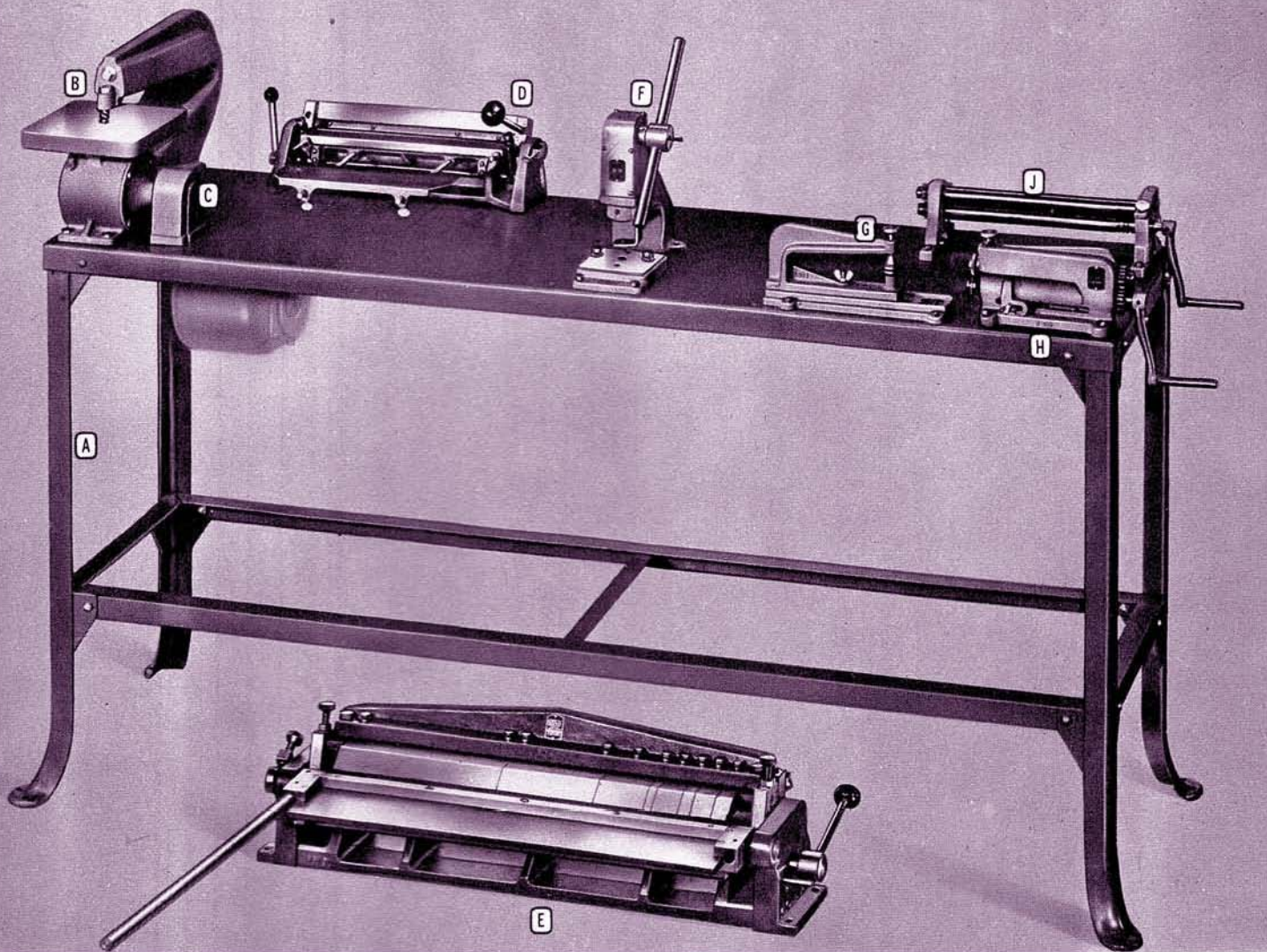
84 KG 2403 R—Power Hack Saw . . . . . See Price List

**C** MASTER POWER HACK SAW BLADES. For use with Powr-Kraft Power Hack Saws (A) and (B) listed above. High-speed Molybdenum steel. 12 in. long; ⅝ in. wide. 14 teeth.

84 KG 4486—Shipping weight per pair, 5 oz. . . . . See Price List







## POWR-KRAFT SHEET METAL TOOLS

SOLD AS A TABLE TOP OUTFIT AS PICTURED—OR AS INDIVIDUAL TOOLS . . . ONLY 10% DOWN ON TERMS

**POWR-KRAFT SHEET METAL OUTFIT.** Sheet metal workers, hobbyists, tanners, etc., can now have all their sheet metal tools, designed for small work in 1 convenient, compact unit as shown. Will process up to 20-ga. sheet steel or heavier gauges of zinc, pewter, copper, etc. Includes all tools (A) to (J) except (E). Order accessories (1 to 3) separately. Use nibbler with 1/4 H.P. 1725 R.P.M. motor, 2 1/2-in. diam. motor pulley and 22-in. "V" belt (not included). 84 KG 3287 F—Ship. wt. 237 lbs. . . . See Price List

**(A) SHEET METAL TOOL STAND.** With motor bracket. Size 18x68x35 in. Ship. wt. 81 lbs. 84 KG 3286 F . . . See Price List

**(B) NIBBLER.** Throat cap. 12 in. for cutting odd shapes, straight or scroll work up to 20-ga. sheet metal. Gray iron frame, machined 8x8-in. cast-iron table. Scotch yoke mechanism operates in oil bath. Feed from either left or right. Steel cutter set and 2 1/2-in. machine "V" pulley incl. Size: 9 1/2 x 19 1/4 x 11 in. high. Use with 1/4-H.P. 1725 R.P.M. motor, 22-in. "V" belt and 2 1/2-in. diam. "V" motor pulley, (not included) see Pages 43, 39. Ship. wt. 44 lbs. 84 KG 3275 K . . . See Price List

**(C) BELT AND PULLEY GUARD** for Nibbler (B) above. Can be driven from below only. Ship. wt. 2 lbs. 84 KG 3276 K . . . See Price List

**(D) 12-INCH BRAKE.** Bends sheets and makes simple metal trim from sheet metal up to 20-gauge thickness, 12 in. wide. Steel blade swings in steel bearing support. Quick cam action clamps holds work. Extensions incl. for duplicating. Size: 18 x 17 x 3 3/4 in. Wt. 34 lbs. 84 KG 3289 K . . . See Price List

**(E) 24-IN. BOX AND PAN BRAKE.** Processes sheet metal up to 16-ga. thickness. 24 in. wide . . . greater capacity on shorter and more ductile materials. Clearance between top fingers and anvil 1 in. Maximum box or pan depth 2 1/2 in. Back gauge range 1/4 to 24-in. diam. Minimum reverse bend with leaf bar removed 3/8 in. Angular bend control range with cam actuated stop 0 to 135°. Bend or radii range 0 to 1/2 in. Left or right-hand mount for bending lever. Ship. wt. 200 lbs. 84 KG 3288 F . . . See Price List

**(F) HAND PUNCH-SHEAR.** For use with dies, punches and cutting blades listed below. Cast-iron body. Machined table 4x4 in. 12-in. steel lever arm delivers pressure directly over the punching and the shearing point. 1/4-inch stroke. Throat cap. 2 3/8 in. Size: 5 3/4 x 9 3/4 x 14 1/2 in. 84 KG 3278 K—Ship. wt. 20 lbs. . . See List

**(G) CIRCULAR ATTACHMENT FOR SHEAR.** Use with Hand Punch-Shear above. Holds work firmly on swivel while shear cuts outside circle. Cast-iron base and frame. Maximum throat cap. 6 inches. On sliding track, 12-inch diameter circle can be cut when used with a shear. Size overall: 3 in. by 11 in. by 4 3/4 in. in height. Ship. wt. 7 lbs. 84 KG 3284 K . . . See Price List

**(1) BOLSTER PLATE, SHEAR PLATE HOLDER.** Cast iron. Fits Hand-Punch Shear (F). Use with shear cutting blades. Less blades. 84 KG 3281 K—Wt. 2 lbs. See List

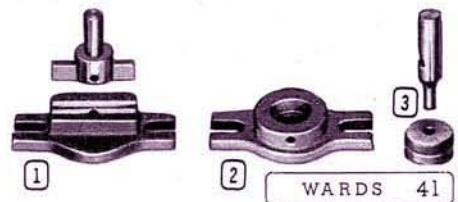
**SHEAR CUTTING BLADES.** For inside cuts, snips square corners, for small cut off work. Cuts 2 in. wide. Use with (1). 84 KG 3282 K—Wt. 8 oz. . . See List

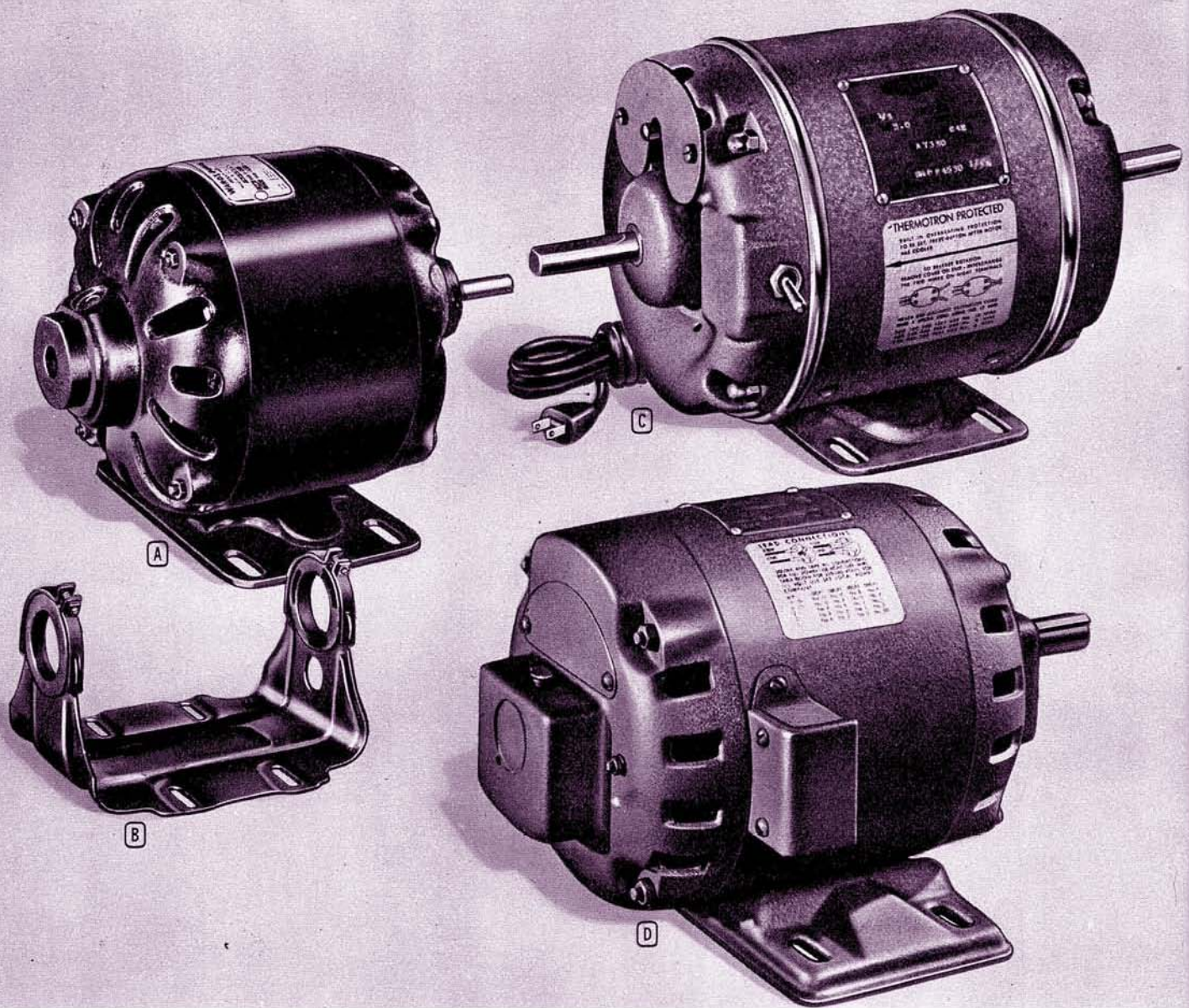
**(2) BOLSTER PLATE FOR DIE SET.** Use with all size round punches and dies (3) at right. Cast iron. Ship. wt. 10 oz. 84 KG 3279 K . . . See Price List

**(H) SHEAR.** Max. width cut 6 in. 1 1/4-in. diam. hardened and tempered replaceable steel cutters. For cutting, slitting, trimming, etc. Cutters fit on threaded shaft ends, adjustable to take up wear. Thumb nut adjusts top cutter up to 20-ga. and for inside cuts. Small sliding arm with wing nut adjustment controls width of work. Cast-iron base and arm. Machine cut steel gears. Size overall 3x15 1/4 x 5 inches. 84 KG 3283 K—Ship. wt. 11 lbs. . . See Price List

**(J) 12-IN. SLIP ROLL.** Forms cylinders, reverse curves, scrolls, etc. Cast-iron frame, housing. Ground and polished 1-in. diam. 12-in. long steel rollers. 2 front rollers revolve, grip sheets; adjustable rear roller deflects sheet, forms curve desired. Wing nut lets upper roller raise at 1 end to let work be removed. Machine cut gears. Ship. wt. 17 lbs. 84 KG 3285 K—5 3/4 x 20 3/4 x 4 in. . . . See List

**(3) ROUND PUNCHES AND DIES.** Tool steel. For hand and punch-shear (F). Set consists of punch and die. Use with (2) below. Wt. 8 oz. State Size. 84 KG 3280 K—1/8; 3/16; 1/4; 5/16; 3/8; 1/2-in. . . . See List





## RUGGED POWER-KRAFT ELECTRIC MOTORS...

### WHICH TYPE MOTOR SHALL I BUY?

**SPLIT-PHASE TYPE.** For easy starting jobs. Use for bench grinders, flex shafts, bench and jig saws and general utility work. Motors develop 2 to 3 times rated power for starting loads.

