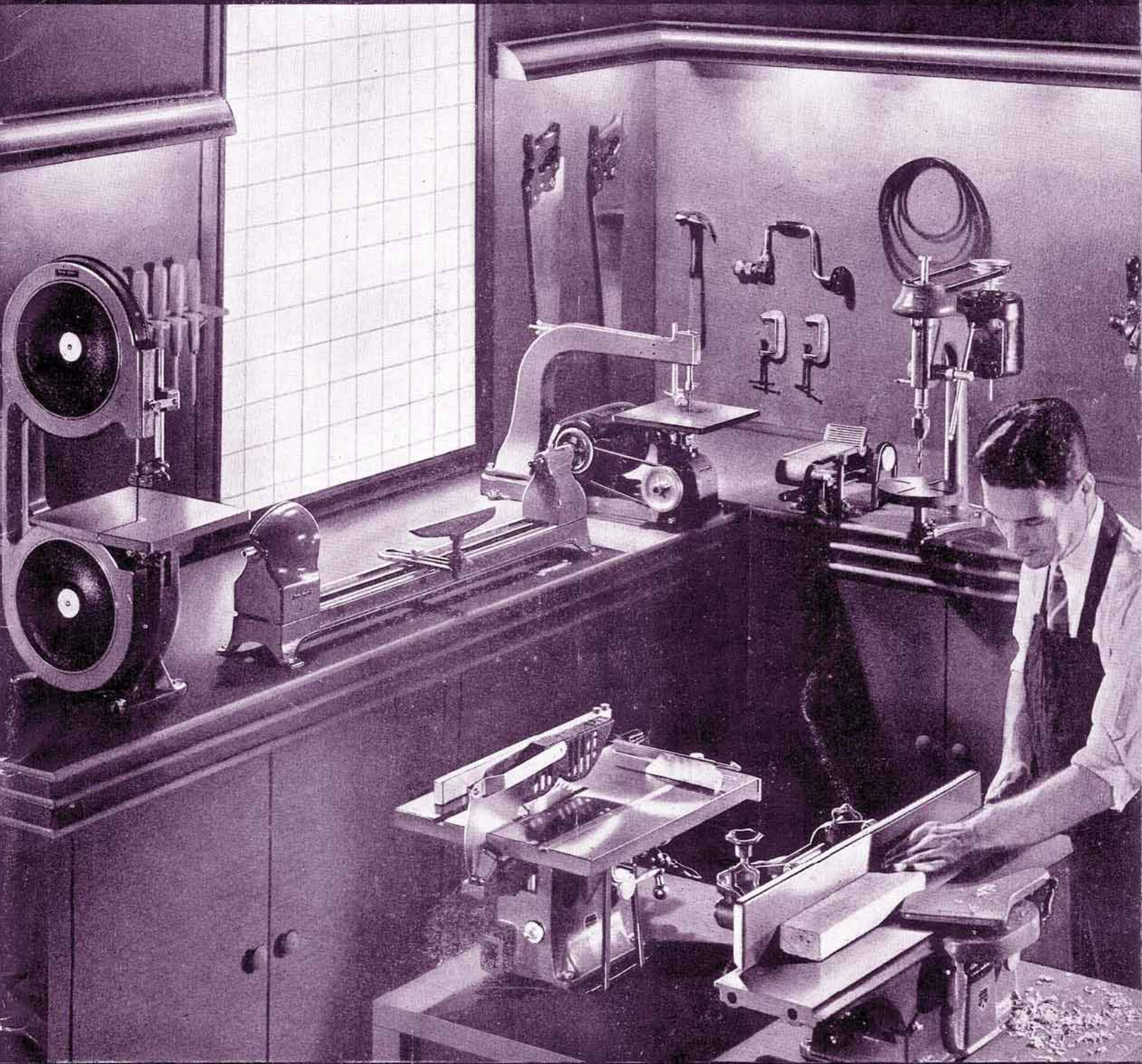


WARDS Power Tools

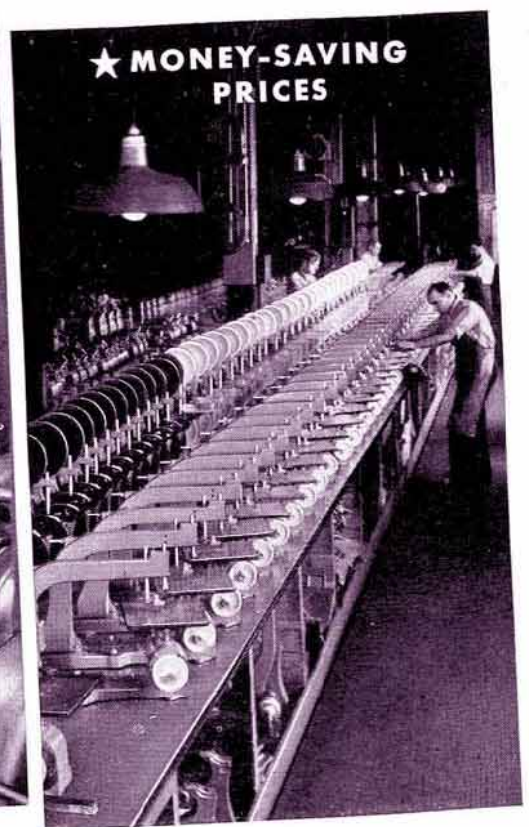
FOR WOODWORKING •• FOR METAL WORKING



MONTGOMERY WARD

R

GET THE MOST FOR YOUR MONEY



POWR-KRAFT Tools are the last word in modern power tool design. They have every new feature—every late development, that makes for greater efficiency and for faster, smoother, and safer operation. Behind them is the skill and long experience of one of America's leading power tool manufacturers. These are tools that you'll be proud to have in your shop. With their flowing lines and rugged beauty they lead the field in appearance. You can buy, confident that you have the best.

QUALITY is checked and rechecked at every step in the making of these tools. They must pass test after test before they are considered worthy to bear the Ward Powr-Kraft label. As just one example: The illustration above shows a machine tool expert testing the spindle on a bench saw to an accuracy of two ten-thousandths of an inch. Such painstaking care is reflected in a superior product. Thus Wards make sure that you get the utmost in service and satisfaction.

WARDS sell Powr-Kraft Tools in hundreds of retail stores and by mail through millions of catalogs. This vast, nation-wide distribution coupled with economies effected through volume production make it possible for Wards to price these fine tools at an amazingly low figure. Get the most for your money! Comparison will prove, beyond the shadow of a doubt, that here's your best buy! Equip your shop completely with Powr-Kraft Tools at Wards Money-Saving Prices.

GUARANTEE

All of Wards Powr-Kraft Tools and Accessories are sold under Wards famous 65 year old Guarantee of satisfaction or your money back.

MONTHLY PAYMENT PLAN

Make your shop complete! Get all the tools you need and pay for them by the month. On orders of \$10 or More, you can buy anything in this catalog with a small amount down and pay the balance monthly. Note that at Wards the cost of credit is figured on the *unpaid balance ONLY!* See terms in the table below. Be sure to fill in and sign the Monthly Payment Order Blank which is enclosed in the back of your General Catalog or which may be secured from your Wards retail store.

INDEX—FOR QUICK REFERENCE

Accessories, general.....7, 27	Flexible Shaft and Accessories.....25	Motors and Accessories.....28, 29
Band Saws and Accessories.....18, 20	Gasoline Engines.....29	Motor Rails.....28
Belts.....8, 26	Grinders and Accessories.....24	Paint Sprayers.....23
Bench Saws and Accessories.....14, 17	Jig Saws, Scroll Saws and Accessories.....12, 13	Polishing Heads.....25
Bench Vises and Small Tools.....27	Jointers and Accessories.....22, 23	Pulleys and Transmission.....26
Chisels, Wood Turning.....6	Lathes.....3, 5	Sanders and Accessories.....8, 27
Drill Presses and Accessories.....9, 11	Lathe Accessories.....6, 7	Sander, Spindle.....27
Electric Drills.....32	Machine Stands.....7, 18	Sandpaper.....27
	Metal Cutting Accessories.....7	Saws, Circular.....14
		Shapers and Accessories.....21
		Wood Bundles.....22
		Wrenches.....7

NOTICE: Prices in this catalog good until February 28, 1938. If during the life of this catalog, direct or indirect means of raising prices are adopted by the Government, we may be affected. Furthermore, certain States have already passed laws imposing sales taxes and special taxes. Other States and the Federal Government may also do so. These situations of course will have to be met, by price adjustments.

If Cash Price of your Order Amounts to	1st Payment with Order must be at Least	To Find Carrying Charge	If the Balance Owed on Order after 1st Payment is	You Pay Each Month
\$10.00—\$15.00	\$2.00	Simply add 10% to the Balance Owed on order after first Payment. For example, if the Balance is \$16.00 after first payment is deducted the Carrying Charge is \$1.60 and the amount yet to be paid is \$16 + \$1.60 or \$17.60.	\$10.00—\$15.00	\$2.00
15.01—20.00	2.50		15.01—20.00	3.00
20.01—25.00	3.00		20.01—25.00	4.00
25.01—30.00	3.00		25.01—30.00	5.00
30.01—35.00	4.00		30.01—35.00	5.00
35.01—40.00	4.00		35.01—40.00	5.00
40.01—45.00	5.00		40.01—45.00	5.00
45.01—50.00	5.00		45.01—50.00	5.00
50.01—60.00	5.00		50.01—60.00	6.00

For Terms on orders of over \$60, see our General Catalog or write us.

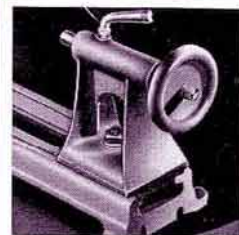
Lathes

START YOUR SHOP WITH THIS LOW PRICED UNIT

New Built-in Grinder

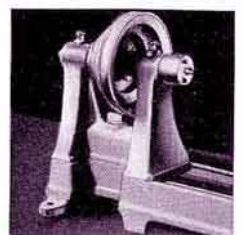


URNS WORK UP TO 8 BY 27 INCHES



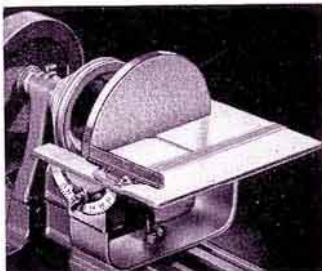
Screw Feed Tail Stock

Milled bottom fits machined ways accurately—always in perfect alignment with head stock. Heavy flared base gives extra rigidity. Cup center with hand wheel feed and positive locking lever.



Heavy Head Stock

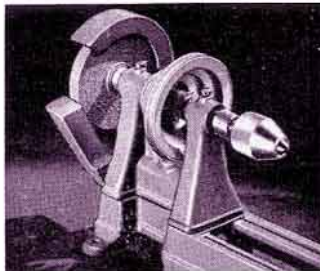
Steel dowels run from bed into head stock and accurately align head with the bed of lathe. The head is then bolted securely. Spindle runs on large self lubricating bearings with ball thrust bearing.



Sanding Attachment

6-inch sanding disc attaches to head stock spindle of number 484 TM 866 lathe at right. Heavy stamped steel table clamps to bed of lathe. Tilts to 45 degree angle either way. Adjustable mitre gauge and bar slide in table groove.

Ship. wt. 5 lbs.
84 TM 8848.....\$1.95



Drill Chuck Attachment

This 1/2-inch drill chuck is built to attach to the headstock spindle of number 484 TM 866 lathe pictured above. It is quickly mounted in place of the spur center and adds still further to the utility of this lathe.

Ship. weight 1 lb.
84 TM 8849.....95c



Bed Extension Increases Distance Between Centers to 39 Inches

Built of heavy gray cast-iron—rigid as the lathe bed. Perfect line-up—milled ends carefully squared to fit perfectly with lathe bed. Centers will always line up exactly, even after years of hard use. Ways closely machined so that tail stock slides freely over milled joint. Matches lathe with same durable baked-gray enamel.

484 TM 867—Shipping weight 6 lbs. \$1.15

- 4 by 1/2-in. fine grit grinding wheel on headstock
- Rugged Strength. Weighs over 23 lbs. uncrated on your bench
- Thrust Ball Bearing Head reduces friction and power cost
- Steel doweled head and machined ways for perfect alignment
- Handsome baked-on enamel finish... easy to keep clean

\$645

Wards 8-inch Lathe wins on every count—for weight, for capacity, for adaptability, for strength. Consider these facts; Wards lathe has extra large capacity—27 inches between centers with full 8-inch swing over bed. Bed extension listed below increases capacity between centers to 39 inches. The actual weight is 23 pounds uncrated—heavier and more rigid than other lathes near this price. Instead of only three speeds Wards lathe has a four-speed pulley giving you a greater operating range. Read about the accurately machined ways, carefully fitted screw feed tail stock with lever lock, and the heavy solid head stock described above. Another feature; You can keep your turning chisels and other tools sharp on the handy grindstone attached to the head stock.

Instead of using an ordinary plain ground bearing, Wards mounted the 1/2-in. ground and polished steel head stock spindle on 4 big self-lubricating bronze bearings. In addition a thrust ball bearing takes up end play and reduces power required to operate. Lathe may be run from below or behind. We know this Lathe has all the features and dependability to handle any job within its capacity... and judging by the enthusiastic response of thousands of satisfied customers who are using this lathe, it should fit your needs perfectly, too. *Mailable.*

484 TM 866—Lathe with built-in grinder. Ship. wt. 31 lbs.....\$6.45

484 TM 869—Lathe and attachments. Outfit consists of 484 TM 866 Lathe, 84 TM 8848 Sanding attachment and 84 TM 8849 Drill Chuck attachment for lathe work, grinding, sanding, drilling, etc. Ship. wt. 34 lbs. Complete.....\$8.45

84 TM 9990—V Pulley for motor, same as on lathe. State 1/2 or 5/8-inch bore. Ship. wt. 1 lb. 3 oz. Each.....75c
Order 3/8 in. wide V-belt, Page 26. 1/4-H.P. Motor is suitable. Use 1/2 H.P. for faster work.

SPECIFICATIONS

Capacity: 8-inch swing, 27 inches between centers (39 in. with extension) Overall dimensions: 39 1/2 inches long, 8 inches high.

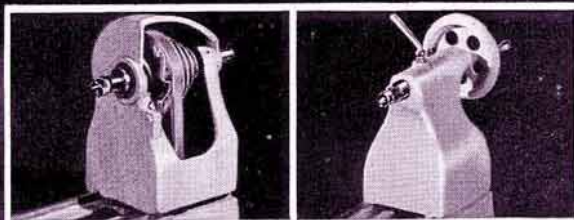
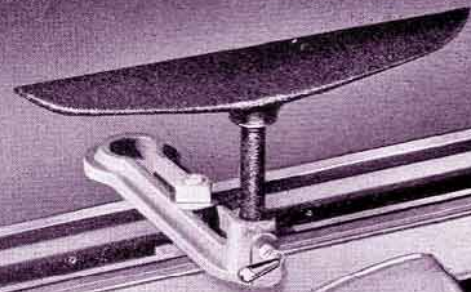
Uncrated weight 23 lbs.
Heavy Gray Iron Frame.
Self-lubricating bearings.
Ball thrust bearing

Baked gray enamel finish.
Four-speed Pulley
6-inch tool rest and holder, spur and cup centers and wrench included.

WARDS *Heavy Duty Lathe*

URNS WORK UP TO 11 BY 32 INCHES

- Spindle Mounted on Self Lubricating Bronze Bearings



Headstock permits driving from below or behind. Convenient indexing device. Spindle projects beyond headstock for outboard turning.

Tailstock runs on smoothly machined V and flat ways. Hand wheel operates quill. Lever lock. Self-ejecting No. 1 Morse Taper cup center.

\$14⁹⁵

**\$2 DOWN
\$2 MONTHLY**

- Swings 11-in. Stock over Bed — 32 in. Between Centers
- Heavy Cast Iron Construction — Weighs 48 lbs. net
- Self Lubricating Bronze Bearing Spindle Mounting. Ball Thrust Bearing Reduces Friction and Wear
- V and Flat Machined Ways for Perfect Alignment
- Headstock Streamlined and Shielded for Extra Safety

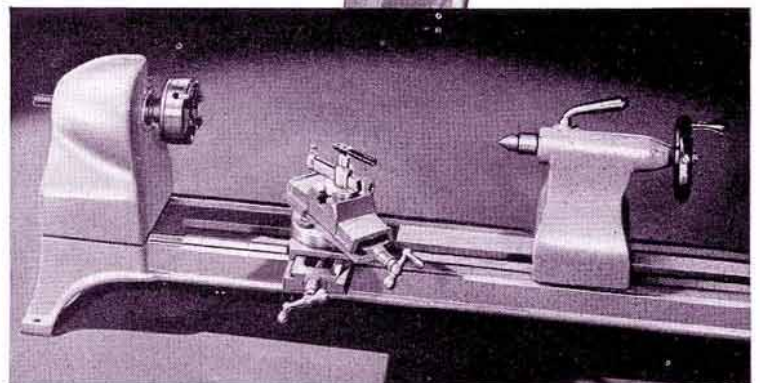
Every one of Wards Tools has been stepped up in design and capacity—and this heavy duty Lathe is no exception. We've made it heavier for added strength and rigidity—48 lbs. net; we've made it larger—handles 11-in. stock over bed with 32 in. between centers. And look at the other points; extra wide base for firm footing on bench; 30 position index device in head for fluting; tail stock operated by hand wheel and lever lock with self-ejecting cup center; head and tail stock spindle mounted on self-lubricating bronze bearings with ball thrust bearing; V and flat ways expensively machined provide accurate alignment; and the new streamlined head not only gives greater protection to operator but also adds to the attractive lines of this machine. These and many other features make this a real worthwhile tool, with all the precision, weight and smoothness to handle the hardest jobs within its capacity.

SPECIFICATIONS

Larger Capacity: Swings 11-in. stock over bed; 32 in. between center. Overall dimension: 47½ inches long, 12 inches high. Width of bed top: 4 inches. Net weight uncrated 48 lbs. ¾-in. Hollow Spindle—¾-in. hole. Spindle takes No. 1 Morse Taper.

Includes spur and cup center, tool rest holder and 12-in. tool rest. Order 84 TM 9974, 4 step V-pulley and ½-in. V-belt of right length on Page 26. Use ¼ or ½ H.P. motor. See Page 29. Gray enamel finish.

484 TM 889—Ship. wt. 63 lbs. Mailable..... **\$14.95**



Do Metal Turning on Both of These Lathes

The extra weight and extra rigidity of Wards Powr-Kraft Heavy Duty Lathes 484 TM 889 and 184 TM 609, fit them ideally for the heavy requirements of metal cutting. In the picture above you see lathe fitted with the simple attachments which quickly convert them into efficient metal cutters. Both of these lathes have hollow spindles to handle long rods, and both have newly improved indexing devices for laying out work. Note both flat and V-ways for precise and permanent alignment of compound rests, tail and head stocks . . . a feature seldom found on Lathes anywhere near Wards price. See Page 7 for Metal Turning Attachments.

Extra Heavy Duty Lathe

TURNS WORK UP TO 14 BY 38 INCHES

- New Departure Ball Bearings
- Equipped with V and Flat Ways For Accurate Alignment

Start a Shop of Your Own for as Little as

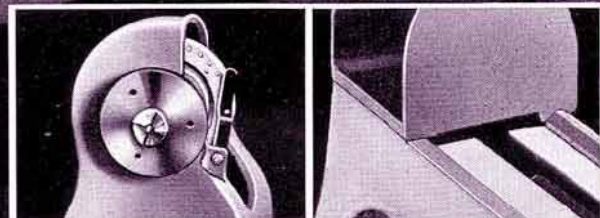
\$2 DOWN

See Page 2

A Real Professional Model

\$34⁵⁰ Cash

\$4 DOWN
\$5 MONTHLY



Headstock spindle mounted on New Departure Ball Bearings. Accurately spaced indexing device. Lathe may be run from below or behind.

Notice expensive, carefully machined V and flat way construction of bed . . . far superior to flat ways alone which often twist out of line.

- Swings 14-in. Stock over Bed—38 in. Between Centers
- Massive Cast Iron Construction—Weighs 110 lbs. net
- New Shielded and Streamlined Headstock—for Extra Safety
- New Departure Ball Bearings for Smoothest Performance
- Steel Spring Ratchet Device for Fluting—30 Positions
- For Metal Turning Accessories See Page 7

Professional in its specifications—built for commercial work—and thoroughly capable of handling any project you'll want to tackle in your shop. Many enthusiastic owners proclaim its unusually quiet, vibration-free performance. Wards use only the finest seasoned gray cast iron for the frame which with heavy ribbing and bracing eliminates warping and insures perfect alignment. This construction assures an exceptional smoothness and quietness not possible with stamped steel or lighter frames. Weighs 110 pounds net—heavy enough, rigid enough, to eliminate practically all vibration. Carefully planed V and flat ways accurately align the tail stock or compound rest on the bed . . . a precision feature not obtained with ordinary flat ways alone.

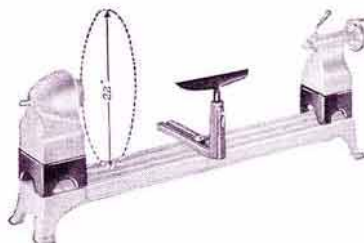
Nationally Famous New Departure Ball Bearings

Engineers everywhere recommend these bearings for a life-time of service. They're far superior to the usual "precision type" bearings and they're sealed in grease—grease can't come out, neither can dirt or dust get in. As an example of the precision construction—the 1-inch hollow spindle is ground to an accuracy of 1/5000 in. Spindle is threaded at both ends and takes No. 2 Morse Taper. Holds 5/16-in. rod, 4-speed pulley is driven from behind, or below lathe.

SPECIFICATIONS

- | | |
|---|---|
| Capacity: Swings 14-inch stock over bed; 38 inches between centers. | Spindle index locking device with one row of 30 and one row of 8 positions. |
| Overall dimensions: 58 3/4 inches long, 16 inches high. | 1-in. Hollow Spindle—5/16-in. hole. Spindle threaded both ends (16 thread). |
| Net uncrated weight: 110 lbs. | Both head and tail stock take No. 2 Morse Taper. |
| Grease Sealed New Departure Ball Bearings in headstock. | Face Plate: 3 1/2 inches. |
| Width Bed Top: 6 inches. | Endless V Belt: 56 inches. |
| Heavy seasoned gray iron frame. | Gray enamel finish. |

- Complete with 3 1/2-in. face plate; tool rest holder; 12-in. tool rest; 56-in. V belt; spur and cup centers. Use 1/3 or 1/2-H.P. motor. See Page 29.
- 184 TM 609—Shipping weight 134 lbs. Cash Price **\$34.50**
- 84 TM 9989—4-step Motor Pulley to match lathe pulley. State 5/8, 5/8, or 3/4-inch bore. Shipping weight 2 lbs. **1.35**



Pillar Blocks For Large Work

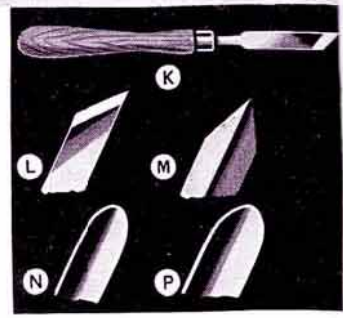
For increasing the capacity of above lathe to permit swinging 22-in. stock over bed. Especially useful when turning large pieces such as lamp bases and for metal spinning. Machined to fit V and flat ways and head and tail stock. Extra high tool rest included. Ship. wt. 17 lbs.

484 TM 657 **\$6.95**

Master Quality Wood Turning Lathe Accessories

65¢
1/4-in. Skew

FINEST CRUCIBLE STEEL



\$3.45 Chisel Set of 5

A set of the five most commonly used wood turning chisels. Same high quality as chisels described at right. Set consists of 1/2 in. gouge, (E); 3/8 by 1/2 in. parting tool, (F); 3/4 in. gouge, (G); 1/2 in. skew, (H); and 1/4 in. skew, (J). Complete in a durable canvas roll. Ship. wt. 2 lbs. 8 oz.

84 TM 723 Set of 5.....**\$3.45**

Finest Crucible Steel Wood Turning Chisels

Professional chisels that bite into the toughest wood, and do finer, smoother work than is possible with easily dulled carbon steel chisels often sold near this price. Sharpened to a hair-splitting edge, and they are easily kept that way because only highest quality crucible steel, specially hardened and correctly tempered to hold a razor edge, is used in their manufacture. Blades are 4 in. long, fully polished, and ready for use. Polished hardwood handles 8 in. long. Ship. wt. each, 12 oz.

- | | | | |
|--|--------|--|-----|
| (A) 84 TM 728—1-in. Skew..... | \$1.00 | (E) 84 TM 732—1/2-in. Gouge..... | 75c |
| (B) 84 TM 730—1/2-in. Spear Point..... | 69c | (F) 84 TM 722—3/8-in. by 1/2-in. Parting Tool..... | 75c |
| (C) 84 TM 726—1/2-in. Round Nose..... | 69c | (G) 84 TM 721—3/4-in. Gouge..... | 95c |
| (D) 84 TM 729—1/4-in. Gouge..... | 75c | (H) 84 TM 720—1/2-in. Skew..... | 69c |
| | | (J) 84 TM 733—1/4-in. Skew..... | 65c |

Lakeside Quality Wood Turning Chisels

Full size wood turning chisels that represent a real value at this low price. Made of carefully tempered vanadium steel—take and hold their keen edge. Cadmium plated to resist rust. Polished wood handles, 8 in. long. Each chisel carefully tested to give long service. Ship. wt. 12 oz. each.

- | | |
|---|-----|
| (K) 84 TM 8918—1/2-in. Skew..... | 49c |
| (L) 84 TM 8917—1/4-in. Skew..... | 45c |
| (M) 84 TM 8916—3/8 by 1/2-in. Parting tool..... | 49c |
| (N) 84 TM 8919—1/2-in. Gouge..... | 55c |
| (P) 84 TM 8920—3/4-in. Gouge..... | 75c |

Set of 4 Chisels. Includes K, L, M, N described above in canvas roll. Shipping weight, set, 2 pounds.

84 TM 8915.....**\$2.15**

Buy Your Accessories on Monthly Payments, Too. See Page 2.



Vitrified Combination Oil Stone

For sharpening planer knives, chisels, etc. Coarse grit for fast cutting—fine grit for finishing work. Size stone 1 1/2 by 2 1/2 by 1 inch. Felt pad keeps stone oiled. Metal case with non-slip cork base.

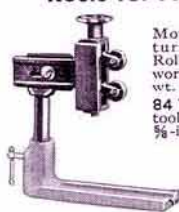
84 TM 2475—Ship. wt. 5 lbs.....**\$4.25**

Medium Grit Slip Stone

Gives a keen cutting edge to your tools. Shaped for gouges or straight-edged tools. Length 4 1/2 in.

84 TM 2427—Ship. wt. 8 oz.....**45c**

Rests for Accuracy, When Turning Long Pieces



Back Rest

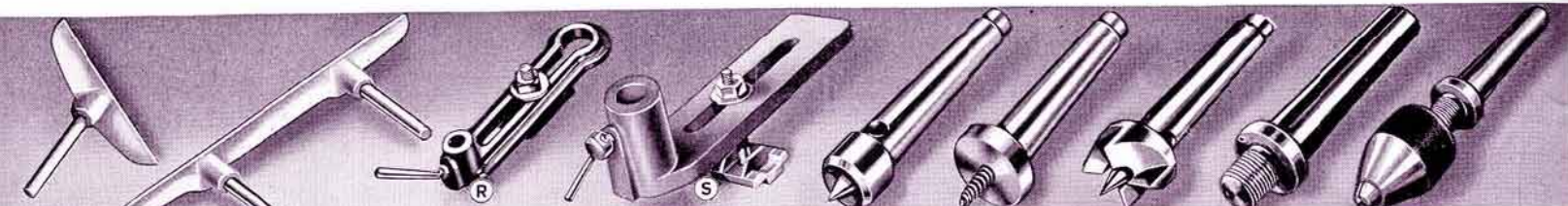
Mounts behind when turning long pieces. Rollers adjustable as work progresses. Slip. wt. 4 lbs.

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|---|--------|
| 84 TM 8846—For tool rest holders with 3/8-in. hole..... | \$4.25 |
| 84 TM 8847—For tool rest holders, 1-in. hole..... | \$4.25 |

Steady Rest

For work up to 2 1/2 inches diameter. Shipping weight 6 pounds.

- | | |
|--|--------|
| 84 TM 8843—For 1 1/2 TM 889 Lathe..... | \$2.35 |
| 84 TM 8842—For 1 1/2 TM 609 Lathe..... | \$2.65 |



Cast Iron Tool Rests

84 TM 8840—Has 1-inch diameter post. State size wanted. 4-in. size. Ship. wt. 2 lbs.....**70c**
12-in. size. Ship. wt. 3 lbs.....**\$1.00**
24-in. double post. Ship. wt. 7 lbs.....**\$1.95**

84 TM 8841—Has 3/8-inch diameter post. State size wanted. 12-in. size. Ship. wt. 3 lbs.....**95c**
18-in. double post. Ship. wt. 5 lbs.....**\$1.45**

Cast Iron Tool Rest Holders

Accurately machined to fit lathe bed. Attachments for fastening.

(R) 84 TM 8836—Tool rest holder complete. Fits 184 TM 889 Heavy Duty Lathe. 3/8-in. hole.....**75c**

(S) 84 TM 8835—Tool rest holder complete. Hole for tool rest post is 1-in. diameter. Fits 184 TM 609 Lathe. Ship. wt. 9 lbs.....**\$1.55**

Cup Centers

Tailstock centers for woodturning. Hardened steel. Removable points. Ship. wt. 8 oz.

- | | |
|--|-----|
| 84 TM 8816—With No. 2 Morse Taper Shank..... | 69c |
| 84 TM 8817—With No. 1 Morse Taper Shank..... | 65c |

Screw Centers

Accurate taper, removable screw. Ship. wt. 8 oz.

- | | |
|--|-----|
| 84 TM 8818—With No. 2 Morse Taper Shank..... | 69c |
| 84 TM 8819—With No. 1 Morse Taper Shank..... | 65c |

Spur Centers

Most commonly used headstock center. Fine quality hardened steel. Ship. wt. 8 oz.

- | | |
|--|-----|
| 84 TM 8814—With No. 2 Morse Taper Shank..... | 69c |
| 84 TM 8815—With No. 1 Morse Taper Shank..... | 65c |

Jacobs Chuck Lathe Center

Hardened steel. Fits Jacobs Chuck on Drill Press. See 84 TM 8850 on Page 10. Shipping weight 8 oz.

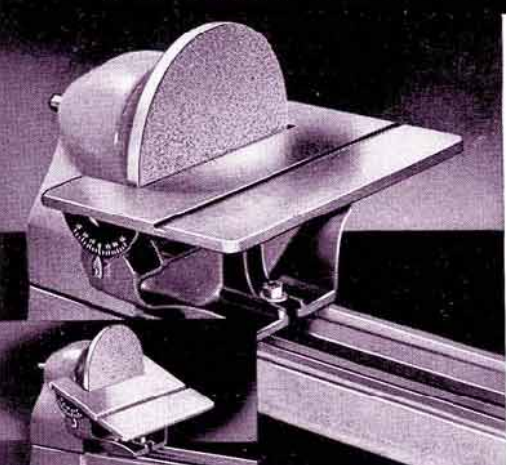
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| 84 TM 8822—No. 2 Morse Taper Shank..... | 95c |
|---|-----|

Chuck Centers With Chuck

Complete with 1/2-in. chuck shown on Page 27. Ship. wt. 1 lb. 8 oz.

- | | |
|-----------------------------|--------|
| 84 TM 8820—No. 2 Morse..... | \$1.25 |
| 84 TM 8821—No. 1 Morse..... | \$1.25 |

DO SANDING ON YOUR LATHE, TOO!



Sanding Attachment for Lathe

Convert your lathe into a large and efficient disc sander with this economical attachment. The 10-inch disc which is included fits onto the spindle of your Powr-Kraft lathe. Table is designed to fit the V and flat ways of the lathe and is held in position on the lathe bed with the same clamp parts used for your tool rest. Heavy cast table 10 by 16 in. is ground and polished—tilts to any angle up to 45 degrees. Convenient tilt gauge. Baked gray enamel finish. Ship. wt. ea., 28 lbs.

- | | |
|--------------------------------------|--------|
| 84 TM 8903—For 184 TM 889 Lathe..... | \$9.35 |
| 84 TM 8904—For 184 TM 609 Lathe..... | 9.35 |

DISC SANDPAPER

10 in. diam. to fit above sanding attachment. Fine, medium and coarse grit. State grit wanted. Ship. wt. 2 oz.

