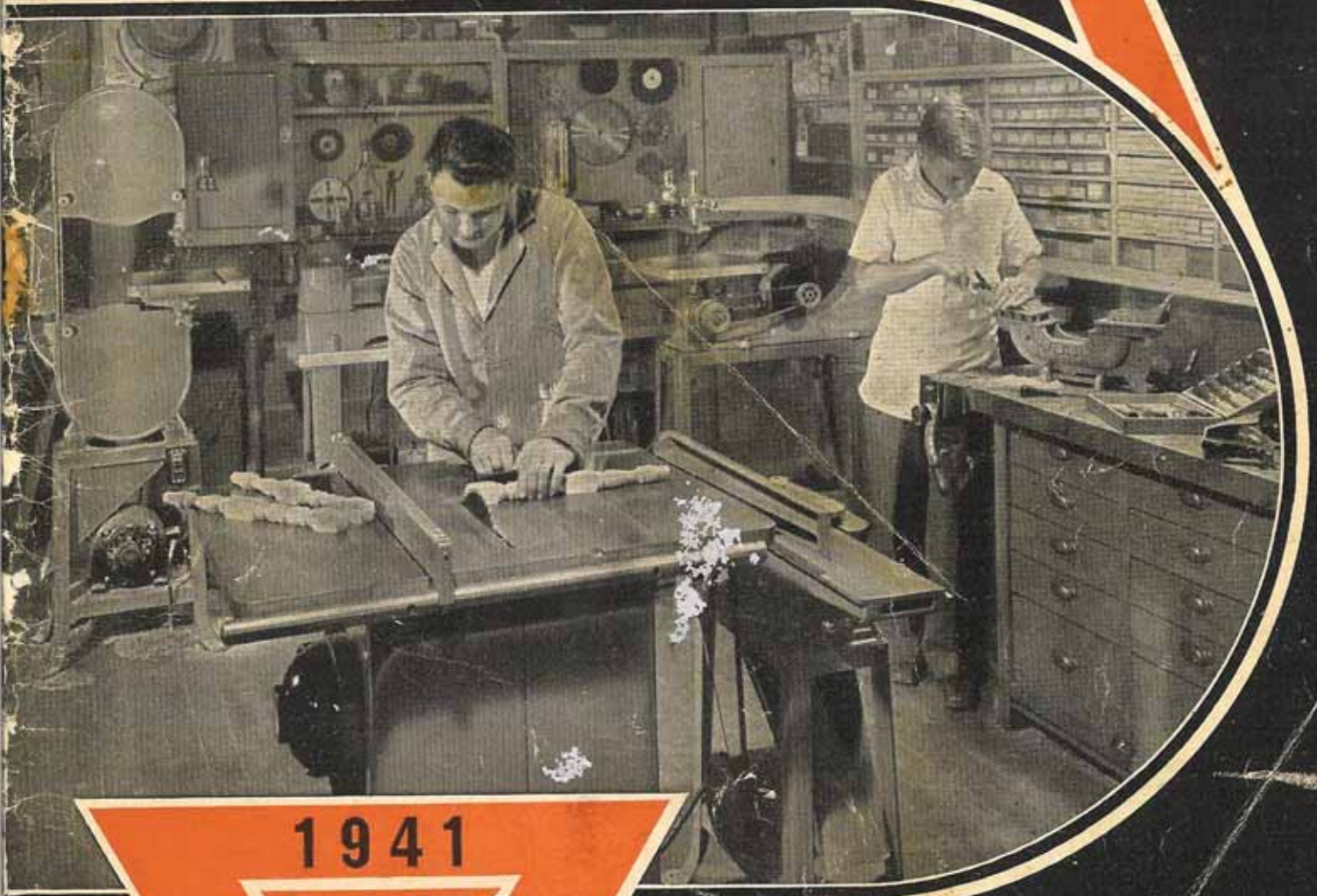
DELTA



1941

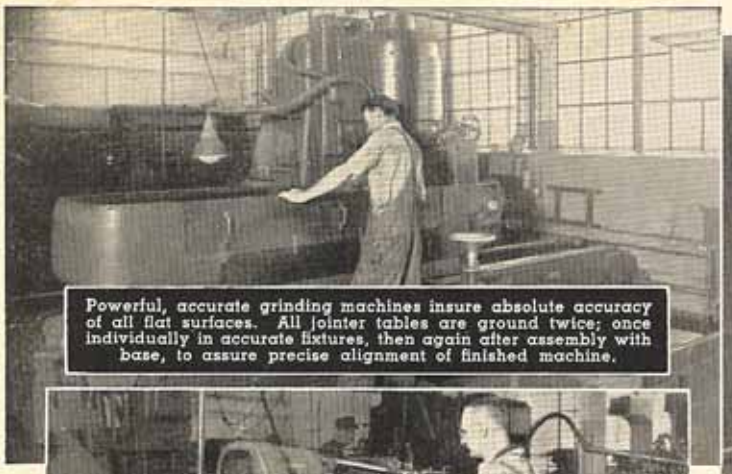
DELTA

MILWAUKEE

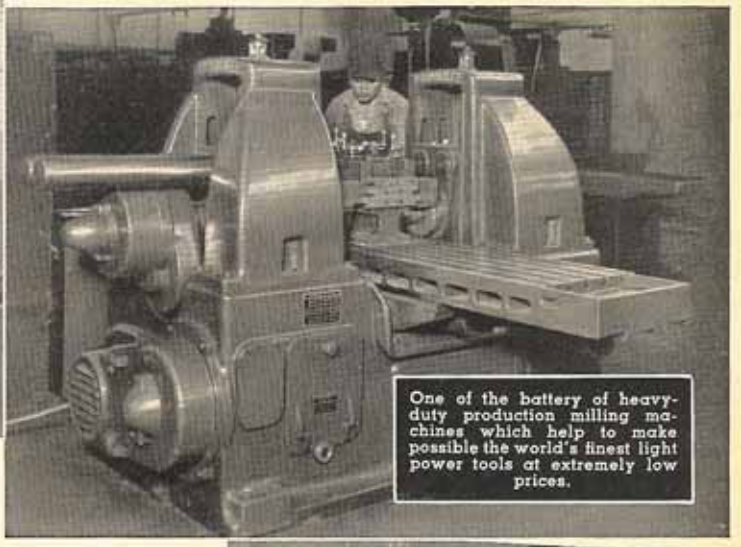
MACHINE TOOLS

CATALOG R-2

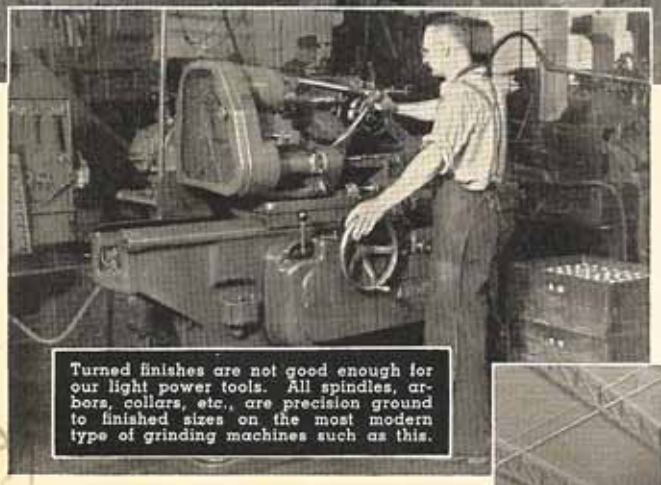
How DELTA QUALITY POWER TOOLS ARE MANUFACTURED



Powerful, accurate grinding machines insure absolute accuracy of all flat surfaces. All jointer tables are ground twice; once individually in accurate fixtures, then again after assembly with base, to assure precise alignment of finished machine.



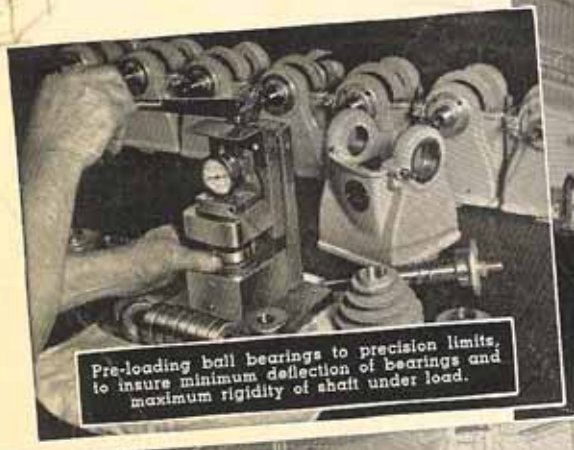
One of the battery of heavy-duty production milling machines which help to make possible the world's finest light power tools at extremely low prices.



Turned finishes are not good enough for our light power tools. All spindles, arbors, collars, etc., are precision ground to finished sizes on the most modern type of grinding machines such as this.

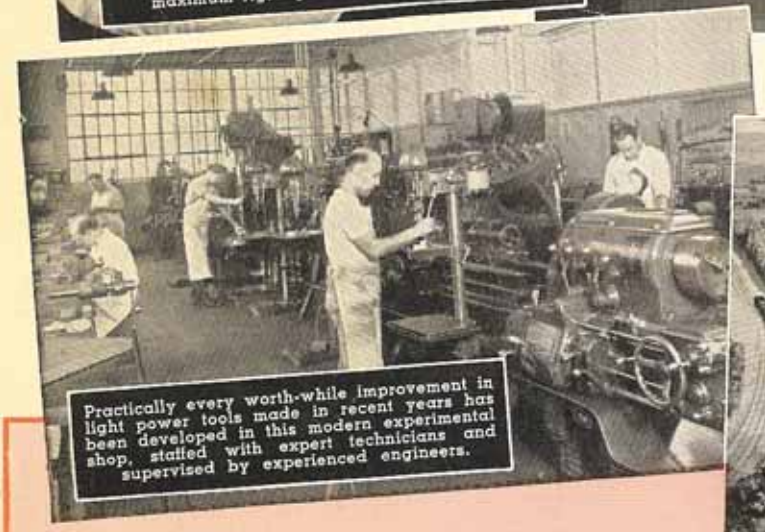
All ball-bearing seats and other bores where precision fits and accurate alignment are essential are "diamond-bored" on precision machines.

Modern high-production precision vertical broaching machine — one of many modern production units used in the manufacture of our power tools.



Pre-loading ball bearings to precision limits, to insure minimum deflection of bearings and maximum rigidity of shaft under load.

One of the many extra operations that help to create the "hidden values" in our tools. Rotating parts, such as pulleys, etc., are dynamically balanced on this machine to insure smooth, true, accurate performance.



Practically every worth-while improvement in light power tools made in recent years has been developed in this modern experimental shop, staffed with expert technicians and supervised by experienced engineers.

The entire facilities of this modern, well-equipped production plant are devoted solely to the manufacture of light power tools.

Why YOU OBTAIN THE MOST VALUE IN DELTA QUALITY TOOI

Original Development

Delta was responsible for the original development of the light power tool into a machine of real utility for the small workshop, the school, the laboratory, the contractor and manufacturing plant.