**CAPACITOR TYPE.** For medium to hard starting jobs. Use from  $\frac{1}{3}$  to  $\frac{1}{4}$  less current than split-phase motors. Use for most wood-working tools, drill presses, table saws, etc. Also for feed mixers and other farm equipment. Totally enclosed capacitor motor is designed for use with power tools which create excessive dust, grit or chips. High-speed capacitor motor is designed for shapers, swing saws and other tools requiring high operating speed.

**REPULSION-INDUCTION TYPE.** For hard starting jobs. Start heaviest loads—develop 4 to 5 times rated power for short emergency periods. Use for production machinery, refrigerators, pumps, compressors, heavy farm equipment.

**OPERATING VOLTAGE OF MOTORS.** All motors described as operating on 115-volts, A.C. will operate on a plus or minus 10% of rated voltage.

**MOTOR PULLEYS.** For pulleys with keyways (required for motors having keyed shaft) see Wards General Catalog.

### STANDARD $\frac{1}{2}$ -H.P. SPLIT-PHASE MOTOR—SLEEVE BEARING TYPE

**A** An economically priced, dependable motor for jig saws, flexible shafts, sanders and other light power tools. Also for washing machines, fans and other household jobs. Wick oil system with sleeve bearings. Use with shaft in horizontal position only. Motor is easily reversed by changing lead wires. Ample ventilation keeps motor within safe operating temperature. Steel base is slotted for easy mounting. Single  $\frac{1}{2}$ -inch diameter shaft extends  $1\frac{5}{8}$  inches. Speed 1725 R.P.M. For 115-volt, 60-cycle A.C. only. Heavy cast-iron frame with steel base. Base is slotted for easy mounting. Rust-resistant black finish. Ship. wt. 22 lbs.

83 KG 4534 M—Mailable. . . . . See Price List

**B** RESILIENT MOUNTING KIT. Fits split-phase motor (A) above only. Use for fans, washing machines, etc. Provides cushion for motor—reduces vibration and noise. Made of strong 10-ga. sheet metal with rubber mounting rings. Rust-resistant black finish. Slotted base for maintaining proper belt tension. 83 KG 4535—Wt. 2 lbs. 12 oz. . . . . See Price List

### DE LUXE SPLIT-PHASE MOTORS—BALL BEARING TYPE

**C** Rugged, top quality motors designed for easy starting jobs such as bench grinders, bench and jig saws, sanders, flexible shafts and other light-duty power tools. Develop 2 to 3 times rated power for starting loads. New Departure grease-sealed ball bearings—use motor in any position. Built-in Thermotron automatically shuts motor off if overload or short circuit occurs—prevents motor from burning out. Fan and vents keep motor cool—temperature won't rise more than  $40^{\circ}$  C. Open type drip-proof construction . . . prevents falling particles and dripping liquids from entering motors. Handy on-off switch.

$\frac{1}{2}$ -in. diam. double shaft extends  $1\frac{7}{8}$  in. at each end. For use on 115-volt, 60-cycle A.C. only. Speed 1725 R.P.M. Gray finish.  $7\frac{1}{2}$ -ft. rubber covered cord and plug.

83 KG 4530 M—Mailable. State horsepower wanted.

$\frac{1}{4}$ -H.P.—Ship. wt. 28 lbs. . . . . See Price List  
 $\frac{1}{2}$ -H.P.—Ship. wt. 32 lbs. . . . . See Price List

### HEAVY-DUTY REPULSION-INDUCTION MOTORS

**D** Fractional horsepower, single phase type. Use for hard starting jobs such as feed grinders, compressors, farm equipment, heavy production machinery. Develop 4 to 5 times rated power for starting loads. Single keyed shaft.

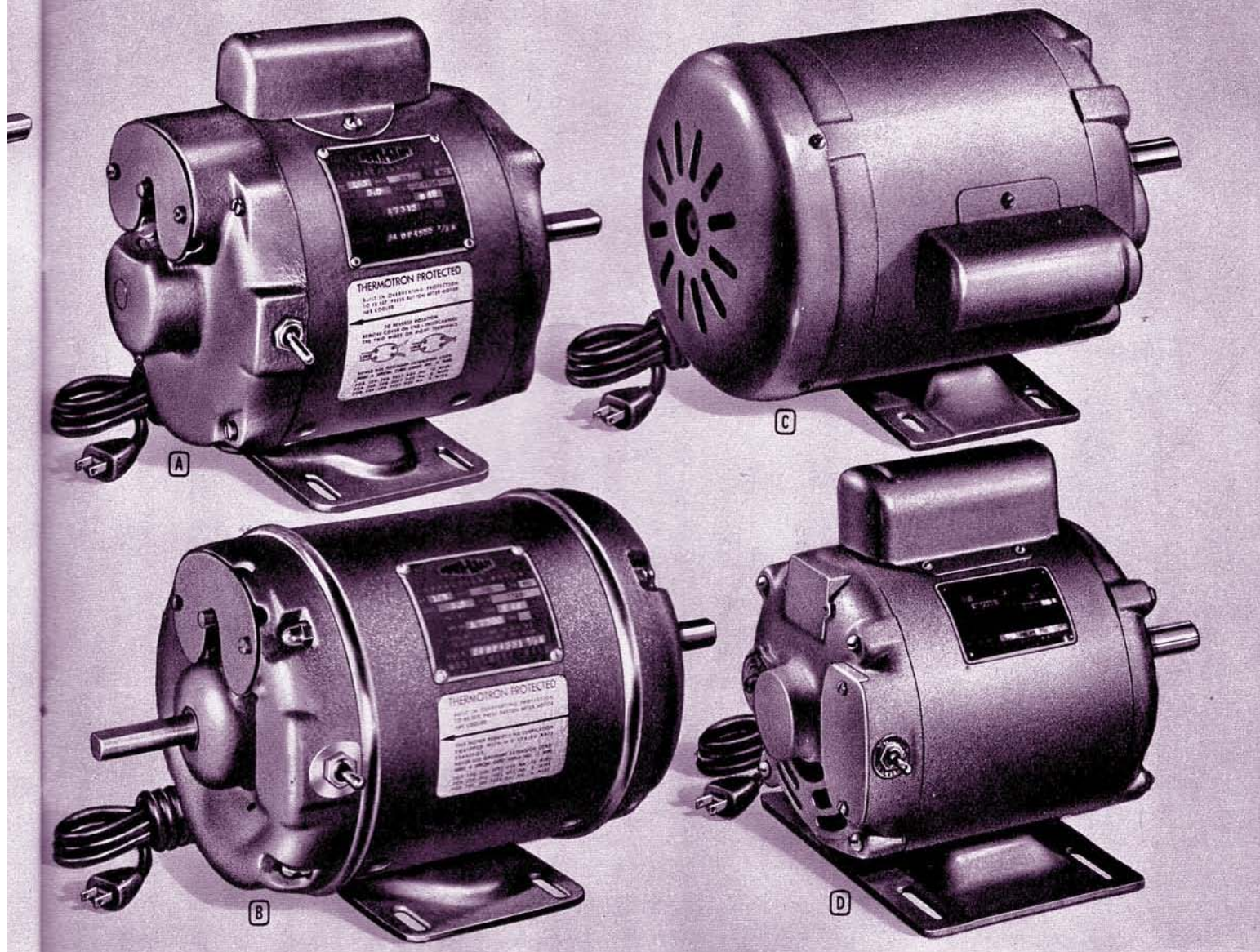
Wick oil system with sleeve bearings—use motors in horizontal position only. Fan and air vents keep motors cool—temperature won't rise more than  $40^{\circ}$  C. Speed 1725 R.P.M. For 115 or 230-volt, 60-cycle A.C. single phase only. 83 KG 4612 M—Mailable. State horsepower. See Price List

Horsepower	Shaft Diam.	Shaft Extends	Ship. wt.
$\frac{1}{4}$	$\frac{5}{8}$ in.	$1\frac{7}{8}$ in.	30 lbs.
$\frac{1}{3}$	$\frac{5}{8}$ in.	$1\frac{7}{8}$ in.	32 lbs.
$\frac{1}{2}$	$\frac{3}{4}$ in.	$2\frac{1}{4}$ in.	47 lbs.
$\frac{3}{4}$	$\frac{3}{4}$ in.	$2\frac{1}{4}$ in.	51 lbs.

**MOTOR RAIL** (shown at left). Permits you to use one motor with several tools. Fasten extra brackets near each tool and shift motor, with rail attached, from one tool to another. Maintains desired belt tension. Includes rail, 1 set of brackets, screws, bolts. For  $\frac{1}{4}$  to  $\frac{1}{2}$ -horsepower motors. 83 KG 4740—Ship. wt. 1 lb. . . . . See Price List  
 83 KG 4741—Two EXTRA BRACKETS. Wt. 4 oz. See Price List



42 WARDS



## FOR EFFICIENT POWER TOOL OPERATION

### STANDARD CAPACITOR MOTORS—SLEEVE BEARING TYPE

**A**  $\frac{1}{4}$  and  $\frac{1}{2}$ -horsepower. For medium to hard starting jobs such as jig saws, band saws and light duty wood lathes. Also for feed mixers and other farm equipment. Wick oil system with sleeve bearings provide positive lubrication. Use motors with shaft in horizontal position only. Single  $\frac{1}{2}$ -in. diam. shaft extends  $1\frac{7}{8}$  in. Condenser reduces starting current. Handy on-off switch. Built-in Thermotron automatically shuts off motor when overload or short circuit occurs—prevents motor from burning out. Fan and air vents keep motor cool—temperature won't rise more than  $40^{\circ}\text{C}$ . Open type drip-proof construction . . . prevents falling particles and dripping liquids from entering motor. Rolled steel frame with cast-iron end bells, slotted base. Speed 1725 R.P.M. For 115-volt, 60-cycle A.C. only. Gray finish.  $7\frac{1}{2}$ -ft. cord, plug.

83 KG 4555 M—*Available. State horsepower wanted.*

$\frac{1}{4}$ -horsepower—Shipping weight 29 lbs. . . . . See Price List  
 $\frac{1}{2}$ -horsepower—Shipping weight 31 lbs. . . . . See Price List

### DE LUXE CAPACITOR MOTORS—BALL BEARING TYPE

**B**  $\frac{1}{4}$  to  $\frac{3}{4}$ -horsepower. Rugged, long-lasting motors for use with table saws, drill presses, metal-cutting lathes, etc. Also for feed mixers and other farm equipment. Equipped with New Departure ball bearings . . . double-sealed in grease for life. Motors may be used in any position. Condenser is mounted internally—motor takes less space. On-off switch. Double shaft. Built-in Thermotron shuts off motor when overload occurs—prevents motor from burning out. Fan and air vents keep motor cool—temperature won't rise more than  $40^{\circ}\text{C}$ . Open type drip-proof construction . . . prevents falling particles and liquids from entering motor. Rolled steel frame with cast-iron end bells. Speed 1725 R.P.M. Gray finish.  $7\frac{1}{2}$ -ft. cord and plug.

83 KG 4551 M—*Available. State horsepower wanted. . . . . See Price List*

H.P.	Shaft Diam.	Shaft Extends	Voltage (A.C.)	Ship. Wt.
$\frac{1}{4}$	$\frac{1}{2}$ in.	$1\frac{7}{8}$ in.	115	29 lbs.
$\frac{1}{2}$	$\frac{1}{2}$ in.	$1\frac{7}{8}$ in.	115	33 lbs.
$\frac{1}{2}$	$\frac{1}{2}$ in.	$1\frac{7}{8}$ in.	115	39 lbs.
$\frac{3}{4}$	$\frac{3}{4}$ in.	$2\frac{1}{4}$ in.	115/230	56 lbs.

### $\frac{1}{2}$ -HORSEPOWER TOTALLY ENCLOSED CAPACITOR MOTOR

**C** Designed especially for use with tilting arbor bench saws and other power tools which create excessive dust. Totally enclosed for complete protection against dirt, dust, chips or grit. Shielded fan blows cool air around motor housing . . . reduces motor temperature. Built-in overload protector shuts motor off automatically when overload occurs. Easily reset by push button.

Permanently lubricated ball bearings are double sealed in grease for long, trouble-free operation. Motor may be used with shaft in any position. Motors of this type have about  $\frac{2}{3}$  greater power for starting and emergencies, and use about  $\frac{1}{3}$  less current than split-phase motors of the same rating. Single  $\frac{5}{8}$ -in. diameter keyed shaft extends  $1\frac{7}{8}$  in. . . . accommodates large step pulleys. Handy on-off switch. Motor is easily reversed by changing lead wires. Steel frame with cast-iron end bells; slotted base. Gray finish. 1725 R.P.M. 8-foot rubber cord and plug. For 115-volt, 60-cycle A.C. only.