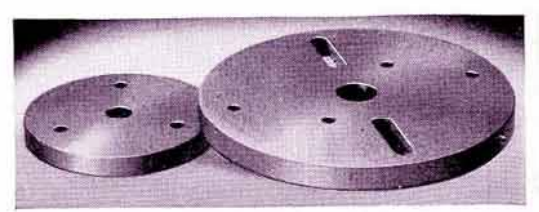
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| 84 TM 712—Each..... | 14c |
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MITER GAUGE

Miter gauge and bar slides in table slot of above sanding attachment. Enables you to sand accurately at any angle. Same as miter illustrated with Bench Saw on Page 14.

- | | |
|---------------------------------------|--------|
| 84 TM 8825—Ship. wt. 2 lbs. 8 oz..... | \$1.00 |
|---------------------------------------|--------|

Buy Any \$10 Order on Monthly Payments—See Page 2



Accurately Balanced Face Plates

Heavy cast, face plates carefully machined and dynamically balanced on a precision testing machine which guarantees even distribution of weight and prevents vibration. Ship. wts. 2 and 3 lbs.

79¢
3 1/2 in.

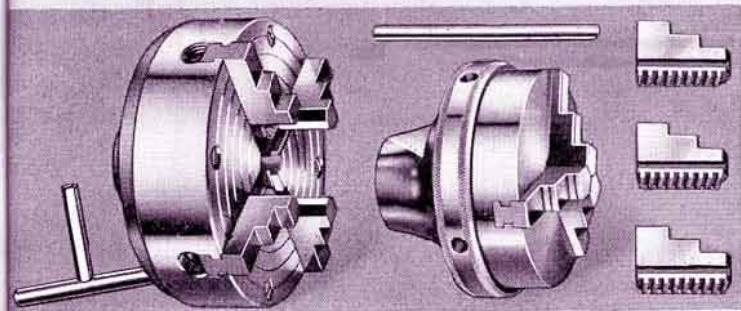
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|---|-----|
| 84 TM 8833—3 1/2-in. diam. For 1/2-in. unthreaded spindle. Fits 484 TM 866 Lathe. Each..... | 79c |
|---|-----|

- | | |
|---|--------|
| 84 TM 8831—3 1/2-in. diam. 3/4-in. bore 16 thread. Fits 184 TM 889 Lathe. Each..... | \$1.25 |
|---|--------|

- | | |
|--|--------|
| 84 TM 8832—6-in. diam. For 3/4-in. unthreaded spindle. For outboard turning on 184 TM 889 Lathe. Ea..... | \$1.25 |
|--|--------|

- | | |
|---|--------|
| 84 TM 8830—6-in. diam. 1 in. bore 16 thread. Cross threaded for either end of 184 TM 609 Lathe. Ea..... | \$1.55 |
|---|--------|

Metal Turning Lathe Accessories



4-Jaw Independent Chucks

Substantially and accurately built with hardened steel reversible jaws. Each jaw works independently. 4-in. capacity. Wrench and back plate included. Shipping weight each 7 pounds.

84 TM 8802—Fits No. 184 TM 609 Extra Heavy Duty Lathe (Page 5) or any lathe with 1-in. spindle, 16 threads per inch. Each..... **\$5.75**

84 TM 8803—Fits No. 184 TM 889 Heavy Duty Lathe (Shown on Page 4) or any lathe with 3/4-in. spindle, 16 threads per inch. Each..... **\$5.75**

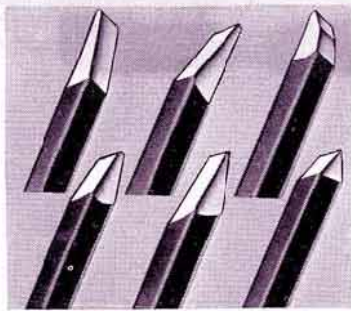
3-Jaw Automatic Chuck

A carefully matched precision tool for the master mechanic. Holds work up to 3 inches in diameter. Three hardened steel jaws work simultaneously and grip work firmly.

Fits No. 184 TM 609 Extra Heavy Duty Lathe (shown on Page 5) or any lathe with 1-inch spindle, 16 threads per inch. Built by expert tool makers for precision operation.

Key and extra set of jaws included as shown. Shipping weight 6 lbs.

84 TM 8804—Complete as described..... **\$14.95**



High Speed Steel Tool Bits

It's the high speed tool steel that makes these first quality bits exceptionally tough and durable. They're ground, ready for use—and heat treated to hold a keen edge in the toughest metal cutting jobs. Set consists of round nose turning tool, right and left hand turning tool, right and left hand facing tool, and threading tool. Fit tool holder of compound rests listed at right. Size 3/16 by 1 1/2 inch.

84 TM 8809—Ship. wt. per set, 1 lb. Set of 6..... **\$1.05**

Use Your Credit—See Page Two



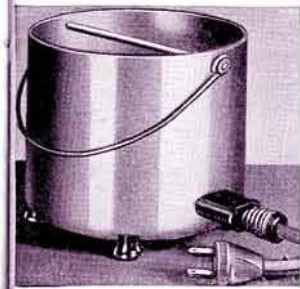
\$15.50

Compound Rest For Metal Turning

Enables you to do dozens of metal turning jobs right on your own Heavy Duty or Extra Heavy Duty Powr-Kraft Lathe. Every part is sturdy (not ordinary die cast parts) . . . complete tool weighs 19 1/2 lbs. net. Swivel base is graduated to 180 degrees and can be locked at any desired angle for machining or for turning short tapers. Has both longitudinal and transverse feed handles calibrated in thousandths of an inch. One turn of either handle equals only 1/16-in. of travel. Micrometer gauges at the handles. Longitudinal feed is 6 1/2 in.; transverse feed 7 in. All ways machined to 60° and gibbed for take-up. Tool holder included, but not bits. Order 84 TM 8809 Tool Bits shown at left above. Shipping weight 24 pounds.

84 TM 8800—Rest for 184 TM 609 Extra Heavy Duty Lathe. Use tool rest holder clamps for attaching..... **\$15.50**

84 TM 8801—Rest for 184 TM 889 Heavy Duty Lathe. Clamps and bolts included..... **\$15.50**



Electric Glue Pot with Thermostat

Ideal for use in home workshop or for woodworking and cabinet shops. Keeps the glue always at the right temperature and ready to use. Automatic thermostatic control holds the temperature of the glue between 150° and 160°. At this heat it is not over or under heated but is at the correct temperature to give maximum strength. Do not risk spoiling your work with improperly prepared glue. The pot is of solid cast aluminum—strong, yet light weight. It has a brush wipe and a carrying handle. Plug switch, 110 volt 350 watt capacity, 6 ft. cord included is listed by Underwriters Laboratories. Thermostat and elements are guaranteed for 2 years or will be replaced. Shipping weight 4 pounds.

84 TM 8887—1 Pint Size..... **\$5.45**



Lathe Dog

Drop forged from highest quality bar steel insuring required strength. Shipping weight 8 ounces.

84 TM 8811—3/4-in. size..... **55c**

60° Centers

Hardened steel. Ship. wt. 8 oz.

84 TM 8812—With No. 2 Morse Taper Shank... **75c**

84 TM 8813—With No. 1 Morse Taper Shank... **70c**

GENERAL ACCESSORIES



Adjustable Thin End Wrenches

Wards Master Quality—Finest drop forged alloy steel, tempered and heat treated. 200 per cent stronger and 33 per cent thinner than standard pattern wrenches. Fits hexagon or square nuts. Chromium-plated—polished head, buffed body. **State size wanted.**

Size	6 in.	8 in.	10 in.
Opens.....	3/4 in.	1 1/8 in.	1 1/2 in.
Ship. wt.....	6 oz.	9 oz.	11 1/2 oz.
84 TM 7460 Ea.	7c	8c	\$1.10

Hollow Head Set Screw Wrenches

For use on Powr-Kraft and other high grade machinery. Ship. wt. ea. 3 oz.

84 TM 8930—to fit 1/4-in. Set Screw Each..... **5c**

84 TM 8931—To fit 3/16-in. Set Screw. Each... **5c**

84 TM 8932—to fit 3/8-in. Set Screw. Each... **10c**

Better Work with a Tool Light

Large reflector directs beam of light on your work—keeps light out of your eyes. End plate attaches to any convenient bolt or screw on your woodworking tools, work bench or for any other spot where you want direct, glareless light. Arm is readily adjustable to different positions. Length overall extended 10 1/2 in. Uses standard 25 watt lamp (lamp not furnished). Polished aluminum reflector with push key socket. 10-ft. rubber cord and non-breakable plug included. Ship. wt. 1 lb.

84 TM 8966—Each..... **\$1.25**

Things to Make in Your Home Workshop. Furniture, toys, house improvements, 350 drawings. 256 pgs. Cloth. **95c**

57 TM 3643—5 by 9 1/2 in. Ship. wt. 1 lb. 12 oz..... **\$3**

Carpentry and Joinery Work by Burbank. 1937 edition—\$3 Value! Modern Construction, Plan Reading, Carpentry Mathematics. 280 pgs. 600 illustrations.

57 TM 3644—Cloth. 8 1/2 by 11 1/2 in. Wt. 2 lbs. 8 oz. **\$2.85**

Carpentry by Townsend. Latest! Building construction, general carpentry. 441 pgs. 540 illustrations.

57 TM 3642—Cloth. 5 1/2 by 8 1/2 in. Wt. 1 lb. 8 oz. **\$1.75**

The Steel Square by F. T. Hodgson. Covers all uses of Steel Square. 485 pages. 300 illustrations.

57 TM 3661—Cloth. Ship. wt. 1 lb. 4 oz. **\$1.79**

See Other Trade Books in Wards General Catalog.

Mount Your Tools on RIGID STEEL STANDS

• Saves space—avoids obstructions—eliminates series of belts and pulleys—no line-shafts to bother with—more power delivered at point of service. **\$6.75** 13 by 14 inches

• Perforations on top, legs and motor supports of the machine stands permit adjustment to fit motor or machine base of practically all makes of woodworking machinery.

• Heavy angle iron strongly braced—no jiggling. Mount each tool on one of these sturdy steel stands, connect it directly to a motor and make all of your woodworking tools more efficient and easier to handle. Stands can easily be moved, or may be fastened to floor. Attractive baked-on gray enamel finish to match your tools. *Mailable.*

484 TM 8790—Size 13 inches wide by 14 inches long on top, by 28 3/8 inches high. For 184 TM 661 or 686

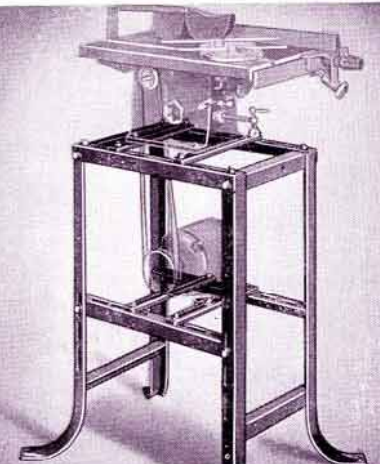
Bench Saw, 484 TM 876, Spindle Shaper, 484 TM 870, Band Saw, or 484 TM 872, Bench Saw. Shipping weight 35 lbs..... **\$6.75**

484 TM 8791—Size 13 in. wide by 20 in. long on top by 28 3/8 in. high. For 484 TM 654, Sander, 184 TM 655, Jointer, 184 TM 651, Band Saw, or 184 TM 669, Drill Press. Shipping weight 37 lbs..... **\$6.95**

384 TM 8792—Size 13 in. wide by 47 1/2 in. long on top by 30 3/8 in. high. For 484 TM 889, Lathe. Shipping weight 51 lbs..... **\$8.95**

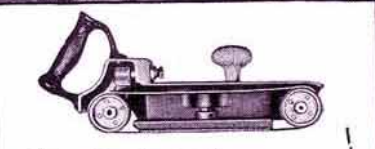
384 TM 8793—Size 13 in. wide by 57 in. long on top, by 30 3/8 in. high. For 184 TM 609, Lathe. Shipping weight 55 lbs..... **\$9.45**

USE WARDS MONTHLY PAYMENT PLAN—\$2 DOWN BRINGS \$10 ORDER. SEE PAGE 2.

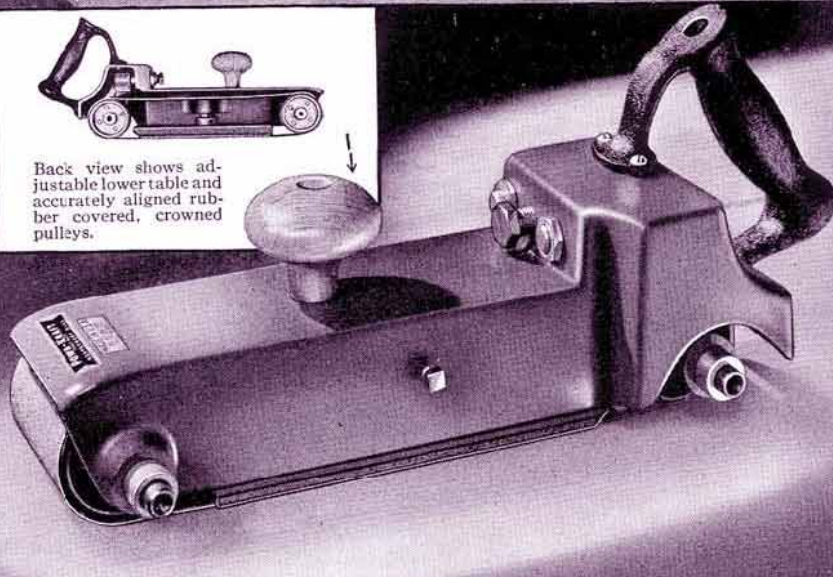


Sanders

FOR FINER FINISHED WORK

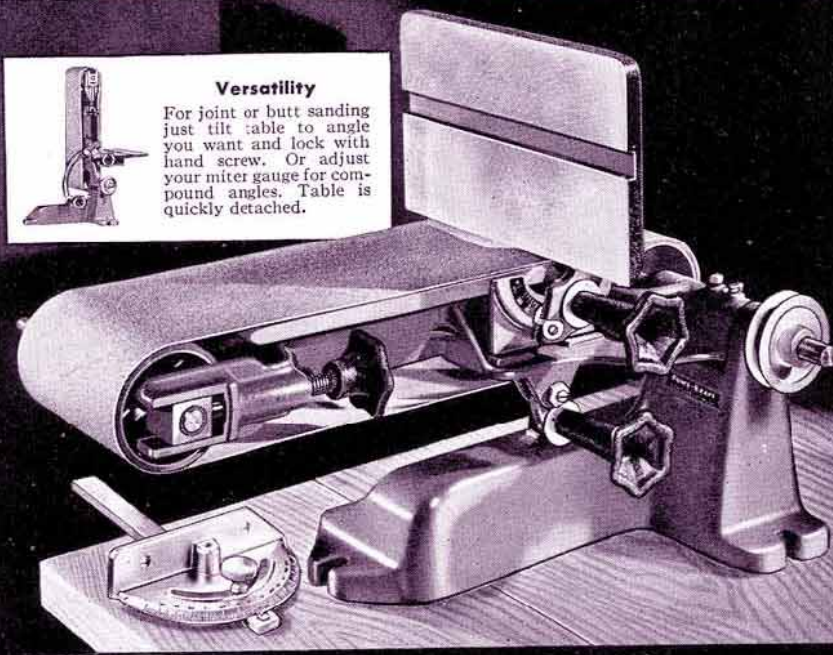


Back view shows adjustable lower table and accurately aligned rubber covered, crowned pulleys.



Versatility

For joint or butt sanding just tilt table to angle you want and lock with hand screw. Or adjust your miter gauge for compound angles. Table is quickly detached.



Endless Sanding Belts

Fine quality garnet paper, with cloth back. State choice of coarse, medium or fine grit.
 84 TM 780—For use on Belt Sanders, 484 TM 877 and 484 TM 879, or any sander using 3 by 30 in. belt. Ship. wt. 8 oz. Each 39c
 84 TM 790—For use on 484 TM 654 Sander. Size 6 by 44½ in. Ship. wt. 12 oz. Each. 95c

4-INCH BELT SANDER

- Give your work a factory finish with this efficient low priced belt sander
- Adjustable rubber covered crowned pulleys
- Stop-guard quickly adjustable to 45° angle
- Smoothly ground main table for absolute trueness of all work

\$5.75

You can equip your shop for fine finishing at a mighty small cost. At this low price you can do away with tedious hand-sanding—give large surfaces a flawless smooth finish—get straight sharp lines and square edges in a fraction of the usual time.

This sturdy bench Sander is equipped with features you'd hardly expect to find at such low price. Revolving abrasive belt runs over pulleys which are rubber covered to give maximum gripping power. Pulleys turn on long 3-in. self lubricated bearings. The sturdy main table is mounted on steel uprights and smooth ground for accuracy. Fence is quickly removed for sanding long pieces. Finished in durable baked-on gray enamel.

DIMENSIONS: Length 13½ in., height 5¼ in., Table is 4 by 8 in. Complete with 2-in. V pulley and 3 by 30-in. medium sanding belt. Run at 1200 R.P.M. Use 1½-in. V pulley on 1750 R.P.M. ¼-H.P. Motor. For motor see Page 28. *Mailable.*

484 TM 877—Sander complete. Ship. wt. 13 lbs. **\$5.75**

PORTABLE BELT SANDER

- Attaches quickly and easily to any standard flexible shaft with motor drive
- Adjustable belt type—cuts smooth and leaves no ridges on your work
- Light weight—permits delicate touch for fine finished work

\$10.95

Take this Sander to the job! Finish table tops and extra large surfaces with ease and speed. Do professionally smooth jobs in half the time without tedious hand sanding.

Just attach the sander to any standard flexible shaft running direct from a motor. For most convenient operation use both No. 84 TM 880 flexible shaft and No. 84 TM 883 extension (see Page 25.) Because it's light in weight and is designed for a natural arm position it takes most of the labor out of sanding jobs. Frame and pistol grip are light weight, high grade aluminum. The rubber covered crown pulleys eliminate slipping and turn on sealed-in, self-lubricated bronze bearings . . . no oil can drip out and mar your work. Handy belt tension adjustment in front of pistol grip handle. Length 17 in. Equipped with 3 by 30-in. medium sanding belt. Recommended speed, 1750 R.P.M. See Page 28 for suitable ¼ H.P. Motor. Extra belts listed below. Ship. wt. 13 lbs. *Mailable.*

484 TM 879—Portable sander with belt. **\$10.95**

6-INCH BELT SANDER

- Carriage adjusts to horizontal—vertical or any intermediate position. When used in vertical position with miter, will do all the work of a disc sander—and do an even better job. (See small picture at left.)

\$22.75
CASH PRICE

\$3 DOWN; \$4 MONTHLY

- Belt type approved by professional wood workers—prevents ridges and circular disc marks that mar your finished work
- Sanding belt full 6-in. wide—50% faster than 4-in. belt sanders

Turn out the same fine, smooth work that factory experts do! Here is the sander that does it—the kind skilled cabinet makers use. It's big—it's sturdy and has the same uniform speed across the entire sanding surface. Has adjustments to make speedy work of any sanding job at any desired angle.

Big Tables—Accurate Miter Gauge

The Tilting Table is big (full 6½ by 11 in.) so you can handle big jobs and handle them accurately. It tilts 45° in one direction, 15° in opposite direction on a large, accurately scaled trunnion. For sanding compound angles merely adjust the table, set the miter gauge in the machined groove and do it all in one operation. The work is perfect for every part is held rigid and vibration-free by the heavy cast iron, rib-reinforced base.

The wide 6-in. belt runs on balanced, rubber-covered pulleys with self-lubricating bronze bearings. The 6 by 12½-in. precision ground main table supporting the belt is mounted on rugged machined posts. To adjust belt tension simply turn big hand screws on each side of belt—no complicated devices to work loose.

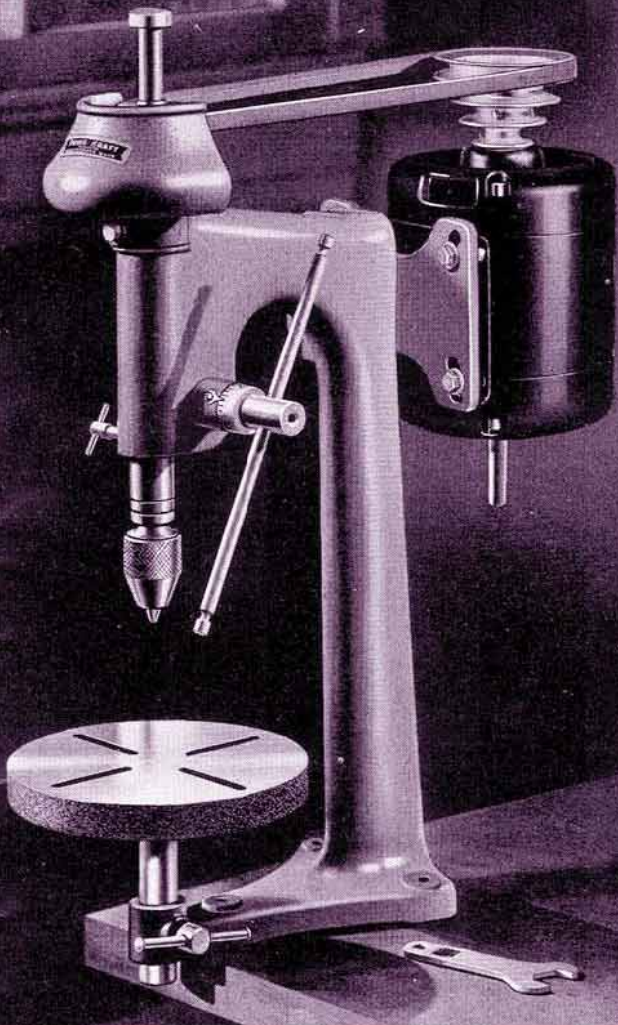
DIMENSIONS: Length 22 in., width 15⅝ in., height 8½ in. Finished in durable, baked-on gray enamel. Equipped with 2½-in. V pulley and 6 by 44½-in. sand belt. Run at 1200 R.P.M. for average work. Use 1½-in. pulley on 1750 R.P.M. ½-H.P. Motor. (See Page 28.) Ship. wt. 67 lbs. *Mailable.*

484 TM 654—With medium grit belt. **\$22.75**

POWR-KRAFT

Bench Drills

WITH SELF-LUBRICATING
BRONZE BEARINGS

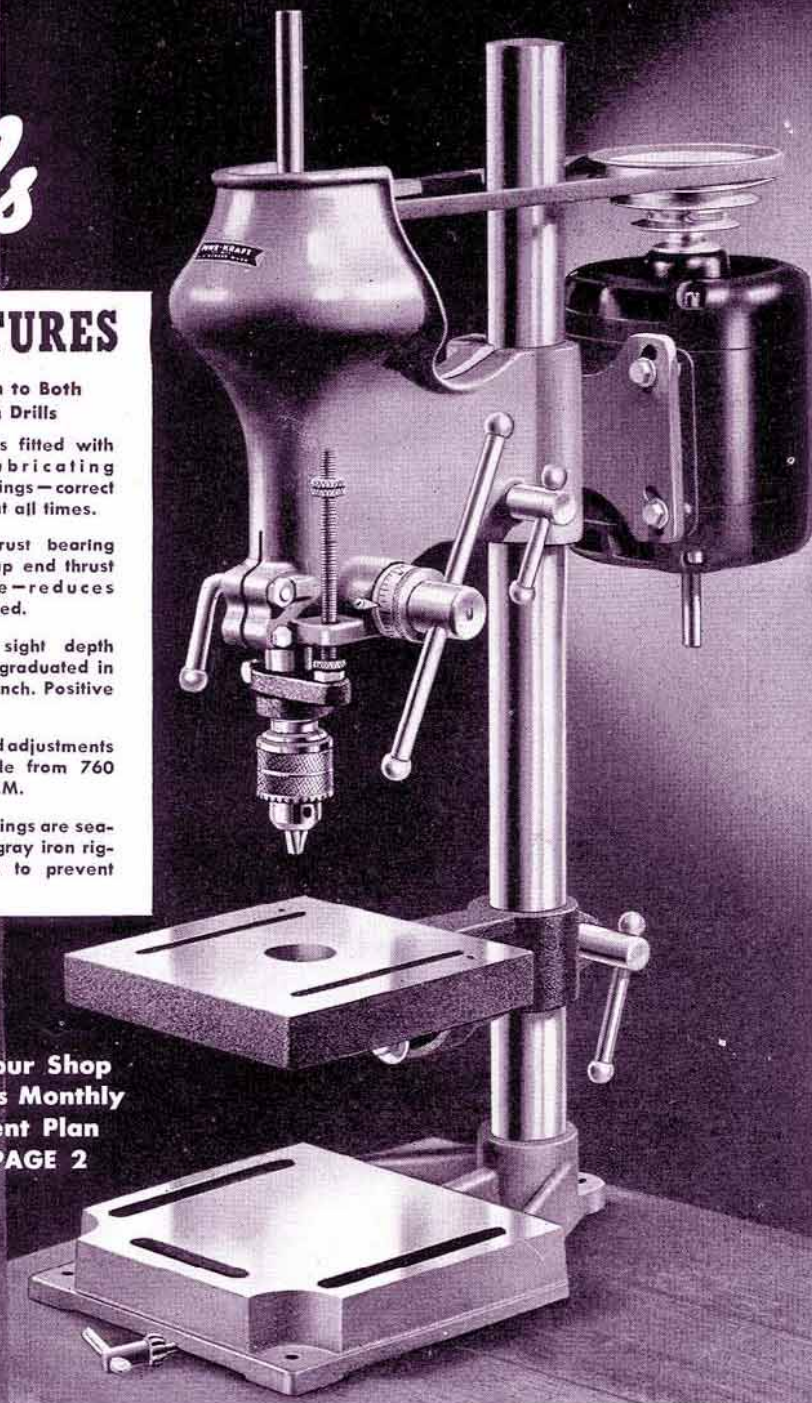


FEATURES

Common to Both
Bench Drills

- ★ Spindles fitted with self-lubricating bronze bearings—correct lubrication at all times.
- ★ Ball thrust bearing takes up end thrust on spindle—reduces power needed.
- ★ Quick sight depth gauge graduated in 8ths of an inch. Positive lever lock.
- ★ 13 speed adjustments available from 760 to 4000 R.P.M.
- ★ All castings are seasoned gray iron rigidly braced to prevent warping.

Equip Your Shop
on Wards Monthly
Payment Plan
SEE PAGE 2



UTILITY BENCH DRILL

- Efficient 3-jaw chuck takes drills up to 1/2 inch
- Weighs 32 pounds net uncrated and without motor
- Accurately machined cast table is 8-in. diameter
- Read about other features at top of page

\$12.95
Less Motor,
Pulley and Belt

You'd pay dollars more for a bench drill that begins to compare with features like these . . . yet for this low price you get ample strength, capacity and accuracy to meet the needs of the average home craftsman. Has the same general construction of our higher priced drill with a heavy head casting, adjustable motor bracket, and precise depth adjustment.

A convenient circular scale on both drills shown on this page indicates depth of cut and eliminates all guesswork—depth can be measured from any starting position without special setting. Positive lock holds quill in position for repeat work.

Baked gray enamel finish. Use 1/4 or 1/2-H.P. Ball Bearing Motor, See Page 29. Besides motor you will need No. 84 TM 9974, 4-step pulley to fit motor and No. 84 TM 9964, 33-in. V-belt shown on Page 26. Ship. wt. 43 lbs. *Available.*

484 TM 878—Drill press without motor, pulley and belt. **\$12.95**

SPECIFICATIONS

Drills to center of 12-inch circle.	Chuck capacity: 1/2 inch.
Overall height: 26 inches.	Speeds: 760 to 4000 R.P.M.
Maximum distance from table to chuck jaws: 7 3/4 inches.	Table: 8-in. diameter. Seasoned gray iron, ground and slotted.
Spindle travel: 3 1/2 inches.	Net weight: 32 pounds.

HEAVY DUTY BENCH DRILL

- Nationally known Jacobs chuck—1/2-in. capacity
- Weighs 68 lbs. net uncrated and without motor
- Adjustable, machined cast table 8 by 8 in., tilts and locks at any angle up to 45 degrees

\$27.95
Cash Price
Less Motor

The features and specifications of this tool make it an outstanding value at the price. Every part is built for real production work—its weight (68 lbs. net) gives you an idea of the massiveness and the sturdiness of the gray iron castings. Separate bearing mountings are provided for radial and thrust loads; three self-lubricating bearings take up radial load and a ball bearing takes up the end thrust. Motor mounting allows horizontal or vertical belt adjustment. Baked gray enamel finish.

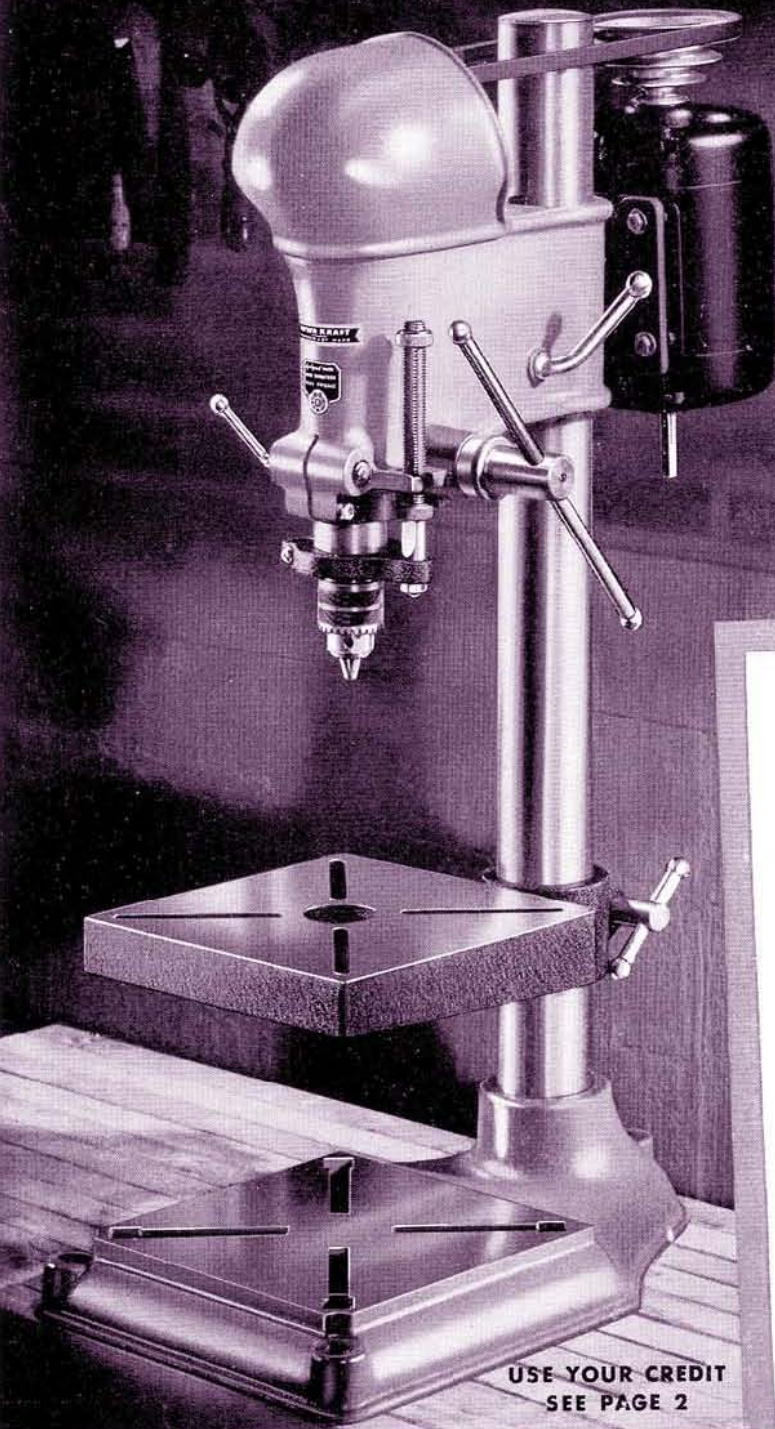
184 TM 669—Less motor, but with motor pulley and "V" belt, ready for motor. Ship. wt. 78 lbs. **\$27.95**

184 TM 666—Complete with 1/2-H.P. No. 484 TM 9861 Motor. Ship. wt. 111 lbs. **37.50**

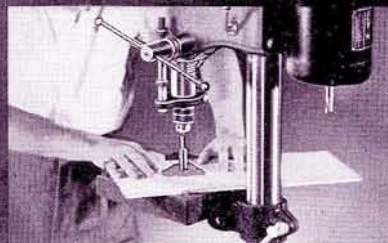
SPECIFICATIONS

Drills to center of 14 in. circle. 1 1/4 to 3 in. more than most drills.	Chuck capacity: 1/2 inch.
Overall Height: 36 inches.	Range of speeds: 760 to 4000 R.P.M.
Maximum distance from table to chuck jaws: 15 inches.	Table: 8 by 8 inches of seasoned cast gray iron.
Maximum distance from base to chuck jaws: 17 inches	Base: 9 1/4 by 15 inches (serves as auxiliary table).
Spindle travel: 4 1/2 inches.	Steel column: Full 2-inch diameter.
	Net weight: 68 lbs. uncrated.