Best Design and Construction

Delta tools have always been of high-grade design and construction. We have never made "cheap" tools, but from the first have concentrated on the manufacture of tools of the finest possible design—at the lowest possible price consistent with high quality. This policy has produced machines which, while they cost very little above "cheap" tools, are machines that are inexpensive to own.

Improvements in Power Tools

Practically every worth-while improvement in light power tools during the past twelve years has been developed, introduced and in many cases patented by Delta. This is a plain statement of fact that can easily be verified. Many of these developments have been adapted by others—but it is only in the Delta machines that can be found the features that make Delta design a real improvement. Because of the patents on our original improvements, many imitations lack the features that make Delta designs superior in performance and utility.

Superior Features

The details of Delta design, developed by knowledge, research and experience, can be shown to be superior, feature by feature, over those of any other make.

Concentration

Concentration on a single type of product has made possible the production of the finest light power tools it is possible to buy—and has made possible the growth of this company to the dominant position in the field. The Delta Manufacturing Company is the largest manufacturer making light power tools exclusively.

Knowledge and Experience

No other manufacturer making light power tools has so wide a knowledge or experience in the field. The value of this is shown by a simple fact: There have been fewer changes in the design of individual machines of our make, during the life of the tools, than in those of any other maker. This is because the tools are right to start with—and this is due to five factors: Widest knowledge and experience. Exceptionally careful design. Advanced engineering. Unusual production facilities. Thorough testing before introduction.