83 KG 4554 M—Shipping weight 35 lbs. . . . . See Price List

### HIGH-SPEED CAPACITOR MOTORS

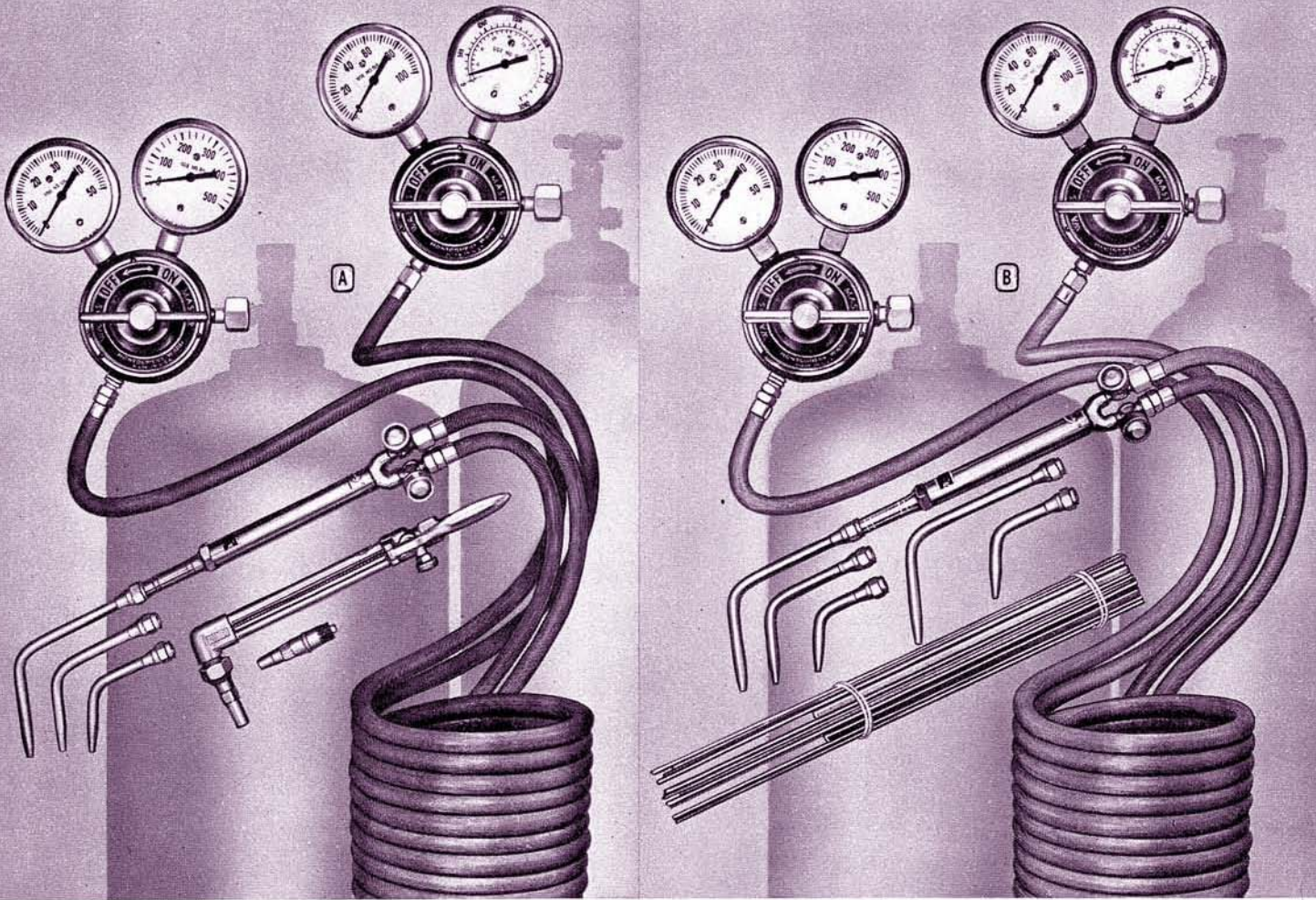
**D** Speed 3450 R.P.M. Designed for shapers, swing saws and other power tools requiring high operating speed. Eliminates the use of step-up pulleys—prevents loss of speed and power through transmission. Equipped with grease-sealed ball bearings for long, trouble-free service. Open type drip-proof construction . . . prevents falling particles and dripping liquids from entering motor. Manual reset overload protector prevents burn-out—shuts off current when motor is overloaded. Handy on-off switch. Steel frame with cast-iron end bells, slotted base. 8-ft. cord and plug. Gray finish.

$\frac{1}{2}$  AND  $\frac{3}{4}$ -HORSEPOWER MODELS. For 115-volt, 60-cycle A.C. only. 3450 R.P.M.  $\frac{5}{8}$ -in. diam. keyed double shaft extends  $1\frac{7}{8}$  in. at each end. State H. P.

83 KG 4586 M— $\frac{1}{2}$ -H.P. Ship. wt. 32 lbs. . . . . See Price List  
 $\frac{3}{4}$ -H.P. Ship. wt. 35 lbs. . . . . See Price List

1 AND  $1\frac{1}{2}$ -HORSEPOWER MODELS. For 115 or 230-volt, 60-cycle A.C. only. Speed 3450 R.P.M.  $\frac{3}{4}$ -in. diam. single shaft extends  $2\frac{1}{4}$  in. State H. P.

83 KG 4587 M—1-H.P. Ship. wt. 47 lbs. See Price List  
 $1\frac{1}{2}$ -H.P. Ship. wt. 51 lbs. See Price List



## OXY-ACETYLENE WELDING EQUIPMENT

WARDS MASTER QUALITY WELDING AND CUTTING OUTFITS . . . COMPLETE WITH ACCESSORIES



CYLINDER TRUCK

**C** Compact—fits easily in small spaces. Carries standard 125-cu. ft. Oxygen cylinder and small size Acetylene cylinder with ease. Easily loaded—easily unloaded—rolls smoothly. Adjustable telescoping tubular device on front holds cylinders securely.

Ruggedly built with all-welded tubular steel construction, mechanical rubber tires and oilless bronze bearings. Lightweight—inexpensive. Balanced design enables it to handle heavy loads easily and speedily. Shipping weight 12 lbs.

84 KG 5860 F—See Price List

44 WARDS:

Every part individually tested. Torch, cutting attachment and regulators approved by Underwriters' Laboratory, Inc. **WELDING TORCH.** Balanced equal pressure type. Strongly made of drawn brass—with comfortable ribbed handle. Non-flash mixer handles all size tips—no extra mixing chamber needed for larger tips. Precision fit needle valves allow for fine adjustments. Heavy knurled knobs—torch can be turned off without disturbing setting at regulators. Hose leads straightaway from torch for right or left-hand operation. Torch length varies from 14 to 19 inches, depending on size welding tip used.

**WELDING NOZZLE TIPS.** Have four times the flame range of ordinary fixed type tips—will not backfire. Solid drawn copper. Swivel type.

**CUTTING ATTACHMENT.** With welding outfit (A) only. Converts welding torch into cutting torch. Cuts steel up to 10 in. Solid drawn brass. Convenient lever control of excess oxygen flow, for fast cutting. Length overall 10½ in.

**CUTTING TIPS.** Included with outfit (A) only. Solid drawn Copper—superior to the usual leaded copper tips.

### WELDING AND CUTTING OUTFIT

**A** COMBINATION WELDING AND CUTTING OUTFIT. Includes items described above as follows: Welding Torch, 3 welding nozzle tips, sizes T-3, T-5 and T-7—welds up to 2-inch metal. Cutting attachment, two cutting tips, sizes C1 and C3—cuts metal up to 6 inches. Oxygen Regulator and Acetylene Regulator with adapter, goggles, torch lighter and wrench. Also included are two instruction books and two 25-foot lengths of welding hose—¼-inch inside diameter and ½-inch outside diameter. Shipping weight 25 lbs. 84 KG 5815 M. . . . . See Price List

### REGULATORS

OXYGEN REGULATOR as shown in sets (A) and (B).

84 KG 5813—Ship. wt. 6 lbs. 8 oz. . . . . See Price List

ACETYLENE REGULATOR shown in sets (A) and (B).

84 KG 5814—Ship. wt. 6 lbs. 4 oz. . . . . See Price List

**OXYGEN AND ACETYLENE REGULATORS** (described individually below). Copyrighted on-off features on regulators are exclusive with Wards—insure correct use and longer life. Larger capacity—diaphragm is 6½ square inches—for more sensitive control and constant, even flame at all tank pressures. Gauges are plainly marked—can easily be read even from a distance.

**OXYGEN REGULATOR.** Forged polished Brass. 100 and 3000-lb.-gauges show pressure and cubic foot content of tank. Double cone inlet screen—prevents admittance of foreign materials, insuring long life and good performance. Clearly marked 2¾-inch diameter gauges.

**ACETYLENE REGULATOR.** Same as oxygen regulator above but with 50 and 500-lb. gauges and adapter for standard acetylene welding cylinders.

**OTHER ACCESSORIES.** Outfit includes: Welders' goggles, torch lighter, wrench, Oxy-Acetylene manual and 50-page "Installation and Operation of Oxy-Acetylene Equipment" booklet. (Arrange for Gas Cylinders locally before buying Oxy-Acetylene outfits listed below—not included with outfits.)

### WELDING OUTFIT

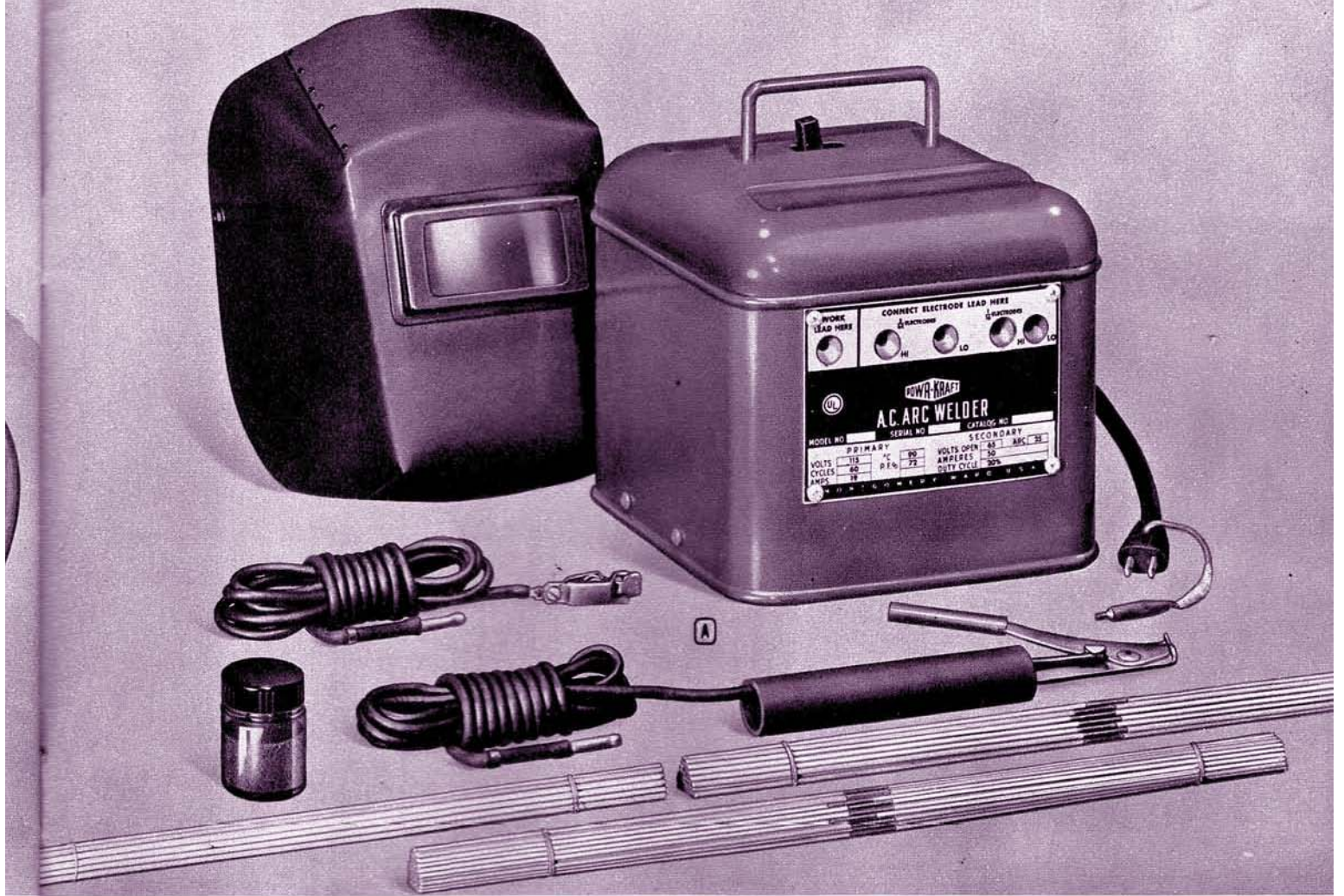
**B** WELDING OUTFIT. Wards Master Quality. Includes: Welding Torch, 5 welding nozzle tips—sizes T-1, T-3, T-5, T-7, and T-9—welds metal up to 2 inches. Oxygen Regulator, Acetylene Regulator with adapter, goggles, torch lighter and wrench; 10 coppered-steel and 8 cast-iron welding rods; 3 Tobin Bronze brazing rods—¼ and ½-inch diameter, lengths about 18 inches. Also included are two instruction books, ¾-lb. cast-iron and ¾-lb. brazing flux and two 12½-foot lengths of welding hose—¼-inch inside diameter and ½-inch outside diameter. Welding accessories also sold separately on Page 47. Shipping weight 27 lbs.

84 KG 5810 M. . . . . See Price List

### WELDING TORCH

**WELDING TORCH** as shown in both sets (A) and (B), and described above. (Welding tips not included).

84 KG 5812—Ship. wt. 2 lbs. 4 oz. . . . . See Price List



## NEW POWR-KRAFT A.C. ARC WELDER

APPROVED BY UNDERWRITERS LABORATORIES, INC.—SPECIAL WIRING AND PLUGS NOT REQUIRED

**A** Handy low-priced welder—versatile and efficient. Designed to furnish currents up to 50 amps for welding, cutting, brazing and soldering. More economical to use than gas welding. Welds quickly—minimizes distortion. Ideal for use by garages, metal working shops, farms, home mechanics, schools, hobbyists, etc. Simple to use—no previous welding experience necessary. Thoroughly tested at factory to insure proper construction and correct performance. **SIMPLE TO INSTALL.** Equipped with 10-foot rubber covered cord with 2-prong plug and ground attachment—just plug it in any 110-volt, A.C. receptacle fused for 30 amps. No special wiring or plugs needed. For easiest arc striking and welding use receptacle nearest to main fuse box. Convenient "On-Off" switch located on top of case. **CASE.** Made of sheet steel—approximately .040 inches thick. Compact—size overall is only 9¼ by 8¼ by 9¼ inches. Has convenient handle on top for easy carrying—makes it possible to take to the job. Handle retracts into case when it's not being used. Weighs only 45 lbs.

**RUGGED CONSTRUCTION.** High quality spun glass insulation—electric steel laminations. The windings are of class B insulation, impregnated and baked against moisture absorption. There are no moving parts to wear out. No adjustment or maintenance is required at any time. Practically impossible to burn this welder out if used on correct current supply.

**POWER FACTOR CORRECTED TO 68%.** This correction minimizes light flickering, reduces power costs and installation costs.

**DUTY CYCLE:** (ratio of arcing time to total time welder is in use). This welder has a 20% duty cycle—actual arcing time is 2 minutes out of every ten minutes. Time in between arcing periods is that allocated for changing rods, etc.