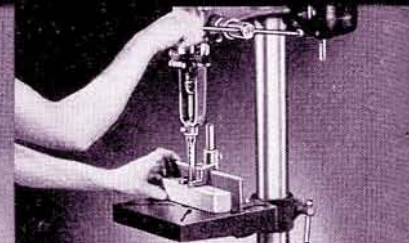
WARDS POWR-KRAFT BALL BEARING



**USE YOUR CREDIT
SEE PAGE 2**



Does Routing of All Kinds
Routing of inlaid work and all kinds of grooves is easy, due to the unusual strength and even flow of power. Choice of 13 speeds. Positive depth stop for accuracy.



A Perfect Mortise in a Minute
Remove regular chuck, attach the mortising head and chuck with hollow chisel and bit. Then attach hold-down, and adjust for depth.

\$44⁹⁵
Cash Price

**BENCH MODEL
LESS MOTOR**

\$5 DOWN; \$5 A MONTH, SEE PAGE 2

Just read the features of the Floor and Bench Model at the right and you know why we claim this is an outstanding tool, not only for its versatility, but for the unusual value offered.

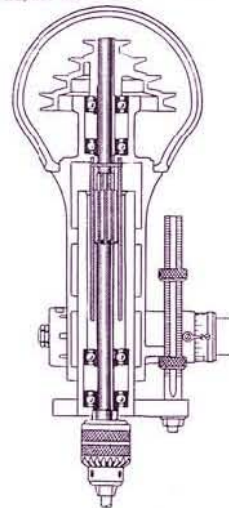
The ground, steel column is full 2 $\frac{3}{4}$ -inch diameter, ample support for the motor, drill head and table. Slotted table 10 by 10 in. with machine ground top—tilts to any angle up to 45 degrees in either direction and locks in any position. Table has center hole for drilling and spindle shaping. Size of base 19 $\frac{1}{4}$ by 12 $\frac{1}{2}$ in. overall with 10 by 10-in. machined surface. Equipped with slots for holding jigs and other fixtures.

184 TM 602—Less Motor, but with pulley and "V" belt, ready for motor. Shipping weight 103 pounds. **\$44.95**

184 TM 603—Complete with $\frac{1}{2}$ -H.P. Motor 484 TM 9861 as shown on Page 28. Shipping weight, 136 pounds. **\$54.25**

SPECIFICATIONS

Overall height: 37 inches. Maximum distance from chuck to base: 17 $\frac{1}{2}$ in. Width: 15 inches. Depth, exclusive of motor: 19 $\frac{1}{4}$ in. Table: 10 by 10 in. Net wt.: 90 lbs. Steel Column: Full 2 $\frac{3}{4}$ -in. diameter.

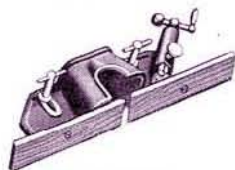


NEW 3-UNIT SPLINED SPINDLE

Friction due to radial and vertical thrust stresses is practically eliminated by mounting both the drive and chuck spindles separately on two Grease Sealed New Department Ball Bearings. Both chuck spindle and drive spindle are splined . . . connected by a splined sleeve which floats within the quill . . . all working parts completely enclosed. This new construction gives the most rigid, smooth-running operation yet devised.

DRILL PRESS ACCESSORIES

Picture at left shows how easily 184 TM 669, 602 or 610 heavy duty Drill Presses converts into a spindle shaper. Simply reverse head stock with motor, and place the regular table over the head stock. Then with the shaper fence, adaptor and shaper cutters in place you are all set to go. (For shaper cutters see Page 21.) One face of the heavy shaper fence adjusts forward or backward. Optional set up with head in normal position pictured at top of page.



**SHAPER GUARD
AND FENCE**

84 TM 8851—Complete, same as supplied with Spindle Shaper shown on Page 21. Shipping weight 4 pounds. **\$2.95**



**ADAPTORS FOR
SHAPER CUTTERS**

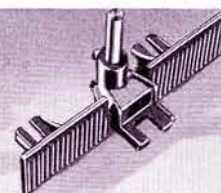
84 TM 8852—For $\frac{3}{16}$ -in. bore cutters. Ship. wt. 8 oz. **55c**
84 TM 8853—For $\frac{1}{2}$ -in. bore cutters. Ship. wt. 8 oz. **55c**



**Improved
Jacobs Chuck**

Known everywhere as the finest Chuck developed, and found on most production tools. Recently improved to provide more rapid action. Hardened and carefully ground jaws that grip and hold like a vise. Capacity $\frac{1}{8}$ to $\frac{1}{2}$ in. Fits any spindle $\frac{1}{2}$ in. diam., 16 threads per inch. Included without extra charge with drill presses above. Shipping weight 2 lbs. 8 oz.

84 TM 8850—Jacobs Chuck with key. **\$5.75**



**Hold Downs
for Mortising**

Holds the work on the table during the up stroke of the chisel and assures true-square mortises. Especially handy when mortising long narrow stock. Hold Down is raised or lowered on a vertical rod carried in a casting at the back of fence, and is adjustable for stock up to 4 $\frac{1}{2}$ in. thick. Ship. wt. 6 lbs.

84TM8855—Set **\$1.60**

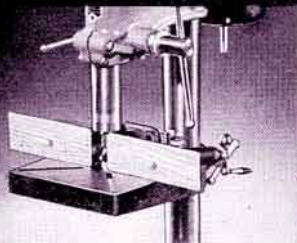


**Mortising Head
and Chuck**

This is the chisel holder which attaches to the quill and holds the hollow chisel and bit Nos. 84 TM 8860-8861. Set consists of a gray iron Hollow Chisel Holder, small diameter Chuck and necessary Collet. Ship. wt. 4 lbs.

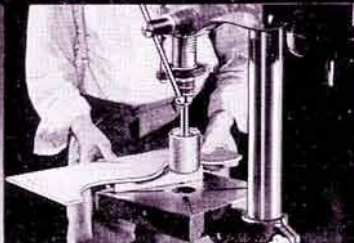
84 TM 8854—Mortising Head Set for 184 TM 669 Drill. **\$2.35**
84 TM 8859—For 184 TM 602 or 610 Drill. **\$2.35**

Drill Presses



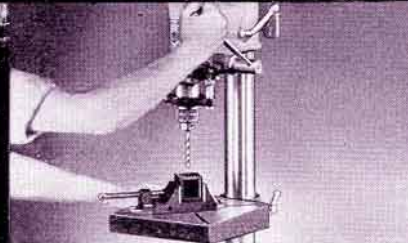
You Can Do Shaping, Too

Moldings and frames in a great variety of shapes are cut with ease by simply attaching shaper fence, adaptor and shaper cutters.



Sands Intricate Patterns Quickly

No. 704 Sanding Drum (see page 29) mounted on 1/2-inch steel rod can be quickly inserted in the drill press chuck for many sanding jobs.



Does Real Production Work

Will do a precision job on all drilling in metal or wood. Drills to center of 14 in. circle (7 in. from center of drill to column). This Drill Press is a complete workshop in itself.

Features Common to Both Floor and Bench Models

- Newly designed, 3-unit splined spindle construction—separate drive spindle and chuck spindle connected by sleeve that floats within quill . . . reduces friction and gives accurate alignment.
- Drive spindle and chuck spindle each mounted on two Grease Sealed New Departure Ball Bearings for smoothest running.
- Modern shielded design for extra protection to operator.
- Equipped with 1/2-in. Jacobs Key Chuck at no extra charge.
- Adjustable graduated depth gauge with positive lock stop.
- Heavy, seasoned, reinforced gray iron table tilts and locks to 45 degrees in either direction.
- Convenient horizontal or vertical motor mounting adjustment for correct belt tension at all times.

From every standpoint—design, workmanship, features and price—we consider these new Drill Presses the finest Wards have ever offered. For instance, consider the new 3-unit spindle construction: a separate drive spindle mounted on two New Departure Sealed Ball Bearings does not project through the pulley, but is locked on it and is equipped with 6 splines. The spline sleeve in which vertical movement takes place, floats within the quill and connects the drive spindle with the chuck spindle. Chuck spindle is also splined and mounted on two New Departure Sealed Ball Bearings. After many tests we found this construction delivered the smoothest flow of power it's possible to obtain.

Consider the weight too. For instance: the net weight of the Bench Model (less motor) is 90 lbs.; of the Floor Model 103 lbs. All castings are seasoned gray iron, rigidly braced to prevent warping . . . in fact, every part is built for the toughest daily production work. For capacity, accuracy, steadiness and durability to satisfy your most rigid requirements, choose Wards Ball Bearing Heavy Duty Drill Press.

SPECIFICATIONS

No. of speeds available: 13. Spindle Travel: 4 in. Chuck Capacity: 1/2 in. Drills to Center of 14 in. circle. Range of speeds: 590 to 5000 R.P.M.

All tools finished in attractive Gray Baked Enamel

\$49⁵⁰
Cash Price
Floor Model
Less Motor

\$5 DOWN; \$5 A MONTH SEE PAGE 2

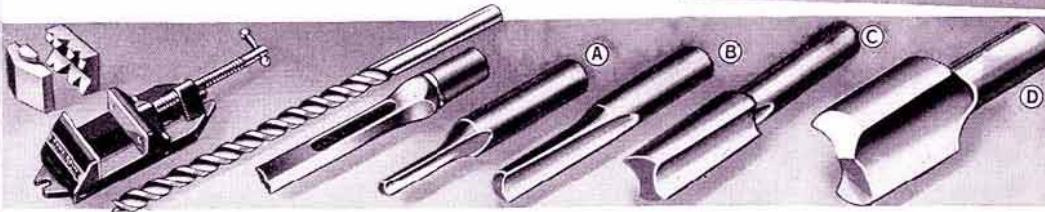
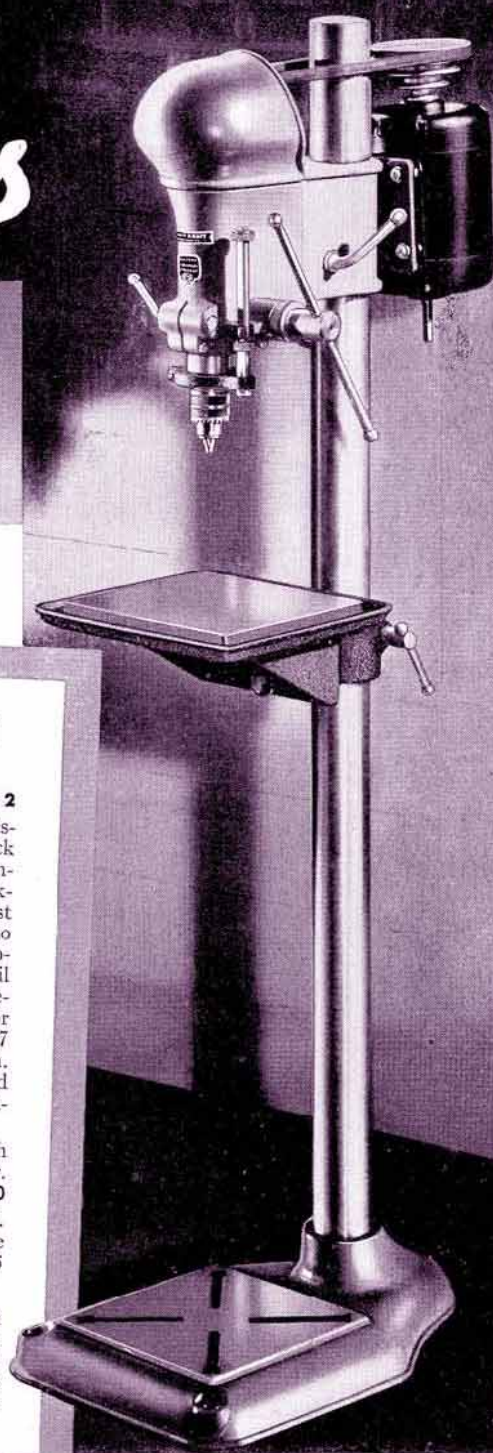
Extra large capacity—maximum distance from table to bottom of chuck 47 1/2 inches. Table has overall dimensions of 11 1/2 by 12 1/2 in. (actual working surface 9 by 10 in.). Heavy cast table tilts and locks to any angle up to 45 degrees in either direction. Equipped with trough for catching excess oil or cutting compound. Machined, removable disc in center of table for drilling and shaping. Overall height 67 in. A heavy cast base 22 by 15 in. overall with 10 by 10-in. machined surface. Equipped with slots for holding jigs and other fixtures.

184 TM 610—Less Motor but with pulley and "V" belt, ready for motor. Ship. wt. 135 lbs. \$49.50

184 TM 611—Complete with 1/3-H.P. Motor 484 TM 9861 as shown on Page 28. Ship. wt. 168 lbs. \$58.75

SPECIFICATIONS

Overall height: 67 inches. Maximum distance chuck to base: 47 1/2 inches. Width: 15 in. Depth, exclusive of motor: 22 in. Table: 11 1/2 by 12 1/2 inches. Net wt. 103 lbs. Steel column: full 2 3/4-inch diameter.



Handy Drill Press Vise

A convenient accessory for holding small work solidly when drilling. Attaches to drill press table with stove-or-machine bolts. Overall length 8 1/2 in. 2 3/4-in. jaws open to 3-in. capacity. Extra set of jaws included for holding pipe or other irregular shapes.

84 TM 8858—Shipping weight 6 pounds. Each \$2.25

Hollow Chisels and Bits for Close Fitting Mortise Joints

It's easy to make close-fitting mortise joints with a Hollow Chisel and Bit. The bit, revolving within the hollow chisel, travels slightly ahead of the chisel and removes the wood. The chisel trims the edges square. Powr-Kraft chisels are special heat treated steel . . . hold their edges over long use. Bits are finest tool steel (not ordinary carbon steel).

Shipping weights: chisels, each, 8 ounces; bits, each, 4 ounces. State choice of 1/4, 3/8 or 1/2-inch size.

Article Number	Item	Each
84 TM 8860	Chisel Only	\$1.45
84 TM 8861	Bit Only	1.25

Routing and Mortising Cutters

Finest quality high speed steel Cutters that bite right into the toughest kind of wood. Correctly tempered and accurately shaped to do a clean cutting job. 3/8-in. shanks. Use with drill presses and wood carvers for routing and mortising operations. Shipping weight each 3 ounces.

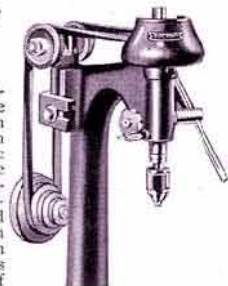
84 TM 641—State size wanted.

Size, In.	A	B	C	D
Each	1/16	1/8	3/16	1/4
	63c	63c	63c	63c
Size, In.	3/8	1/2	5/8	3/4
Each	65c	75c	89c	

Pulley Attachment

\$210

Use this convenient Pulley Attachment in place of the motor bracket on any of Wards bench model drill presses where it is desirable to drive from a line shaft instead of using individual motor. Can be used also for driving from jack shaft to obtain greater number of speeds for various types of work.

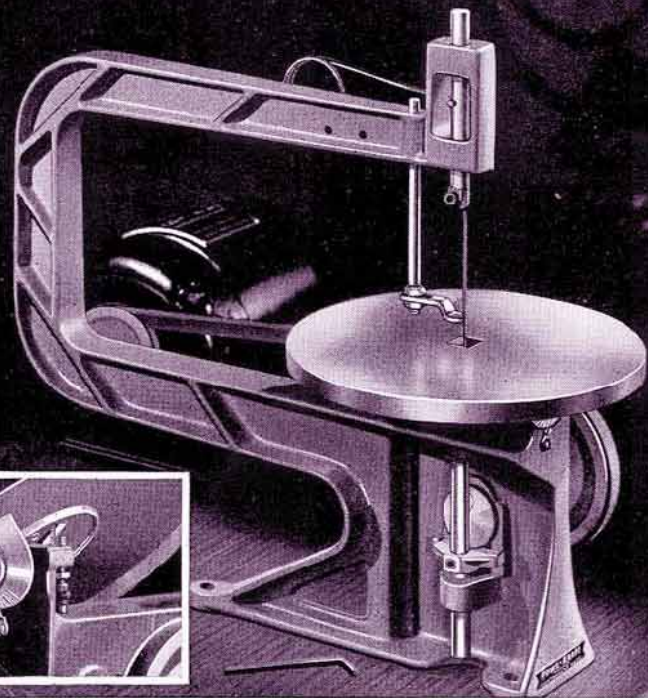


Attachment consists of a heavy gray iron casting, which is fastened to back of machine in place of motor bracket. Has two V-type idler pulleys 2 1/2 in. in diameter which are mounted on smooth running self-lubricating bronze bearings.

84 TM 8865—Ship. wt. 3 lbs. \$2.10

Make Your Shop Complete. Use Wards Monthly Payment Plan . . . See Page 2

Jig and Scroll Saws



12-INCH JIG SAW

AN AMAZING VALUE FOR ONLY

20% MORE CAPACITY
18% MORE WEIGHT

Than Usually Offered
At This Low Price

\$5.75
Less Motor and Belt

- Cuts to the center of a 24-inch circle or panel
- Large capacity—2 7/8-in. clearance under foot

Not only are these features exclusive with Wards 12-in. Powr-Kraft Saw, but it will do every job that any similar-priced saw will do and do it better. This saw is up to 18% heavier than most saws at this price. Note the solid reinforcements. Net weight over 16 lbs. 8 1/2-inch table is reinforced and gives a solid working surface. The table tilts to 45° with graduated tilt gauge. Cam is long-wearing, tempered nickel-steel and bears on new type cast cross head with fibre insert to insure longer life and quieter running. Upper and lower shafts are polished steel working in extra long bearings. Blade tension is constant with torsion type spring.

The hardened steel saw guides and hold down foot are adjustable vertically. Baked-on gray enamel finish. Height 16 in. Uses 5-in. plain end blades of any width or thickness. Has 4-in. V-pulley. Use 2-in. "V" pulley on 1750 R.P.M. 1/4-H.P. motor. See Pages 28 and 29 for motors. Ship. wt. 21 lbs. *Mailable.*

484 TM 875—Saw only, with one blade... **\$5.75**

As Little as \$2 Down Starts a Shop of Your Own—See Page 2 for Monthly Payments.

16-INCH SCROLL SAW

WITH REMOVABLE UPPER ARM

- Extra capacity—saws to center of 32-in. panel
- Chucks and blade turn to right angle for extra long work
- Detachable arm. Saws through any size panel or any length strip when arm is removed
- Larger—heavier—steadier—weighs 56 lbs. net
- Balanced crankshaft driving action—operates in enclosed, dust-proof oil reservoir
- Large (10 by 10 in.) table tilts on trunnion up to 45° with scale indicating degree of tilt
- Handles any stock up to 1 1/8 in. thick

\$21.00
Cash Price Saw Only
\$3 Down, \$4 a Month

We know of no other Saw selling near this price with as great a capacity . . . as smooth and quiet running . . . as versatile as this 16-in. Powr-Kraft Saw. It weighs more—has a deeper throat—and the detachable arm is an exclusive feature in this price range. The new positive acting spring adjustment permits tension to be adapted to type of work and size of blade. This is important when changing from light to heavy work—reduces blade breakage.

Universal Chuck—Holds All Blades

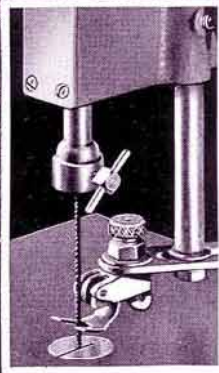
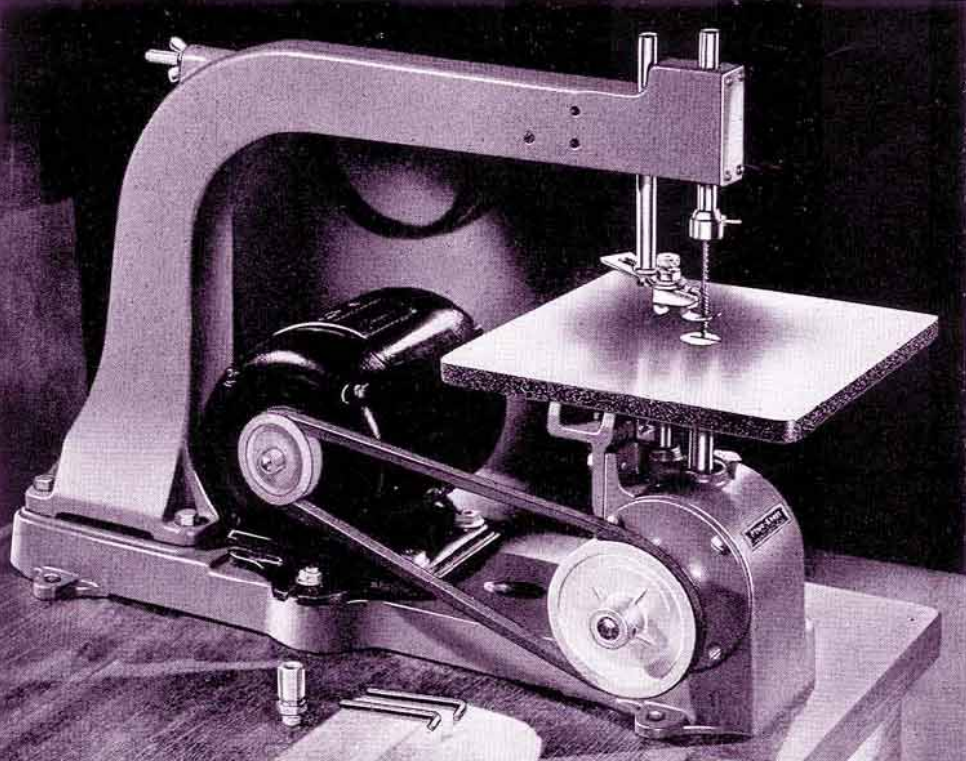
The hardened and tempered steel lower chuck tightens with a socket head set screw—holds any jig saw blade, or saber blade firmly. By releasing locking nut it may be turned to right angle for sawing long pieces without removing upper arm. A special file chuck is also included.

Castings and Driving Parts

Base and upper arm are carefully cast from selected grade gray iron. The hardened steel crankshaft is ground, polished and perfectly balanced. Crankshaft operates in a bath of oil enclosed in dust-proof case. Upper drive rod bearings are self-lubricated. The adjustable motor mounting is a part of the base and will accommodate any type motor. Height 18 3/4 in. Finished in durable baked-on gray enamel. Equipped with 4-in. V-pulley. Use 2 1/2-in. V-pulley on 1750 R.P.M. motor. Our 1/4-H.P. Powr-Kraft motor on page 28 will handle this saw nicely. *Not Mailable.*

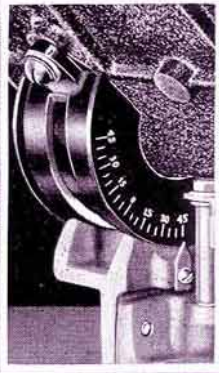
184 TM 874—Scroll Saw only without motor. Ship. wt. 68 lbs. **\$21.00**

184 TM 884—Scroll Saw complete with 484 TM 9850 motor, pulley and belt as pictured. Ship. wt. 100 lbs. **\$27.75**



HOLD DOWN FOOT

Hardened steel roller guide supports back of blade—blades last longer. Rigid steel rod support—adjustable to size of work and thickness of blade. Note the new spring tension hold down on the foot—holds work securely against the table even when the table is tilted.



TRUNNION MOUNTING

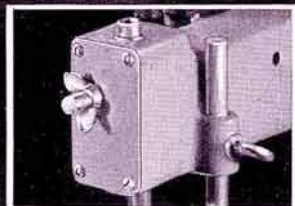
Large 10 by 10 in. surface ground, rib-reinforced cast gray iron table is solidly mounted on big trunnion with double ways machined in the casting. Tilts to 45° with a cam lock. Graduated scale. Built so that when table is tilted the blade is always in the center of table opening.

26-INCH Scroll Saw

← Removable Upper Arm
for Unlimited Capacity

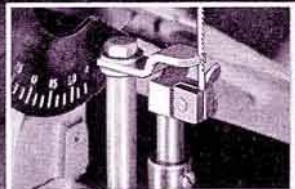
\$34⁷⁵
Less
Motor
and Belt

\$4 Down, \$5 a Month



ADJUSTABLE TENSION

A turn of the wing nut at front of upper arm conveniently adjusts blade tension for various size blades and type of work. Spring design gives even tension at all positions of the stroke . . . saves many a blade.



UNIVERSAL CHUCK

Heat treated alloy steel chuck for all types of jig saw and saber saw blades. Hollow head set screw tightens jaws. Chuck may be turned 90° for cutting long work without removing upper arm.

- Built for heaviest production work—50% more weight—86-lbs. net uncrated
- Cuts to center of 52-in. circle . . . unlimited capacity for saber saw, or filing by simply removing upper arm. Takes heaviest work up to 1 7/8-in. thick
- 4-step pulley gives correct speed for all types of work
- Fully enclosed and balanced crankshaft runs in continuous oil bath

Wards new 26-in. Scroll Saw has features never before offered near this price—table is 40% larger; weight is increased by 30%; has 4 speeds available; handles stock 2 in. wider than formerly; and it cuts stock up to 1 7/8 in. thick. Just a few of the features that make it capable of the most exacting work in pattern shops, for cabinet makers and for heaviest production jobs.

Both the head and the rigid box style arm are heavy, seasoned cast gray iron . . . its net weight of 86 lbs. practically eliminates all vibration. The heavy 12 by 12-in. table is mounted on a big trunnion operating in two carefully machined ways. Tilts and locks to 45° either side. Convenient scale for setting table. The perfectly balanced, hardened steel movement runs in a constant bath of oil—fully enclosed—dust proof. Every part is precision fitted for long life. Two self lubricating bearings guide upper chuck spindle.

- Heavily ribbed 12 by 12-inch table tilts to 45 degrees on rigid, double way trunnion mounting with accurate gauge. Table is ground and polished
- Efficient air pump built in head, blows the sawdust away from your work
- Universal chuck of heat treated alloy steel takes all types of blades, turns to right angles for extra long pieces. Extra file chuck included

Takes a 5-inch blade of any width or type. Special file chuck also included. Adjustable spring clip presses work against table. Notice the upper blade guide: blade travels on the edge (not the side) of hardened steel roller guide—reduces friction. Supporting arm is readily adjustable for depth of cut.

Height 21 in. Attractive gray enamel finish. With 4-step pulley. *Not Mailable.* For Freight Rates See Wards General Catalog.

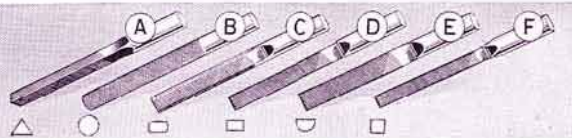
- 184 TM 600—Scroll Saw only. Ship. wt. 106 lbs. **\$34.75**
- 184 TM 601—Scroll Saw complete with 484 TM 9850 Motor, pulley and 33-in. belt. Ship. wt. 138 lbs. **\$42.25**
- 84 TM 9960—4-Step Motor Pulley—1/2-in. bore. For use with above. Ship. wt. 2 lbs. **79c**



STEEL JIG SAW BLADES

All blades 5 inches long, unless otherwise specified. Ship. wt. pkg. 4 oz.

- Plain End Blades**
- 84 TM 8784—.020 in. thick, 1/8 in. wide. State whether you want 10 or 15 teeth per inch. Package of 6. **15c**
- 84 TM 8783—.010 in. thick, .040 in. wide. 18 teeth per in. Pkg. of 12. **29c**
- 84 TM 8785—Assorted Sizes. Pkg. of 12. **29c**
- Pin End Blades**
- 84 TM 8774—.010 inches thick, .040 in. wide. 20 teeth per inch. Pkg. of 12. **35c**
- 84 TM 8775—Assorted Sizes. Pkg. of 12. **35c**
- Saber Blades**
- 84 TM 8781—1/2 in. wide, 4 1/2 in. long. Package of 3. **20c**
- 84 TM 8780—Asst. sizes, 4 1/2 in. long. Pkg. of 12. **50c**



SCROLL SAW FILES FOR WOOD OR METAL

Do away with tedious hand filing with a set of these Files—they make short work of those hard-to-get places and do better, more accurate work in a fraction of the time. A worthwhile investment for the craftsman. Made of specially refined file steel—hardened and tempered with sharp teeth cut at correct angles.

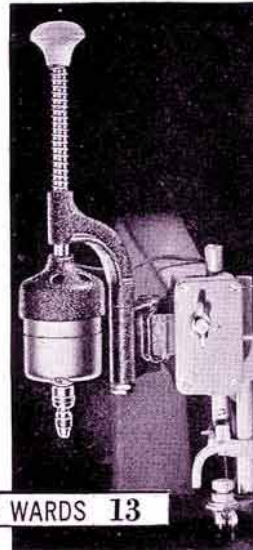
To install, remove upper arm from either the 16 or 24-inch Scroll Saws and replace universal chuck with special file chuck furnished with each machine. Insert correct file in chuck for filing inside or outside patterns. Length 3 1/4 in. with 3/16-in. shank. Snip. wt. 3 oz. **State shape wanted.**

- 84 TM 8926—File for wood. Shapes A, B, C, D, E or F. Each. **50c**
- 84 TM 8927—File for metal. Shapes A, B, C, D, E or F. Each. **50c**

SCROLL SAW DRILL ATTACHMENT

Attaches to upper arm of either 184 TM 874 or 600 scroll saw. Consists of double swivel bracket which attaches to frame of scroll saw with cap screws and electric drill mounted on plunger shaft with return spring. Chuck with collet for drills 1/8 in. in diameter or smaller. Motor may be dismantled and used as electric hand tool. (See Page 32 for Rotary Bits and Grinders). Motor is 110 volt A.C. or D.C. operating at approximately 8000 R.P.M. with 6 ft. Listed by Underwriters' Lab, rubber covered cord. Drills work on table at same angle of saw cut when table is tilted. Ship/wt. 3 1/2 lbs.

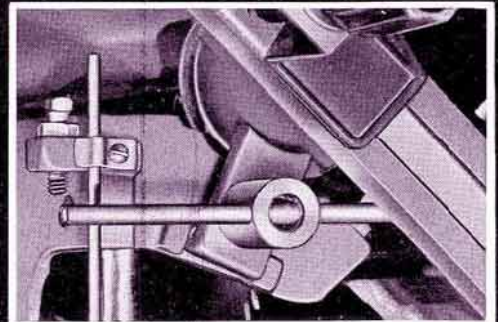
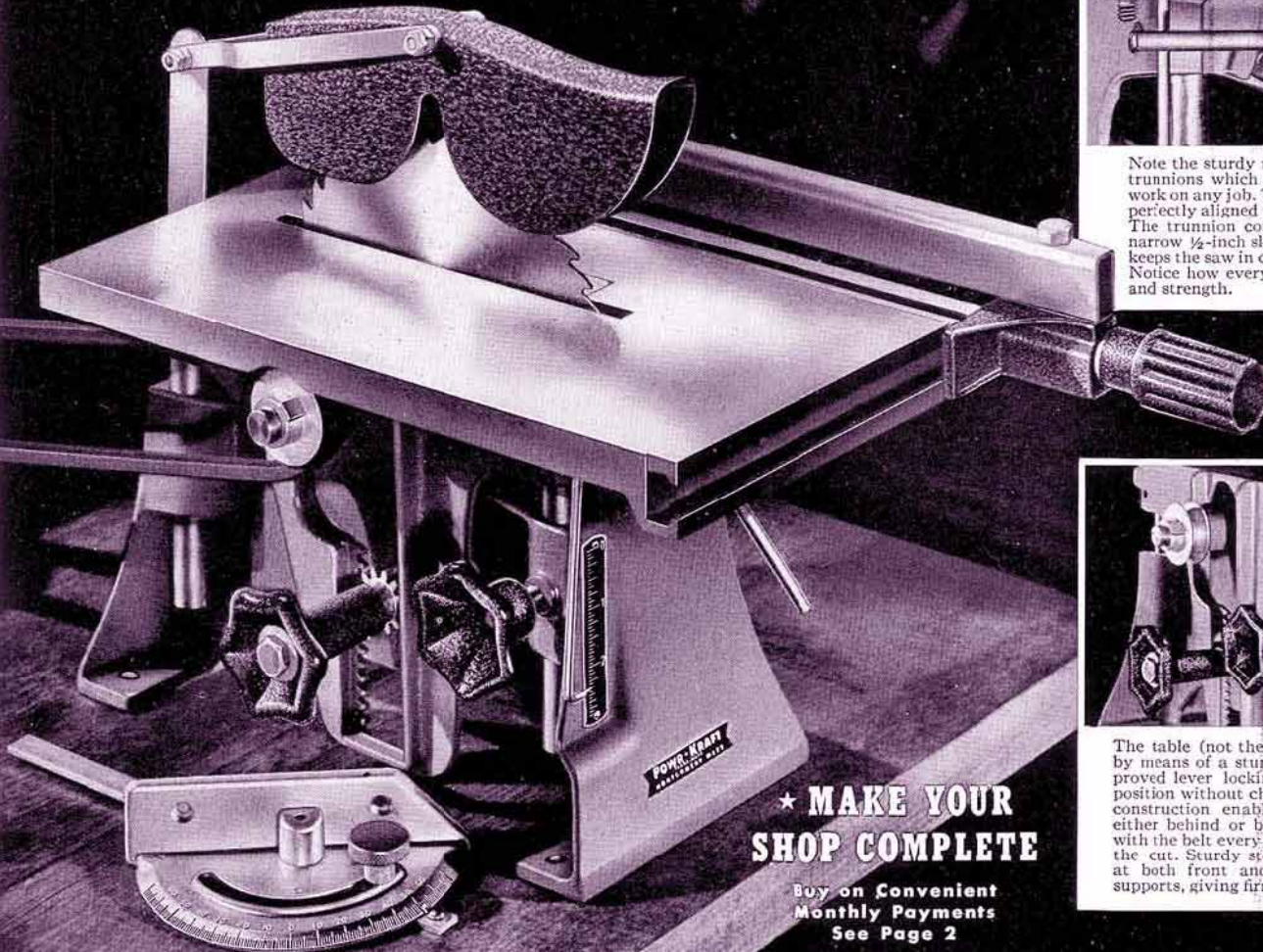
84 TM 8889 **\$7.95**



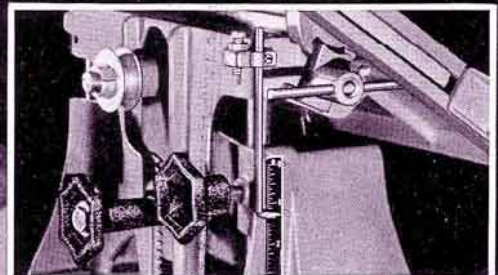
BUY ON WARDS MONTHLY PAYMENT PLAN. SEE PAGE 2.