Remember—**Other machines may look like Delta's, on casual inspection, but the hidden value of Delta's design, as well as the more obvious advantages of the machines, make Delta machines, dollar for dollar, the best light power tools you can purchase for any purpose.**

HIGH QUALITY AT LOW COST IS THE RESULT OF MODERN DESIGN AND CONSTRUCTION

Exactly the same combination of advanced engineering and modern production methods that produces a high-grade automobile is used to produce Delta power tools. A modern plant, modern precision machinery, quantity production—plus wide experience, knowledge and skill—these are the reasons why you buy so much in Delta machines at such low cost.

More than that, the details of Delta design and construction insure built-in values that may not be apparent on the surface. For example, many machines have ball bearings—but Delta machines are equipped with "sealed-for-life" ball bearings, which completely seal out dust and dirt, and completely eliminates lubrication problems. They are not merely shielded bearings. Further, all our ball bearings are mounted correctly and in accordance with the best ball-bearing practice, not—as in many machines—in such a manner as to distort the bearings before they are even put into service. We also go to additional expense to "pre-load" our bearings, in order to insure minimum deflection and maximum rigidity under load.

Still further, we do not consider that plain boring and reaming of ball-bearing seats is good enough for Delta machines—so we "diamond-bore" all bearing seats to insure absolute accuracy and precise alignment. Diamond-boring is used also for many other operations where precision fits are required.

This is only one example out of hundreds, in which the details of Delta design and construction insure a definitely BETTER machine.

DELTA MACHINES ARE MANUFACTURED AND SOLD UNDER THE FOLLOWING PATENTS EITHER OWNED BY DELTA OR UNDER WHICH DELTA IS LICENSED. OTHER U. S. AND FOREIGN PATENTS ARE PENDING.

1,697,669
1,790,288
1,830,813
1,889,647
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1,896,924
1,902,270
1,906,190
1,910,651
1,930,022
1,938,548
1,938,549
1,947,885
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1,963,688
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1,967,791
1,969,827
1,975,562
1,984,500
1,992,726
2,004,678
2,007,887
2,016,843
2,020,219
2,020,222
2,025,834
2,032,233
2,038,810
2,040,718
2,041,578
2,045,422
2,069,395
2,073,430
2,085,131
2,085,235
2,085,236
2,099,321
2,106,288
2,108,086
2,122,966
2,168,282
2,193,946
2,202,878
2,210,135
Des. 85,847
Des. 89,818
Des. 94,788
Des. 98,280
Des. 99,614
Des. 102,402
Des. 105,429
Des. 105,621
Des. 107,805
Des. 109,628
Des. 117,460
Des. 117,461
Canadian Patents
314,585—1931
340,750—1934
340,751—1934
346,174—1934
346,175—1934
351,531—1935
354,273—1935
354,274—1935
365,682—1937
370,828—1937

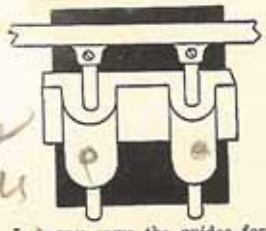
THE DELTA MANUFACTURING COMPANY, 600-634 E. VIENNA AVE., MILWAUKEE, WISCONSIN

EXPORT DEPARTMENT, 38 PEARL ST., NEW YORK, N. Y. (ADDRESS ALL CANADIAN COMMUNICATIONS TO MILWAUKEE OFFICE.)

All prices F. O. B. Factory, Milwaukee. Prices shown in this catalog supersede those quoted previous to April 1, 1941. All prices subject to change without notice. The right is reserved to make changes in design or equipment at any time without incurring any obligation to install these on machines previously sold. Any sales tax imposed subsequent to the publication of this catalog will be additional to quoted prices.

Form R-2 4-41 Printed in the United States of America

ACCURACY—LONG LIFE—CONVENIENCE! . . . You Get More of These Values When You Buy One of Our Circular Saws!

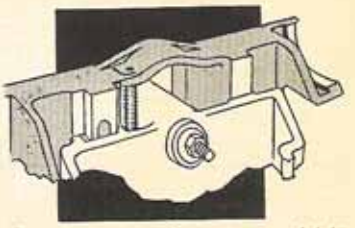


In many saws the guides for the table or saw raising and lowering mechanism are merely rods sliding through holes. Not adjustable for wear.

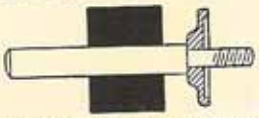
Gibbed, Machined Ways Adjustable for Wear

You will find many saws on the market today in which the guiding mechanism for the raising and lowering of the table or saw consists of round rods sliding through holes in the frame or bracket. This method, while cheap to manufacture, is one that we discarded years ago in favor of more rigid, more accurate and more substantial guiding means.

Brackets that are raised and lowered on our saws slide on large, accurately machined ways, dovetailed or grooved, and provided with gibs and adjusting screws just as in other high-grade machine tools. This not only provides a rigid, accurate, substantial mounting, but also permits adjustment for wear after long use if this ever becomes necessary.



In our saws guides are completely machined, grooved or dovetailed and provided with adjustable gibs as in other high-grade machine tools.

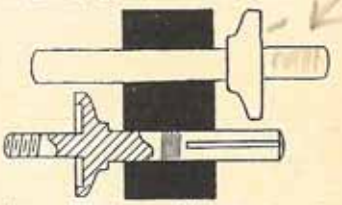


In many saws the saw-arbor flange is merely pressed onto the shaft and in some cases is not machined to insure true-running.

In addition, many small saw shafts are carried in bronze bearings, requiring constant lubrication. Where ball bearings are used, they are often poorly mounted or of shielded type which require lubrication.

Solid-Forged Steel Arbors

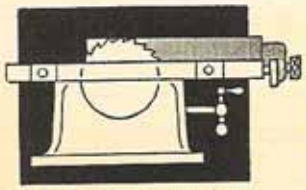
Most small and medium-size saw arbors consist of a steel shaft with one end shouldered and threaded, onto which the inner saw flange is pressed. Often this flange is not even machined after it is pressed on. On our 10" saws the entire arbor, including the flange, is machined out of a solid alloy-steel forging. This not only prevents any possible loosening of the flange, but insures proper bearing mountings, true running saws and enormous strength.