**EASY TO USE.** No special skill required. Start right in welding with only a few minutes practice. Simplified instruction book furnished with welder includes recommended procedures for jobs.

**SAFE TO USE.** Has unusually low open-circuit voltage—57 Volts maximum (low tap).

**DOES WELDING, CUTTING, BRAZING, SOLDERING.** Uses 1/16 and 5/64-inch electrodes. Welds up to 1/8-inch metal in single pass. Cuts up to 14-gauge metal with ease.

**Brazes quickly.** Just plug Arc Torch (listed below) in welder and braze with flux coated brazing rods. Torch has finger-tip adjustment of carbons.

**Simplifies wire soldering.** Tip of carbon becomes white hot instantly on contact with the wire to be soldered . . . spot heats both wire and solder at the same time.

**MINIMIZES DISTORTION.** Heat is concentrated right at the electrode, avoiding excess warpage. Finishing work is reduced. Welds fast and easy. Costs little to operate.

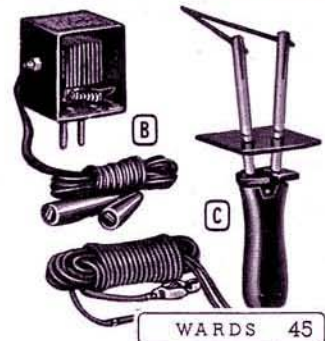
**ACCESSORIES INCLUDED:** See list at left below for complete set of accessories and instructions including cord, ground, electrode holder, helmet, Electrodes and brazing rods. Shipping weight 45 lbs.  
84 KG 5951M . . . . . See Price List

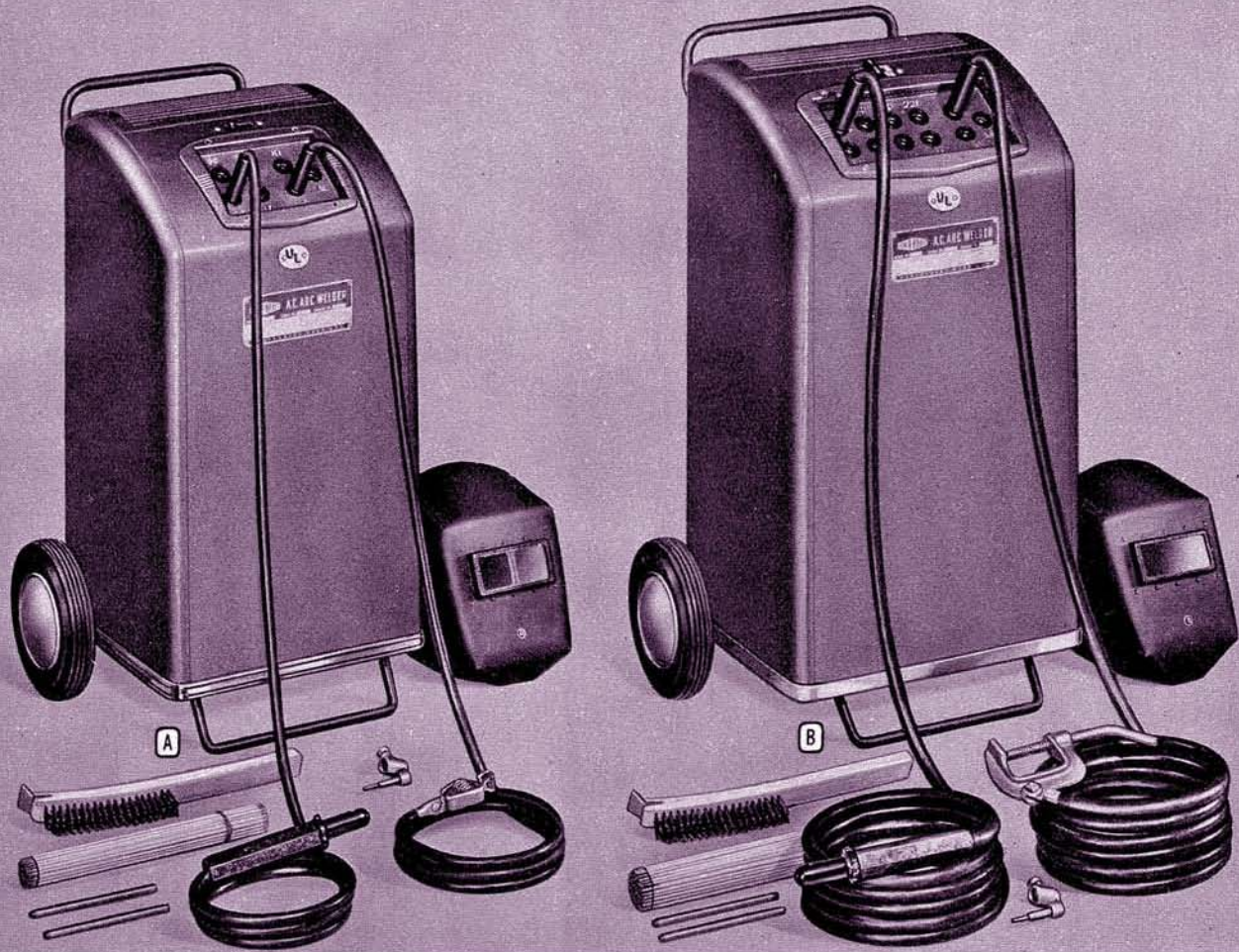
### ACCESSORIES INCLUDED

- 10-foot rubber covered cord, two-prong plug and ground attachment.
- Electrode Holder with 10-foot rubber covered cord. 5 copper cored carbons.
- Welding Helmet. High-grade, industrial type helmet with cover glass, lens headgear and chin rest.
- Electrodes. 5 lbs. 1/16-inch and 5 lbs. 5/64-inch diameters for mild steel, cast-iron and hard surfacing.
- 1 lb. of 3/32-inch Brazing Rods. Jar of "Easy-Start" granular powder.
- Simplified Instruction Book with recommended welding procedures.

### EXTRA ACCESSORIES FOR A.C. ARC WELDER

- Not included with Welder listed above—order separately.
- B** RECTIFIER. For use as 6-volt battery charger.  
84 KG 5952M—Ship. wt. 2 lbs. 8 oz. . . . . See Price List
  - C** CARBON ARC TORCH. For cutting metals, brazing, soldering, etc. 6 copper cored carbons included.  
84 KG 5915M—Ship. wt. 3 lbs. . . . . See Price List
  - BRAZING RODS (not shown). 1 lb. of 3/32-inch diameter rods.  
84 KG 5985—Ship. wt. 1 lb. 8 oz. . . . . See Price List
  - MILD STEEL ELECTRODES (not shown). 5 lbs. 1/16-inch or 5/64-inch size.  
84 KG 5986—State size. Ship. wt. 5 lbs. 8 oz. . . . . See Price List
  - CARBONS (not shown). For cutting, soldering, etc. Pkg. of 12.  
84 KG 5987—Ship. wt. 1 lb. 4 oz. . . . . See Price List





## POWER-KRAFT A. C. ARC WELDERS

### FACTS ABOUT ARC WELDERS

**OUTPUT RATING:** The name plate on approved welders must contain a duty cycle rating based on a National Standard Test. Be sure rating claimed is same as rating given on name plate of welder. Wards advertised rating is guaranteed to be the same as is shown on the name plate of the welder.

**DUTY CYCLE:** A duty cycle is the ratio of arcing time to the total time the welder is in use. For a 20% cycle the actual arcing would be 2 minutes out of every 10 minutes; a 50% duty cycle would be 5 minutes out of every 10 minutes, etc. Time in between arcing periods is that allocated for changing rods, set up for work changes, etc. The type of work you expect to do should determine the kind of duty cycle welder you need.

**WEIGHT:** Copper and iron in Wards transformers make up about 80% of the shipping weight. Compare weights of welders and buy a welder that draws current for welding and not current for heating.

**CASES:** Lost transformer magnetism reduces efficiency of the welder and causes heating. Wards non-magnetic stainless steel cases mean lower power bills for operation.

**INSULATION:** The class "A" insulation allows a temperature rise that must not exceed 50°C. on Time Rating test. For spun glass it is 85°C. Wards welders have class "A" insulation which means longer life, lower operating temperature and current consumption.

These oversize induction type transformers, with built-in reactance maintain a stable arc... increase voltage at low heats... make it easier to strike an arc.

**POWER LINE:** Furnish your local Power Company with specifications listed in table below at right and first obtain their permission to install before buying welders.

Welders for 460-volt service line are obtainable at same prices given on price list.

46 WARDS

### POWER-KRAFT INDUSTRIAL AND FARM TYPE WELDERS

Approved by Underwriters' Laboratories, Inc. Built-in circuit breaker turns current off at the welder. Oversize induction type transformer and built-in reactance. All have non-magnetic stainless steel cases. The following accessories are included with each welder ordered: electrode cable, ground cable, ground clamp, two plain carbons, assorted cast-iron and steel electrodes, helmet, universal carbon holder. Complete easy-to-follow instructions are included. Thickness capacities stated mean single pass penetration. You can weld any thickness of metal by V-ing. All have rubber tired wheels. Each welder has an outlet box with two wires for power line and means for ground connections. All welders except 84 KG 5941F listed below are 230-volt, single phase, 60-cycle A.C. For additional specifications see table below.

**A** 75-AMPERE 115-VOLT SHOP WELDER. Power factor corrected. This correction minimizes light flickering and reduces power and installation costs. Welding lead connections are made with tapered brass plugs. Reactor is built-in for arc stabilization. Has capacitor for power factor improvement. Guard is provided at case bottom to protect transformer from damage. Cooled by natural draft, reduces maintenance cost. Welds or cuts metal up to 1/8-inch. Has twelve heats. Includes: two pounds of 3/32-inch electrodes, 8-foot welding cable, 6-foot primary cable and plug. Case size overall: 15 by 13 by 26 in. 84 KG 5941F—Ship. wt. 154 lbs. . . . . See Price List

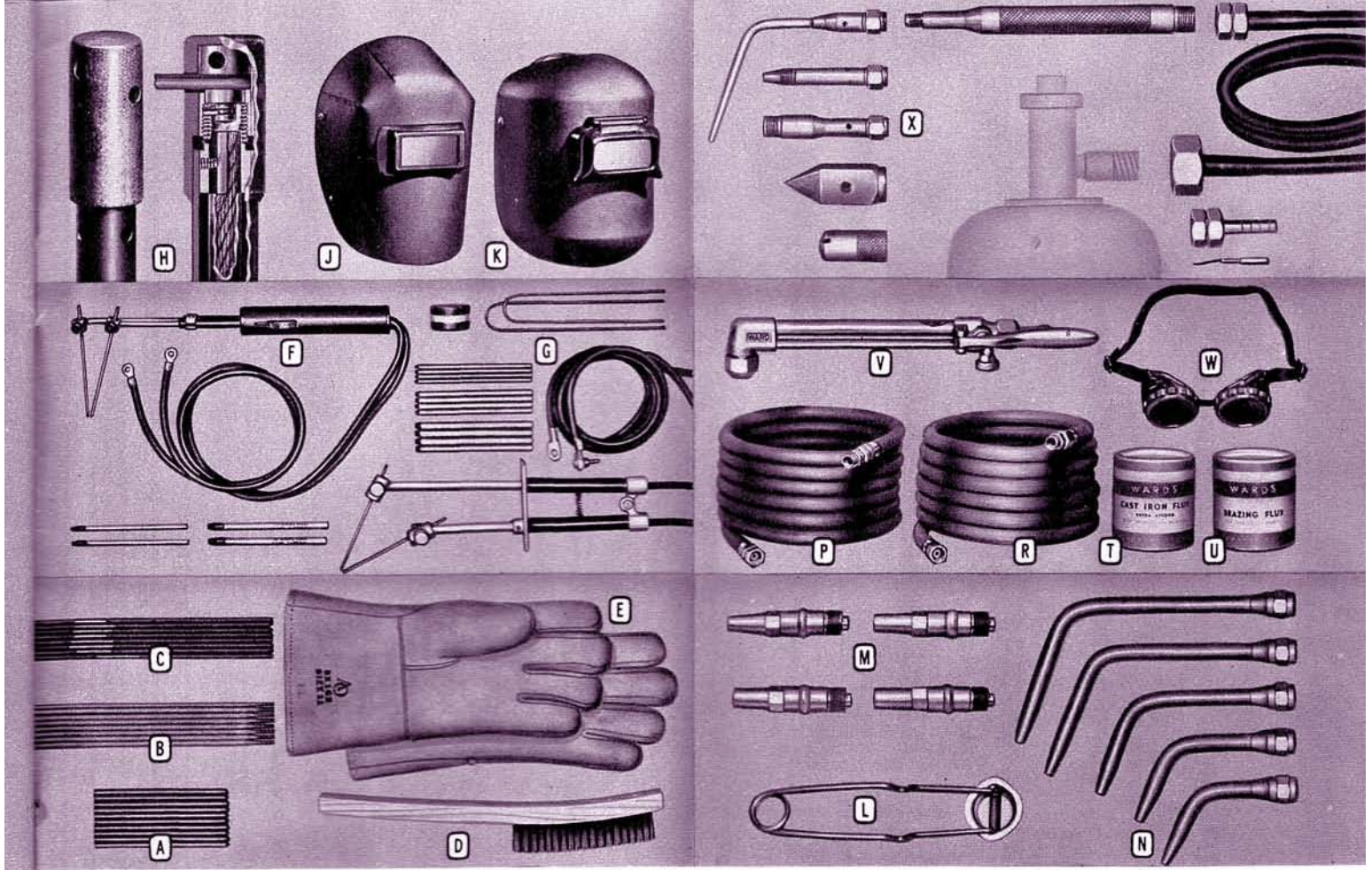
175-AMPERE 230-VOLT FARM WELDER (not shown). With power factor corrected to minimize light flickering and to reduce power and installation cost. Cooled by natural draft, reduces maintenance cost. Built to meet Rural Electrification Association specifications. Similar to 84 KG 5942F described at right except has capacitor for power factor improvement. Has eighteen heats. Selling price includes: four lbs. of assorted electrodes, 15-foot welding cord, 6-foot primary cord, plug and receptacle. Case 15x13x32 in. 84 KG 5943F—Ship. wt. 220 lbs. . . . . See Price List

**B** 225-AMPERE 230-VOLT INDUSTRIAL TYPE WELDER. Transformers are housed in case of non-magnetic steel to minimize vibration, noise, heating and power loss. Guard at case bottom to protect transformer from damage. Windings are made of class "A" insulation, impregnated and baked against moisture absorption. Not power corrected. Reactor is built-in for arc stabilization. Welds and cuts metal up to 3/8-inch thick. Cooled by natural draft, reduces maintenance cost. Has twenty-four heats, 5 lbs. of electrodes, 15-foot welding cable, 6-foot primary cable included. No receptacle or plug. Case size: 18x13x30 in. 84 KG 5944F—Ship. wt. 280 lbs. . . . . See Price List

175-AMPERE 230-VOLT INDUSTRIAL TYPE WELDER (not shown). Similar to Industrial Type Welder sold above. Is not power corrected. Reactor is built-in for arc stabilization. Welds or cuts metal up to 5/16-inch thick. Non-magnetic steel case to minimize vibration, noise, heating and power loss. Welded lead connections with tapered brass plugs. Selling price includes: four pounds of electrodes, 15-foot welding cable and 6-foot primary cable. No plug and receptacle included. Case size overall is 15 by 13 by 32 in. 84 KG 5942F—Shipping wt. 210 lbs. . . . See Price List

IMPORTANT: Furnish your power company these specifications and obtain their permission to install.