**WARDS NEW
LOW PRICED**

Bench Saw



Note the sturdy mounting of the table on double trunnions which assures rigid, smooth, accurate work on any job. This construction keeps the table perfectly aligned with the saw and avoids binding. The trunnion construction also permits using a narrow 1/2-inch slot in the table for saw blade and keeps the saw in center of slot when table is tilted. Notice how every part is designed for simplicity and strength.



The table (not the blade) operates up and down by means of a sturdy geared hand wheel. Improved lever locking device holds the table in position without changing the adjustment. This construction enables you to place your motor either behind or below the saw. No need to fuss with the belt every time you change the depth of the cut. Sturdy steel posts built into the frame at both front and rear travel in long bearing supports, giving firm support to the table.

**★ MAKE YOUR
SHOP COMPLETE**

Buy on Convenient
Monthly Payments
See Page 2

THESE FEATURES USUALLY COST DOLLARS MORE

- Table (not blade) raises and lowers by means of hand wheel—no belt adjustments to bother with.
- Heavy, cast iron table fits on double trunnions and locks at any angle up to 45 degrees
- Large capacity—8 inch combination blade cuts to 2 5/8 inch depth.

\$1250
Cash Price
\$2 Down, \$2 Monthly

With this Saw you can rip, cross cut, miter or groove with the same precision you'd expect from a tool selling far above this price. It cuts to a full 2 5/8-in. depth and it's easy to operate—smooth quick acting adjustments—no fussing with the belt tension when you change the depth of the cut.

Then there's the trunnion construction of the tilting table which costs us more but which gives you the rigidity and accuracy of much higher priced saws. Saw Blade is guarded below the table with a sawdust chute for easy collecting of sawdust.

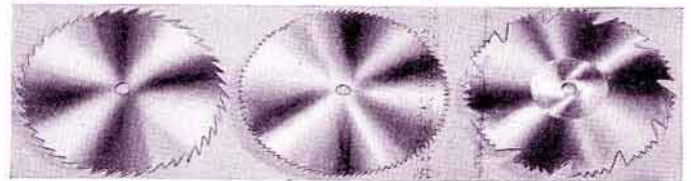
An easy-to-read miter gauge is included for accurate cross-cutting and mitering. It slides at the touch of your thumb, in a close fitting groove. Table inset removable for dado head. The sturdy rip fence is rigidly braced—can't warp or twist. Easily adjustable and locks solidly. The saw is perfectly guarded at all times and the guard is designed to meet all State Safety Codes. It raises as work is fed in and can be quickly swung out of the way, if desired. A convenient splitter back of the guard, prevents binding and stalling of saw blade.

SPECIFICATIONS

Bearings: Self-lubricating bronze for long wear. Capacity: Depth of cut 2 5/8 in. Blade: 8-in. combination blade with 5/8-in. hole. Table: Machine ground table 11 by 14 7/8 in., tilts on trunnion. Height: 8 1/2 in. to table top. Removable insert for dado head or sanding disc. Weight: Over 36 pounds net—heavy, seasoned cast iron throughout.

Durable gray enamel finish. With 1 1/2-inch V-pulley. Speed 3500 R.P.M. Run from below or behind. Use 3-inch pulley with 1750 R.P.M., 1/4 or 1/2-H.P. motor on Page 28. When ordering extra pulleys state both diameter and bore. Shipping weight 43 lbs. *Mailable.*

84 TM 872—Saw, without motor and belt.....\$12.50



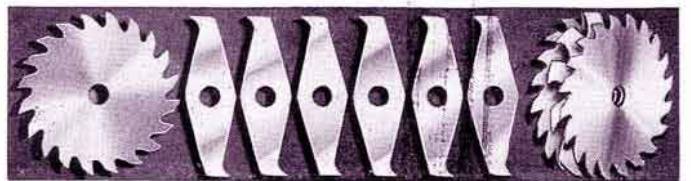
COMBINATION RIP AND CROSS-CUT SAW CIRCULAR CROSS-CUT SAW HOLLOW GROUND MITER SAWS

We believe there are no better saws for fast, clean, smooth cutting. Finest quality crucible alloy steel, with a cutting edge that stays sharp! Correctly tempered, hand filed, hammered and set—no binding or buckling. **State diameter wanted.**
84 TM 284—Combination Rip and Cross-Cut Saw.
84 TM 281—Circular Cross-Cut Saw.

For smoother, finer edges. Finest crucible alloy steel, correctly tempered and balanced.
84 TM 283—State diameter wanted.

Diam.	Gauge	Size Hole	Ship. Wt.	Each
6-in.	18	1/2 in.	10 oz.	\$1.10
7-in.	18	1/2 in.	12 oz.	1.35
8-in.	18	3/4 in.	1 lb.	1.55

Dia.	Gauge	Size Hole	Ship. Wt.	Each
6	16-19	1/2 in.	10 oz.	\$2.55
7	16-19	1/2 in.	12 oz.	3.15
8	16-19	3/4 in.	1 lb.	3.45



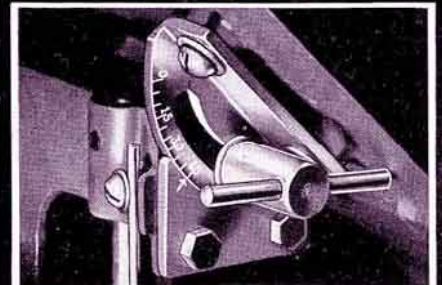
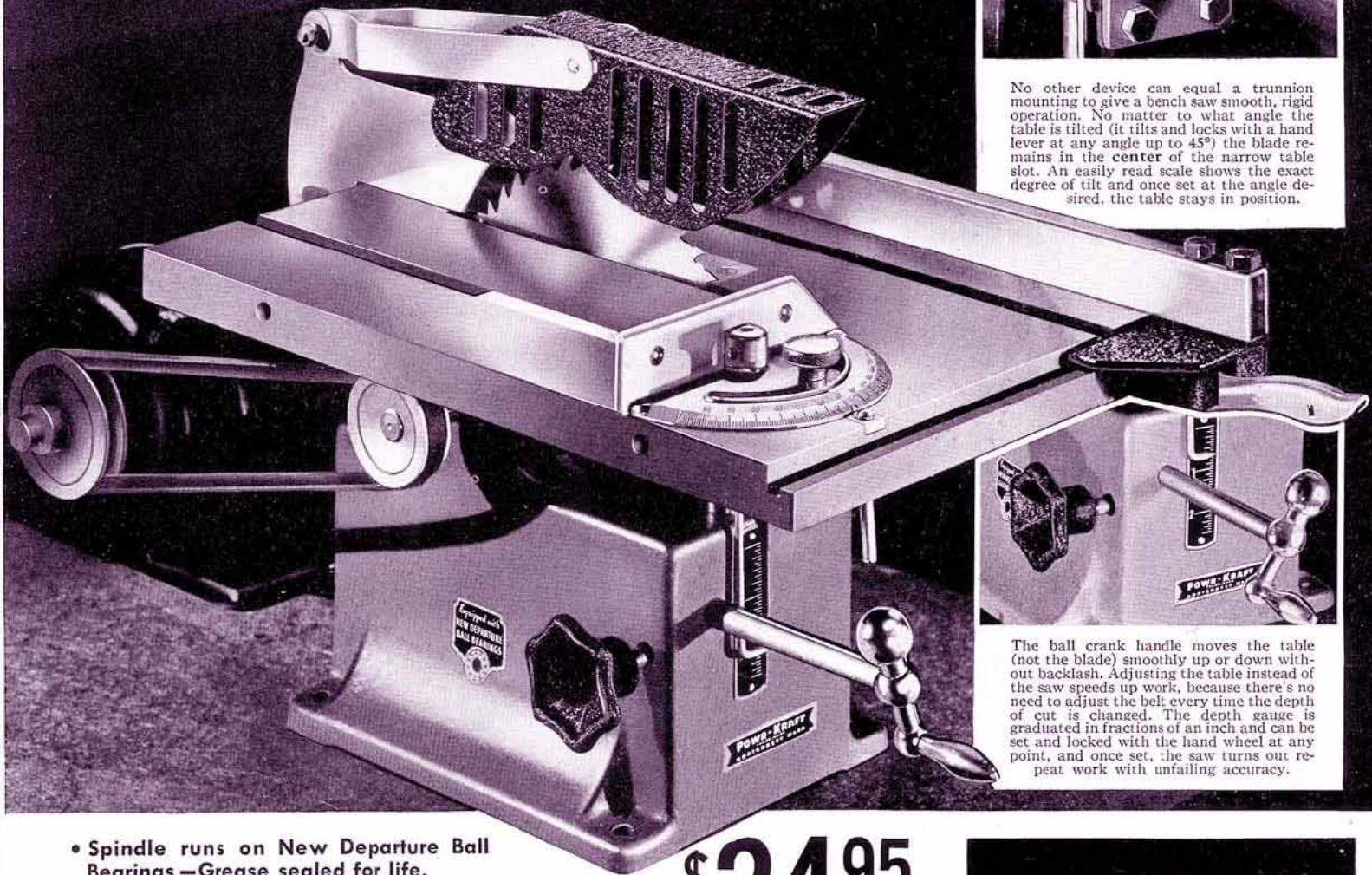
CAREFULLY TEMPERED ALLOY STEEL DADO SAWS

For grooving, rabbeting, and tenoning with or across the grain. Use on any bench saw having removable throat on table. Complete saw consists of two outside blades and six inside chippers. All chippers .066 thick. 5-in. blade 1/2 in. thick. 4-in. blade 1/2 in. thick. (Available only in sizes listed.)

State Diam.	84TM785 Complete	84TM716 Blade	84TM715 Chipper
4-in. diam. 1/2 in. bore	\$2.25	75c	25c
5-in. diam. 3/8 in. bore	3.65	1.00	30c
Ship. wt.	1 lb.	6 oz.	2 oz.

**NEW DEPARTURE
BALL-BEARING**

Bench Saw



No other device can equal a trunnion mounting to give a bench saw smooth, rigid operation. No matter to what angle the table is tilted (it tilts and locks with a hand lever at any angle up to 45°) the blade remains in the center of the narrow table slot. An easily read scale shows the exact degree of tilt and once set at the angle desired, the table stays in position.



The ball crank handle moves the table (not the blade) smoothly up or down without backlash. Adjusting the table instead of the saw speeds up work, because there's no need to adjust the belt every time the depth of cut is changed. The depth gauge is graduated in fractions of an inch and can be set and locked with the hand wheel at any point, and once set, the saw turns out repeat work with unflinching accuracy.

- Spindle runs on New Departure Ball Bearings—Grease sealed for life.
- Ball crank mechanism raises the table (not the blade)—no belt adjustments to make. Gauge shows depth of cut.
- Table mounted on trunnions tilts to 45°—gauge shows degree of tilt.

\$24⁹⁵
Cash Price
\$3 Down, \$4 Monthly

This Bench Saw does every job with remarkable smoothness. Here's why—The parts are the finest and are accurately machined—the base frame and table are of high quality seasoned cast iron. It actually weighs over 56 lbs. uncrated.

FINGER-TIP CONTROL!

Every part which controls the adjustments is arranged to save time and effort. A balanced ball crank handle raises or lowers the table smoothly without back-lash, while the saw itself remains stationary. No need to adjust the belt every time you change the depth of cut. The table tilts to any angle up to 45 degrees on smooth running trunnions and can be locked in position. The double trunnion mounting permits the extra safety of a narrow, 1/2-in. table slot for the blade and keeps the blade in the center of the slot when tilted. Table insert is removable for dado head. (Dado saws are listed on opposite page.) Included with the saw is a quick change clamp-type, steel rip fence and an accurate miter gauge for cutting true squares or angles. Both can be operated from either side of saw.

Finest New Departure Ball Bearings

Wards Engineers chose New Departure Ball Bearings on which to mount the saw arbor. Each

bearing is packed in grease and sealed so that the grease can't drip out, neither can dust nor grit possibly get in: your assurance of lifetime of smooth running with a minimum of friction. Be sure the saw you buy has New Departure Ball Bearings.

Complete with 8-in. combination rip and cross-cut saw. New slotted clear vision type saw guard covers the blade at all times. The convenient splitter behind the guard separates the wood and avoids binding and stalling. See the new Anti-Kick attachment on Page 17—it can be placed on this saw in a jiffy and makes kick-backs impossible.

SPECIFICATIONS

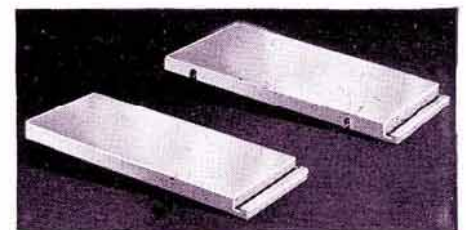
Capacity: Cuts stock up to 2 3/8 in. thick.
Blade: 8-inch combination cross cut and rip saw with 3/8-in. hole of finest crucible alloy steel and a cutting edge that stays sharp.
Table: Heavy gray cast iron—ribbed, non-warping. Size 12 by 17 3/4 in. Height: 8 3/4 in. to table top with table at lowest point.

Durable gray enamel finish. With 2-in. V-pulley. Drives from below or behind. Use 4-in. V-pulley on 1750 R.P.M., 1/2-H.P. motor. (See page 28.) Ship. wt. 70 lbs. *Not Mailable.*

184 TM 686—Without motor and belt. \$24.95

**ANYTHING WARDS SELL
CAN BE BOUGHT ON
MONTHLY PAYMENTS**

★ SEE PAGE 2 ★



EXTENSION TABLE

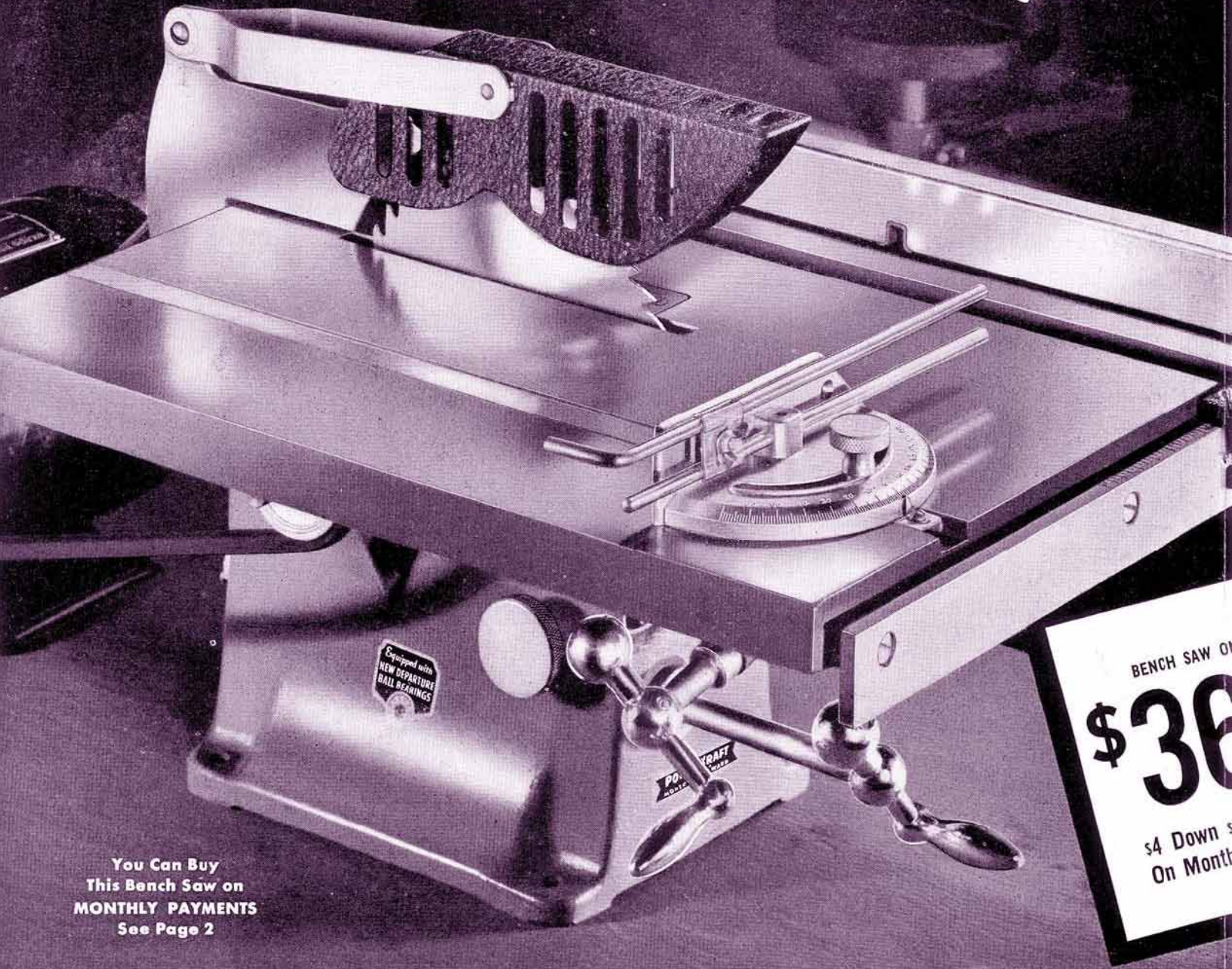
This pair of table extensions fitting on each side of your saw table measure 6 by 17 3/4 inches each. With the extensions added there is a total working surface of 24 by 17 3/4 inches or 426 sq. in. Extensions adjust for accurate alignment and form a continuous rip fence track. Furnished to match above saw. Bolts for attaching included. Ship. wt. 15 lbs.

84 TM 8869—Per pair. \$5.75

® WARDS 15

WARDS
POWR-KRAFT

Production Bench



You Can Buy
This Bench Saw on
MONTHLY PAYMENTS
See Page 2

BENCH SAW ON
\$36
\$4 Down
On Month

EQUIPPED WITH NEW DEPARTURE BALL BEARINGS

- Full 9 inches of table clearance ahead of Saw at 2 inch cut—so much easier to handle extra wide boards.
- Entire table top (not the saw) raises and lowers by means of ball crank—pulley and saw remain stationary.
- Table mounted on alloy steel trunnions which operate on closely machined double ways. Table tilts and locks to 45 degrees—with convenient micrometer scale.
- Cuts to 2 $\frac{3}{8}$ -in. depth (many saws cut only to 2 $\frac{1}{4}$ -in.)
- Spindle operates on velvet-action New Departure ball bearings with wide spaced housings.
- Table top 50 to 100 sq. in. larger than most (full 16 by 20 in. or 320 sq. in. of working surface.)
- Steel rip fence operates on either side of saw blade.

Every job is a pleasure with a big, powerful, smooth-running machine like this. Turns out clean cut jobs that are accurate to the last degree. The entire ma-

chine is massively built and perfectly balanced for real production work—weighs 84 lbs. net on the bench.

To adjust for depth of cut on Wards saw the table raises and lowers—not the blade arbor. Changing depth of cut on Wards saw does not disturb the pulley position and consequently does not affect belt tension.

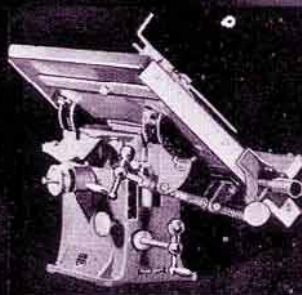
Note the extra large table on Wards Saw—full 16 by 20 inches. With extension table (shown on opposite page) you can rip to the center of a 40-inch panel. Wards new anti-kick attachment is also available . . . allows wood to pass through in the cutting direction, but locks instantly and prevents saw from kicking back. Another feature is the built-in sawdust chute. The base completely encloses blade . . . your hands are protected when reaching under table.

Each casting is made of selected, seasoned gray iron that is non-warping. All moving parts pass rigid inspection for proper analysis and close tolerance. Gauges and indicators are carefully calibrated—they are second to none in accuracy. Saw is equipped with our standard 8-inch combination rip and cross cut blade described on Page 14. Removable insert provides space for dado saws. The table top stands 9 inches high in lowest position. Entire unit finished in durable baked-on gray enamel with cadmium or chrome-plated exposed parts. Motor mounts behind or below saw. Other specifications you'll want to read about are shown at the right on opposite page.

Bench Saw FOR HEAVY SERVICE

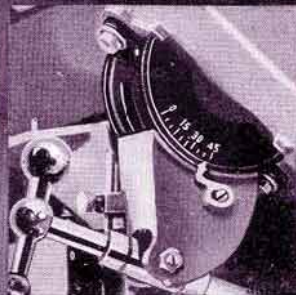


ONLY
650
CASH PRICE
\$5 A Month
Monthly Payments



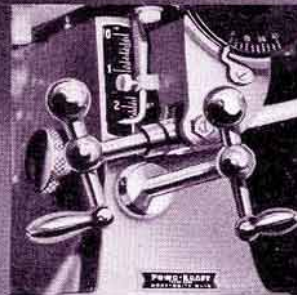
Tilting Control

A few quick turns of the accurately balanced ball crank tilts the table to the angle you want up to 45 degrees. No sticking or jamming—the spindle is Acme threaded for smooth, positive gear action. Mechanism is true and free from play. Table stays in position without locking. 45-degree scale on front trunnion for accurate operation.



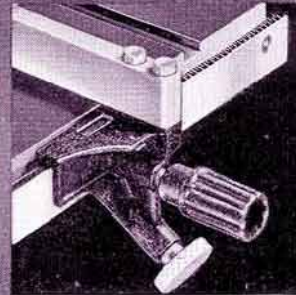
Double Trunnions

Special analysis alloy steel trunnions are mounted on closely machined double ways. Trunnion construction, although more expensive, is extra sturdy and prevents the saw blade traveling to the side of the slot when table is tilted. Trunnions tilt the table top smoothly and on a true axis so that only a narrow 1/2-inch slot is required for the blade.



Easy Raising

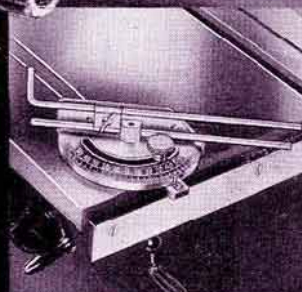
A raising and lowering action so smooth and positive that you can raise a 200-pound man standing on the table by turning the ball crank with one hand. No back-lash—no jamming. Table is raised by two precision machined cut gears operating two 1 1/8-inch steel posts. Accurate scale graduated to 1/8 inch. Large hand wheel locks the table securely in desired position.



Micro-Set Fence

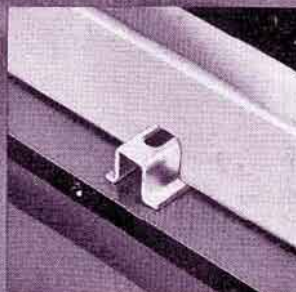
The micro-set friction adjustment permits the most accurate adjustment on either side of saw blade. A quick turn of locking handle fastens fence without disturbing adjustment. The scale and indicator are graduated by 1/8 in. and set along front of table.

By pushing the hand wheel inward pinion may be disengaged for rapid movement or for removing fence.



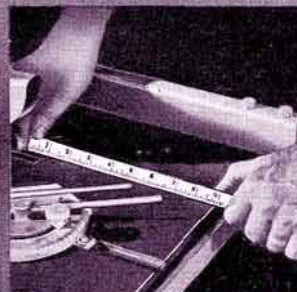
Miter Gauge

An easily read scale, calibrated to 60° in either direction, shows the angle of setting. Gauge is mounted on new patented machined steel slide 3/4 by 5/8 in. which fits snugly in the table grooves—use it on either side of saw. The miter gauge has two removable cut-off rods for repeat work. Rods are mounted on top of the gauge and fasten with wing nut.



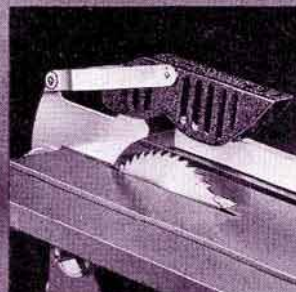
Rip Fence Slide

When adjusting rip fence the weight of the fence rides on the slide pictured above. The friction along the entire length of the fence is eliminated providing a smooth easy action across the polished table top. The slide may be snapped into two positions so that it is flush with either side of the fence. Slide also prevents fence from catching on miter slot. An exclusive Ward feature.



9-In. Clearance

Think what full 9 inches in front of the blade at 2-inch cut means when you're cross cutting wide boards. It gives you room to brace and steady heavy stock—gives you room to use the miter gauge for proper squaring of the work. There's no need to pay extra for a front extension with this saw. The main table is extra large—16 by 20 inches—an important feature.



Guard and Splitter

Both guard and splitter meet all safety requirements. The splitter spreads the saw cut just enough to avoid binding of unseasoned or wet wood. The slotted guard, of advanced design, effectively covers the saw without hiding or interfering with the work. For a small amount you can also obtain Wards new anti-kick attachment No. 84 TM 8867 described below.

SPECIFICATIONS

BASE: Heavy duty, cross-ribbed gray iron casting.

CAPACITY: Full 2 3/8-in. depth cut.

TABLE: non-warping rib reinforced cast gray iron. Precision machined, ground and polished surface. Ball crank handle, Acme threaded, tilts table from 0 to 45°.

ELEVATING MECHANISM: Quick, easy working, positive gear action without back lash. Ball crank handle.

ARBOR: Special analysis alloy steel operating on famous New Departure ball bearings sealed in grease.

RIP FENCE: Micro-set friction adjustment for accurate setting. Scale along front of table.

MITER GAUGE: Operates on either side of saw. Accurate scale, positive lock adjustment. Two cut-off rods.

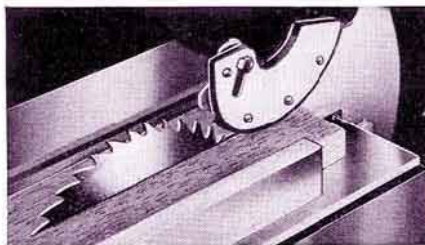
DRIVE: Run at 3500 R.P.M. Use 4-in. V-pulley on 1750 R.P.M., 1/2 or 1/2-H.P. motor. See Pages 28 and 29.

EQUIPMENT INCLUDED: 8-in. combination cross cut and rip saw, rip fence, miter gauge, guard, splitter, 2-in. V-pulley.

184 TM 661—Bench Saw only. Ship. wt. 100 lbs. . . . \$36.50

184 TM 663—As above but with 1/2-H.P. No. 484 TM 9861 Motor, 4-in. motor pulley, 44-in. V-belt (1/2 in. wide).

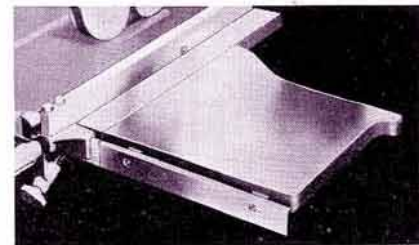
Shipping weight 138 lbs. . . . \$46.50



Wards Anti-Kick Attachment

Fits either 184 TM 686 or 184 TM 661 Bench Saws by simply attaching to the splitter. Friction type—designed to permit work to pass freely in cutting direction, but grips instantly and prevents the saw from kicking work back toward the operator. Meets safety requirements. Bolts furnished for attaching to the splitter. Shipping weight 8 ounces.

84 TM 8867—Each. . . . **98c**



Add Width to Your Table

Extend your table to a full 20 in. from rip fence to saw blade. Cuts to the middle of a 40-in. panel with the work accurately guided . . . and it's easy with this perfectly machined 13 by 13 1/2-in. extension. Regular table plus extension gives 495 sq. in. of working surface. Two bolts and graduated extension slide bar for rip fence included.

84 TM 653—Ship. wt. 12 lbs. . . . **\$3.95**

WARDS POWR-KRAFT

Band Saws

9 1/2-INCH
CAPACITY

DOES THE WORK OF MUCH
HIGHER PRICED SAWS

- Cuts to center of 19-in. circle—in stock up to 4 5/8 in. thick
- One-piece safety guard for quick blade change
- 9 by 9-in. table tilts to 45 degrees on heavy trunnion mounting
- Rigid frame of seasoned non-warping gray cast iron reduces vibration to a minimum
- 9 1/2 in. wheels, carefully machined and balanced. Mounted on self-lubricating bronze bearings

\$16⁹⁵
Cash Price

\$2.50 Down, \$3 Monthly

This Band Saw is truly the perfect machine for the man who demands accuracy, and speed . . . at a price he can afford to pay. And this band saw handles stock a full 4 5/8 in. thick and will cut to the center of a 19-in. circle—a full inch more than formerly.

The use of heavy, seasoned, non-warping gray iron gives you the rigidity and sturdiness you'd expect from larger machines. The channel frame is cast in one piece and heavily ribbed to eliminate springing . . . keeps the wheels in alignment. Even the swinging guard is cast in one piece. The 9 by 9-in. heavy, reinforced cast table is mounted on a huge carefully machined, double trunnion. Tilts to 45 degrees with gauge to show degree of tilt. Aluminum insert in table protects blade. Rubber crowned, 9 1/2-in. diam. wheels are dynamically balanced for smooth operation. Wheels are mounted on self-lubricating bronze bearings, no oil gets in your work. Blade tension and alignment are adjustable by hand wheels at top of upper wheel. Wheels are solid disc type . . . no spokes to catch clothing or work. They are properly crowned, with live rubber tires for quiet, efficient running.

Roller saw guide permits blade to run on the edge (not the side) of the hardened steel roller. This reduces friction and blade breakage.

Gray baked enamel finish. Height 26 in. Includes 4-in. V-pulley and 1/4-in. 6-tooth blade 60 in. long. Requires 2-in. V-pulley on 1/4-H.P. 1750-R.P.M. Motor. See Page 28. Ship. wt. 46 lbs.

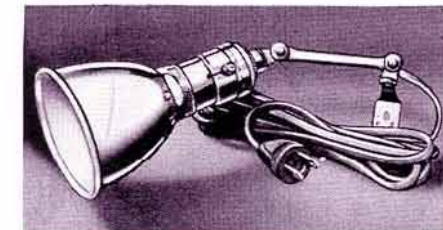
484 TM 870—Band Saw. Available. . . **\$16.95**

Rigid Steel Stands

Mount your Band Saw on one of these sturdy steel stands and make it more efficient and easier to handle. Save space—avoid obstructions—eliminate series of belts and pulleys—no lineshafts to bother with—more power delivered at point of service. Stands can easily be moved, or may be fastened to floor. Perforations on top, legs and motor supports of the machine stands permit adjustment to fit motor or machine base. Heavy angle iron—strongly braced. Attractive baked-on gray enamel finish. Available.