Saw arbors in our 10" saws are completely machined out of solid steel forgings—no loose flanges. They are mounted in sealed-for-life ball bearings, which never require lubrication.

Ball or Timken Bearings—Properly Mounted

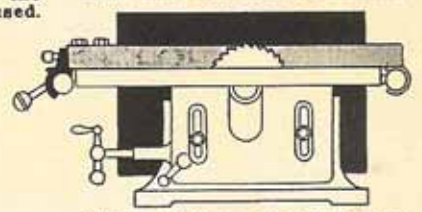
The solid alloy-steel arbors of our saws are carried either in genuine Timken tapered-roller bearings or in "Sealed-for-Life" New Departure ball bearings (not merely shielded bearings). There are no lubrication problems with these ball bearings, and they require no attention whatever during their entire life. All our bearings are mounted in accordance with the best ball-bearing practice — not merely mounted in the cheapest possible way, which sometimes injures the accuracy of the bearings even before they are used.



Many saws have rip fences which barely reach beyond the rear of the saw. Many woodworking experts regard this as a very dangerous type of fence. Most fences, also, cannot be used on both sides of blade.

Full-Length Fences—Locked Front and Rear

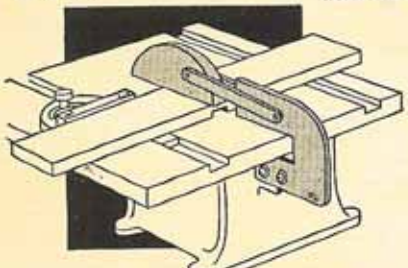
Some circular saws have rip fences which barely extend beyond the rear teeth of the saw blade, and which can be locked only at the front. In the opinion of many expert woodworkers such short fences are very dangerous, due to the release of pressure behind the blade, which tends to throw the work or the hand into the rear saw teeth. Our saw fences extend completely across the table from front to rear, so that this danger is completely eliminated. They are locked front and rear, so that they are practically solid with the table.



Our rip fences run completely across the table from front to rear. Not only that, but they can be locked so firmly to the front and rear guide bars that they become as rigid as the table itself.

And Used on BOTH Sides of the Blade

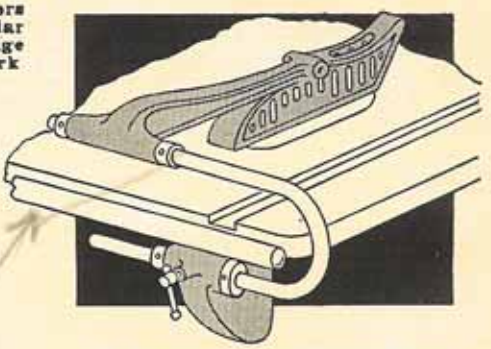
Our fences have a further advantage of great importance. They can be used on both sides of the blade—which cannot be done in many saws. This feature is essential to the use of double-faced moulding cutters and cope heads in the circular saw, and is of great advantage in a wide variety of other work



Many saws have guards similar to the type shown above. This guard must be removed completely every time a dado cut is made or a moulding cutter used. The basket guard also cannot be used without the splitter. The mounting is often a weak and flimsy one.

Guards that Really Protect the User

Most small circular saw guards are flimsy in design and construction and are actually more of a nuisance than a real safety feature. Notice that our No. 863 and No. 1165 guards are NOT mounted on a splitter, where they must be removed completely for most cross-cutting and for all dado and moulding work. They are mounted in a solid, substantial manner so that they cannot chatter or vibrate into the saw, yet they are instantly moved out of the way for dado and similar work **without removing them from the machine.** Notice also that they may be used either with the splitter or without—and that the splitter may be used alone. We believe that this is the finest guard ever designed for saws of this type.



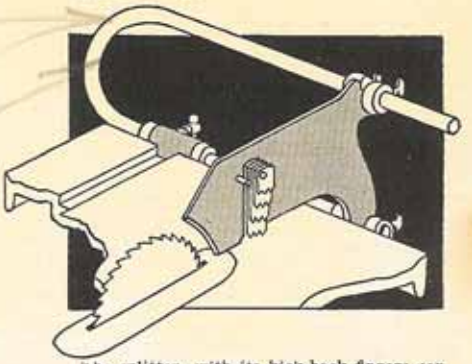
Our very substantial guard is carried on a strong, heavy support rod and a heavy rigid bracket.

And Many Other Features that Mean More Satisfaction for You!

Consider the "Auto-Set" miter gage, widely imitated by others, but the only miter gage offering you individually adjustable stops, to assure you of absolute accuracy in setting. And the adjusting screws in the table insert, which enable you to set the insert exactly level with the table. Consider the "hidden values"—the extra machining for accuracy (like the machining of the table-insert opening, instead of leaving this just rough)—the diamond-boring of the ball-bearing seats for absolute accuracy.

Consider the extra convenience of the controls—like our adjustable clamp handles and our graceful, large-size operating cranks. Consider the advantage of being able to mount our tilting-table saws on a neat, compact stand together with a jointer and to be able to run them both from below with one motor.

Contrast the details of design shown above and on the following pages with those you will find in any similar saw anywhere. We believe you will then realize the extra value built into these saws!