R.E.A. AND P.F. (power factor) corrected				Primary Rating at Max. Load				Duty Cycle	Temp. Rise	Welding Handled
Welders	Amp. Output	Open Volts	Arc Volts	Amps.	KW	KVA	P.F.%			
84 KG 5941 F	20 to 75	80	25	20	2.25	2.5	90	20%	60°C. to 3/32-in.	
84 KG 5943 F	20 to 175	65	25	26	5.25	6.2	85			
INDUSTRIAL WELDERS, Not POWER FACTOR corrected										
84 KG 5942 F	20 to 175	80	30	36	6.0	8.2	73	50%	60°C.	to 5/32-in.
84 KG 5944 F	20 to 225	80	30	46	7.9	10.6	75	50%	60°C.	to 1/16-in.



## WELDING EQUIPMENT AND ACCESSORIES

WELDING RODS, ELECTRODES, CARBON RODS; ACCESSORIES AND EQUIPMENT FOR A.C., D.C. AND OXY-ACETYLENE WELDING

**(A)** PLAIN CARBON RODS. 1/4x6 in. Pkg. of 10. 84 KG 5912—Wt. 1 lb. . . . . See Price List  
84 KG 5911—6-IN. COPPER CORED CARBON RODS. For Twin Carbon Arc Torches. Pkg. of 10. Wt. 1 lb. 1/4-in.; 5/16-in.; 3/8-in. diam. . . . . See List

WELDING RODS for Oxy-acetylene welding or use with Twin Carbon Arc Torch.  
84 KG 5856 H—MILD STEEL RODS. Copper coated low-carbon steel. . . . . See Price List

Diam.	Approx. lgth.	Rods per 5 lb.	Wt.
1/8 in.	36 in.	About 164	5 1/2 lb.
1/8 in.	36 in.	About 40	5 1/2 lb.
3/16 in.	36 in.	About 18	5 1/2 lb.
1/4 in.	36 in.	About 10	5 1/2 lb.

84 KG 5855 H—CAST-IRON RODS. Produce machinable welds. *State Diameter.* See Price List

Diam.	Approx. lgth.	Rods in 5 lb.	Wt.
3/16 in.	24 in.	About 22	5 1/2 lb.
1/4 in.	24 in.	About 12	5 1/2 lb.

84 KG 5857 H—BRONZE BRAZING RODS. Melts at 1600° F. *State Diameter.* . . . . . See Price List

Diam.	Approx. lgth.	Rods in 1 lb.	Wt.
1/8 in.	36 in.	About 6	1 1/2 lb.
3/16 in.	36 in.	About 3	1 1/2 lb.

WELDING RODS, ELECTRODES FOR A.C., D.C. WELDERS

**(B)** 84 KG 5968—WESTINGHOUSE COATED ELECTRODES for mild steel. . . . . See Price List

Diam.	Approx. lgth.	Rec. Amp. range	Wt.
3/32 in.	12 in.	30 to 80	1 1/4 lb.
1/8 in.	14 in.	50 to 120	1 1/4 lb.
5/32 in.	14 in.	75 to 170	1 1/4 lb.
3/16 in.	14 in.	100 to 210	1 1/4 lb.

**(C)** WARDS COATED ARC WELDING ELECTRODES. 84 KG 5973—Cast iron welding. . . . . See List

Diam.	Approx. lgth.	Rec. Amp. range	Wt.
1/8 in.	18 in.	130 to 175	1 1/4 lb.
3/16 in.	14 in.	150 to 225	1 1/4 lb.

84 KG 5974—Like (C) at left below, except for welding mild steel.

Diameter in Inches	Approx. Length	Recommended Amp. range	Ship. wt.
3/32	12 in.	25 to 90	1 lb. 4 oz.
1/8	14 in.	55 to 140	1 lb. 4 oz.
5/32	14 in.	90 to 200	1 lb. 4 oz.
3/16	14 in.	120 to 275	1 lb. 4 oz.

**(D)** WELDERS' WIRE BRUSH. Steel bristles for cleaning work. Hardwood handle. 84 KG 5969—Ship. wt. 12 oz. . . . . See Price List

**(E)** WELDERS' SPLIT HORSEHIDE GLOVES. Welded seams. Full size gauntlet. Large. 84 KG 5960—Ship. wt. 1 lb. . . . . See Price List

**(F)** ERGOLYTE TWIN CARBON ARC TORCH. Use with any welder. Automatic switch-off provides lightning fast make-and-break control of arc flame. Creates flame like oxyacetylene torch. Length 15 3/4 in. With two 5-ft. cables. Will take 1/4-in. cored carbons, 4 carbons and instructions included. 84 KG 5914 M—Wt. 3 lbs. 8 oz. . . . . See Price List

**(G)** TWIN CARBON ARC TORCH. Use with 110 or 220-volt, A.C. or 32-volt, D.C. arc welders only. Creates flame like oxy-acetylene torch. Length 14 in. With 10-ft. cables; 12 asst. copper-coated, cored carbons; two 18x1/8-in. bronze brazing rods; flux; instructions. Universal cable fittings. 84 KG 5910 M—Ship. wt. 6 lbs. . . . . See Price List

**(H)** WOLVERINE ELECTRODE HOLDER. Takes rod 1/16 to 3/8-in. Handles jobs from 0 to 500 amps. Electrode fits in hole at end 3/4 in. from cable . . . locks into position with vise grip. Cable locks with set screw. 84 KG 5913—Ship. wt. 1 lb. 8 oz. . . . . See Price List

**(J)** LOW-PRICED HELMET. Black fiber. Insulated, adj. head band, chin rest. Cover lens protect No. 10 green arc lens. For 75 to 200-amp. welding. Riveted seams. 84 KG 5965 L—Ship. wt. 2 lbs. 2 oz. . . . . See Price List

**(K)** PROFESSIONAL TYPE HELMET. Sturdy, vulcanized black fiber. Insulated and adjustable head band and chin rest. Will tilt to any angle. Arc lens protected by cover lens. Seamless molded model with snap-up lens. Plastic lens retainer. For 150 to 300-amp. welding. No. 12 green lens. 84 KG 5967 L—Ship. wt. 2 lbs. 12 oz. . . . . See Price List

**(L)** TORCH LIGHTER. Spring tension. With two extra flints. 84 KG 5809—Ship. wt. 3 oz. . . . . See Price List

**(M)** CUTTING TIPS. Fit Wards cutting attachments and cutting torches only. Solid drawn copper. 4 sizes: C-1, cuts metal up to 1 in.; C-2, cuts up to 2 1/2 in.; C-3, cuts up to 6 in.; C-4, cuts up to 10 in. *State Size Wanted.* 84 KG 5816—Ship. wt. 6 oz. . . . . See Price List

**(N)** WELDING NOZZLE TIPS. Master Quality. Fit Wards welding torches only. Solid drawn copper. Swivel type and bendable . . . weld in any direction. 5 sizes: T-1, 3 1/2 in. long; T-3, 4 in.; T-5, 5 1/2 in.; T-7, 7 in.; T-9, 8 1/2 in. 84 KG 5811—*State size.* Ship. wt. 10 oz. . . . . See Price List

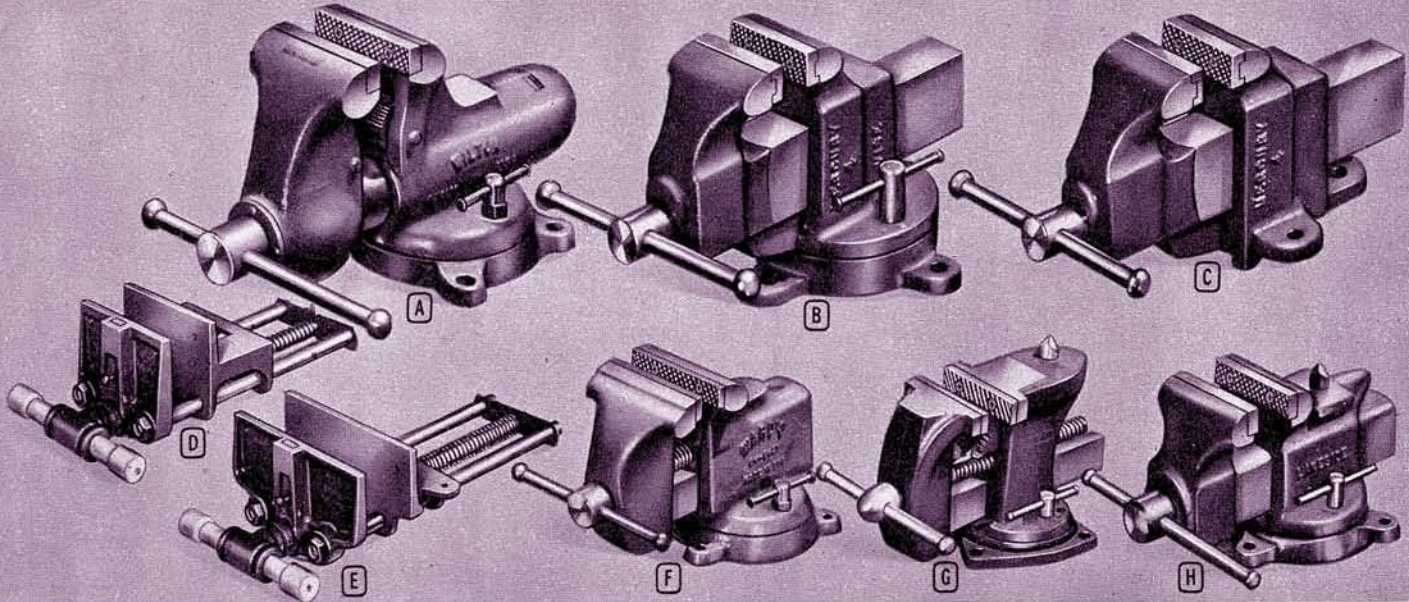
**(P)** WELDING HOSE. Flexible rayon thread rubber covered. Oxygen and acetylene hose. 1/4-in. inside, 1/2-in. outside diam. Swivel fittings. 12 1/2 ft. long. Wt. 2 1/2 lbs. (P) 84 KG 5818—Green Oxygen Hose . . . . . See Price List (R) 84 KG 5819—Red Acetylene Hose . . . . . See Price List

**(T)** FLUX. Cast-iron welding, brazing flux. Ship. wt. 14 oz. (T) 84 KG 5836—Welding Flux. . . . . See Price List (U) 84 KG 5837—Brazing Flux. . . . . See Price List

**(V)** CUTTING ATTACHMENT. Fits Wards welding torches only. Solid brass. UL approved. Length 10 1/2 in. Wrench incl. 84 KG 5820—Ship. wt. 2 lbs. 8 oz. . . . . See Price List

**(W)** WELDING AND CUTTING GOGGLES. Meet U.S. Navy Spec. No. 5 shade green lens. Ventilated eye cups. Cover lens. 84 KG 5835—Ship. wt. 8 oz. . . . . See Price List

**(X)** BRAZING OUTFIT. For soldering and brazing. Uses acetylene only, no oxygen required. Fits Acetylene Regulators, Prest-O-Lite, Acetylene tanks. Soldering copper, paint burning tip, tank and hose connections, 6 in. torch handle, 5 ft. of 3/16-in. rubber hose, tip cleaner, instructions, incl. 84 KG 5802—Shipping weight 2 lbs. 2 oz. . . . . See Price List



## GARAGE AND MACHINISTS' VISES

### MACHINISTS' HEAVY-DUTY VISES

**WILTON PRECISION-BUILT MACHINISTS' VISES.** Guaranteed 5 yrs. Conform to gov't spec. Built to .005 in. tolerance on working parts. Head is hollow for lighter weight; rounded design and ribbing reinforce malleable iron alloy head. Close fitting spindle reduces leverage required. Anvil and tops of jaws are surface ground and precisely parallel. Replaceable tool steel jaw faces, fitted and serrated. Heavy cast-iron 90° swivel base. Tubular sliding bar guided by tight fitted steel key—no side twist or binding. Body parts encased. Mounts with or without swivel base. Gray finish. Actual and shipping weights are the same.

**(A) WILTON COMBINATION PIPE AND MACHINISTS' VISE.** Has above features—plus deep case-hardened steel pipe jaws with individually milled teeth—will not slip. Takes pipe 1/8 to 3 1/2 inches in diam. Depth of throat 4 1/2 in. Pipe jaws are reversible and interchangeable. Regular jaws 4 1/2 in. wide; open to 5 1/2 in. 84 KG 5478 R—Ship. wt. 65 lbs. . . . . See Price List

**WILTON MACHINISTS' VISE (not shown).** Swivel base. Similar to (A) shown above but without pipe jaws. . . . . See Price List

Catalog Number	Jaw Width	Jaws Open	Spindle Diameter	Throat Depth in.	Ship. Wt.
84 KG 5471 M	3 in.	4 in.	5/8 in.	2 3/16	23 lbs.
84 KG 5469 M	3 1/2 in.	5 1/4 in.	3/4 in.	2 5/8	39 lbs.
84 KG 5473 R	4 in.	7 in.	7/8 in.	3	52 lbs.