484 TM 8790—Size 13 in. wide by 14 in. long on top by 28 3/4 in. high. For 484 TM 870 Band Saw. Ship. wt. 35 lbs. . . **\$6.75**

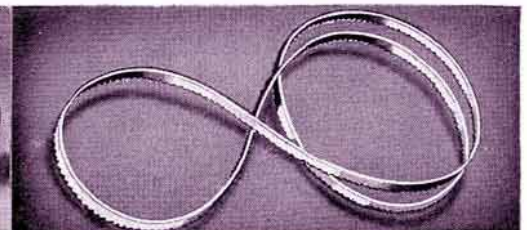
484 TM 8791—Size 13 in. wide by 20 in. long on top by 28 3/4 in. high. For 184 TM 651 Band Saw. Ship. wt. 37 lbs. . . **\$6.95**



Better Work With a Tool Light

Large reflector directs beam of light on your work—keeps light out of your eyes. End plate attaches to any convenient bolt or screw on your woodworking tools, work bench or for any other spot where you want direct, glareless light. Arm is readily adjustable to different positions. Length overall extended 10 1/2 in. Uses standard 25-watt lamp (lamp not furnished). Polished aluminum reflector with push key socket, 10-ft. rubber cord and non-breakable plug included. Ship. wt. 1 lb.

84 TM 8866—Each. . . **\$1.25**



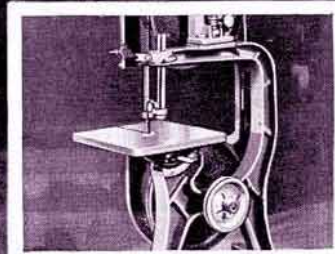
Finest Alloy Steel Band Saw Blades

Correctly tempered and properly set for fast, smooth cutting. Tough and strong, yet flexible.

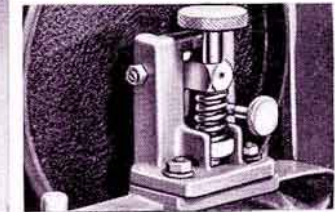
84 TM 746—Widths 1/8, 3/16, 1/4, and 5/16 in. State Length and Width. 6 teeth per in. Ship. wt. each, 8 oz. Blade 60 in. around for most 9-in. saws. . . **85c**
Blade 78 in. around for most 12-in. saws. . . **95c**

84 TM 750—State width wanted. Blade 111 in. around. Ship. wt. each, 10 oz. 1/8, 1/4, and 5/16-in. widths. . . **\$1.50**
Each. . . **1.70**
1/2 and 3/4-in. widths. Each. . . **1.70**

84 TM 757—Metal Cutting Blades. For cutting soft metals, such as brass, aluminum, copper, etc. 3/8 in. wide. 19 teeth per inch. Ship. wt. each, 5 oz. State length wanted. 60 in. around. . . **\$1.00**; 78 in. around. . . **\$1.10**



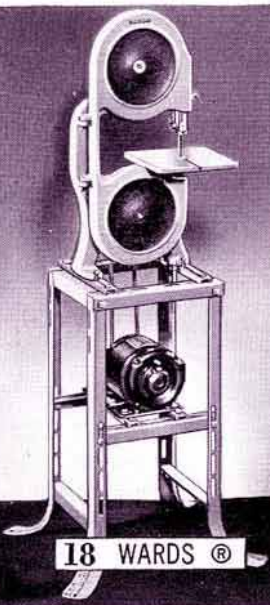
Built like a bridge for extra rigidity. This view shows the heavily ribbed semi-box frame of gray iron—non-warping, and that means smooth running. One-piece cast safety guard makes blade changing simple. Note also the long bearing on the wheel and pulley . . . another point that spells Sturdiness all the way through.



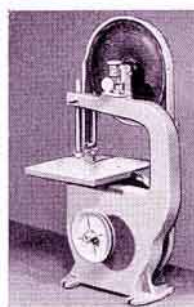
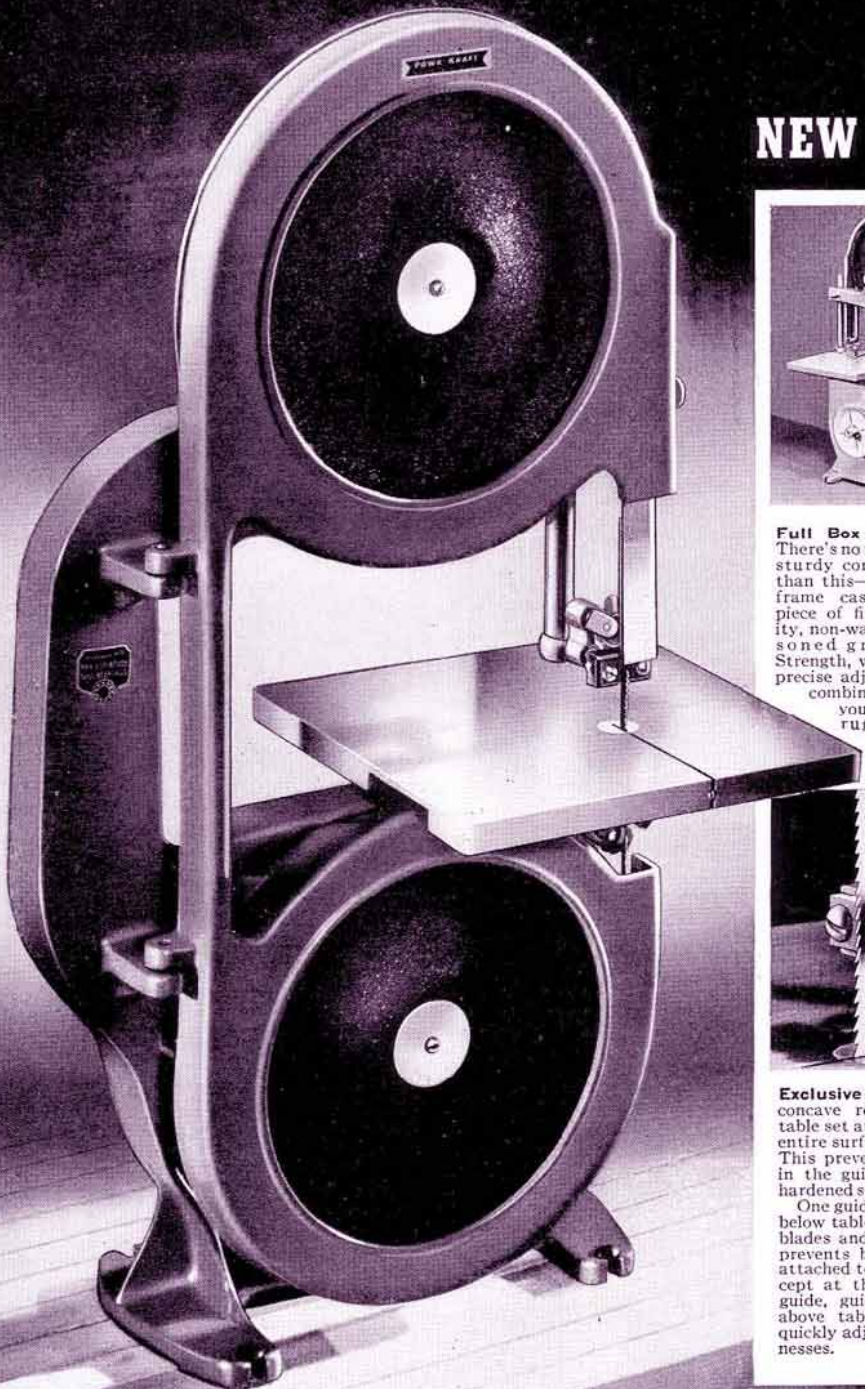
Wheels dynamically balanced on a tool that detects any variation in weight distribution. Cast 9 1/2-in. wheels mounted on self lubricating bronze bearings. Hand screws adjust blade. Spring in tension adjustment absorbs shock and reduces blade breakage.



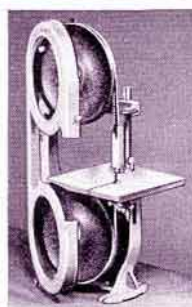
Giant double trunnion mounting gives the utmost rigidity for the heavily reinforced cast iron table and keeps blade in perfect alignment with table even when it is tilted. Table 9 in. square is surface ground and has aluminum insert to protect blade. Gauge shows degree of tilt up to 45 degrees. Squaring screw for instant leveling. Lever lock.



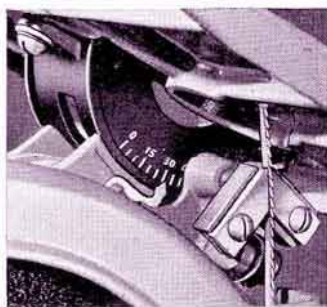
12½-INCH CAPACITY NEW DEPARTURE BALL BEARINGS



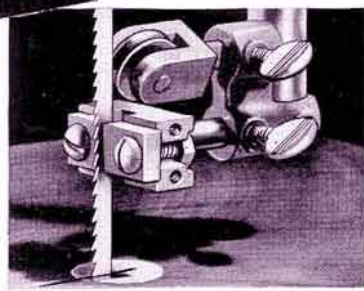
Full Box Frame—There's no more rigid, sturdy construction than this—a full box frame cast in one piece of finest quality, non-warping seasoned gray iron. Strength, weight and precise adjustments combine to give you a truly rugged machine.



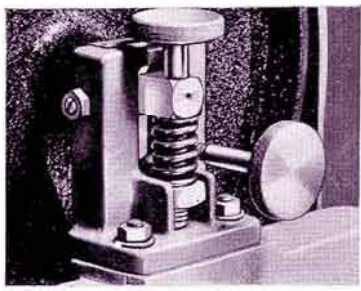
One-Piece Guard—Note the ruggedness of the swinging guard—not a flimsy two-piece affair, but a solid one-piece casting of seasoned gray iron that is free from rattles. Guard opens easily by loosening one thumb screw for quick changes of the blade—a convenience not found on most saws near this price.



Double Trunnion Mounting—The heavy 12 by 12-in. table of seasoned, cast gray iron is mounted on a large double way trunnion accurately machined for velvety-smooth action. This construction keeps the blade in the center of the opening and in perfect alignment with table, no matter at what angle the table is tilted. Aluminum table insert protects blade if pushed out of line. Table tilts to 45 degrees and locks at the twist of a lever. Note the heavy table reinforcements—they prevent warping and springing.



Exclusive New Roller Guides—Improved concave roller guides above and below table set at an angle so that blade contacts entire surface of guides (not just the edge). This prevents blade from wearing groove in the guide. Roller guides are specially hardened steel with individual adjustments. One guide block above table and another below table are adjustable for different size blades and provide free running slot that prevents blade dislocation. Safety guard, attached to the guide, covers the blade except at the cutting point. Entire roller guide, guide block and guard assembly above table mounted on solid steel bar quickly adjustable for varying wood thicknesses.



Improved Blade Adjustment—A quick turn of the convenient hand screws permits adjustment for either tension or alignment positions of the upper wheel. These adjustments once set, keep upper and lower wheel in perfect alignment with the exact degree of tension in the blade. No wrench needed. Sturdy spring insert in the tension adjustment takes up sudden strain and saves blade breakage. You'll find this type of adjustment only on industrial band saws costing many dollars more than Wards low price. Note also the new black crackle trim on the wheel which contrasts smartly with the baked grey enamel finish.

BUILT TO PROFESSIONAL REQUIREMENTS YET PRICED FOR THE AVERAGE SHOP OWNER

\$31.50
Cash Price

- Cuts to the center of a 25-inch circle—in stock up to 5¼ in. thick with ease and precision
- Heavy 12 by 12-inch seasoned cast iron table tilts and locks to 45 degrees on double trunnion
- Nationally Known New Departure Ball Bearings on 12½-in. diam. upper and lower wheels
- Improved adjustable blade guides above and below table for long blade life

\$4 Down, \$5 Monthly

Wards Engineers set out to Build a Band Saw at a moderate price that could be used by professional woodworkers,—and here is the result. A tool that's twice as strong as one most people would consider "strong enough," with the weight, rigidity and smoothness to perform unflinchingly.

Vibration Reduced to a Minimum

The heavy castings of seasoned gray iron absorb vibration even when running at full load. The blade will follow a line in the toughest sawing job. It's rigid too, because the one-piece cast frame is full box construction.

Equipped With New Departure Ball Bearings

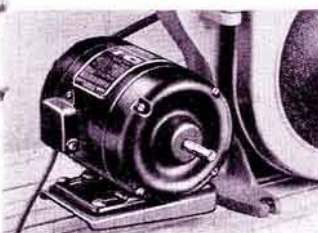
Each wheel is mounted on two Nationally Known New Departure Ball Bearings . . . your guarantee of the smoothest

possible operation. Wheels are safety disc-type, accurately machined, dynamically balanced and rubber-crowned for quietness and long blade life. Other features are described above—such as the heavy 12 by 12-in. table mounted on double trunnion—the new roller blade guide—the one-piece saw guard and the spring tension blade adjustment.

Baked gray enamel finish. Height overall 33½ in. Includes 6½-in. V-pulley, and ¼-in. 6-tooth blade 78 in. long. Run at 675 R.P.M. When ordering extra pulleys state both diameter and bore wanted.

184TM651—Band Saw. Ship. wt. 97 lbs. *Not Mailable*. \$31.50

184TM652—Band Saw with 484 TM 9861 ½-H.P. Motor (See Page 28) 84 TM 639 Motor Base, 2½-in. V-pulley and 44 in. V-belt. Ship. wt. 135 lbs. *Not Mailable*. . . . \$42.95



Band Saw Motor Base Kit

This Kit includes everything needed for connecting motor to band saw 184 TM 651 described at right. Floating type cast iron motor base hinges on frame of band saw. Weight of motor provides proper belt tension under all operating conditions. Kit includes base with bolt for attaching, 2½-in. V-motor pulley, ½-in. bore, and 44-in. V-belt. (Motor not included). Shipping weight 14 pounds.

84 TM 659—Base Kit \$1.95

POWR-KRAFT 16-INCH

Band Saw FOR PRODUCTION USE

\$115⁰⁰

CASH PRICE

\$10 DOWN, \$9 A MONTH
Saw Less Base and Motor

- Cuts to center of 32-in. circle—in stock to 10½ in. thick.
- 16 by 24-inch table mounted on double way trunnions, carefully machined. Tilts and locks to 45 degrees.
- Double, Grease Sealed New Departure Ball Bearings on upper and lower wheels.
- Improved blade guides with independent adjustments above and below table.
- Built-in tool light for complete visibility.

In the short time since Wards introduced this 16-inch Band Saw, it has proved its ability to handle full-fledged industrial work... and its unusual low price suits the demands of the home craftsman or small shop owner. So precise in its adjustments, so carefully designed that it will pass State and school requirements.

Seasoned Gray Iron Castings

Rugged construction throughout... the saw itself weighs 256 lbs. uncrated. Note the extra strong box type frame and the sturdy one-piece guard; the table and the base too are built from seasoned gray iron. The overall dimension of the table is 16 by 24 in. Table is mounted on rigid double trunnions. Carefully machined for quick, easy adjustment. Table tilts and locks to 45 degrees and is fitted with steel rip fence with micro-set adjustment.

New Departure Ball Bearings

Wards Engineers mounted the upper and lower wheels on double sets of New Departure Ball Bearings for smooth, vibrationless performance. They're packed in grease and sealed for life—grease can't get out, neither can dirt and dust get in—positively lubricated all the time.

Dynamically Balanced Wheels

The Wheels are safety disc type 16-in. diam., perfectly machined, dynamically balanced and rubber crowned. Upper wheel operates in a cast box frame having 60-degree dovetailed machined ways with ad-

justable gibs. Large knurled hand wheel in the center of the upper wheel adjusts the wheel alignment from the front. Just below this wheel is a large hand wheel extending down from upper bearing on back of saw and easily reached from front of saw which adjusts blade tension... all blade adjustments are made from front of saw.

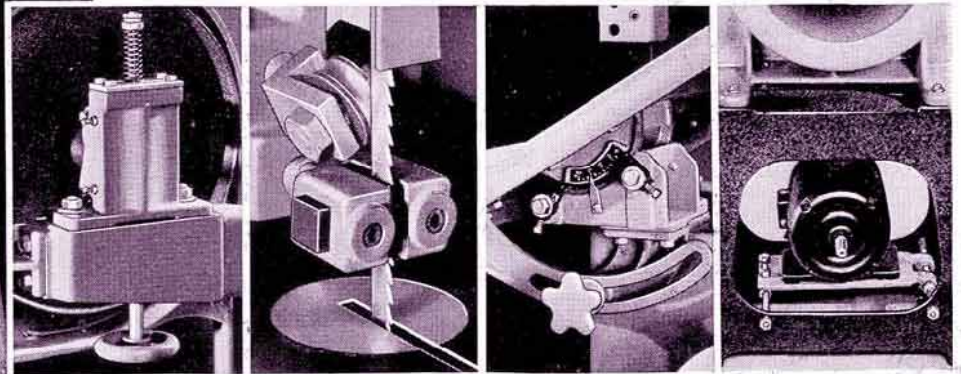
Other features include a new quick adjusting motor support for proper belt tension; a steel fence with microset friction adjustment, a built-in electric tool light on upper guard, which gives perfect visibility, an improved spring tension device and a new improved type of upper and lower blade guide. (See features below.)

Baked gray enamel finish with cadmium-plated fittings. Height overall (not including base) 50¼ in. Includes 8-in. V-pulley and ¾-in. 4½-tooth blade 111 in. long. Handles up to ¾-in. blades. Run at 540 R.P.M. Use 4-in. V-pulley on ½-H.P. 1750 R.P.M. motor (see Page 29). When ordering extra pulleys state both diameter and bore.

184TM687—Band Saw without motor and base. Ship. wt. 305 lbs. **\$115.00**

184TM688—Solid cast iron Base for above band saw as pictured at left with adjustable motor mount in base. Height 19¼ in. Floor space 12½ by 22½ inches. Black crackle enamel finish. Ship. wt. of base only 125 lbs. Band Saw Base only. **\$18.50**

For complete mounted unit order base, motor, motor pulley and 62 by ½-in. V-belt. See Page 26.



Blade Adjustment

A quick turn of convenient hand screws adjusts the blade tension and wheel alignment in a jiffy from front of saw. No wrenches needed. Sturdy steel spring insert in upper wheel mounting takes up sudden strain on the blade and saves blade breakage. You'll find these features only on machines costing many dollars more.

Improved Blade Guides

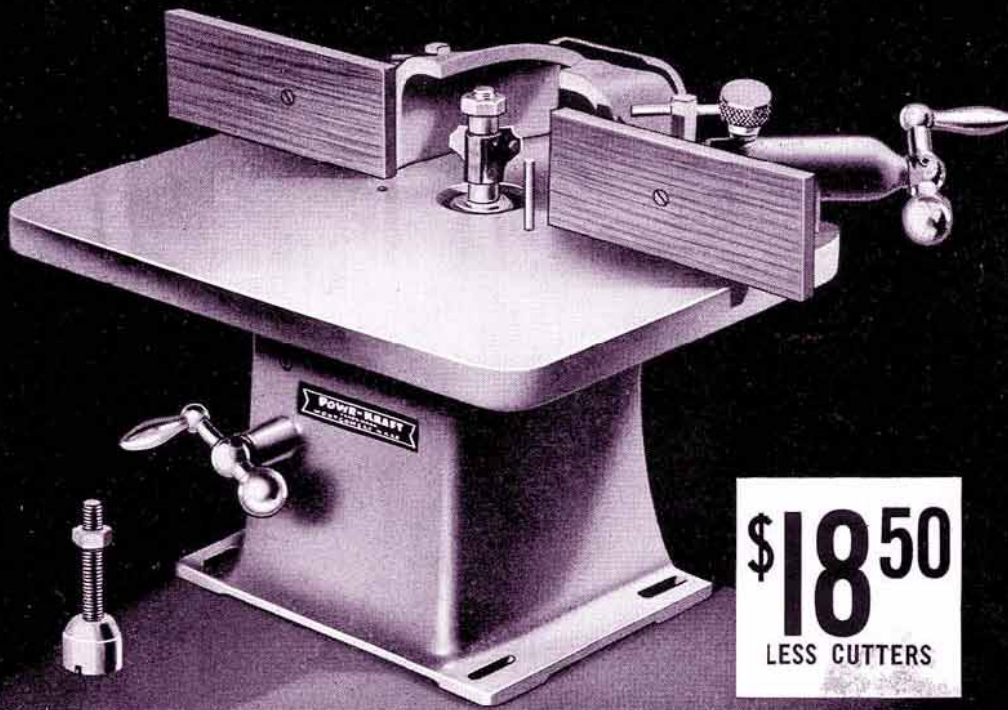
Friction and wear on the roller guides is overcome by the new concave groove design developed by Wards Engineers. Rollers set at angle so blade contacts entire surface of guide (not just edge). This feature greatly increases life of blade. Guide blocks above and below table prevent blade distortion. Roller guides, guide blocks and blade guard are all adjustable.

Trunnion Mounting

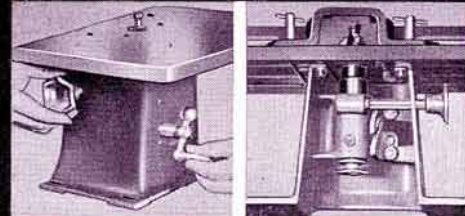
The accurately machined cast trunnion mountings are oversized with two ways to support table rigidly, yet leave ready access to adjustments. Smoothly finished table tilts smoothly to 45 degrees and it locks by means of a convenient hand knob. Aluminum table insert protects the blade if forced out of line. The sturdily built table is well ribbed to prevent warping and springing.

Adjustable Motor Base

The motor for the Band Saw is mounted on a plate that is hinged on one side and that has an adjustable screw on the other side for quick adjustment of belt tension. The hinged motor mounting with its convenient adjusting screw offers a quick way of changing belts and pulleys where slow speeds are required for metal cutting. Motor base is slotted to accommodate all standard makes of motors. For Wards motors see Pages 28 and 29.

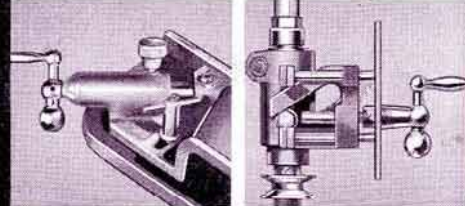


\$18⁵⁰
LESS CUTTERS



Note the balanced, ball crank which gives micrometer adjustment for raising and lowering spindle. Positive lock wheel holds spindle in position at all times.

Rear view showing the spindle assembly which is equipped with New Departure grease-sealed ball bearings. Note the husky construction throughout.



Ball-crank adjusts one side of fence. Full turn of crank moves fence arm only 1/4 in. giving real micrometer accuracy. Adjustable fence also permits using shaper as a jointer.

View above shows construction which makes micrometer spindle adjustments possible. Each full turn of ball crank lowers spindle only 1/32 inch—that's real precision!

POWR-KRAFT HEAVY DUTY *Shaper*

MICROMETER ADJUSTMENTS—NEW DEPARTURE BALL BEARINGS

- Spindle mounted on Nationally Known New Departure Ball Bearings—Grease Sealed for life—protected against dirt and dust.
- Heavy, non-warping, ground and polished cast iron table 11 by 14 in.—larger and heavier than most spindle shapers near Wards price.
- Ball crank adjusts front guide backward or forward with micrometer accuracy . . . full turn moves fence only 1/4 in. Shaper can be used as a jointer.

No ripples—no roughness—no cupping . . . you can do professional work on this husky shaper. It turns out an endless variety of trim, moldings, edges and ends—make 22,500 cuts per minute at our recommended speed of 7500 R.P.M. We've used heavy seasoned gray iron castings to eliminate vibration and to give smooth, quiet performance. Actual weight, 34 lbs. net. Ground and polished table. Precision adjustments . . . a complete turn of the ball crank raises or

lowers the table only 1/32 in. without backlash. Spindle travel 1 in. Front guide face has ball crank adjustment for depth of cut—a full turn moves fence arm only 1/4 in. Ball cranks give a quick, micrometer adjustment not found in ordinary hand wheels or levers. Starting pin furnished which may be screwed into table in two positions.

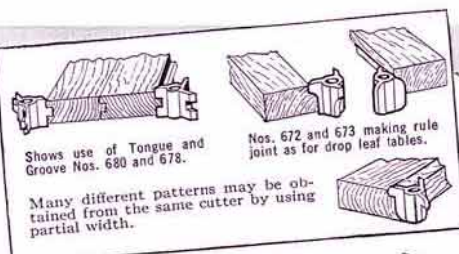
Spindle is mounted in Grease Sealed New Departure Ball Bearings (not ordinary "precision" bearings). Takes either 1/2 or 5/16 in. bore cutters with a simple change of adaptors—no need to reverse spindle. Machine is reversible by using reversing switch for motor on Page 28. Finished in gray enamel. Height overall 11 1/2 in. Has 2-in. V-pulley. Recommended speed 6000-7500 R.P.M. Use 8-in. V-pulley on 1/2 H.P. 1750 R.P.M. Motor. **When ordering extra pulleys, state diam. and bore.**

484 TM 876—Shaper without cutters. Ship. wt. 38 lbs. Mailable... \$18.50

5/16-INCH BORE CUTTERS

Your Choice **50c**
Same quality as cutters at right. Use on shapers taking 5/16 in. bore cutters. Can be used in combinations (see cut at left). "Thickness" below indicates width of cut made by cutter. Ship. wt. each 2 oz. Order by Art. No.

DEPTH WASHERS
Assorted diameters to regulate depth of cut. Ship. wt. 8 oz. **84 TM 8860** Set of 6... **50c**



Shows use of Tongue and Groove Nos. 680 and 678.

Nos. 672 and 673 making rule joint as for drop leaf tables.

Many different patterns may be obtained from the same cutter by using partial width.

1/2-IN. CUTTERS

Tough chrome vanadium tool steel—carefully tempered so that the keen edges stay sharp longer than ordinary carbon steel cutters. Special grinding of cutter heel eliminates drag. Cutting edges have the correct rake angle for a true shaving cut. Use on any shaper fitted for 1/2-in. bore cutters. All cutters listed below have 1 3/4-in. maximum diameter and make cut 1 in. wide. Ship. wt. each, 10 oz. Order by article number.

THICKNESS	Type	Thick-ness	Max. Diam.
84 TM 8870 State Type	A	.177 in.	.95 in.
	B	.264 in.	.95 in.
	C	.354 in.	.95 in.
	D	.442 in.	.95 in.

THICKNESS	Type	Thick-ness	Max. Diam.
84 TM 8873 State Type	A	.125 in.	.95 in.
	B	.156 in.	.95 in.
	C	.187 in.	.95 in.
	D	.250 in.	.95 in.

THICKNESS	Type	Thick-ness	Max. Diam.
84 TM 8871 State Type	A	.221 in.	.994 in.
	B	.442 in.	1.03 in.

THICKNESS	Type	Thick-ness	Max. Diam.
84 TM 8874 State Type	A	.442 in.	1.25 in.

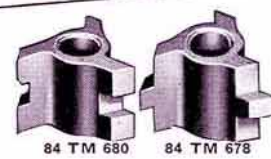
THICKNESS	Type	Thick-ness	Max. Diam.
84 TM 8872 State Type	A	.303 in.	1.09 in.
	B	.388 in.	1.16 in.

THICKNESS	Type	Thick-ness	Max. Diam.
84 TM 8875 State Type	A	.177 in.	1.02 in.
	B	.264 in.	1.06 in.
	C	.354 in.	1.09 in.
	D	.442 in.	1.13 in.

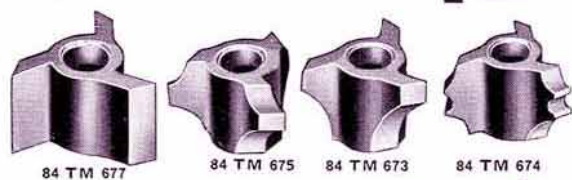
THICKNESS	Type	Thick-ness	Diam.
84 TM 8876 State Type	A	.282 in.	1.18 in.
	B	.344 in.	1.24 in.

THICKNESS	Type	Thick-ness	Diam.
84 TM 8877 State Type	A	.194 in.	1.13 in.
	B	.260 in.	1.20 in.

THICKNESS	Type	Thick-ness	Diam.
84 TM 8878 State Type	A	.177 in.	1.12 in.
	B	.282 in.	1.21 in.



84 TM 680 84 TM 678



84 TM 677 84 TM 675 84 TM 673 84 TM 674

Your Choice **\$10** Each

Set of 24 Cutters \$10⁹⁵
With this set, which includes all of the cutters listed above, you can turn out an almost unlimited variety of designs. Save by buying the complete set. With set of 6 depth washers in wood box. **84 TM 8882—Ship. wt. 2 lbs. 8 oz. Complete Set: \$10.95**

Set of 7 Cutters \$3⁷⁵
Same quality Chrome Vanadium tool steel as above. Set of 7 most frequently used cutters to provide fifty to sixty designs. Set of 6 depth washers included. **84 TM 8881—Shipping weight 2 lbs. . . \$3.75**

Depth Washers \$5⁰⁰
Assorted diameters to regulate depth of cut. Ship. wt. set 8 oz. **84 TM 685—Set of 6... 55c**

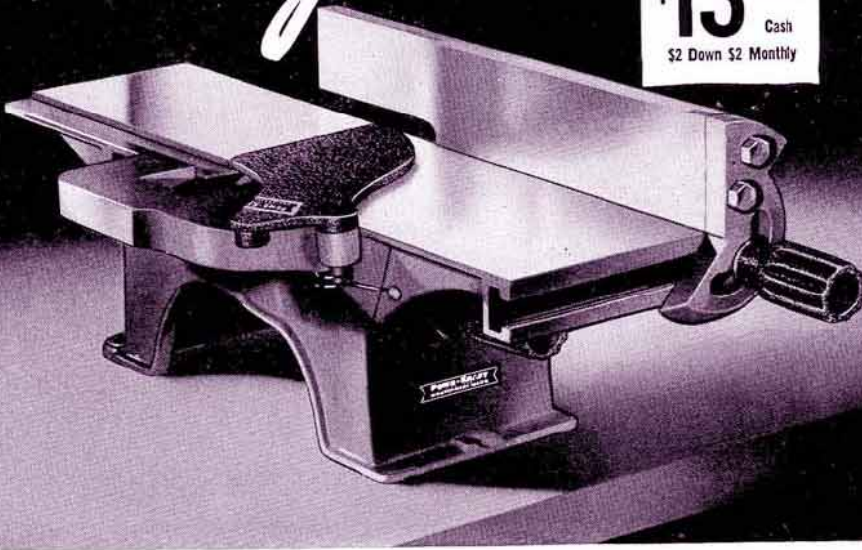


84 TM 672 84 TM 676

POWR-KRAFT

Jointers

\$1345 Cash
\$2 Down \$2 Monthly



4-INCH CAPACITY POWR-KRAFT JOINTER

- Cutting capacity to 4 inches wide and up to 1/4-inch deep
- Self-lubricating Bronze Bearing — no oil on your work
- Double tilting, self aligning fence with protractor scale
- Front and rear tables adjustable on extra long milled ways

This heavy jointer-planer combines the smooth cut, the weight the rigidity and the precision adjustments of jointers that are not within dollars of its price. And here's why: it weighs 28 lbs. net—unusually solid; it has long, accurately ground tables (about 21 in. overall); the extra long milled ways give more accurate depth adjustment; and a convenient eccentric cam lever on side of base locks front table solidly. It's built to give long and satisfactory service. Carefully machined throughout for accurate operation.

One-Piece Balanced Cutter Head

Cutter head is mounted in perfectly ground shaft and dynamically balanced after the blades are installed. Shaft mounted on self-lubricating bearings. Three 4 in. blades are of high speed steel. Cutter head operates at 4000-5000 R.P.M. or 12,000 to 15,000 cuts per minute. Guard swings open as work passes through. Removable for rabbeting.

Tables are 5 1/2 in. wide at narrowest point—hand wheels adjust up or down. Front table has rabbeting arm, rear table has rabbeting ledge. Height 5 1/2 in. to table top. Overall length 24 in. Gray enamel finish. Furnished with 1 1/2-in. V-pulley. Use 4-in. V-pulley on 1/2-H.P. 1750 R.P.M. Motor. For motors see Page 28. When ordering extra pulleys state diameter and bore. *Mailable.*

484 TM 667—Ship. wt. 36 lbs. Jointer only..... **\$13.45**

PLANER OR JOINTER KNIVES

Made of finest quality, correctly tempered high speed tool steel — hold their cutting edge in the hardest wood much longer than ordinary carbon steel knives. Actual size of cross sections shown at left.