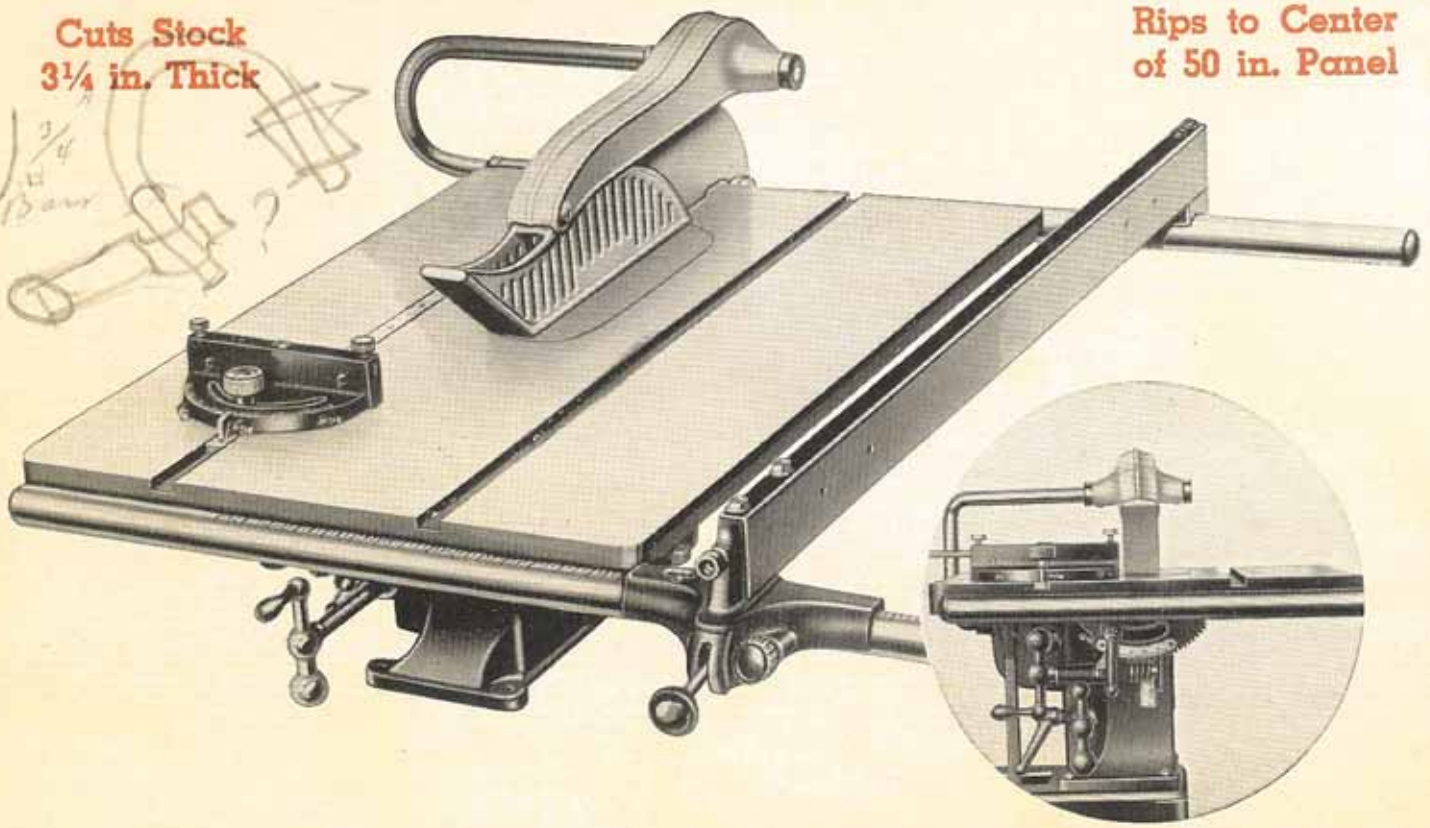


The splitter, with its kick-back fingers can be used alone. The guard basket can also be used without the splitter—or basket guard and splitter can be used together to suit any type of work. Instantly out of the way, and instantly back in place.

BEST SAW MADE: This 10-inch Tilting Table Saw Meets The Most Exacting Demands Of The Craftsman

Cuts Stock 3¼ in. Thick

Rips to Center of 50 in. Panel



This fine saw is a real man-size machine, with its husky 20 by 27-inch table, its sturdy tubular rip-fence guide bars—and all the features that have won such a reputation for the 8-inch saw—PLUS greater capacity and added conveniences.

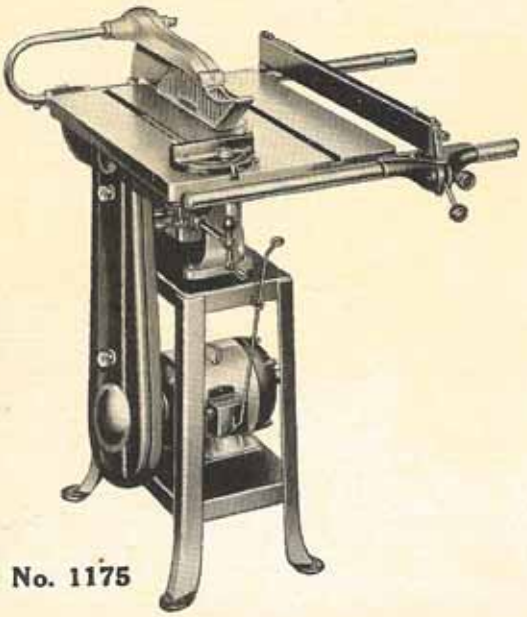
Designed for craftsmen who need and demand the best there is in workshop equipment, this 10-inch circular saw was built with just one thought in mind: To produce a saw that would offer more accuracy, more capacity, more conveniences, more built-in VALUE than any similar saw on the market, regardless of price!

That this object has been achieved will be recognized by every mechanic and craftsman as soon as the No. 1160 circular saw is examined with care. From the heavy-walled tubes that form the rip-fence guide bars—a full 1⅜ inch in diameter, and stronger to resist bending and torsional stresses than any other section of equal weight—to the hidden but important solid-forged alloy-steel arbor with its self-sealed New Departure ball bearings, every detail has been worked out to give the utmost satisfaction to the user.

The "Micro-Set" rip fence is carried on a heavy casting at the front, locked to the front guide bar by a neat cam lever with a Bakelite ball handle. The rear lock is operated from the front also, so that the hands never need be near the blade when locking the fence. And it is impossible for this fence to move or spring. The miter gage is the famous "Auto-Set" miter gage, with INDIVIDUAL adjustments for 45 and 90-degree settings.