**(B) (C) MACHINISTS' STANDARD VISES.** Meet Army and Navy Spec. Strain points reinforced. Heat-treated removable steel jaw faces—serrated. Semi-steel body and base; enameled rust-resistant finish. Channel cast-iron sliding bar.

**(B) WITH SWIVEL BASE.** Locking screw holds vise in any position. 84 KG 5460 R—4-in. jaws; open to 6 in. Ship. wt. 52 lbs. . . . . See Price List  
84 KG 5461 R—4 1/2-in. jaws; open to 7 in. Ship. wt. 67 lbs. . . . . See Price List

**(C) WITH STATIONARY BASE.** Ship. and actual weights are same. 84 KG 5455 R—Jaws 4 in. wide; open to 6 in. Ship. wt. 43 lbs. . . . . See Price List  
84 KG 5456 R—Jaws 4 1/2 in. wide; open to 7 in. Ship. wt. 56 lbs. . . . . See Price List

### WASHER, BOLT AND SCREW ASSORTMENTS IN HANDY CONTAINERS

**(J) to (N)** Handy home workshop Washer, Bolt and Screw Assortments in most popular sizes. Strong plastic transparent cannister. Each size is partitioned for ease in removing. Chromized, cadmium plated, rust-resistant (except for sheet metal screw assortment). For prices and Ship. wts. . . . . see Price List

Cat. No.	Type	Pcs.
84 KG 466	(J) Lock Washer & Cotter Pin. . . . .	300
84 KG 467	(K) Wrought Washers—3/16, 1/4, 5/16, 3/8, 7/16, 1/2 in. . . . .	175
84 KG 468	(L) Round Head Stove Bolts—3/16x3/4, 3/16x1, 3/16x1 1/4, 1/4x3/4, 1/4x1, 1/4x1 1/4 in. . . . .	100
84 KG 469	(M) Wood Screws—8x1 1/2, 8x1, 6x3/4, 10x1 1/2, 9x1 1/2, 12x2 1/2, 4x3/8, 6x1 in. . . . .	200
84 KG 470	(N) Sheet Metal Screws. . . . .	200

### WOODWORKERS' VISES

**(D) CONTINUOUS SCREW TYPE WOODWORKERS' VISES.** Heavy-duty. Cast-iron front and back jaws are 4-in. deep—stop in front jaw. Steel screw 1-in. diam.; side guides 7/8-in. diam. 84 KG 3162 M—7-in. jaws; open to 9 in. Wt. 24 lbs. . . . . See Price List  
84 KG 3163 M—10-in. jaws; open to 12 in. Wt. 31 lbs. . . . . See Price List

**(E) QUICK ACTING WOODWORKERS' VISE.** Slide jaw to work—1/4-turn of handle locks vise. Cast-iron front and back jaws, 4-in. deep—stop in front jaw. Steel screw 1 1/4 in.; side guides 7/8-in. diameter. Jaws 10-in. wide; open to 12 inches. 84 KG 3164 M—Ship. wt. 33 lbs. . . . . See Price List

**(F) MASTER QUALITY GARAGE VISE.** Swivel base. Precision-built. High tensile strength semi-steel body. Removable steel jaws. Pipe jaws take pipe from 1/8 to 1 1/4 in. 5/8-in. spindle. Close tolerances prevent side play in jaws. Gray finish. 84 KG 5421 M—4-in. jaws; open to 4 1/2 in. Wt. 27 lbs. . . . . See Price List

**(G) MASTER QUALITY GARAGE VISE.** Triple-duty vise—use as garage, pipe vise or anvil. Unbreakable malleable iron body and base. Large polished anvil surface over both jaws. Acme-cut thread steel screw. Alloy steel jaws. Pipe jaws take pipe 1/8 to 2 in. Base swivels 360°. Slide bar locks base. Lag screws furnished. Removable cut off tool. 84 KG 5415 M—3 1/2-in. jaws; open to 4 1/2 in. Wt. 17 lbs. . . . . See Price List  
84 KG 5416 M—4-in. jaws; open to 5 1/4 in. Pipe jaws take pipe from 1/8 to 2 1/4 inches. Ship. wt. 28 lbs. . . . . See Price List

**(H) LAKESIDE QUALITY GARAGE VISE.** Semi-steel. Use as regular or pipe vise, anvil surface with cut-off tool. Removable hardened steel jaws. Pipe jaws take 1/4 to 2-in. pipe. Base swivels 180°. Screw is enclosed in steel slide. Red enamel finish. 84 KG 5413 M—3 1/2-in. jaws; open to 4 1/2 in. Wt. 19 lbs. . . . . See Price List  
84 KG 5414 M—4-in. jaws; open to 5 in. Wt. 25 lbs. . . . . See Price List

### UL APPROVED SOLDERING IRONS

**(P) (R) SOLDERING IRONS.** Listed by U.L. For 110-120-volt, A.C. or D.C. 6-ft. cord and plug. Includes removable copper tip, stand.

**(P) MASTER QUALITY SOLDERING IRON.** 200-Watt. For heavy-duty. Concentrates heat instantly at point. 3/8-in. tip. Air cooled baffle plates. 84 KG 6062—Ship. wt. 2 lbs. 14 oz. . . . . See Price List  
**125-WATT IRON (not shown).** For light soldering. 3/8-in. tip. 84 KG 6061—Ship. wt. 2 lbs. 14 oz. . . . . See Price List

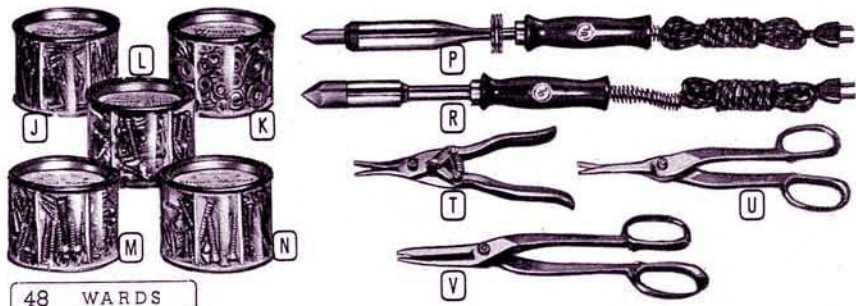
**(R) LAKESIDE QUALITY SOLDERING IRON.** 150-Watt. 1 1/8-in. tip. 84 KG 6057—Ship. wt. 1 lb. 12 oz. . . . . See Price List

### (T) TO (V) TINNERS' SNIPS.

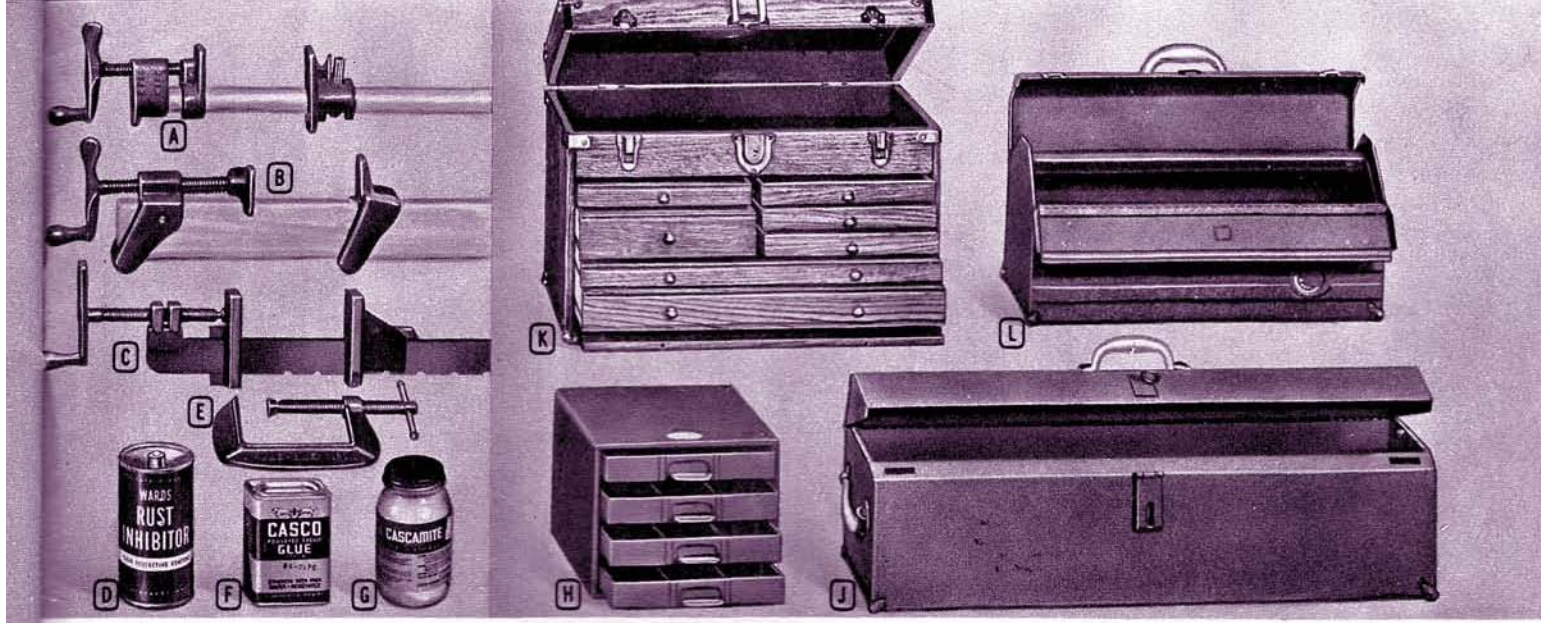
**(T) MASTER QUALITY COMPOUND LEVER SNIPS.** 84 KG 6033—State length wanted. 8-in. Snips. Ship. wt. 14 oz. . . . . See Price List  
10 1/2-in. Snips. Ship. wt. 1 lb. 2 oz. . . . . See Price List  
12-in. Snips. Ship. wt. 1 lb. 6 oz. . . . . See Price List

**(U) LAKESIDE QUALITY DUCK BILL TIN SNIPS.** 84 KG 6026—State length wanted. 7-in. Snips. Cut 2 in. Ship. wt. 14 oz. . . . . See Price List  
10-in. Snips. Cut 2 3/4 in. Wt. 1 lb. 8 oz. . . . . See Price List  
12-in. Snips. Cut 3 in. Ship. wt. 2 lbs. . . . . See Price List

**(V) MASTER QUALITY COMBINATION TIN SNIPS.** Cuts 3/4 in. Moly. Steel blade. Drop-forged handle. 84 KG 6027—Lgth. 13 1/2 in. Wt. 1 lb. 4 oz. . . . . See Price List







## WOODWORKING SUPPLIES, TOOL BOXES

### CABINET CLAMPS AND RUST INHIBITOR

**A** CLAMP FIXTURE. Adjustable pipe type (pipe not included). Use with any length  $\frac{3}{4}$ -in. threaded pipe. Sturdy malleable iron construction. Adjustable sliding jaw has  $1\frac{3}{4} \times 1\frac{7}{8}$ -in. face. Spring tension lock won't slip. Crank adjustment of  $1\frac{7}{8}$ -in. Steel screw. Ship. wt. 3 lbs. 8 oz. 84 KG 3151L..... See Price List

**B** CABINET CLAMP ATTACHMENT. Malleable iron. Used in woodworking shops, etc. Wood bar type (wood bar not included). For use on any length wood bar  $1\frac{3}{8} \times 2\frac{1}{2}$  in. Sliding jaw— $1\frac{5}{8} \times 1\frac{3}{4}$  in. face. Crank adjustment of  $2\frac{7}{16}$  in. 84 KG 3150L—Ship. wt. 4 lbs. .... See Price List

**C** STEEL BAR CLAMPS. Strong, rigid. Sliding jaw has  $1\frac{3}{4} \times 2$ -in. face. Locks in notches on steel bar,  $\frac{1}{4} \times 1\frac{1}{2}$  in., by spring tension lock. Swivel knob crank adjustment  $\frac{3}{4}$  in. 84 KG 3152M—State Length. 3 ft. long. Ship. wt. 9 lbs. .... See Price List 4 ft. long. Ship. wt. 10 lbs. .... See Price List

**D** RUST INHIBITOR. Push button spray. Protects every type of surface from rust, corrosion, acid, tarnishing, stains, etc., with a clear protective plastic coating. Waterproof and flexible—won't crack or peel. Heat and cold can't affect it. Dries quickly. Easy to apply—just clean the surface and spray. Excellent for home workshop—protects tools from rust and corrosion. 12-oz. can. 84 KG 6149—Ship. wt. 1 lb. 3 oz. .... See Price List

**M** GENERAL UTILITY WORK BENCH. For heavy-duty use. 30x60-in. top, 2 in. thick. Laminated—No. 1 Northern Maple, reinforced, sanded, finished with resin wood sealer. Legs and rails  $3\frac{1}{2} \times 1\frac{1}{2}$  in. Kiln-dried lumber. Ht. 33 in. Unassembled. 84 KG 2952F—Ship. wt. 155 lbs. .... See Price List

**HARD MAPLE TOPS** (for making work bench). Without legs and rails. Natural sanded finish. State size. 2 in. thick. Sizes: 36x24, 36x30, 36x36, 48x24, 48x30, 48x36, 60x24, 60x30, 60x36, 72x24, 72x30, 72x36 in. 84 KG 2950F—For prices, ship. wts. .... See Price List

**R** REMOTE CONTROL SWITCH. Fits Angle iron stands (N). Double pole toggle switch. Positive action. Steel cover box. Use with motors up to 1-H.P., 115-230 volts. Ship. wt. 1 lb. 84 KG 2969K..... See Price List