84 TM 8900 — For 484 TM 667 Jointer or any Jointer taking 4-in. blades with same cross-section as shown at left. Shipping weight per set 1 lb. **\$1.98**

84 TM 8902 — For 184 TM 655 Jointer or any Jointer taking 6-in. blades with same cross-sections as shown at left. Shipping weight per set 1 lb. 8 oz. **\$3.15**

\$198

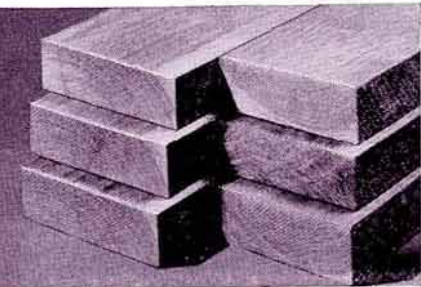
Set of 3 4-inch



\$315

Set of 3 6-inch

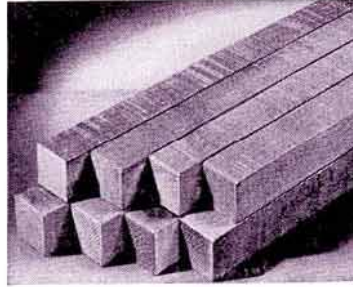
FIRST QUALITY HARDWOODS IN CONVENIENT SIZE PACKAGES



WOOD TURNING BLOCKS

These select wood blocks, free from defects, are ideal for woodworking purposes. Sanded smooth on one side to permit better contact with lathe face plate. Choice of three first quality woods, Hard Maple, Honduras Mahogany, or American Walnut. Ideal for ash trays, bowls, bases, etc. Furnished in packages of 6 blocks. Av. Ship. wt. per package, small blocks, 12 lbs.; large blocks, 20 lbs. **Shipped from Factory in Chicago, Ill.**

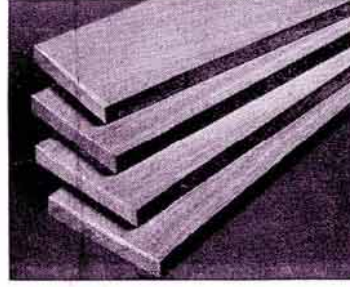
- Blocks 6 in. x 6 in. x 1 1/2 in. \$1.14**
 274 TM 1351—Hard Maple, 6 Blocks
 274 TM 1352—Honduras Mahog, 6 Blocks \$1.98
 274 TM 1353—American Walnut, 6 Blocks 1.98
- Blocks 8 in. x 8 in. x 1 1/2 in. \$2.04**
 274 TM 1354—Hard Maple, 6 Blocks
 274 TM 1355—Honduras Mahog, 6 Blocks \$3.52
 274 TM 1356—American Walnut, 6 Blocks 3.52



WOOD TURNING SQUARES

You'll find dozens of uses for these turning squares around the shop. All first quality, seasoned wood, free from defects. Furnished in two practical sizes in Hard Maple, Honduras Mahogany, or American Walnut. Turning squares are unfinished. Shipped in packages of 8 squares. We do not break packages. Average ship. wt. per package, small squares, 14 lbs. Average ship. wt., large squares, 20 lbs. **Shipped from Factory in Chicago, Ill.**

- Squares 1 1/2 in. x 24 in. x 1 1/2 in. \$1.28**
 274 TM 1357—Hard Maple, 8 Squares
 274 TM 1358—Honduras Mahog, 8 Squares 1.92
 274 TM 1359—American Walnut, 8 Squares 1.92
- Squares 2 in. x 24 in. x 2 in. \$1.60**
 274 TM 1360—Hard Maple, 8 Squares
 274 TM 1361—Honduras Mahog, 8 Squares 2.56
 274 TM 1362—American Walnut, 8 Squares 2.56



SELECTED WOODS

Clear, kiln dried wood in choice of Hard Maple, Honduras Mahogany, or American Walnut. Free from any defect and smooth surface on all four sides. Furnished in packages of 4 and 6 pieces. We do not break packages. **Shipped from Factory in Chicago, Ill.**

- Size 5 1/2 in. x 24 in. x 3/4 in.**
 274 TM 1363—Hard Maple, Ship. wt. 17 lbs. Package of 6 pieces... **\$1.68**
 274 TM 1364—Honduras Mahogany, Ship. wt. 16 lbs. Package of 6 pieces... **\$3.12**
 274 TM 1365—American Walnut, Ship. wt. 16 lbs. Package of 6 pieces... **3.12**
- Size 7 1/2 in. x 24 in. x 3/4 in.**
 274 TM 1366—Hard Maple, Ship. wt. 16 lbs. Package of 4 pieces... **\$1.44**
 274 TM 1367—Honduras Mahogany, Ship. wt. 15 lbs. Package of 4 pieces... **\$2.80**
 274 TM 1368—American Walnut, Ship. wt. 15 lbs. Package of 4 pieces... **2.80**
- Size 5 1/2 in. x 36 in. x 3/4 in.**
 274 TM 1369—Hard Maple, Ship. wt. 27 lbs. Package of 6 pieces... **\$2.70**
 274 TM 1370—Honduras Mahogany, Ship. wt. 24 lbs. Package of 6 pieces... **\$4.98**
 274 TM 1371—American Walnut, Ship. wt. 24 lbs. Package of 6 pieces... **4.98**
- Size 7 1/2 in. x 36 in. x 3/4 in.**
 274 TM 1372—Hard Maple, Ship. wt. 24 lbs. Package of 4 pieces... **\$2.32**
 274 TM 1373—Honduras Mahogany, Ship. wt. 20 lbs. Package of 4 pieces... **\$4.48**
 274 TM 1374—American Walnut, Ship. wt. 20 lbs. Package of 4 pieces... **4.48**

VENEER ASSORTMENTS FOR EVERY PURPOSE

Here are two assortments of beautiful veneers that every woodworker should have. All veneers are first quality, of standard thickness (1-28 in. thick), and are furnished in sheets approximately 10 x 36 in. Assortment "A" includes 100 sq. ft.

- ASSORTMENT "A"—100 SQ. FT.**
- | | | |
|--------------------------------|--------------------------|--------------------------------------|
| 16 sq. ft. American Walnut | 8 sq. ft. Huyu or Aspen | 3 sq. ft. of Prima Vera |
| 4 sq. ft. American Butt Walnut | 2 sq. ft. Walnut Crotch | 3 sq. ft. 1/2 Sawn Sycamore |
| 20 sq. ft. African Mahogany | 5 sq. ft. of Curly Maple | 3 sq. ft. of Lacewood |
| 4 sq. ft. African Crotch | 2 sq. ft. of Dark Cherry | 2 sq. ft. of Rosewood |
| 25 sq. ft. Oriental Wood | 3 sq. ft. of Holly | 274 TM 1375—As listed, \$5.85 |
- ASSORTMENT "B"—50 SQ. FT.**
- | | | |
|--------------------------------|------------------------------|--------------------------------------|
| 8 sq. ft. American Walnut | 4 sq. ft. Huyu or Aspen | 1 1/2 sq. ft. of Prima Vera |
| 2 sq. ft. American Butt Walnut | 1 sq. ft. Walnut Crotch | 1 1/2 sq. ft. 1/2 Sawn Sycamore |
| 10 sq. ft. African Mahogany | 2 1/2 sq. ft. of Curly Maple | 1 1/2 sq. ft. of Lacewood |
| 4 sq. ft. African Crotch | 1 sq. ft. of Dark Cherry | 1 sq. ft. of Rosewood |
| 12 1/2 sq. ft. Oriental Wood | 1 1/2 sq. ft. of Holly | 274 TM 1376—As listed, \$3.43 |

LIQUID GLUE

LePage's—the finest liquid glue! Three convenient sizes. The 1/2 pt. can is most economical. Ship. wts. 4 oz., 11 oz., and 1 lb. 4 oz.



CASEIN GLUE

Strong, tough, waterproof glue for making or repairing furniture, radios, cabinets, musical instruments, trunks, etc. Powder form—easy to mix in cold water.



- 75 TM 8588—17c**
 1 1/2-oz. tube
75 TM 8589—29c
 4-oz. can
75 TM 8590—45c
 1/2-pt. can

WOOD-FIX

The ideal mending material. Buff colored natural wood in paste form. Pliable like putty, yet hardens in 1/2 hour. Can be planed or sanded—holds nails and screws. Waterproof.



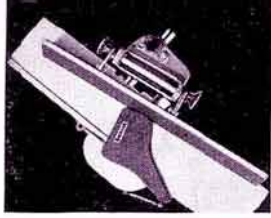
- 75 TM 8295—1/4-lb. can, Ship. 25c**
 wt. 12 oz.
75 TM 8297—1/2-lb. can, Ship. 40c
 wt. 1 lb.

PALE AMBER DRY GLUE

High grade light amber hide flake glue for general woodworking, pattern making, cabinet work, etc. Shipping wt. 1 lb. 8 oz.

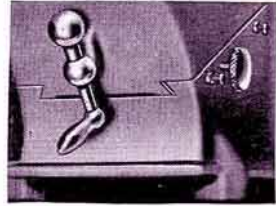


- 75 TM 8570—35c**
 One Pound



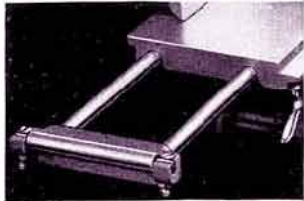
EXTRA LARGE RIP FENCE

Steel rip fence is 30 in. long by 4 1/4 in. high, and can be swivelled at an angle across table to allow a shearing cut in curly grained wood or glued up stock. May be moved as a unit across the table. Tilts to any angle up to 45 degrees in either direction — hand wheel locks in position. Indicator shows degree of tilt.



ADJUSTABLE GIBS

Front and back tables are mounted on smoothly machined, dovetailed ways with adjustable gibs for taking up any wear. This feature costs more to produce, but increases the accuracy and durability of the machine. Ball cranks operate up and down movement of tables.



EXTENSION RODS

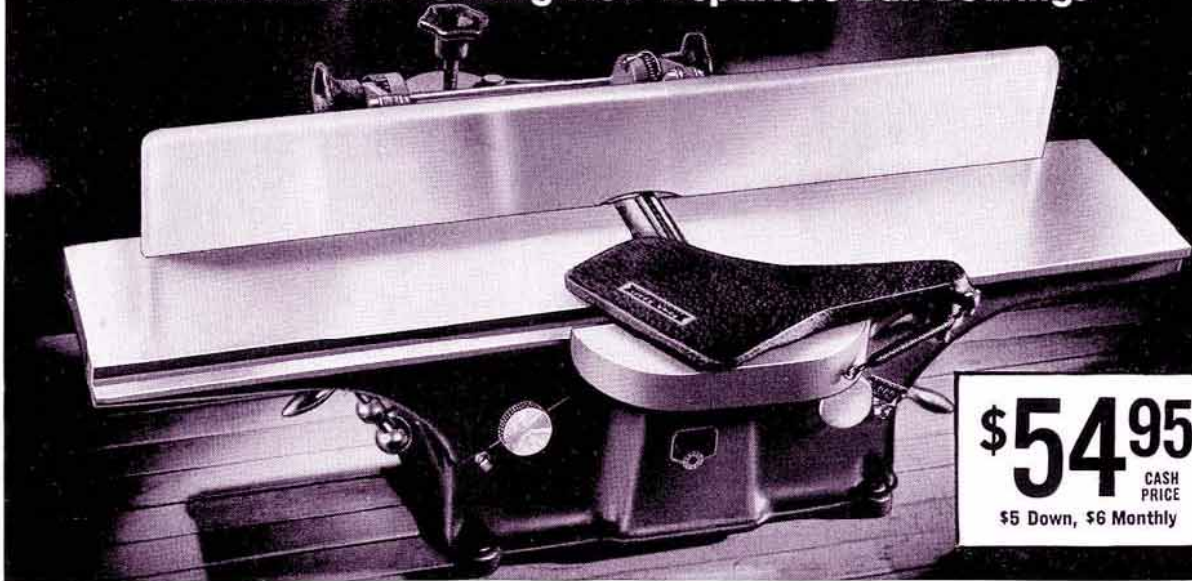
Increase the overall table length of this jointer to 60 in. by inserting a roller extension rod in each end of the table. Support is given to long pieces, and the rollers make it easier to pass the wood over the jointer. Adjustable rollers are perfectly aligned. Shipping weight pair, 7 lbs.

84 TM 891—Pair.....\$2.95

**POWR-KRAFT
6-INCH**

Production Jointer

With Smooth Running New Departure Ball Bearings



\$54.95
CASH PRICE
\$5 Down, \$6 Monthly

- Capacity is full 6 inches wide and up to 1/2 inch deep
- Shaft runs on grease sealed New Departure Ball Bearings
- Cutting head and shaft one piece of special alloy steel
- Rip fence tilts to 45 degrees both ways and swivels

A jointer for cabinetmakers, furniture and novelty makers, and pattern shops. Accuracy is assured through the use of the best quality gray iron castings properly seasoned to prevent warping or twisting. After assembly the table tops are ground perfectly parallel and to a glass-like finish. Ball crank handles raise or lower the tables. Large knobs at the side of each table lock them in position. Gauge indicates depth of cut.

New Departure Ball Bearings

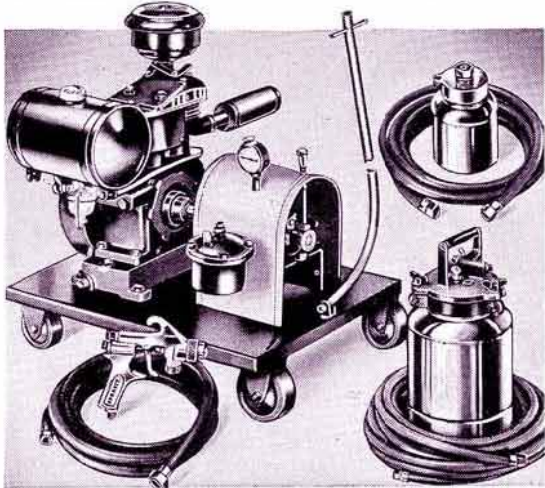
To give the smoothest operation with a minimum of vibration, we mounted the shaft on New Departure Ball Bearings—permanently sealed in grease.

The massive base gives the necessary rigidity to support the high speed shaft which runs up to 4500 R.P.M. Cutting head equipped with three 6-inch high speed steel blades and chip breakers.

The heavy cast aluminum guard is actuated by a strong spring that presses guard against work entirely covering the blade after the work passes through. Guard at right side of fence covers blade even when fence is moved across the table.

Front table is 16 in. long and 7 1/2 in. wide with 3-in. rabbeting arm. Rear table is 17 in. long and 7 1/2 in. wide with 1-in. rabbeting edge. Length overall about 34 in. (For extension rods see picture and listing at right.) Height to table top 8 1/2 in. Gray enamel finish. Furnished with 2-in. V-pulley. Use 5-in. V-pulley for 1750 R.P.M. 1/2-H.P. Motor. When ordering extra pulleys state diameter and bore. Ship. wt. 149 lbs.

184 TM 655—Jointer only.....\$54.95



WARDS COMMERCIAL CAPACITY SPRAYER

Same type and capacity as outfits selling up to \$199.50. Sturdy, compact, forced air cooled Rotary Compressor connected direct to 1-H.P. Gasoline Engine or 1/2-H.P. 110-220-volt, A.C. 60-cycle Electric Motor. Constant air volume of 6 cu. ft. per minute—no pulsation—no air storage tanks. Develops 35 lbs. working pressure. Mounted on 17 1/4 by 24 1/4 in. steel platform with 4 rubber-tired casters. Outfit includes: Pressure feed Gun with leakproof nozzle; spray adjustable from 7 in. wide to a thin line; 2-gal. aluminum tank (same as at right); 1-qt. aluminum cup and 3 lengths of 3/8-in. inside diam. rubber hose, one 40-ft. length to connect compressor to tank or gun and two 12-ft. lengths for air and material to connect tank to gun.

\$134.50 Cash

175 TM 151—Outfit with 1-H.P. Gasoline Engine. Ship. wt. 199 lbs. \$134.50
Monthly Payment Price: \$12.50 Down; \$10 a Month..... 148.00

175 TM 152—Outfit with 1/2-H.P. Electric Motor. Ship. wt. 178 lbs. 104.50
Monthly Payment Price: \$10 Down; \$9 a Month..... 115.00

575 TM 157—Gun with Nozzle (no hose). Ship. wt. 4 lbs. 4 oz. 17.50
Monthly Payment Price: \$2.50 Down; \$3 a Month..... 19.50

SAVE TIME—USE WARDS SPRAY GUNS

for Paint, Varnish or Enamel

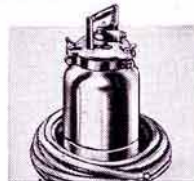
Don't waste your time and effort with tedious, old fashioned painting methods... modern paint spraying outfits are replacing the paint brush not only in almost all industrial painting, but around the home and farm, as well.

Wards Sprayers are easy for the non-professional operator to use, yet are built to exceed professional standards. Although Wards outfits are designed by expert engineers and precision-built to the highest standards by leading manufacturers, Wards prices make it easy to own a modern Sprayer. Wards methods of distribution and low selling cost make such prices possible.

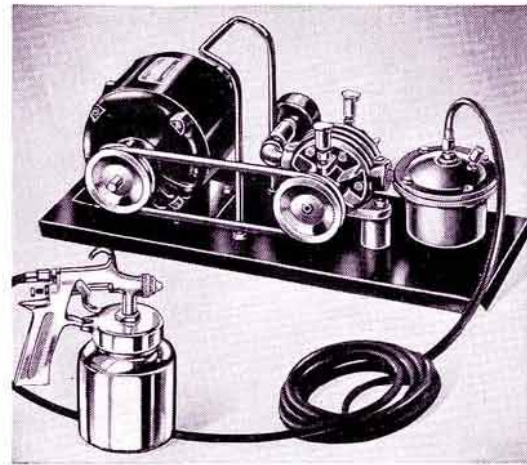
And if you don't want to pay cash... use your credit... buy on Wards Monthly Payments. For details of this plan, for more complete descriptions of these outfits and for other paint spraying equipment, see Wards General Catalog.



Air Line Regulator, Filter Gauge. For pressures up to 250 lbs.; 1/4-in. inlet, 1/8-in. outlet, tapped for iron pipe threads. Controls air supply, removes foreign matter and shows pressure used. Ship. wt. 2 lbs. 10 oz.
75 TM 165.....\$3.75



2-Gal. Auxiliary Tank. Same as with sprayer at left. Increases capacity of outfit at right; holds material enough to cover 800 sq. ft. Two 10-ft. lengths 3/8-in. inside diam. material and air hose. Ship. wt. 16 lbs.
475 TM 160.....\$9.50



PORTABLE ROTARY PAINT SPRAYER

Equal to Sprayers selling up to \$39.50. Covers 700-1200 sq. ft. per hour—7 times faster than brushing. Sprays paint, lacquer, varnish, enamel, kalsomine and insecticides. Simple to operate—no diaphragm—nothing to regulate. *Does not pump oil*—improved Filter eliminates possibility of oil or moisture mixing with air. Quiet—vibrationless. Outfits 475 TM 250 and 375 TM 255 include qt.-size aluminum gun with adjustable trigger control, 15-ft. hose and 3 case-hardened nozzles—for fan spray, round spray and a 45° angle spray. Ship. wts. 28, 56 and 25 lbs., 1 lb. 12 oz., 1 lb. 4 oz.

\$18.95 Cash

475 TM 250—Outfit complete, without motor. Cash... \$18.95
Monthly Payment Price: \$2.50 Down, \$3 a Month... 20.95

375 TM 255—Complete with 1/2-H.P. 110-V. 60-cycle A.C. Motor 25.95
Monthly Payment Price: \$3 Down, \$5 a Month... 28.95

475 TM 251—Compressor and base only..... 11.25

75 TM 254—Extra 1-qt. aluminum cup for gun..... 1.00

75 TM 253—25-ft. hose and necessary connectors..... 1.39

Electric Bench Grinders

FOR FAST PRODUCTION WORK

Motor Guaranteed 10 Years Against Burnout

Thermotron Equipped



\$15.95
 1/2 H.P.
 \$2.50 DOWN
 \$3.00 Monthly

• Built-in "Thermotron" prevents motor from burning out under all conditions. Should the motor over-heat, the Thermotron automatically disconnects. After motor cools, reset by merely pushing the button.

• Heavy split phase motor sealed against grit and dust—means longer life.
 • Motor runs quietly—dynamically balanced to eliminate vibration almost entirely. Develops full rated horse power.

1/2-H. P. Electric Grinder

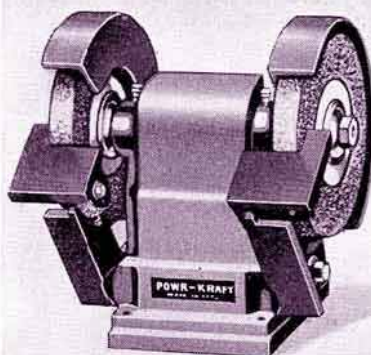
484 TM 6705—1/2-H.P. 3450 R.P.M. 3/4 by 6-in. wheels mounted on 1/2-in. diam. shaft. Ship. wt. 41 lbs. \$15.95

1/2-H. P. Electric Grinder

484 TM 6706—1/2-H.P. 1725 R.P.M. 3/4 by 8-in. wheels mounted on 3/8-in. diam. shaft. Ship. wt. 47 lbs. \$21.95

Prices on Electric Grinders of other voltages and odd cycles can be obtained by writing our Sales and Engineering Dept.

A grinder with plenty of power and weight to handle any type of bench grinding, tool sharpening, buffing and wire wheel brushing. Precision type ball bearings assure cooler, smoother operation and low current consumption. Tool rests are adjustable. Rests and guards are removable for buffing work. Black enamel crackle finish. Ready to plug-in—7 1/2 ft. cord, on-off switch. Equipped with two Master Quality Vitrified grinding wheels—1 coarse wheel, 1 fine. For 110-120-volt, 60-cycle, A.C. Mailable.



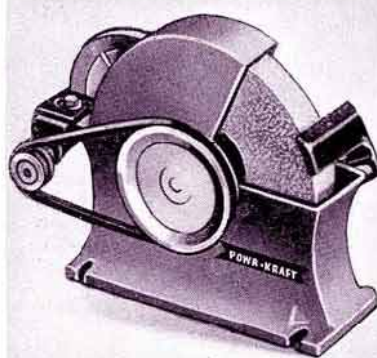
New!
POWR-KRAFT
6-INCH
BENCH
GRINDER

• Heavy Rugged Cast Iron Frame • V or Flat Belt Drive • Belt and Wheels Fully Guarded • 3/4-in. Spindle, 1/2-in. Arbor • Self Lubricating Bearings

\$7.50

Handsome new safety type design for general purpose bench grinding. Not only the wheels, but also the drive pulley is fully guarded. Two fast cutting grinding wheels size 1/2 by 6 inches dressed on 3 sides. One coarse wheel for rough work, one fine wheel for fine work and finishing. Grinding wheels may be replaced with wire scratch wheel for removing paint and rust or cloth buffer wheel for polishing. Extra long, heavy self-lubricating bearings with oil reservoirs add years of trouble-free service. New double adjusting tool rests with convenient gauges that show degree of tilt to 65 degrees. Overall height 9 inches. Baked gray enamel finish. Motor not included. Ship. wt. 22 lbs. Mailable.

Include your grinder in an order of \$10 or more and buy on Monthly Payments—for details see Page 2.
 484 TM 885—Grinder only **\$7.50**



Slow Speed
Wet Grindstone

• Finest Quality Natural Ohio Sandstone Wheel, Size 10 by 1 1/2-in. • Built-in Jack Shaft for Reducing Speed • Convenient Double Adjustable Tool Rest • Removable Plug for draining water

\$9.75

All tempered tools should be sharpened on a slow speed water grinder to prevent drawing temper. Heavy cast iron construction designed to prevent vibration. Extra large base for added rigidity. Full hooded water shield gives extra protection from water splashing. Not only useful for grinding tools but also for household cutlery, 3/8-in. shaft runs on self-lubricating bronze bearings. Overall height 11 1/4 in. Overall length 16 1/2 in. Baked-on gray enamel finish. Use 1 1/2-in. V-pulley on 1/2-H.P. 1750 R.P.M. Motor listed on Page 28. Motor not included. Mailable.

484 TM 890—Grinder only. Ship. wt. 34 lbs. **\$9.75**

Vitrified Grinding Wheels



Use Standard Grit for general rough grinding—Fine Grit for sharp-edged tools. State Art. No., diam., thickness and size shaft hole.

584 TM 8500—Standard Grit
 584 TM 8501—Fine Grit

Diam. In.	Thick-ness Inches	Ship. Wt.	Price Each
4	1 1/2	1 lb.	55c
4	1	1 lb. 12 oz.	95c
4	1/2	1 lb. 4 oz.	69c
5	1 1/2	2 lbs. 4 oz.	\$1.15
6	1 1/2	2 lbs.	89c
6	1	3 lbs.	\$1.39

Bakelite Wheels



High speed wheels. For cutting off hardened steel, brass, copper, saw gumming, etc. Aluminum oxide abrasives bonded with Bakelite (Resinoid). Round face. Order by Mail only. Shipped direct from Factory near Chicago.

284 TM 8535—State size of shaft hole, thickness and diameter.

Thick-ness In.	Ship. Wt.	5-in. Diam. Each	Ship. Wt.	6-in. Diam. Each	Ship. Wt.	8-in. Diam. Each
1/2	2 lbs.	85c	2 lbs.	92c	3 lbs.	1.19
3/8	2 lbs.	92c	2 lbs.	1.02	3 lbs.	1.33
1/4	2 lbs.	1.12	3 lbs.	1.26	4 lbs.	1.72
3/16	2 lbs.	1.37	3 lbs.	1.62	5 lbs.	2.22
1/8	2 lbs.	1.52	4 lbs.	1.79	5 lbs.	2.52

R.P.M. Recom. 4584 3820 2805

Cloth Buffing Wheels



18 layers of unbleached muslin. About 1/4 in. thick. Concentric sewing. Attach to grinder, polishing head or flexible shafts. 1/2-in. hole.

84 TM 6742—State art. number and diam.

Diam. In.	Ship. Wt.	Price Each
4 inches	3 oz.	12c
6 inches	4 oz.	19c
8 inches	5 oz.	39c
10 inches	6 oz.	49c
12 inches	9 oz.	67c

45 layers of unbleached muslin. Concentric sewed. 1/2 in. thick. 3/8-in. arbor hole.

84 TM 8925—State art. number and diam.

Diam. In.	Ship. Wt.	Price Each
4 inches	7 oz.	22c
6 inches	9 oz.	37c
8 inches	11 oz.	65c

Steel Wire Scratch Brushes



Use on grinders, polishing heads and flexible shafts for scrubbing rust from metal, removing burrs from metal parts, etc. Highest quality steel wire. Securely fastened to steel core. Be sure to state article number, diameter and bore wanted.

84 TM 6743—Coarse Wire

Diam.	Bore	Ship. Wt.	Each
4 in.	1/2 in.	6 oz.	35c
6 in.	1/2 in.	10 oz.	45c
8 in.	3/8 in.	1 lb. 4 oz.	55c

84 TM 6744—Fine Wire

Diam.	Bore	Ship. Wt.	Each
4 in.	1/2 in.	6 oz.	45c
6 in.	1/2 in.	12 oz.	55c



Use Your Credit See Page 2

Portable FLEXIBLE SHAFT OUTFIT

- Does sanding, buffing, grinding, polishing, drilling and countless other jobs.
- Completely portable—entire tripod mounted on smooth rolling, ball bearing casters.
- Motor mounting head revolves on post on ball bearings.
- 4-step jack shaft pulley provides wide variety of speeds.
- Flexible shafts described at left.

Light Duty Flexible Shaft Outfit

Consists of 184 TM 604 Tripod Stand, 84 TM 880 Flexible Shaft, 84 TM 883 Flexible Shaft Extension and 484 TM 9850 1/4-H.P. Motor.
184 TM 605—Ship. wt. 75 lbs. \$28.50

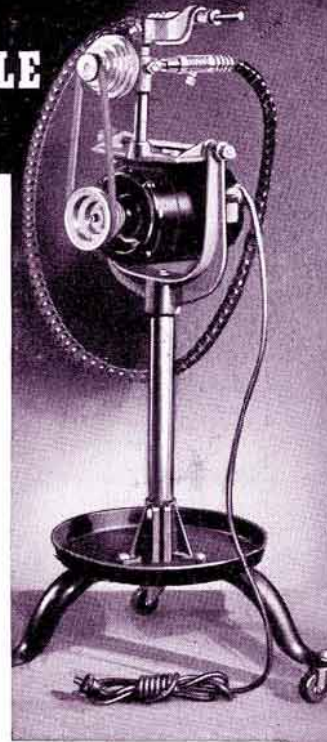
Heavy Duty Flexible Shaft Outfit

Consists of 184 TM 604 Tripod Stand, 84 TM 881 Flexible Shaft and 484 TM 9861 1/2-H.P. Motor.
184 TM 606—Ship. wt. 80 lbs. \$36.25

Tripod Stand Only

Tripod Stand 44 1/2 inches high overall. 1 1/2-inch diam. bright finish steel post. Black finish tool pan. Gray enamel motor mounting revolves on post on ball bearings. Cast iron yoke permits motor to swing. Adjustable for height. 4-step jack shaft, belt and 4-step motor pulley included. Bracket on top holds shaft even when revolving.

484 TM 604—Less motor and less flexible shaft.
Shipping weight 50 lbs. \$13.45



\$28.50

184 TM 605 Complete

\$5.45 Flexible Shaft with 5/16-in. Core

For drilling, sanding grinding and polishing jobs. Fits 1/2-in. motor or line shaft. Grip handle. Specially tempered music wire inner core 5/16-in. diam. and cadmium-plated rust-proof outer casing. Double row of heat treated, precision ground ball bearings at each end. Fitted with inner and outer motor coupling and chuck adapter, 1/4-in. 3-jaw chuck, 1/2-in. grinding wheel arbor and auxiliary handle. Equip your shop with this versatile tool.

584 TM 880—Length overall 52 in. Ship. wt. 6 lbs. Mailable \$5.45

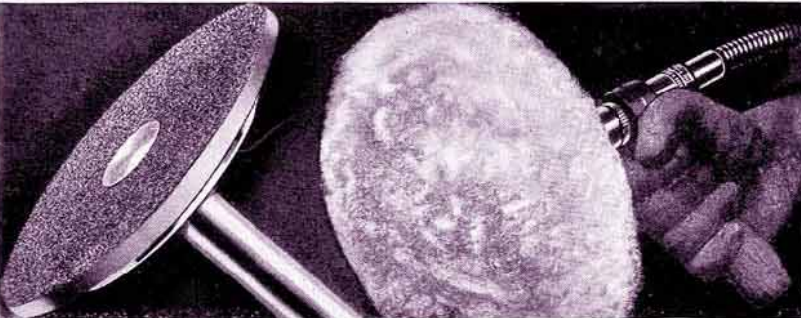
Extension for 84 TM 880 Flexible Shaft Lgth. 43 in. Ship. wt. 4 lbs. Mailable.

84 TM 893 \$3.15

\$13.45 Flexible Shaft with 3/8-in. Core

Specially designed for drilling, polishing, buffing and grinding where a real industrial tool is required, such as in garages and machine shops. Attaches to any 1/2-inch motor or line shaft. Fitted with a new style outer casing of tough fabric—steel reinforced on the outside for protection against scraping on rough surfaces. Inner walls are lined with special friction reducing material. Heavy 3/8-in. core of specially wound music wire rides in two rows of heat treated, precision ground ball bearings on each end. All engaging parts are heat treated. Heavy 1/2-in. 24-thread spindle fits both 1/4 and 1/2-in. chucks as well as other standard accessories.

84 TM 881—Length overall 62 1/2 in. Shipping weight 7 lbs. Mailable \$13.45



Flexible Disc

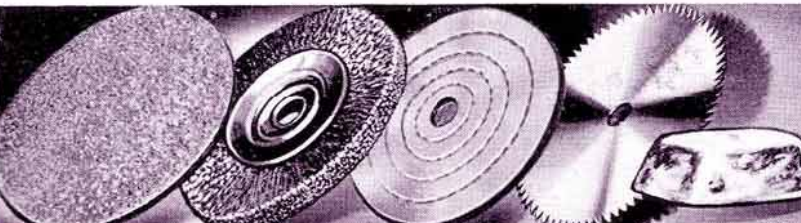
A handy accessory for finishing and polishing curved surfaces. Use with either flexible shaft shown above or any shaft with 1/2-in. 24-thread spindle. Rubber pad 6-in. diam. by 3/8 in. thick is attached to back plate by threaded metal center piece which also holds 84 TM 719 sandpaper in place.

84 TM 8868—Ship. wt. 1 lb. Each \$1.55

Sheepskin Buffer

Excellent Buffer for automobile bodies, or most any polished surface whether metal or wood. Sheepskin jacket slips over sanding disc and rubber pad and fastens securely with draw string attached. Sanding disc and rubber pad listed on Page 27. For use on Sanding Disc or Flexible Disc at left. Shipping weight 3 oz.