Crosscuts Stock 12 Inches Wide

From the saw blade to the front edge of the table, the table surface measures 12½" wide, so that stock a full 12" wide and 3¼" thick can be cut easily, with full bearing on the table surface for both the work and the miter gage. And, in providing adequate surface in front of the blade, *this has not been done at the expense of the rear surface, for there are 5" of table behind the blade to support the work as it leaves the saw.*



No. 1175

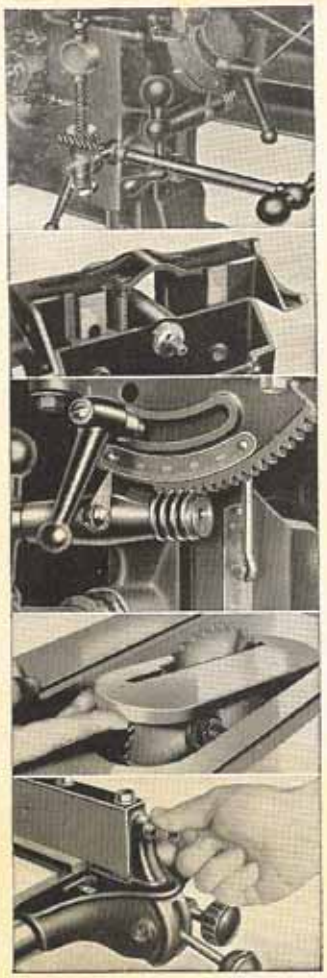
No. 1160	10" Ball-bearing Circular Saw, with "Auto-Set" Miter Gage, "Micro-Set" Rip Gage, graduated front rip-gage guide bar and plain rear guide bar. Without motor, belt, motor pulley or saw guard..... Shipping Weight 190 lbs. Code Word TENSE.	**$59.50**
No. 560	V-belt (56" inside circumference)..... Shipping Weight 1 lb. Code Word EICVB.	1.10
No. 5500	5" V-pulley for motor, ¾" bore..... Shipping Weight 1½ lbs. Code Word PULOH.	.85
No. 891	Steel stand (Top 7¾"x15¾"; 24" high)..... Shipping Weight 31 lbs. Code Word LABST.	6.85
No. 530	V-belt (53⅝" inside circumference)..... Shipping Weight 1 lb. Code Word BELTD.	1.10
	(Note: No. 530 belt must be used with 10" saw on No. 891 stand. No. 560 belt is used with 10" saw on No. 1163 stand.)	
No. 1173	Belt Guard for No. 1160 saw on No. 891 stand..... Shipping Weight 36 lbs. Code Word TENBG.	8.25
No. 1175	10" Circular-Saw Unit, consisting of No. 1160 Circular Saw, No. 530 V-belt, No. 5500 V-pulley and No. 891 Steel Stand. Without motor, switch rod or saw guard. Shipping Weight 221 lbs. Code Word TENSQ...	**$68.30**

No. 9000 or 8050 (old No. 820 and 1120) motors recommended for this machine for ordinary use. For heavy duty specify No. 9100 (old No. 934) No. 9200 (old No. 1094) No. 9400 (old No. 922) or No. 9502 (old No. 1512) ¾-H.P. and 1-H.P. motors. See pages 28-30.

FOR 10 INCH TILTING ARBOR SAW, SEE PAGE 45

10-INCH SAW FEATURES: Many Design Advantages Found Only In This Remarkable Tilting Table Saw

CROSS CUTS 12" WIDE — RIPS 3¼" DEEP



Raising Mechanism

Table raising and lowering is done by means of a helical gear on a shaft operated by a comfortable, free-handle ball crank. The gear meshes with another running on the ball-bearing raising screw, elevating or lowering the table with ease and speed. The pitch of the screw is chosen to provide a fast movement, while at the same time it is fine enough for close adjustment of depth.

Machined Ways

There are cheaper ways of fitting the table to the base than that employed on this saw, but none of these was thought satisfactory enough for a good machine....so the table is elevated and lowered on machined ways.

Worm-Gear Tilting

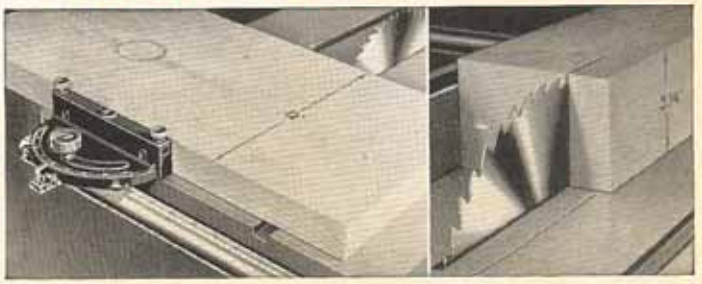
The table is positively tilted by means of a worm and rack, the worm operated by means of another comfortable ball crank. Accurate and convenient etched scales are provided for height and tilting adjustments, each provided with an adjustable pointer for accuracy. The adjustable height pointer is especially useful for dado and similar work.

Quick-Acting Inserts

Table inserts are fitted in machined openings in the table—not rough cast holes. They are instantly snapped in or out with a touch of the finger—no screws to loosen. And (U. S. Pat. No. 2,020,222) they are provided with adjusting screws so they may be made to lie perfectly flush.

Rear Rip-Fence Lock

The patented construction not only provides a rigid rip fence, locked to the guide bars at front and rear, but in this saw all the fence controls are at the front—no reaching over the saw blade to loosen or tighten the rear lock. More convenience and safety!



Rips to Center of 50" Panel with Standard Guide Bars

Most saw tables—even in 10" size—are too small. So in designing this saw, we produced a 20 by 27-inch table surface for the standard machine. In front of the blade—the "Zone of Service" where surface is most needed, there is 12½" of table space, so that a 12" board to be crosscut is supported in its whole width by the table, and the miter gage also has ample bearing on the table. And there is ample surface—5"—in back of the blade also!

The table itself is an exceptionally heavy ribbed casting.

The rip-fence guide bars are a typical improvement. They are heavy walled tubes, 1⅜" diameter, chosen because tubes, as every mechanic knows, resist bending and torsional stresses better than any bar section of equal weight. They therefore hold the fence rigid and in perfect alignment under all circumstances. And, with the STANDARD guide bars, the saw will rip to the center of a 50" panel without the necessity of changing guide bars.