**T** TILT-TOP MACHINE TOOL STAND. Equally suitable for use at home or in an industrial shop. Adjustable to offset angles of any tilting table machine. Table rides on two cast-iron trunions pivoted on  $\frac{3}{8}$ -in. diam. steel dowels, supported by  $\frac{1}{4}$ -in. cast-iron end plates. Trunion has easy to read graduated segment for tilt up to  $45^\circ$ . Table top  $16 \times 28$  in.—made of  $\frac{3}{4}$ -in. seven-ply hard plywood. 25 in. high. Steel base with  $\frac{3}{4} \times 1\frac{3}{4}$  in. cross braced steel legs. Holes in base for anchorage to floor. 84 KG 2954K—Ship. wt. 45 lbs. .... See Price List

### "C" CLAMPS AND GLUE

**E** WARDS "C" CLAMPS. Used in woodworking shops, etc. Strong, heavy-duty. Deep throat. Malleable iron construction—guaranteed unbreakable. Self-adjusting swivel head. Machine screw thread adjustment screw—cold rolled. State size. 84 KG 3160L—See Price List

Maximum Opening	Depth Center, about	Ship. wt. Lbs. Oz.
3 in.	2 in.	1 2
4 in.	3 in.	1 12
5 in.	$3\frac{1}{4}$ in.	2 8
6 in.	$3\frac{1}{2}$ in.	3 2
8 in.	4 in.	4 6

**F** CASCO POWDERED CASEIN GLUE. Water-resistant—stainfree. For indoor use. Just mix with cold water. Makes a strong wood to wood adhesion. 8-oz. can. Ship. wt. 12 oz. 84 KG 3170..... See Price List

**G** CASCAMITE POWDERED RESIN GLUE. Water-resistant—stainfree. Stronger than wood. Suitable for interior and exterior use. Excellent for use where dampness occurs. Mix with cold water. 8-oz. can. Shipping weight 12 oz. 84 KG 3172..... See Price List

**N** ANGLE IRON TOOL STANDS. Unassembled. 84 KG 2960K— $13 \times 14 \times 29$  in. Fits Jig Saw (84 KG 2355M); Grinder (84 KG 5285); Sander (84 KG 2702); Shaper (84 KG 2450). Wt. 34 lbs. .... See Price List 84 KG 2961M— $13 \times 20 \times 25\frac{1}{2}$  in. Fits band saw (84 KG 2315F). Wt. 36 lbs. .... See Price List 84 KG 2962M— $13 \times 20 \times 28\frac{7}{8}$  in. Fits bench saws (34 KG 2260, 2253, 2257); Sanders (84 KG 2712, 2724, 2709); Band saws (84 KG 2316, 2304, 2314); Jointers (84 KG 2506, 2521, 2505, 2508); Drill presses (84 KG 2530, 2533). Wt. 37 lbs. .... See Price List

### SMALL PARTS CABINET, TOP BOXES, OAK CHESTS

**H** SMALL PARTS CABINET. For bolts, screws, nails etc. Two drawers have 1 fixed and 3 removable dividers, making 8 compartments in each drawer; two drawers have 2 fixed, 3 removable dividers, making 12 compartments in each drawer. All drawers  $1\frac{1}{2}$  in. deep with stops. 24-gauge steel. Size  $10 \times 10 \times 8\frac{1}{2}$  in. Recessed top, nipped on bottom for stacking. Index card holders. 84 KG 4369M—Ship. wt. 9 lbs. .... See Price List

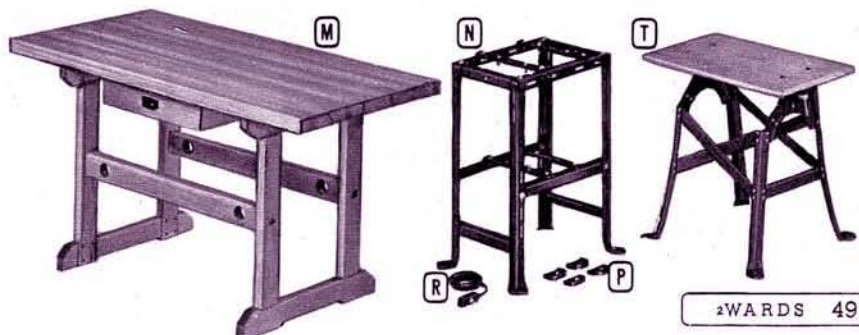
**J** GABLE TOP BOX.  $32 \times 8\frac{1}{4} \times 9\frac{3}{4}$  in. high. Gable top gives max. room. Heavy-gauge steel with joints spot welded. Two wood blocks protect sharp-edged tools, help prevent rusting—are slotted to hold saws upright. Two openings for squares, clips for level. Hasp and staple for locking. All hardware riveted or spot welded. Piano type hinge. 84 KG 4312M—Ship. wt. 13 lbs. .... See Price List

**K** SOLID OAK CHEST. Size  $19\frac{7}{8} \times 9 \times 13\frac{1}{4}$  in. Sturdily built of fine-grained and seasoned solid Oak with hand-rubbed lacquer finish. Dove tailed bottom with heavy corner irons. Open top till compartment has mirror, clip. Steel drawer guides keep drawers from sagging. Front slides out of way under bottom drawer. Side catches, built in surface lock, corner irons, hinges have nickel plated finish. All hardware firmly riveted. Four drawers  $8\frac{1}{4} \times 6\frac{3}{4} \times \frac{7}{8}$  in. deep; one drawer  $8\frac{1}{4} \times 6\frac{3}{4} \times 2\frac{1}{8}$  in. deep; two long drawers  $18 \times 6\frac{3}{4}$  in.—one  $\frac{7}{8}$  in. deep, other  $1\frac{1}{2}$  in. deep. Drawers felt lined. 84 KG 4334M—Ship. wt. 25 lbs. .... See Price List

**L** GABLE TOP TOOL BOX WITH TOTE TRAY. Holds full set of tools. Light weight. Gable top gives max. room.  $19 \times 7\frac{3}{8} \times 8\frac{3}{4}$  in. Heavy-gauge spot-welded steel body; reinforced corners. Tote tray  $18\frac{1}{2} \times 6\frac{3}{4} \times 2$  in. deep with tubular carrying bar. All hardware riveted or spot-welded. Piano-type hinges. 84 KG 4350M—Ship. wt. 12 lbs. .... See Price List

84 KG 2963K— $13 \times 24 \times 29$  in. Fits jig saw (84 KG 2356). Ship. wt. 36 lbs. .... See Price List 84 KG 2964Y— $13 \times 47\frac{1}{2} \times 30\frac{7}{8}$  in. Fits lathe (84 KG 2002). Ship. wt. 51 lbs. .... See Price List 84 KG 2965Y— $13 \times 57 \times 30\frac{7}{8}$  in. Fits wood lathe (84 KG 2005). Ship. wt. 55 lbs. .... See Price List 84 KG 2966K— $14\frac{1}{2} \times 34\frac{5}{8} \times 25\frac{1}{2}$  in. For saw and jointer. Ship. wt. 47 lbs. .... See Price List

**P** RUBBER FEET FOR ABOVE STANDS. Set of 4. 84 KG 2968—Wt. per set, 1 lb. .... See Price List



# NEW SHOPSMITH WITH EXTRA FEATURES

Five Power Tools in One... Each Unit a Practical Single Purpose Tool

COMPLETE PRECISION-BUILT HOME WORKSHOP WITH MANY NEW FEATURES—SOLD WITH OR WITHOUT MOTOR

Large capacity power workshop with many new features. One rugged, compact unit—fits in basement, utility room or garage corner. Because Shopsmith is so versatile, it gives you everything you need to do the job you want to do. Quick, easy changeover from Bench Saw to Vertical or Horizontal Drill Press, Lathe or Disc Sander—accommodates all standard accessories. A man sized tool—not a toy. Unit with motor actually weighs 205 lbs. and is nearly five feet long... yet fits in space only 18 by 60 in. New features added to the Shopsmith include the following: (1) Built-in micro table raising mechanism—arm quickly positioned for micro-adjustment of table height—ball and crank adjustment. (2) Cast-iron extension table bracket slides in channel milled in tailstock—secured with one knob and stud screw. (3) Pressure cast-metal ribbed table extension—has fence bar in front so fence can be quickly secured and locked in any position. (4) Fence has back lock and depth of cut scale engraved on side. Has built-in hole and set screw for simplified mortising hold-down. (5) Large miter gauge with automatic spring stops in all critical settings—slots permit quick insertion or removal of extension. (6) Lathe tailstock has floating sleeve for cup center—provides positive alignment of cup and drive center. (7) Tailstock can be inverted on end of ways so extension table can be used for horizontal drilling. (8) Adjustable depth stroke scale combined with spring housing—can be quickly set at zero in any quill position. (9) Trunnion has spring loaded stop for easy table tilting—stops at 0, 45 and 90°.

In each of its five uses Shopsmith has equal or greater capacity than most single purpose tools—and one motor drives all five tools! Adaptable to drum sanding, shaping, routing, jig sawing, buffing, mortising, grinding, dadoing and flexible shaft work when used with the proper accessories. Will do a wide range of production and maintenance work in home workshops, furniture and cabinet making, training shops, etc. Easily mounted on stationary bench or portable truck. 1 3/4-in. diameter tubular steel ways. Heavy-duty cast-iron headstock, frame and carriage. Shopsmith does the work of the five following tools:

**8-IN. BENCH SAW** (shown in (A) at right). Has an effective table width of 56 in. when used with extension. Machined cast-aluminum ribbed table 14 1/2 x 17 in.—tilts up to 45°. Removable ribbed soft metal saw insert. Extension mounted on tailstock may be used to increase distance between blade and fence to 48 in. Machined cast-aluminum rip fence and miter gauge may be used on either side of blade. Miter gauge graduated to 60° both directions. Max. depth of cut 2 1/4 in. Width of cut can be

controlled by micro-adjustment of quill in addition to fence. Blade guard, splitter, 8-inch comb, crosscut-rip blade.

**DISC SANDER** (shown (B) at right). 12-in. diam. pressure cast-aluminum disc. Miter gauge permits bevel sanding up to 60°. Use miter gauge and rip fence for accurate squaring and finishing. By using sanding disc at end of bed ways, operator can face work. Large adjustable table 14 1/2 x 17 in.—tilts to 45°. With one 12-inch diameter sanding sheet.

**WOOD LATHE** (shown in (C) at right). 15-inch swing over entire bed ways—4 in. more than usual heavy-duty lathes. Distance between centers, 33 in. Cast-iron headstock, tailstock. Adjustable cast-iron tool rest slides with fingertip pressure, locks in any position. Quill feed 4 in. Operator can face work while face plate and chuck are turning. Speed adjustable from 800 to 3600 R.P.M. Spur and cup center included.

**VERTICAL DRILL PRESS** (shown in (D) at right). Drills to center of 15-in. circle. Jacobs key chuck fits on 5/8-inch diameter spindle—takes straight shank drills from 5/64 to 1/2-inch diameter. 4-inch spindle feed lever fits on either side of driving head for right or left hand operation. Rugged six-splined spindle has induction hardened tip. Spindle floats on four grease-sealed ball bearings. Maximum distance from table to chuck 27 inches. Large cast-aluminum tilting work table, 14 1/2 x 17 inches is permanently centered. Locks in vertical position with positive screw lock. Speed adjustable from 800 to 3600 R.P.M.

**HORIZONTAL DRILL PRESS** (shown in (E) at right). Only with Shopsmith is it possible to perform this highly useful function. Has same specifications as vertical drill press. Horizontal drill press eliminates restrictions on length of materials that may be worked—useful for doweling.

**SHOPSMITH INCLUDES ALL THESE ATTACHMENTS:** Table extension and bracket, saw guard and splitter, 8-in. combination crosscut-rip blade, adapter, 1/2-in. capacity Jacobs key chuck, 12-in. sanding disc, lathe spur and cup centers, tool rest, machined rip fence, miter gauge, 3-step "V" pulley, matching pulley for motor (fits 5/8-in. shaft), 38-in. "V" belt, bench blue print, parts list, instructions. Size overall in horizontal position 59x18x20 in.

84 KGP 3470F—Shopsmith without motor. Ship. wt. 200 lbs. See Price List

84 KGP 3471F—Shopsmith with specially designed 1/2-H.P. 115-volt, 60-cycle A.C. 1725-R.P.M. ball bearing capacitor motor, equipped with inverted end bells, cord and plug. Ship. wt. 235 lbs. . . . See Price List

## ACCESSORIES FOR MAKING YOUR SHOPSMITH MORE EFFICIENT . . . MORE VERSATILE

**1 SHOPSMITH BENCH ENDS.** Heavy-duty 16-ga. sheet steel. Make bench for Shopsmith by attaching ends to two 2x8-in. boards. 60 in. long (not included). Size 18 in. wide by 18 1/2 in. high. Smooth gray finish. With 4 steel braces, nuts, bolts, washers, instructions. 84 KGP 2987K—Ship. wt. 23 lbs. See Price List

**2 JIG SAW ATTACHMENT.** Add another major tool to the usefulness of your Shopsmith. Quickly attaches to headstock of all Shopsmiths. Cast-aluminum construction. Throat depth 18 in.—cuts to center of 36-inch circle. Max. thickness of cut 2 in. Driving unit has ball and Oilite bearings. Driven from spindle of Shopsmith. Use with Shopsmith table. Upper and lower chuck. Takes plain end blades. Lower chuck takes 1/4-in. shank files. 84 KGP 3452K—Ship. wt. 19 lbs. See Price List

**3 ALUMINUM SANDING DISC.** 12-in. diameter. Balanced to insure maximum efficiency. 84 KGP 2977—Wt. 2 lbs. 12 oz. . . See Price List

**4 DISC SANDING PAPER.** 12-in. diam. For above disc. Strong paper backing. In fine, medium or coarse grit, or assortment of six (3 fine, 2 med., 1 coarse grit sheets). State grit. 84 KGP 2978—Ship. wt. 1 lb. 4 oz. . . . See List

**5 TABLE INSERTS.** Ribbed, pressure cast aluminum. Fit on table. Wt. ea. 10 oz. 84 KGP 2994—No slot. For drill press. . . See List 84 KGP 2993—1-in. Dado slot. . . . See List

**6 FRONT TABLE EXTENSION.** Increases distance to 12 in. front of blade. Wt. 1 lb. 84 KGP 2981—Cast-aluminum. . . See Price List