84 TM 711—Each \$85c



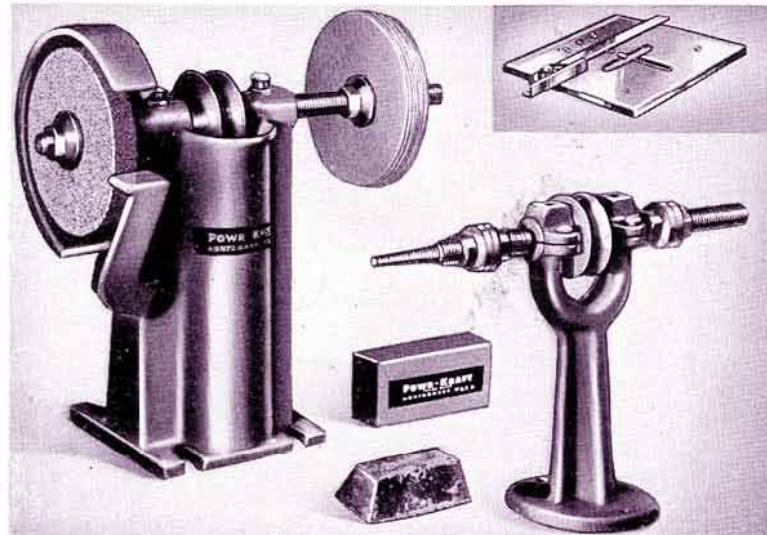
Handy Utility Kit for Any Workshop

\$125

Your shop isn't complete without one of these handy outfits. For grinding, polishing, buffing, sawing, etc. Set consists of saw, grinding wheel, scratch wheel, cloth buffer—all 4 in. in diam. with 1/2-in. hole and cake of polishing compound. Pieces fit polishing heads, motor arbor or flexible shaft. Replacement parts for this set also available separately.

- 84 TM 9982—Shipping weight 2 lbs. Complete Outfit \$1.25
- 84 TM 8863—Saw only. Ship. wt. 5 oz. Each .45c
- 84 TM 8864—Polishing Compound. Ship. wt. 3 oz. Each .10c
- 84 TM 8865—Grinding Wheel. 1/2-in. face. Fine Grit. Ship. wt. 10 oz. Each .29c
- 84 TM 8517—Grinding Wheel. 1/2-in. face. Standard Grit. Ship. wt. 10 oz. Each .29c

For Scratch Wheels and Cloth Buffers see Page 24



Heavy Duty Polishing Head \$295

Heavy rigid gray iron base which also acts as a belt guard... eliminates hazard of catching fingers or clothing in belt. May be driven from below or behind. Has 2 1/4-in. pulley for 1/2-in. V-belt and runs on 1/2-in. steel shaft mounted in two self-lubricating bearings. Adjustable guard and tool rest. Use 3-in. pulley on motor or line shaft running 1750 R.P.M. to obtain the proper running speed. Baked gray enamel finish. Complete with tool rest, guard, 1/2 by 4-in. grinding wheel, 4-in. buffing wheel and cake of polishing compound. Overall height 9 1/2 in.

484 TM 9995—Ship. wt. 9 lbs. \$2.95

Standard Polishing Head 85c Less Chuck

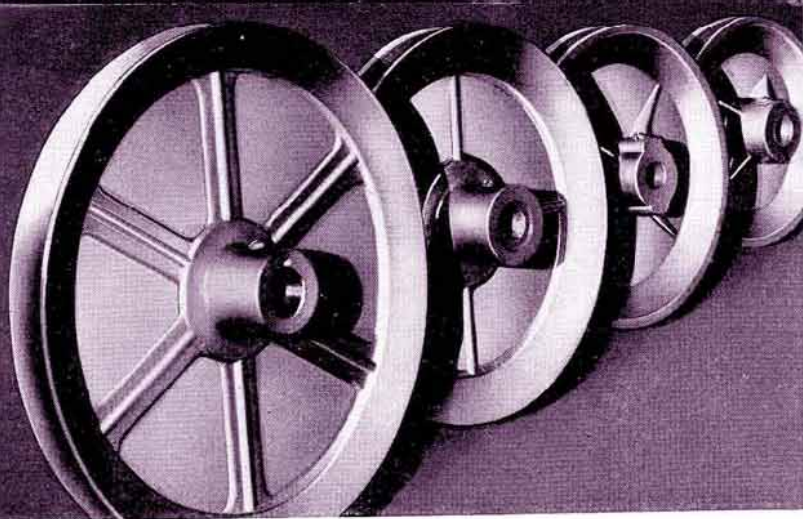
Heavy gray iron base. Split-type adjustable bearings on each end. One end has threaded taper arbor. With 3-jaw, 1/4-in. chuck. 1 3/4-in. pulley for 3/8 or 1/2-in. V-belts. Steel shaft 1/2-in. diam. Holds wheels 6 by 1/2-in. each end. Gray enamel finish. 84 TM 9991—Polishing Head, without Chuck. Ship. wt. 3 lbs. .85c

84 TM 9980—Polishing Head, with Chuck. Ship. wt. 4 lbs. \$1.10

8 by 8-in. Saw Table for Polishing Above Head

Heavy 8 by 8-in. stamped steel, with accurate miter gauge. 84 TM 9981—Ship. wt. 3 lbs. \$60c

Buy All Your Woodworking Accessories on MONTHLY PAYMENTS—See Page 2



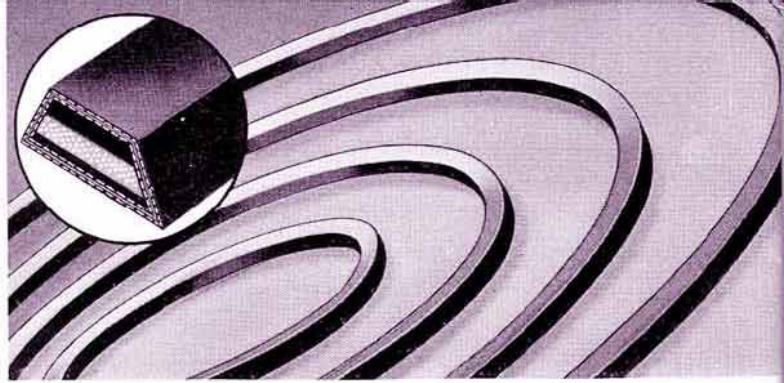
Die Cast White Metal "V" Pulleys—Solid Disc Type

84 TM 9968—State diam. and bore.

Carefully balanced with accurately built flanges and hub, these pulleys run true at all speeds. They are full weight and full size as shown actually weighing up to 25% more than other makes of pulleys of scant size and weight. Light weight die cast white metal of high tensile strength. Designed to take either 3/8 or 1/2-in. "V" belts.

Solid disc type. We can supply only diameters and bores listed. See Table of Speeds on Opposite Page.

Diam.	Bore, In.	Ship. Wt.	Price
1 1/2-in.	1/2	4 oz.	17c
1 3/4-in.	1/2	4 oz.	19c
1 3/4-in.	5/8	5 oz.	22c
2-in.	1/2	6 oz.	23c
2 1/4-in.	1/2	8 oz.	25c
2 1/2-in.	1/2, 5/8, 3/4	8 oz.	28c
3-in.	1/2, 5/8, 3/4	10 oz.	30c
4-in.	1/2, 5/8, 3/4	12 oz.	46c
5-in.	1/2, 5/8, 3/4	1 lb.	49c
6 1/2-in.	1/2, 5/8, 3/4	1 lb. 12 oz.	77c
8-in.	1/2, 5/8, 3/4	2 lbs. 4 oz.	\$1.25
10-in.	1/2, 5/8, 3/4	4 lbs.	1.75
12-in.	1/2, 5/8, 3/4	5 lbs.	2.15



Pow-Kraft Endless "V" Rubber Belts

Core of heavy cord fabric provides great strength and holds stretch to a minimum. Rubber construction assures flexibility and prevents slippage. Overall is a tough fabric cover—and the whole is vulcanized into one continuous belt, correctly shaped to run true. State circumference.

84 TM 9964—1/2-in. Wide

Outside Circum. In.	Ship. Wt. Oz.	Price Each
26	4	33c
28	4	35c
33	4	42c
37	4	44c
39	4	45c
40	4	47c
42	5	49c
44	5	53c
46	5	55c
48	6	56c
50	6	59c
53	6	61c
56	6	63c
58	8	65c
60	8	67c
62	8	69c
65	8	72c
72	8	77c
77	8	85c
92	10	95c

84 TM 9963—3/8-in. Wide

Outside Circum. In.	Ship. Wt. Oz.	Price Each
24	3	32c
31	4	36c
34	4	39c
43	5	50c
60	6	65c

How to Order



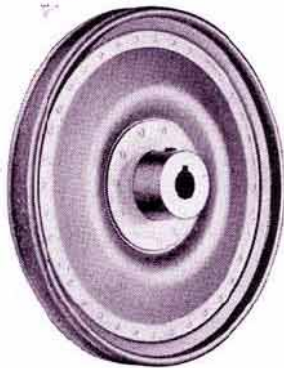
For circumference of belt, measure around outside edge of pulleys (not in groove).



Round Leather Belting

Flexible—made for minimum stretch. Ship. wt. ft. 2 oz.

84 TM 9973—State size.
Size In. . . . 3/8 7/16 1/2
Per Foot . . . 10c 8c 7c



37c

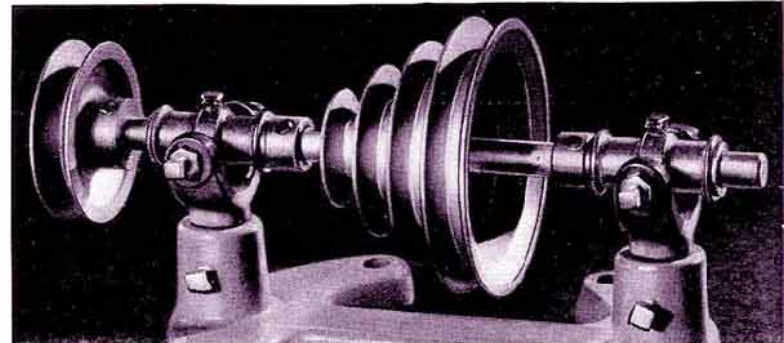
2-inch
1/2, 5/8 or
3/4-in. bore

Pressed Steel "V" Pulleys

Heavy Duty for extra strength. Balanced to run true at all speeds. Take either 3/8 or 1/2-in. "V" belts. 5/8-in. bores and over have key ways. Set screws on all sizes. We can supply only diameters and bores listed.

84 TM 9999—State diameter and bore wanted.

Outside Diam. In.	Bore In.	Ship. Weight Lbs.Oz.	Es.	Outside Diam. In.	Bore In.	Ship. Weight Lbs.Oz.	Each
2	1/2, 5/8, 3/4	6	37c	6	1/2, 5/8, 3/4	1 8	85c
2 1/2	1/2, 5/8, 3/4	9	39c	8	1/2, 5/8, 3/4	2 7	\$1.25
3	1/2, 5/8, 3/4	11	49c	10	1/2, 5/8, 3/4	3 4	1.55
3 1/2	1/2, 5/8, 3/4	13	55c				
4	1/2, 5/8, 3/4	15	60c				
4 1/2	1/2, 5/8, 3/4	1 1	65c	12	1/2, 5/8, 3/4	4 0	2.00
5	1/2, 5/8, 3/4	1 3	75c			6 9	3.15
5 1/2	1/2, 5/8, 3/4	1 6	79c	15 1/2	5/8, 3/4, 1		



Jack Shaft for Quick Speed Changes \$275

For quickly increasing or reducing speeds without changing or using different size pulleys. Especially suitable for increasing speeds of high speed tools such as Shapers, etc. Equally useful for machines where extra slow speed is desirable such as Drill presses. Rigid frame of seasoned non-warping gray iron drilled to fit same space as 1/2-H.P. Motor. Precision ground steel shaft runs in bronze bushed bearings fitted with oil cups. Adjustable up and down by means of set screws. Die cast pulleys perfectly shaped and accurately balanced for efficient operation. One 2 1/2-in. regular and one 4-in. 4-step pulley taking 3/8 or 1/2-in. V-belt. Shipping weight 12 lbs. 84 TM 9988 Each \$2.75

USE YOUR CREDIT—BUY ACCESSORIES ON WARDS PAYMENT PLAN



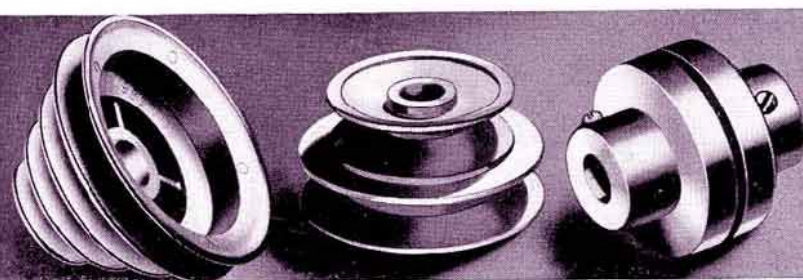
Couplings and Collars

84 TM 9983—Rigid Couplings.

Used for extending shaft. 1/2-in. bore. Ship. wt. 6 oz. 20c
3/4-in. bore. Ship. wt. 8 oz. 29c

84 TM 9984—Shaft Collars.

Used to prevent end-play. 1/2-in. bore. Ship. wt. 2 oz. 10c
3/4-in. bore. Ship. wt. 3 oz. 15c



4-Step "V" Pulleys

Change belt from one step to another and you change the speed of your machine! Wards 4-step die cast white metal "V" Pulleys are scientifically designed and carefully balanced on a special testing machine—run true at all speeds and give smoother performance and longer life! Take either 3/8 or 1/2-in. "V" belts. State choice of 1/2, 5/8, or 3/4-in. bore.

84 TM 9974—4-inch maximum diameter. Ship. wt. 2 lbs. 79c

84 TM 9975—5-in. maximum diameter. Ship. wt. 2 lbs. 8 oz. 89c

2-Step "V" Pulley

Scientifically designed and perfectly balanced to run true at all speeds. Takes 3/8 or 1/2-in. V belt. Made of die cast white metal with high tensile strength. Diameters of each step are 2 and 2 1/2-in. respectively. Increase the versatility of your motor at low cost. Order today. State whether you want 1/2 or 5/8-in. bore.

84 TM 9972—Ship. wt. 10 oz. 38c

Flexible Couplings

Made of die-cast white metal. First quality rubber cushions in center allow for flexibility between shafts. Carefully machined and accurately fitted for efficient operation. Shipping wt. 7 and 10 ounces.

84 TM 9970—For 1/2-in. shaft. Each 27c

84 TM 9971—For 3/4-in. shaft. Each 39c

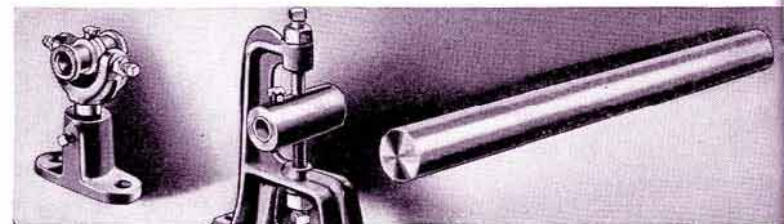
Flat Face Metal Pulleys

Die cast white metal, high tensile strength. Accurately balanced to run true at all speeds for smooth operation. Face slightly crowned. All sizes have set screw; sizes 3x3 (5/8 and 3/4 in.) have keyway also.

84 TM 9969—State size and bore.

Size by Face	Diam. In.	Bore, Inches	Ship. Wt.	Price Each
1 1/2 by 1 3/4 in.	1 1/2	5/8, 3/4	8 oz.	27c
2 by 2 in.	2	1/2, 5/8, 3/4	12 oz.	31c
2 1/2 by 2 1/2 in.	2 1/2	1/2, 5/8, 3/4	1 lb. 4 oz.	39c
3 by 3 in.	3	1/2, 5/8, 3/4	1 lb. 8 oz.	57c

Use Your Credit! For Monthly Payments See Page 2



Hangers

You'll need several of these when building a line-shaft. Adjustable up and down as well as sideways. Heavy bronze bushed bearings with oil cup. State size bore.

84 TM 9987—1/2-in. bore. Ship. wt. 1 lb. 8 oz. 89c

3/4-in. bore. Ship. wt. 1 lb. 12 oz. \$1.19

Heavy Duty Shaft Hanger

Open side for quick change. Self-aligning . . . height adj. from 4 to 5 in. Two self-lubricating bronze bushings, oil cup and oil well between. 3/4-in. bore.

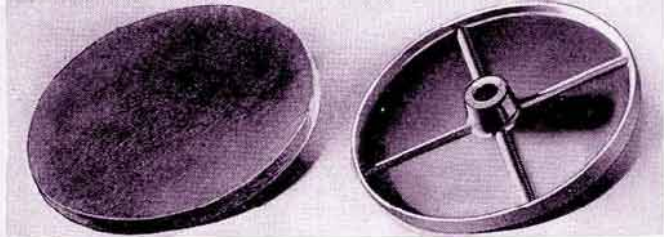
84 TM 9997—Ship. wt. 5 lbs. \$1.98

Precision Ground Steel Shafting

Not ordinary cold rolled steel, but shafting that is accurately ground and held to 1/1000-in. This means longer life for the bearings and the highly machined surface makes shaft more resistant to rusting. Ship. wts. 2 lbs. and 6 lbs.

84TM9985—1/2 by 24 inches. Per length. 25c

84TM9986—3/4 by 48 inches. Per length. 95c



Sponge Rubber Cushion Disc

Use this tough gray sponge rubber pad as a cushion between sanding disc (shown at right) and sheepskin buffer (on Page 25). Sheepskin fits over sanding disc and rubber pad. Rubber pad is 6 in. diameter 3/8 in. thick. Shipping weight 4 ounces.

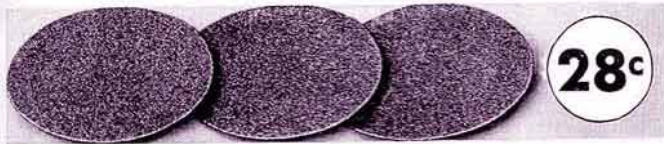
84 TM 718—Each..... **25c**

Powr-Kraft Sanding Disc

Fine quality die-cast metal, carefully machined and perfectly balanced. For bench saws, lathes and flexible shafts. Diam. 6 in.

84 TM 714—1/2 in. threaded bore. Ship. wt. 1 lb. Each..... **60c**

84 TM 717—1/2 in. unthreaded bore. Ship. wt. 1 lb. Each..... **60c**



QUALITY DISC SANDING SHEETS

Use these discs of Sandpaper to give your work a smooth, flawless finish. Each disc is 6 inches in diameter, for use with metal sanding disc (shown above). Attach to sanding disc with glue. Set of six consists of two each of coarse, medium and fine. Keep extra sandpaper on hand and renew it frequently.

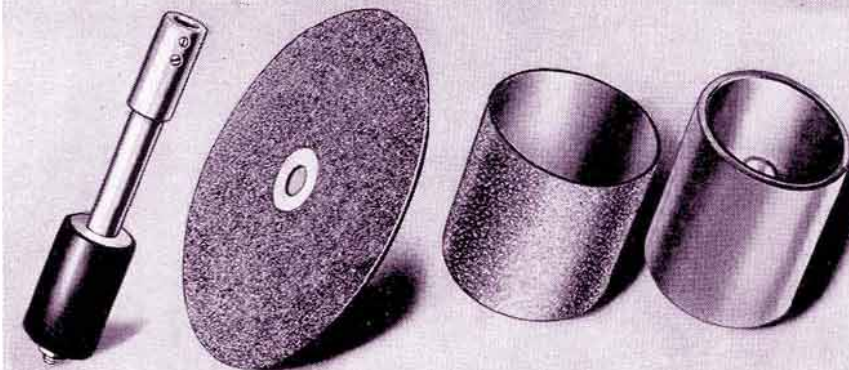
84 TM 719—Ship. wt. per set. 5 oz. Per Set of 6..... **28c**

28c

Convenient Table of Speeds

This handy table shows at a glance the approximate speed of the pulley on any machine with different pulley sizes on the motor shaft. These are correct when belt is at proper tension, and are based on a free motor speed of 1750 R.P.M.

Size, in. Motor Pulley	Size, in. of Pulley on Machines																	
	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	3	4	5	6 1/2	8	10	12	15	18			
1 1/4	1723	1435	1230	1075	950	860	715	540	430	330	265	215	175	140	115			
1 1/2	2065	1725	1475	1290	1140	1030	860	645	515	395	320	265	215	170	140			
1 3/4	2400	2000	1725	1500	1340	1200	1000	750	600	460	375	315	250	200	165			
2	2775	2290	1970	1725	1530	1375	1145	860	685	530	430	345	285	230	190			
2 1/4	3100	2580	2200	1930	1725	1550	1290	965	775	595	485	385	320	255	215			
2 1/2	3450	2870	2460	2150	1900	1725	1435	1075	860	660	540	430	355	285	240			
3	4140	3450	2950	2580	2290	2070	1725	1290	1070	800	615	515	430	345	285			
4	5500	4570	3940	3450	3060	2775	2295	1725	1375	1060	860	690	570	460	380			
5	6850	5750	4920	4300	3825	3450	2865	2150	1725	1320	1075	860	715	575	475			
6 1/2	8950	7475	6400	5590	4975	4480	3730	2790	2240	1725	1400	1120	930	745	620			
8	.....	9200	7870	6900	6125	5520	4600	3450	2750	2120	1725	1375	1140	915	765		
10	.....	.....	9850	8620	7670	6900	5750	4300	3450	2650	2150	1725	1430	1140	950	
12	.....	.....	.....	9200	8280	6900	5160	4130	3180	2580	2070	1725	1380	1140	.....		
15	.....	.....	.....	.....	.....	8635	6470	5170	3970	3230	2580	2150	1725	1430	.....		
18	.....	.....	.....	.....	.....	.....	7750	6200	4770	3880	3100	2580	2070	1725	.....		



Spindle Sander

A most useful accessory for sanding carvings, moldings irregular surfaces, etc. Sanding roll should overhang the end of rubber drum by about 3 inches. Centrifugal force makes paper conform to the work when pressed against paper. Rubber sleeve, wood roller for forming paper, and sheet of garnet paper included. Fits any 1/2-in. shaft.

84 TM 740—Ship. wt. 2 lbs. **\$1.75**

Abrasive Disc

A good abrasive disc is a handy accessory for any shop. This one is rubber bonded for fast, clean cutting of metals, stone, brick, tile, and other materials difficult to cut by ordinary means. It's 8 inches in diameter, 1/2 in. thick, and has a 3/8-in. hole. We recommend a speed of 5000-6000 R.P.M. Shipping weight 3 pounds.

84 TM 8901—Each..... **\$1.00**

Drum Sandpaper

Excellent for smoothing rounded edges and surfaces. This heavy sanding band fits over the metal drum at right or any other drum 2 3/8-inch diameter by 3 inches wide. Use with flexible shaft, polishing head, etc. Keep a supply on hand. State choice of Coarse, Medium or Fine Grit. Shipping weight 2 oz.

84 TM 703—Each..... **10c**

Sanding Drum

This accurately designed die-cast metal sanding Drum attaches easily and quickly to flexible shaft, polishing head, etc. Also may be mounted on 1/2-inch diameter shaft for use with drill press. Diameter, 2 3/8 inches. Width, 3 inches. Complete with rubber sleeve as shown. Shipping weight 10 oz.

84 TM 704—Each..... **89c**

USE YOUR CREDIT, SEE PAGE 2.



Motor Arbores

With chuck at right. Hold wheels with 1/2-inch arbor holes and any thickness up to 3/4 in. Fit 1/2-inch shaft. 3 jaw chuck. Ship. wts. 1 lb. 8 oz. and 1 lb. 4 oz.

84 TM 9977—1/4-in. capacity... **79c**

84 TM 9976—1/2-in. capacity... **\$1.00**

Three-Jaw Chucks

Threaded for 1/2-in. spindle having 24 threads per inch. Carefully machined. A good inexpensive chuck for average accuracy.

84 TM 8890—State size wanted.

Size	Ship. Wt.	Ea.
1/4 in.	6 oz.	27c
1/2 in.	10 oz.	55c



Our Finest

Woodworker's Vise

Precision built, 7-in. cast iron front and back jaws, ground faces. Opens to 9 in. Adjustable locking bench stop. Cold rolled steel screw and guides. Blue gray finish. Ship. wt. 22 lbs.

84 TM 6831... **\$5.85**

Woodworker's Vise

Instant locking device for quick adjustment. Clamps to anything from 3/4 to 2 in. thick. Steel rods. Malleable iron reinforced jaws 1 1/2 by 3 1/2 in. Open to 3 3/4 in. Black. Japanese. Shipping weight 8 lbs.

84 TM 6833... **\$2.25**

Malleable Iron Clamps

Swivel head with ball joint. Cold rolled steel screw with machine cut threads.

84 TM 6900—State size. Opens in... 4 6 8 10
Depth in... 2 1/2 3 4
Ship wt. lbs. 2 1/4 3 4 7
Each... 50c 80c \$1.20 \$1.70
Pair... 95c \$1.45 2.25 3.25

Steel Bar Clamps

A powerful, quick action clamp that won't buckle. Flat steel bar 1 1/2 by 1/4 in. notched to vary width opening. Shipping weights each 11 and 12 lbs.

84 TM 6910—State length. Length... 3 ft. 4 ft.
Each... \$2.35 \$2.70
Pair... 4.55 5.15

Cabinet Clamp

Powerful, quick-action clamp of heavy cast iron. For large work. Easily attached to any length of 1 1/2 by 2 1/2 in. wood bar. Sliding head 1 1/2 in. square. 3/8 in. steel screw. Bar not included. Shipping weight 4 lbs. 4 oz.

84 TM 6905... **98c**

Clamp Fixture

For any length 3/4 in. threaded pipe. 5/8 in. adjusting screw. Back fixture adjustable, self-locking. Clamp faces 1 1/2 by 1 1/2 in. Semi-steel. Pipe not included. Shipping weight 3 lbs. 14 oz.

84 TM 6907... **\$1.35**



Lakeside Quality Hammers

- Drop forged steel head... heat treated and tempered
- Seasoned hickory handle... securely wedged head

A well balanced correctly hung hammer for all-around hard use. Strong claws pull any size nail. Sides, claws, and face polished; neck and under claws, black. Ship. wt. each 1 lb. 8 oz.

84 TM 1531—Size 1 1/2, 16-oz. head. **65c**



Saw Horse Joints

Cut lumber to desired lengths. Insert in joints and job is done. No beveling, nailing, or braces needed. Lock tight grippers prevent side sway, spreading or disjuncting. Malleable iron. Painted red. Ship. wts. per pair 3 and 6 lbs.

84 TM 8892—No. 1 for 1 by 3 in. lumber... **78c**

84 TM 8893—No. 2 for 2 by 4 in. lumber, Pair... **\$1.40**



Eclipse Quality Planes

- Heavy cast body—ground, polished
 - Forged tool steel cutter 1 3/4 in. wide—cuts smooth and true
- Every woodworker needs a good, general purpose plane, and carpenters pick this one for clean, accurate work and long service. Can't be beaten for fine quality at low cost. Adjustable for depth or leveling. Polished hardwood handle and knob.

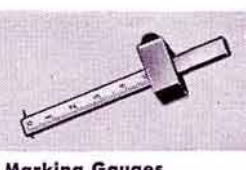
84 TM 460—Smooth style 3... **\$1.40**



Block Planes

Eclipse Quality. Fits the hand. The handiest type of tool for doing end grain planing and other similar jobs. Correctly tempered steel cutter 1 3/4 inches wide. Blade is adjustable. Polished bottom and sides. Hardwood knob. Length 7 inches. Ship. wt. 2 lbs.

84 TM 545... **55c**

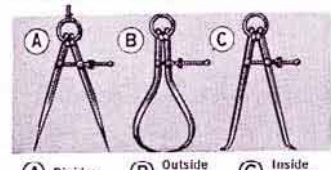


Marking Gauges

Accurate with tempered steel pin. 6-in. rule graduated to 16ths. Shipping weight each 8 oz., 6 oz.

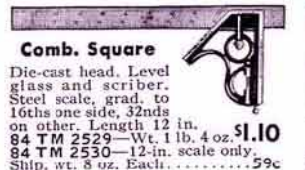
84 TM 2325—Boxwood with brass screw and face plate. 8 1/4 in... **79c**

84 TM 2324—Beechwood with wood screw. 8 1/2 in. overall... **27c**



Same quality as sold under nationally known maker's name for much more than Wards low price. Tempered steel springs. Tested for accuracy. State article number and size wanted.

Size In.	Ship. Wt. Oz.	84 TM 2614	84 TM 2613	84 TM 2612
4	5	65c	65c	65c
5	7	69c	69c	69c
8	8	75c	75c	75c



Comb. Square

Die-cast head. Level glass and scriber. Steel scale, grad. to 16ths one side, 32nds on other. Length 12 in.

84 TM 2529—Wt. 1 lb. 4 oz. **\$1.10**

84 TM 2530—12-in. scale only. Ship. wt. 8 oz. Each... **59c**

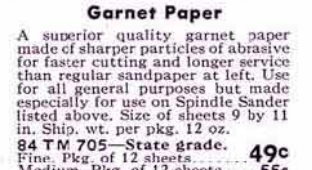


Sandpaper

84 TM 2401—Size 8 3/4 by 10 1/2 in. State number.

No.	Ship. Wt. lbs.	24 Sheets
00	1	20c
0	1	23c
1/2	1	25c
1	1	27c
1 1/2	2	29c
2	2	31c

84 TM 2404—20 Sheets Ass't. Size 4 1/2 by 5 in. Weight 4 oz. **10c**



Garnet Paper

A superior quality garnet paper made of sharper particles of abrasive for faster cutting and longer service than regular sandpaper at left. Use for all general purposes but made especially for use on Spindle Sander listed above. State of sheets 9 by 11 in. Ship. wt. per pkg. 12 oz.

84 TM 705—State grade. Fine. Pkg. of 12 sheets... **49c**

Medium. Pkg. of 12 sheets... **55c**

Coarse. Pkg. of 12 sheets... **59c**



Master Quality Chisel Set

- Finest crucible steel, correctly tempered—holds edge longer
 - Polished, bevel edged blades
- Finest butt chisels you can buy. Blades are evenly tempered, carefully honed, polished to bright, mirror-like finish. Blades are 3 in. long.

Select quality hickory handles leather tipped. Sizes 1/4, 1/2, 3/4 and 1 in. Ship. wt. 1 lb. 8 oz.

84 TM 808—Set of 4... **\$1.98**

Emery Cloth—3 Grits

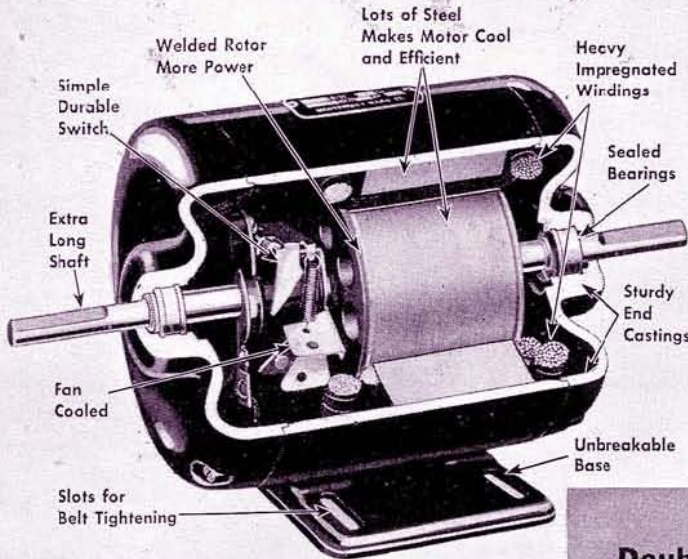
84 TM 2403—Standard size 9 by 11 in. State Choice. Coarse No. 1, Medium No. 0, or Fine No. 00. Shipping weight 3 ounces. Per Sheet... **5c**

Handy Assortment

Size 4 1/2 by 5 in. Ship. wt. 4 oz. 84 TM 2406—6 sheets... **10c**

All Wards Motors Have

Under the maker's own name plate, these same quality motors would cost up to double Wards price. In first cost, in economical operation, in length of dependable service, Wards motors give the biggest value per dollar cost of any motor made.



GUARANTEED 10 YEARS Against Burn-out

MOTORS CAN'T BURN OUT— THEY'RE THERMOTRON EQUIPPED

Wards Split Phase Motors, famous for superior performance, now have a NEW feature: a built-in "Thermotron" to prevent burn-out under all conditions. Should motor overheat, the Thermotron will automatically disconnect. After motor cools, reset it by pushing button (pictured). Nothing to replace. Better than separate overload switch costing dollars more.

MORE WEIGHT INSIDE

Wards motors outweigh most others of equal H.P., and the weight is inside—where it counts. More copper in the windings, more steel in rotor and stator—mean more power, better efficiency. Frames of rolled steel—not heavy cast iron that adds weight but not power.

ECONOMICAL

The larger the motor (per H.P.) the more efficient it is. Wards ¼-H.P. motors cost less than 1½¢ per hour at average rates; the ½-H.P. less than 2¢.

PERFECT BALANCE

Every motor tested on \$5000 dynamic balancing machine for both balance and precision. Automatic end-play take-up.