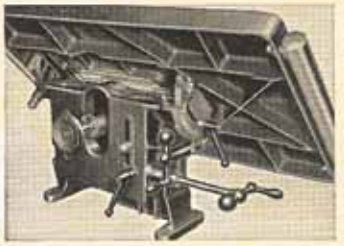
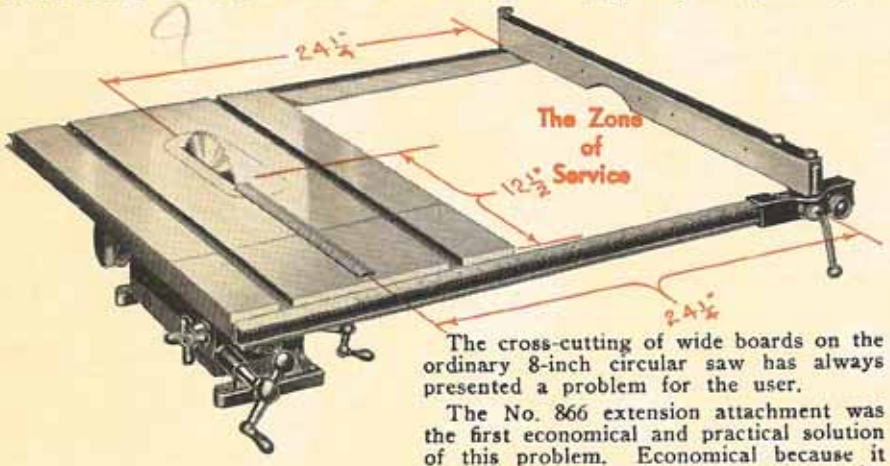


Photo at left shows the table tilted to 45 deg. Notice the scientifically ribbed and very heavy table, swinging on massive trunnions. This is a more expensive construction, but is the only one that permits the safety of a very narrow opening around the saw blade, since the table tilts in the plane of the table surface.

8-IN. SAW, INCREASED CAPACITY Extra Space Right Where It Is Needed In Front Of Saw Blade—Large Ripping Capacity—Attached Or Removed In Jiffy



The cross-cutting of wide boards on the ordinary 8-inch circular saw has always presented a problem for the user.

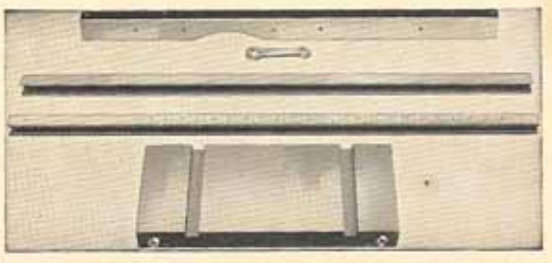
The No. 866 extension attachment was the first economical and practical solution of this problem. Economical because it enabled the man who needed extra capacity on this table to obtain it economically, without penalizing the user who used his saw only for small work; practical because the table extension provided the room in front of the saw, where it is needed. Side wings added to increase the width of the table are of no value for this purpose, as the problem of adequate room for wide boards still remains. The real utility of this extension becomes even more apparent when a wide board must be mitered accurately—a job that cannot be done at all on many saws. As the photo above shows, the mitering of a panel 13 or 14 inches wide would be practically impossible without the extension, because neither work nor gage would have any support, and accurate work would thus be out of the question.

Next to cross-cutting, the next most important problem for the 8" saw user is that of ripping large panels and similar work. He usually either must do this "by eye," or else build some kind of extension table—both usually unsatisfactory.

A longer rip-gage body is used with extension table.

With the extension bars in place panels as wide as four feet can be ripped down the center with accuracy and speed, and the work is accurately guided and adequately supported during the operation.

No. 866 Extension Attachment, with front-table extension, 32" rip-gage guide bars, long rip fence bar only, nuts and bolts..... $8.85
Shipping Weight 22 lbs. Code Word NECXT.