**7 MITER GAUGE STOP RODS.** Use with miter gauge for duplicating cuts. Adj. 0 to 18 in. 84 KGP 2988—Ship. wt. 12 oz. . . See Price List

**8 9 FACE PLATES.** Cast-iron. Wts. 2, 3 lbs. 84 KGP 2983—6-in. diam. . . . See List 84 KGP 2982—3 3/4-in. diam. . . . See List

**10 SHOPSMITH SPEED CHANGER.** Provides infinite range of speeds from 425 to 6800 R.P.M. Permits rapid selection of speed for each operation. Can be adjusted while Shopsmith is running. Attaches to bed ways and headstock. Mount as idler pulley between motor, headstock. Floats on spindle. Speeds selected with ball crank handle and speed indicator. With speed chart. 84 KGP 2979K—Ship. wt. 5 lbs. 8 oz. . See List

**11 MORTISING HOLD-DOWN.** Secured to rip fence. Cast-iron, steel construction. Clamp fingers adjustable for varying thicknesses. Also use as jig for other operations. 84 KGP 3451—Ship. wt. 1 lb. 8 oz. See Price List

**REAR FENCE LOCK ASSEMBLY** (not shown). Use with (11). Fits old model 2985 (10-E) only. 84 KGP 3458K—Ship. wt. 1 lb. . See Price List

**12 MORTISING ATTACHMENT.** Can be used in either horizontal or vertical drill press to cut square holes for mortise, tenon joints. Machined cast iron. Attaches to quill. Use with Jacobs Chuck on Shopsmith or 3456 Router Arbor, Nos. 2552, 2553 Chisels and bits. 84 KGP 3450—Ship. wt. 2 lbs. 12 oz. . . See List

**13 SANDING DRUM.** Expanding rubber type. 2 5/8-in. diam. With one coarse grit sleeve. Extra sleeves (84KG2666) on Page 19. 84 KGP 2975—Ship. wt. 1 lb. 8 oz. See Price List

**14 ROUTER ARBOR OR CHUCK.** For routing, rotary planing. Use in place of Jacobs Chuck. Also used for small grinders, etc. 84 KGP 3456—5/16-in. Cap. Wt. 12 oz. See List 84 KGP 3457—1/2-in. Cap. Wt. 12 oz. . See List

**15 JOINTER-CUTTER.** For jointing stock up to 2 1/2 in. Use with jointer-shaper fence. Three removable cutter blades. Fits on spindle—use in vertical or horizontal position. Size overall 2 1/2 x 2 in. 84 KGP 3453—Ship. wt. 1 lb. 8 oz. . . See Price List

**16 CUP CENTER.** Heat-treated. No. 2 M.T. shank. 84 KGP 2989—Ship. wt. 8 oz. . . See Price List

**17 SHAPER ADAPTER ASSEMBLY.** Use with jointer-shaper fence for shaping in either horizontal or vertical position. Precision machined. Holds all standard cutters. Ship. wt. each, 8 oz. 84 KGP 3459—5/16-in. diam. shank. . See Price List 84 KGP 3460—1/2-in. diam. shank. . . See Price List

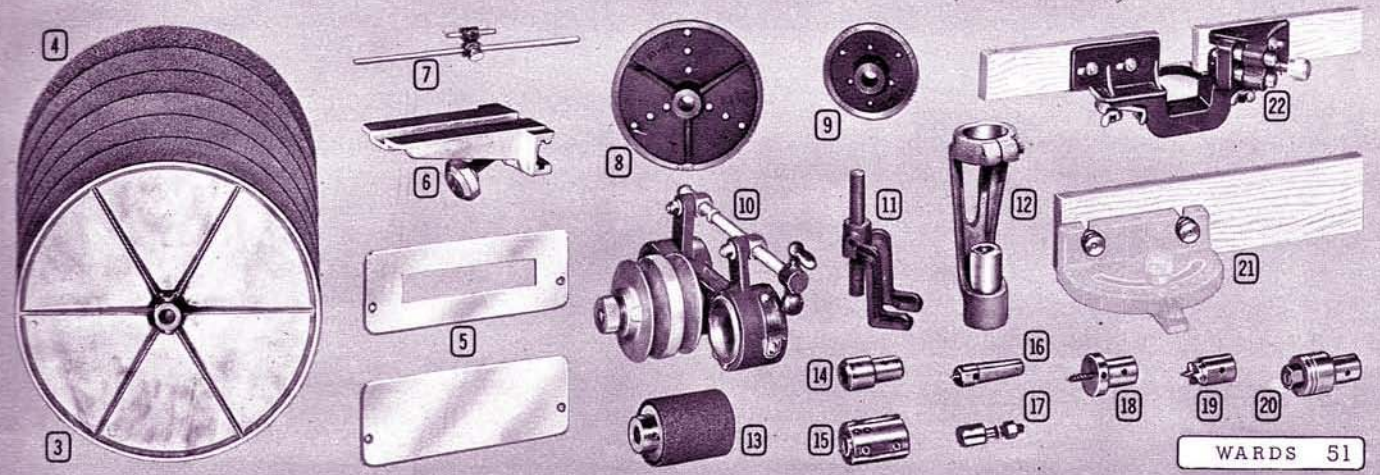
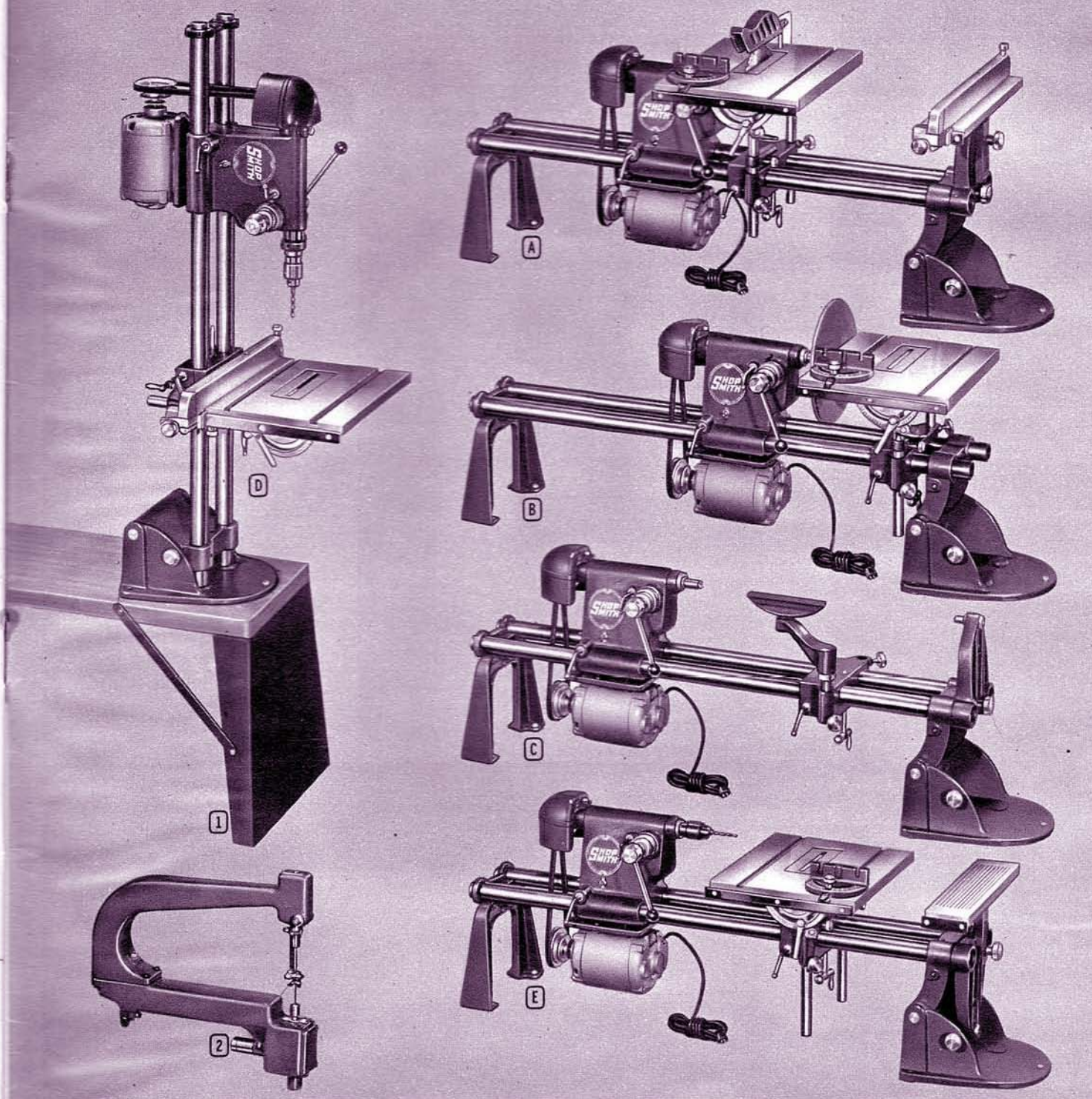
**18 SCREW CENTER.** For turning small pieces. Replace with any No. 14 wood screw. 84 KGP 2990—Ship. wt. 8 oz. . . . See Price List

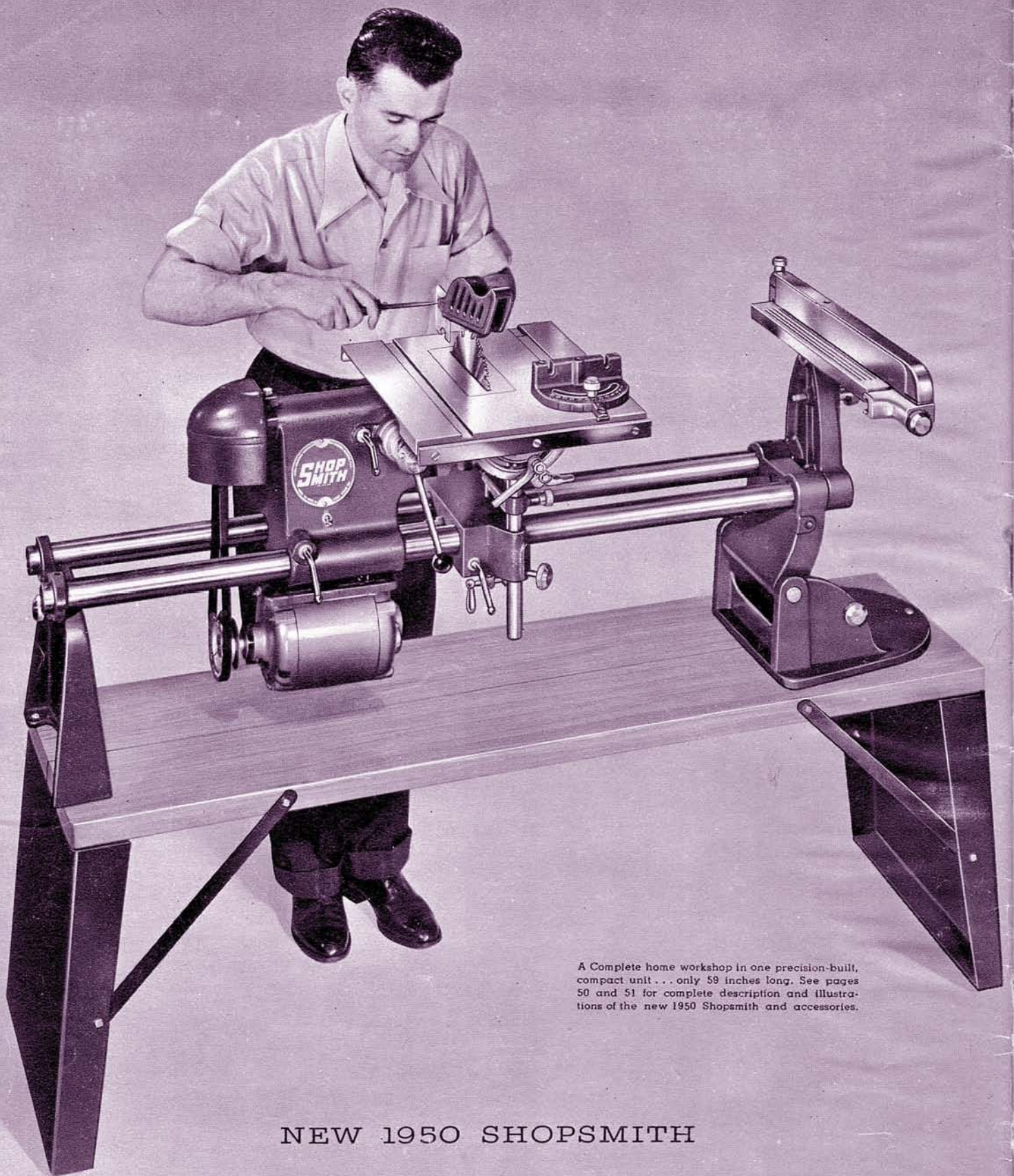
**19 SPUR CENTER.** Precision machined. Hardened, heat-treated replaceable tip. 84 KGP 2991—Ship. wt. 8 oz. . . . See Price List

**20 ARBOR ASSEMBLY.** Holds grinding wheels, wire or fiber brushes, etc. Ship. wt. each, 1 lb. 84 KGP 2996—1/2-in.—24 thread . . . See Price List 84 KGP 2997—3/8-in.—18 thread. . . See Price List

**21 MITER GAUGE EXTENSION.** Provides extra large miter gauge face. Polished hardwood. Attach to miter gauge with mounted knurl studs. 84 KGP 3461—Ship. wt. 1 lb. . . . See Price List

**22 JOINTER AND SHAPER FENCE.** Fits in table insert opening. For jointing, shaping or moulding in vertical or horizontal position, at any angle. Front face adjustable to fine setting by double bearing screw. Takes jointer-cutter (No. 15) above. Use also with routing bits, drum sander. 84 KGP 3454—Ship. wt. 5 lbs. 8 oz. . . See Price List





A Complete home workshop in one precision-built, compact unit . . . only 59 inches long. See pages 50 and 51 for complete description and illustrations of the new 1950 Shopsmith and accessories.

## NEW 1950 SHOPSMITH

*Montgomery Ward*

Chicago • Baltimore • Albany • Kansas City • St. Paul • Denver • Portland • Oakland • Ft. Worth