Split Phase Motors

Above is shown in general the heavy duty type of construction of all Wards Split Phase Motors shown on this page. Split phase Motors of any brand can be used only on machinery that starts easily, although heavy loads may be thrown on after motor and machine have come up to full speed. Suitable for Home Workshop Tools. Not suitable for Water Pumps. No radio interference.

Adjustable Motor Base

Use one motor with a number of machines. Buy complete set for first machine and motor, extra rails only for each extra machine. The stamped steel rail forms a sturdy, portable base for your motor. Shipping weight, set, 2 lbs. 10 oz.
 84 TM 9831—Per Set..... **95c**
 84 TM 9830—Extra Bench Rails Only. 14 in. long. Ship. wt. 1 lb. Each..... **22c**

Reversing Switch

A 3-position switch (Forward—Off—Reverse) that will handle any split-phase or direct current motor up to ¼ H.P. When used on a shaper simply reverse the cutters and the rotation of the shaper spindle and you double the number of patterns from the cutters you now have. Maximum overall size approximately 2½-in. diameter. Full instructions included. Shipping weight 3 pounds.
 84 TM 9829..... **\$2.95**

Motor Switch

The handiest Motor Switch ever devised! Mount it anywhere on your bench. Stretch the 8-ft. pull-cord under the front edge of your bench, and control motor from any point. Switch is double pole, for long life. Shipping weight, 10 oz.
 84 TM 9832—Each..... **\$1.59**

Useful Information About Motors

All motors deliver more power when connected with heavy wire. Do not use ordinary No. 18 extension cord under any circumstances for more than a few feet. No. 14 and heavier extension cord is listed in our General Catalog.

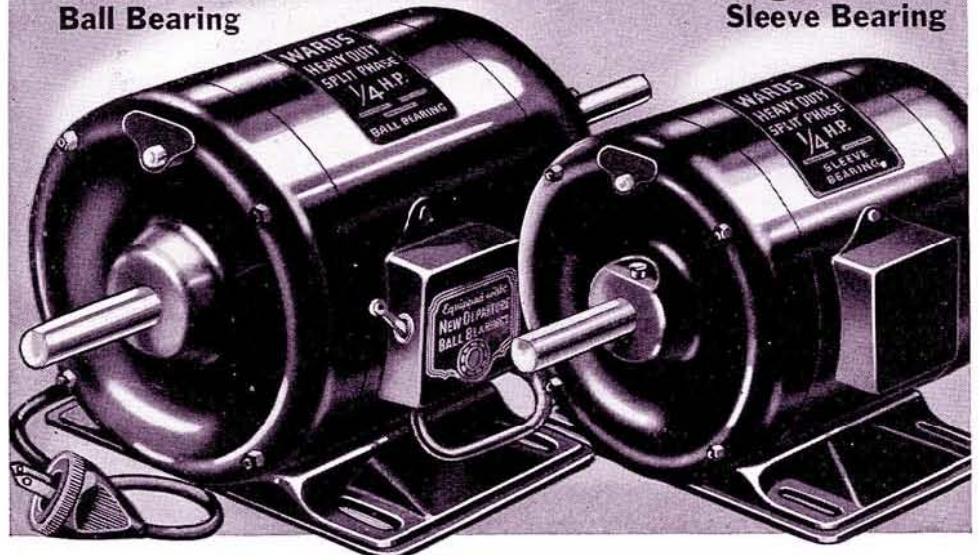
To get maximum power from your motor, use wire not lighter than shown in table below.

H. P.	Volts	Distance from Motor to Meter, or Battery						
		100 ft.	150 ft.	200 ft.	250 ft.	300 ft.	400 ft.	500 ft.
¼	110	14	14	12	12	12	10	10
½	110	14	12	12	12	10	10	8
¾	110	12	12	10	10	10	8	8
1	110	10	10	8	8	8	6	6
	110	10	10	8	8	8	6	6
¼	32	10	8	6	6	4	4	4
½	32	8	6	6	4	4	4	2
¾	32	8	6	4	4	2	2	0

**You Can Buy Motors, Too,
On Monthly Payments**

SEE PAGE 2

Double Shaft Ball Bearing



Single Shaft Sleeve Bearing

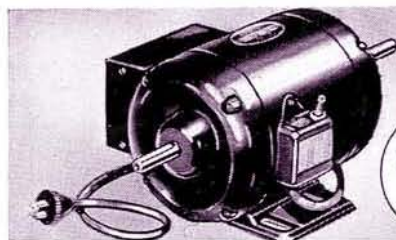
GUARANTEED 10 YEARS AGAINST BURN-OUT

All features described above. Big, husky motors for tough use. Especially for home workshop tools and other easy starting machinery. Automatically develop over twice rated capacity before stalling; plenty of overload capacity. New Departure Ball bearings, grease-sealed, never need oiling. Use motor in any position. Splash-proof. 1750 R.P.M.—for 110 to 120 volts, 60 cycle A.C. Reversible. Heavy cord, ON-OFF switch. ½-in. diam. shaft projects 2 in. each end. Ship. wts. 33 and 37 lbs.
 484 TM 9860—¼ H.P. 12½ in. overall. Mailable. **\$8.65**
 484 TM 9861—½ H.P. 13½ in. overall. Mailable. **9.95**
 484 TM 9863—¾ H.P. Capacitor type, uses less amperage while starting. Ship. wt. 39 lbs. **\$14.45**

\$865
¼ H.P.

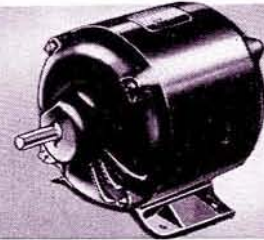
Same motors as at left but sleeve bearing, diamond bored for real precision and quietness, with large oil wells, oil yarn filtered. Mount motor in horizontal position only. No switch. Shaft projects 2 in. at one end. 1750 R.P.M. Easily reversible. For: 110 to 120 volt, 60 cycle A.C.
 484 TM 9849—¼ H.P. Less Cord. Ship. wt 30 lbs. Mailable..... **\$7.45**
 484 TM 9850—¼ H.P. With Cord. Ship. wt. 32 lbs. Mailable..... **7.95**
 484 TM 9851—½ H.P. With Cord. Ship. wt. 36 lbs. Mailable..... **8.95**

\$745
¼ H.P.



FOR HIGH SPEED MACHINERY

Guaranteed 10 years against burn-out. Full ½ H.P.; runs at 3450 R.P.M. Capacitor type—economical to operate, starts bigger loads. New Departure Sealed Ball Bearings; ½-in. diam. shaft projects above 2 in. at each end. Same heavy-duty construction as motors above; has all features covered at top of page. Heavy cord, ON-OFF switch. For 110-120 volt 60 cycle A.C. only. For machines that require high speed of 5000 R.P.M. or over—shapers, carvers, etc. Not suitable for slow speed machinery. A real saving at Wards price.
 484 TM 9862—Ship. wt. 45 lbs. Mailable..... **\$17.75**



GUARANTEED 3 YEARS AGAINST BURN-OUT

Dependable—strong split-phase motor for ordinary purposes such as washing machines, workshop tools, etc. We know of no better motors except those listed above. Bronze sleeve bearings, wool yarn lubrication. Carefully balanced—well insulated. ½ H.P. 1750 R.P.M. ½-in. shaft projects 1½ in. For 110 to 120 V. 60 cycle A.C. only. (Not Thermotron equipped) Ship. wt. 31 lbs. Mailable.

484 TM 9796—Less Cord..... **\$5.65**
 484 TM 9793—With Cord..... **5.98**

More Power-Longer Life

BIG OVERLOAD CAPACITIES

While starting, Wards Repulsion Induction Motors develop from 2 to 3 times their rated H.P. No motor should be continuously used delivering more than its rated H.P. but for emergency demands for reasonable periods, Wards Motors will deliver 2 to 3 times their rated H.P. For example, the 1/4 H.P. motor below develops well over 1/2 H.P., the 1/2 H.P. size over 3/4 H.P., etc. before stalling. This extra capacity will pull you through tough spots where ordinary motors would stall.

COOL RUNNING - QUIET

Lots of weight, plus efficient ventilation, enables Wards motors to run day and night at full rated H.P. without rising over 40° C. above room temperature. Heavier weight makes them run quieter, too. A cool motor costs less to run.

LONGER SHAFTS

2 inches long—longer on larger sizes—give ample length for lining up pulleys. Plenty of room to mount a 4-step pulley.

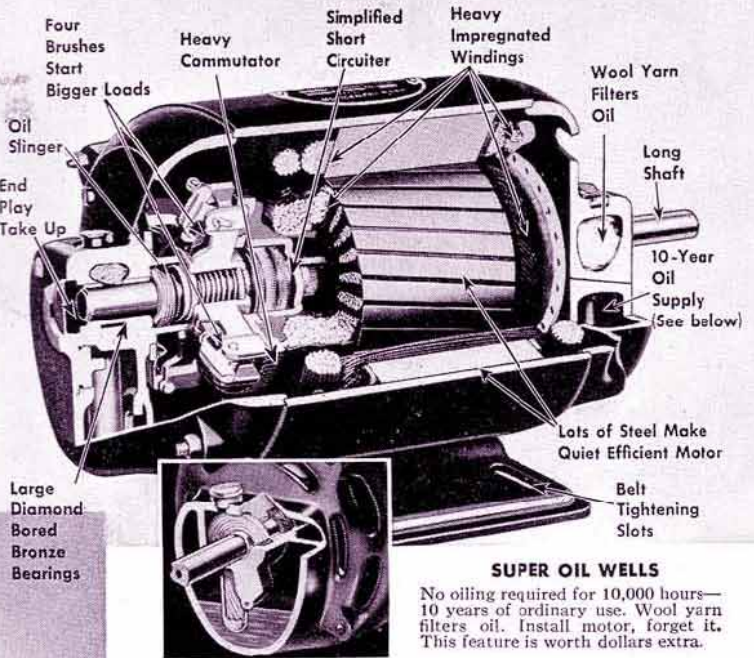
SEPARATE BASE

Not in one piece with frame. In case of damage, easily replaced. Spotted for belt tightening. 1 H.P. and larger have hights instead of slots and bases are not separate.

LONG LIFE

Bigger motors... cooler running... diamond bored bearings (or ball bearings)... precision manufacture... excellent lubricating system—all combine to give you added service, when you buy your motor from Wards.

GUARANTEE: Each motor is guaranteed for a definite time as explained in the descriptions. If any motor should fail to give the service specified, we will repair or replace on a service basis—charging you only for the time the motor has performed satisfactorily. Twenty-six service stations all over the U.S. insure quick service on repair parts at any time.



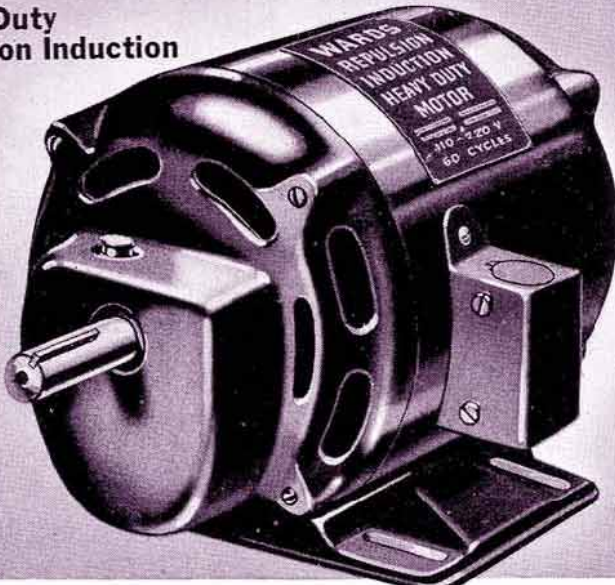
SUPER OIL WELLS

No oiling required for 10,000 hours—10 years of ordinary use. Wool yarn filters oil. Install motor, forget it. This feature is worth dollars extra.

Repulsion-Induction Motors

Above is shown the dependable, industrial type construction of all Wards Heavy Duty Repulsion-Induction Motors. They are designed for use on the hardest kind of jobs—any machine whatever. Use them for toughest service, even if motor must run day and night. Ward Motors "can take it": No better buys anywhere! Meet all Power Company and NEMA requirements.

Heavy Duty Repulsion Induction



GUARANTEED 6 YEARS

Heavy Duty Motors for tough jobs. Equipped with Super-Oil Wells and all other points of superiority shown above, but do not have Thermotrons. Four brushes permit motor to start on low voltage. Develop 3 to 4 times rated H.P. while starting, double power any time for short, heavy pulls. Low starting current—connect direct to line. 1/6, 1/4, and 1/3 H.P. are brush lifting type.

\$10.95
1/4 H.P.

Use on either 110 to 120, or 220 to 240-volt, 60-cycle A.C. Single Phase (ordinary house current). Speed, 1750 R.P.M. Easily reversible by shifting brushes.

The 1 1/2, 2, 3 and 5 H.P. have regular oil well construction, not super oil-well described above.

434 TM 9821—Mailable. State H.P.

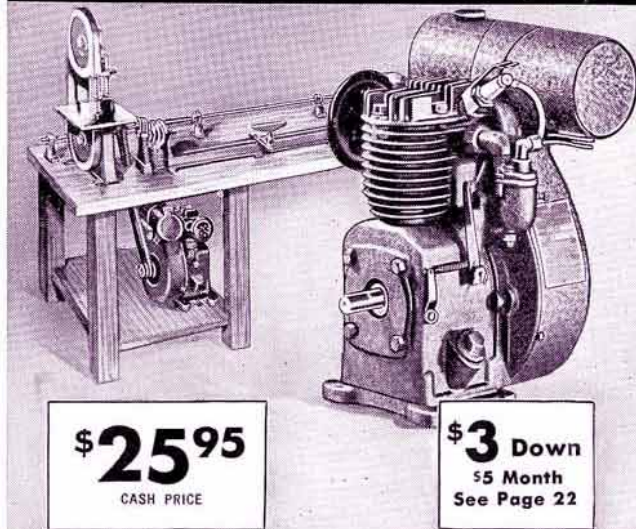
H.P.	Shaft Diam. In.	Shaft Length In.	Ship. Wt. Lbs.	Cash Price
1/6	1/8	2	37	\$10.95
1/4	3/16	2	41	12.50
1/2	1/4	2	47	17.50
3/4	3/8	2 1/4	61	22.50
1	1/2	2 1/4	65	28.95

184 TM 9821—Not Mailable. State H.P.

H.P.	Shaft Diam. In.	Shaft Length In.	Ship. Wt. Lbs.	Cash Price
1 1/2	3/4	2 1/2	106	\$37.50
2	1	3 1/8	114	49.95
2 1/2	1	3 3/8	157	62.50
3*	1 1/8	3 3/8	180	82.50
5*	1 1/2	3 3/8	240	139.95

*Before ordering 2, 3 or 5 H.P. see your Power Co. See if your line and transformer are big enough for this size.

Have that Power Workshop EVEN WITHOUT ELECTRICITY



AIR-COOLED GASOLINE ENGINE

- 4-Cycle, 1 Cylinder—Produces 5/8 H.P. at 1750 R. P. M.
- Alloy Steel Valves—Aluminum Alloy Piston—Three Rings.
- Drop Forged Crankshaft—Auto Carburetor—Rope Starter
- 2 Qt. Fuel Tank—Fly-ball Governor Adjustable for Speed.

Check These Other Uses

Operates Cream Separators—Churns—Pump Jacks—Washing Machines—Air Compressors—Paint Sprayers—Corn Shellers—Feed Grinders—Tool Grinders and any other job requiring a 1/4 to 1/2-H.P. Electric Motor.

The economy power unit! Strong enough to operate any tool in your Power-Kraft workshop. Its new automotive type construction with heat-resisting steel valves means this power is produced quietly, smoothly.

High tension specially designed magneto. Can be operated for approximately 1 1/2 an hour at full load, 2 3/4-in. V-pulley. Ship. wt. 60 lbs. Prices shown are for Mail Orders Only. Slightly higher in Retail Stores.

P187 TM 5026—Price Each F.O.B. Chicago... \$25.95
Price Each F.O.B. Baltimore, Albany, Kansas City or St. Paul. 27.45
Price Each F.O.B. Fort Worth, Denver, Portland or Oakland... 28.45



DOUBLE SHAFT R. I. MOTORS

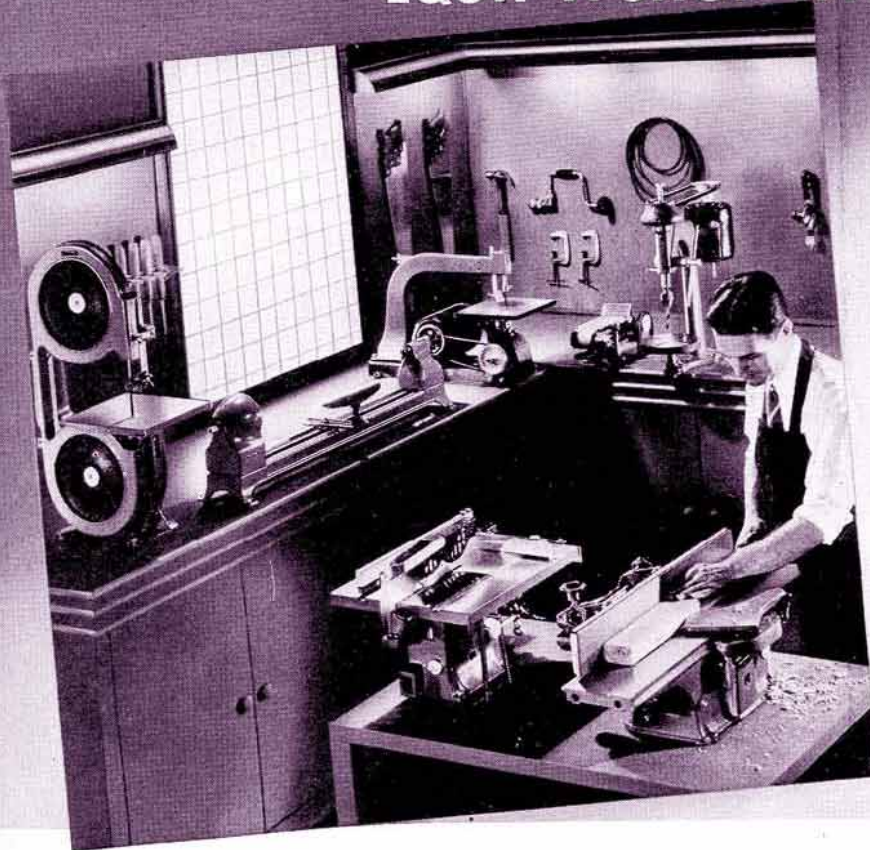
Guaranteed 6 years. Same Repulsion-Induction Motors above, except have double shaft, grease sealed New Departure Ball Bearings, ON-OFF Switch, 10-ft. cord and plug. Use it for tough jobs. Just the motor for industrial shops or DeLux home workshop. Operate motor in any position. For 110 or 220 volt, 60 cycle A.C. 1750 R.P.M. Easily reversible by shifting brushes. 3/4-in. shafts.
484 TM 9813—1/2 H.P. Ship. wt. 67 lbs. \$24.95
184 TM 9815—3/4 H.P. Ship. wt. 71 lbs. 32.50

HEAVY DUTY D.C. MOTORS

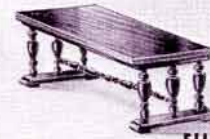
For hard or easy starting. Compound wound. 1/2-in. shaft. 1750 R.P.M. No Thermotrons. Guaranteed 1 yr.
484 TM 9803—1/4 H.P. Single Shaft, sleeve bearing; no switch, for 32 V. Ship. wt. 32 lbs. \$14.95
484 TM 9804—Same for 115-V. D.C. 14.95
484 TM 9807—1/2 H.P. Double Shaft, New Departure Ball Bearings. ON-OFF Switch, for 32 V. Shipping weight 37 lbs. \$19.75
484 TM 9808—Same for 115-V. D.C. 19.75

For Pleasure—For Profit

EQUIP A SHOP WITH WARDS POWER TOOLS



BUILD AND SELL



FURNITURE



BIRD HOUSES



LAWN FIGURES



WIND MILLS



TOYS



WINDOW DISPLAY BACKGROUNDS

ENTHUSIASM for the home workshop is sweeping America! In many a basement and in many an attic there's the sound of hammers and the whine of machines. The tang of sawdust's in the air! Lights burn late! For America is finding enjoyable recreation and worthwhile profit in a home workshop.

You, too, can have a world of fun and real diversion in a shop. It makes a great hobby. Use your shop for making money, too. Above are just a few of many projects you can build. Make them for your own use or build them to sell. The books listed on Page 7 and shop magazines will give you many other ideas.

Whatever you build—build well. Finish it attractively—price it fairly and display it for sale where it will be seen by many. A well travelled automobile highway is an excellent spot.

To build well and to get the most out of your shop equip it with the best tools you can afford. Then you can operate your shop at top efficiency and give your finished work the unmistakable touch of a skilled craftsman. You'll find, too, in the long run that the best tools are the most economical.

When you buy tools from Wards you have the assurance of getting top quality at remarkably low cost. Wards sell power tools through hundreds of retail stores and by mail through millions of Catalogs. That means vast distribution. And this huge volume of sales means lower cost to you.

If you now have a home workshop—make it complete—add the improved tools and the handy accessories this Catalog describes. If you haven't a shop—start one—begin your pleasure and profit today!

EQUIP YOUR SHOP ON WARDS MONTHLY PAYMENT PLAN

On orders of \$10 or more, you can buy anything in this Catalog with a small amount down and pay the balance monthly. Note that at Wards the cost of credit is figured on the *unpaid balance ONLY!* See terms in the table at right. If you are buying by mail be sure to fill in and sign the Monthly Payment Order Blank in the back of Wards General Catalog.

With this convenient arrangement you can equip your workshop completely and pay as you use and enjoy it. Get a power tool for every shop operation. Thus you will eliminate all drudgery. Get all the accessories you need to make your power tools thoroughly versatile. Get the tools, the accessories, and the motors that you need *now* and pay for them by the month.

With the superior equipment listed here—with the remarkably low prices—with this convenient monthly payment plan—there's only one answer as to where to buy Power Tools—*It's Wards!*

30 WARDS ®

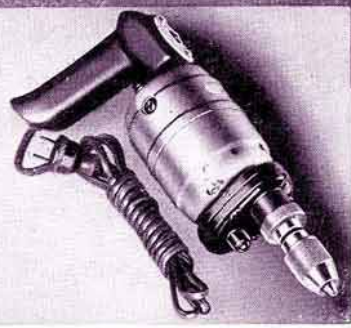
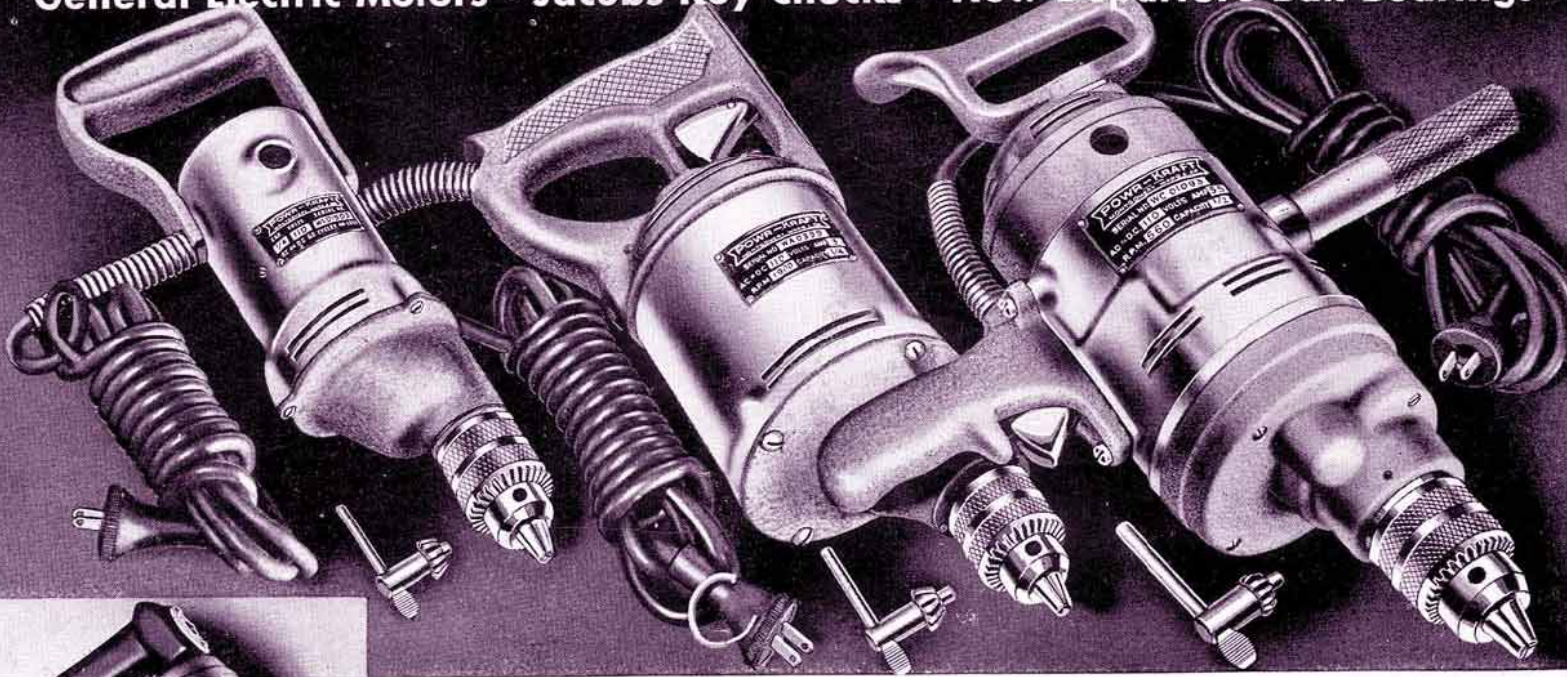
If Cash Price of your Order Amounts to	1st Payment with Order must be at Least	To Find Carrying Charge	If the Balance Owed on Order after 1st Payment is	You Pay Each Month
\$10.00—\$15.00	\$2.00	Simply add 10% to the Balance Owed on order after first Payment. For example, if the balance is \$16.00 after first payment is deducted, the Carrying Charge is \$1.60 and the amount yet to be paid is \$16 + \$1.60 or \$17.60. <i>Note: the minimum carrying charge is \$1.</i>	\$10.00—\$15.00	\$2.00
15.01— 20.00	2.50		15.01— 20.00	3.00
20.01— 25.00	3.00		20.01— 25.00	4.00
25.01— 30.00	3.00		25.01— 30.00	5.00
30.01— 35.00	4.00		30.01— 35.00	5.00
35.01— 40.00	4.00		35.01— 40.00	5.00
40.01— 45.00	5.00		40.01— 45.00	5.00
45.01— 50.00	5.00		45.01— 50.00	5.00
50.01— 60.00	5.00		50.01— 60.00	6.00

For Terms on orders of over \$60, see our General Catalog or write us.

SEE THE BACK OF WARDS GENERAL CATALOG FOR LOW FREIGHT RATES ON WOODWORKING MACHINES

WARDS POWR-KRAFT Electric Drills

General Electric Motors • Jacobs Key Chucks • New Departure Ball Bearings



PENCIL TYPE \$18.95 1/4-in.

PISTOL GRIP \$33.75 1/4-in.

BREAST PLATE \$48.75 1/2-in.

- G. E. Motors operate on 110 or 120 Volt A.C. or D.C. Will not stall with maximum size drill.
- New Departure Ball Bearings • Jacobs chuck.
- Chrome-vanadium steel reduction gears.
- Ventilated aluminum alloy case.
- Cutler Hammer double pole switch and 10-foot 3-conductor cord. Listed by Underwriters' Laboratories Inc.
- Crackle gray finish.

UTILITY MODEL

A new low price for a dependable electric drill. Used in home workshops and in garages for hundreds of drilling jobs. Not a heavy duty drill, but will outperform drills costing dollars more. Operates within 3/4-in. of a corner... that's real close-quarter drilling. Sturdy universal motor for 110-120 volt A.C. or D.C. ... won't stall with full load. Chuck holds drills up to 1/2 in. Self-lubricating bronze bearings. Handy off-on switch set into cast aluminum handle. 8 ft. approved rubber cord and unbreakable plug. Spindle Speed 1300 R.P.M.

84 TM 1030—Ship. wt. 4 lbs. 6 oz. \$9.45

PENCIL TYPE MODEL

Here's a high quality pencil-type drill so well built that you'd expect to pay much more than Wards low price. G. E. Motor—Jacobs Chuck—New Departure Ball Bearings—all nationally known products used only in highest priced precision drills. Made for close-quarter drilling, an excellent tool for pattern and cabinet work. Toggle switch. Speed 2000 R.P.M. Read about the other features described above. Ship. wt. 5 lbs.

84 TM 1018—Size 1/4 in. \$18.95

PISTOL GRIP MODEL

A heavy duty drill—built for continuous production service in garages or shops. Heavier New Departure Ball bearings used on spindle and shaft. Enclosed Cutler Hammer double pole switch with lock for continuous running. Removable plate for easy access to brushes. Aluminum-alloy ventilated case. Ship. wts. 11 and 12 lbs.

Article Number	Chuck Size In.	R.P.M.		Cash Price
		No Load	Full Load	
484 TM 1019	1/4	1800	1275	\$33.75
484 TM 1020	3/8	1400	1020	38.50

BREAST PLATE MODEL

Super-Power drill for the toughest work. Extra-heavy motor—oversized bearings—three-piece aluminum alloy ventilated motor housing. Enclosed double pole Cutler Hammer switch with lock. Combination breast-plate and side handle removable for close drilling. Ship. wts. 24, 24 and 25 lbs.

Article Number	Chuck Size In.	R.P.M.		Cash Price
		No Load	Full Load	
484 TM 1021	1/2	580	395	\$48.75
484 TM 1022	5/8	500	325	54.95
484 TM 1023	3/4	480	310	59.75

MASTER QUALITY DRILL SETS



\$1.25 Set of 8 Carbon Steel

Precision ground straight shank Drills. For wood or metal. Handy container for easy selection. Use high speed tungsten steel type for electric drills. Set of 8 drills, sizes 1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 5/16. Ship. wt. ea. 12 oz.

84 TM 1045—Carbon steel \$1.25
84 TM 1044—High speed tungsten steel..... \$2.75

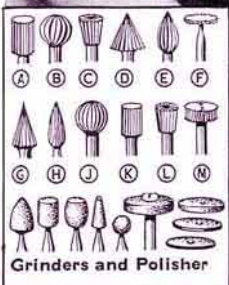
Individual Straight Shank Drills
84 TM 1063—Finest quality high speed tungsten steel. State diam. Ship. wts. 2 to 6 oz.
Diam in. 1/16 3/32 1/8 5/32
Length in. 2 1/2 2 3/4 3 3 1/4
Each 22c 25c 27c 31c
Diam. in. 3/16 1/4 5/16 3/8 1/2
Length in. 3 1/2 4 5 6
Each 37c 47c 85c \$1.30

Economy Drill Set. Tempered carbon steel. For breast and hand drills. 9 drills, sizes 1/16 to 3/16 by 64ths. Ship. wt. 4 oz.
84 TM 1049..... 35c

ELECTRIC HAND DRILL DRILLS • CARVES ROUTS • SANDS • ETC.



\$9.25 Without Bits



Grinders and Polisher

Handy rotary tool, grinds, drills, polishes, routs, cuts, carves, sands, saws, engraves. Housing is black Bakelite—5 1/2 in. long with toggle switch. Collet chuck takes either 1/8-in. or 1/4-in. shank, rotary bits. Motor 110 volts, A.C. or D.C., 12,000 R.P.M. With 6 ft. rubber cord. No rotary bits.
84 TM 608—Ship. wt. 1 lb. 8 oz. Each..... \$9.25

Rotary Bits for Above—Set of 6, (A, B, C, D, E, F) 1/8-in. shank rotary bits for wood plastics and soft metal. Will cut burrs, accurately made of tungsten steel and correctly hardened. Ship wt. 4 oz.
84 TM 8885—Set of 6 Rotary Bits..... \$2.98
84 TM 8895—As above but sold separately. State choice of A, B, C, D, E or F. Ship. wt. each 1 oz. Each 55c
84 TM 8886—Set of 6 Rotary Bits (G, H, J, K, L, M), 1/8-in. shank for work on hard metal. Ship. wt. 4 oz. \$2.98
84 TM 8896—As above but sold separately. State choice of G, H, J, K, L, or M. Ship. wt. each 1 oz. Each..... 55c

Grinding Wheels for Above—Grinding and polishing set of 10 pieces in box. Consists of 5 stone shapes with individual 1/8-in. shanks and one, 1/4-in. shank arbor; 2 carborundum discs; 1 abrasive wheel, 3/8 in. face and 1 hard rubber polishing wheel with 1/8-in. face to fit arbor.
84 TM 8888—Set of 10 pieces. Ship. wt. 6 oz. . \$1.75