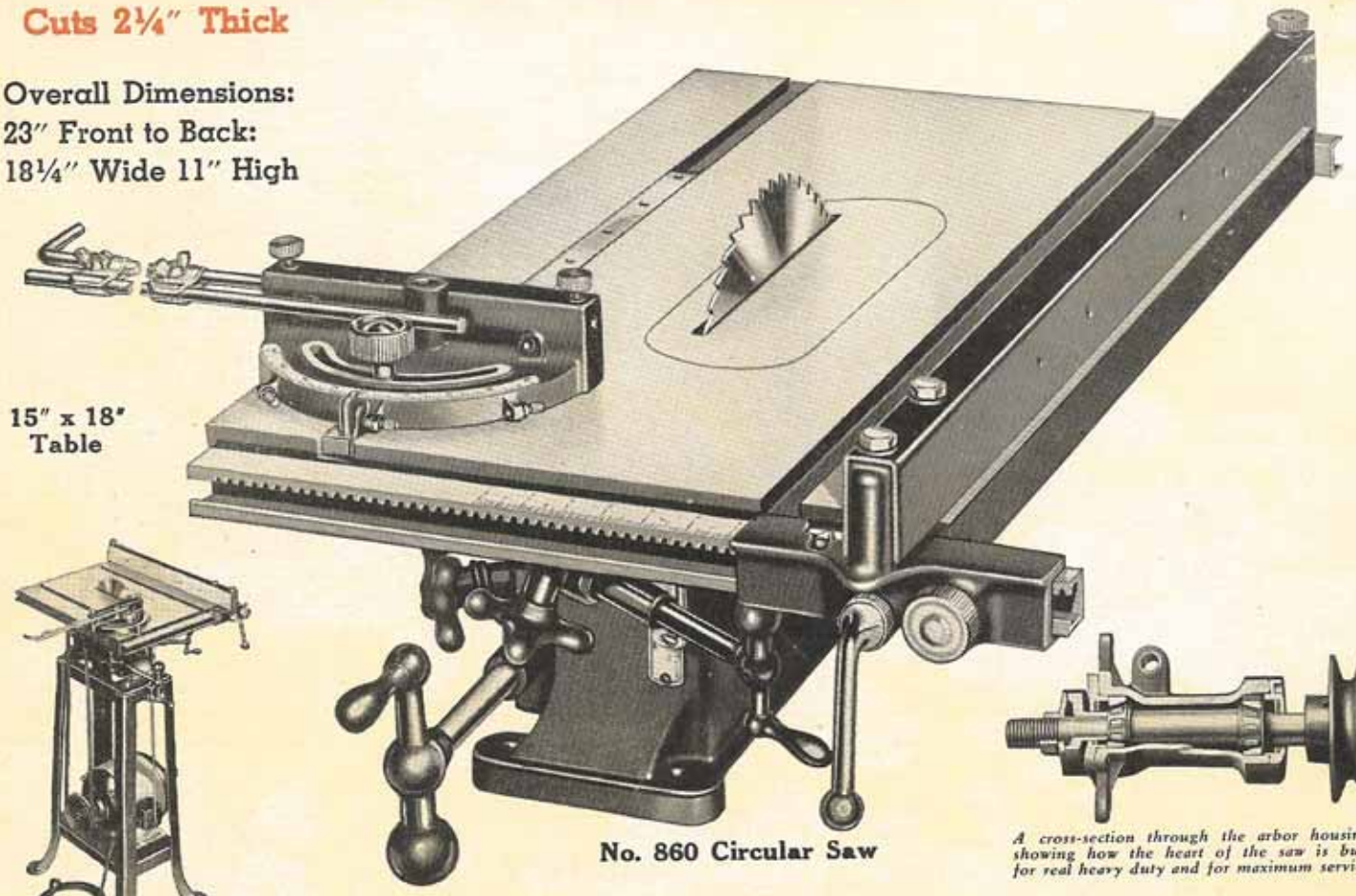


PATENTED CONSTRUCTION of This 8-Inch Timken Bearing Circular Saw Gives You Many Unique Features and Advantages Not Found In Other Units

Cuts 2¼" Thick

Overall Dimensions:
23" Front to Back:
18¼" Wide 11" High

15" x 18" Table



No. 860 Circular Saw

No. 878 Unit

A cross-section through the arbor housing, showing how the heart of the saw is built for real heavy duty and for maximum service.

Read All of These Points: They Are Important to You

1. The great capacity in front of the saw blade — where you need it most for cross-cutting wide boards—together with the tremendous ripping capacity offered by the rip-gage extension, are fully covered by our patents. Only in this circular saw can you obtain these patented advantages of construction and design—concrete evidence of its superiority. (Pat. No. 1,938,549).

2. The rip-gage extension, which gives the user all the advantages of a four-foot table, without the weight and expense, is fully protected by the above patents. You cannot obtain these advantages in any other manner. (Pat. No. 1,896,924 and No. 1,938,548).

3. An original design, the wonderful "Auto-Set" miter gage is also fully patented. Both the massive design and the automatic stops which make this the most convenient gage ever offered on any circular saw, are protected by patent. (Pat. No. 1,902,270). (Des. Pat. No. 89,818). (Can. Pat. No. 340,750).

4. If you insist on absolute accuracy in your work you can obtain it only with a clamp attachment for the miter gage, which absolutely prevents any creep of the work away from the blade. The clamp attachment is fully protected by patent. (U. S. Pat. No. 1,894,010). (Can. Pat. No. 340,752).

5. The patented rip-gage has a number of important advantages, amongst which are its self-alignment, its graduations and adjustable pointer, its rear clamp and its micrometer adjustment, disengaged at will, with fine teeth to permit a real close adjustment for accurate work. (U. S. Pat. No 1,963,688).

6. The patented table trunnion construction has a number of superior features; it permits the use of a very narrow table slot for the blade, and avoids the necessity of removing the table insert when the table is tilted. When the table is raised and tilted the rip-gage is not thrown out of alignment with the saw blades. (U. S. Pat. No. 1,697,669 and 1,910,651).

No. 860 8-inch Circular Saw, with 8" blade, "Auto-Set" Miter Gage, "Micro" Adjustment Rip Gage and Arbor Pulley, complete as shown in photo above. **$35.00**
Shipping Weight 90 lbs. Code Word NECSA.

No. 5500 5" Motor Pulley, drives saw at correct speed. Made with ½", ⅝" or ¾" bore. Specify bore wanted. ½" bore furnished unless otherwise specified..... **.85**
Shipping Weight 1½ lbs. Code Word PULOH.

No. 560 V-Belt, 22⅞" center to center..... **1.10**
Shipping Weight 1 lb. Code Word EICVB.

No. 862 Circular Saw, complete with No. 866 Extension Attachment but without standard rip gauge bar or standard guide bars **42.10**
Shipping Weight 105 lbs. Code Word NECWX.

No. 9000 or 8050 Motor recommended for this machine.

See pages 28-30 for Motor and Switch-rod prices.

No. 878 Circular-Saw Unit

The No. 860 Circular Saw mounted on its individual stand is a very popular unit. It is especially convenient in the profession and school shop, as it is completely portable.

Our Nos. 9000, 9100 or 9200 Repulsion-Induction Motors are recommended for use with this unit. Use No. 1330 switch rod.

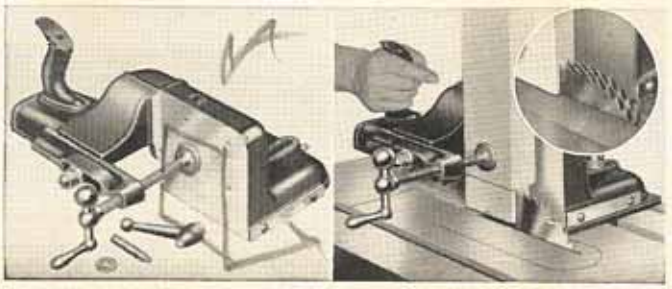
No. 878—8" Timken-Bearing Circular Saw Unit Includes:

No. 860	Circular Saw	$35.00
No. 5500	V-Pulley, ¾" bore	.85
No. 560	V-Belt, 22⅞" center to center.....	1.10
No. 329	Steel Stand (without chute), with bolts & directions. (Stand 29" high, Top 7"x12½")	5.85
	Total	**$42.80**

Shipping Weight 121 lbs. Code Word NECUN.

ATTACHMENTS Make Saw Operations Safe and Accurate

TENONS MADE FAST, EASY and ACCURATE



Every possibility of risk in cutting tenons is done away with when using our new Tenoning Attachment. This consists of a massive casting, which may be fastened to the base plate of the No. 1186 Sliding Jig, and this, in turn, is guided by the miter-gage grooves in the saw table. The stock to be tenoned is clamped by means of a quick adjustment against an accurately machined surface so that it is exactly vertical and parallel to the saw blade—no chance for twisted tenons—and the whole attachment is fed to the blade by means of a convenient handle at the rear. The work is fed to the saw with one hand—far removed from the revolving blade. There is no need for the hands to be anywhere near the saw blade at any time, and thus every possibility of accident is removed from the operation.

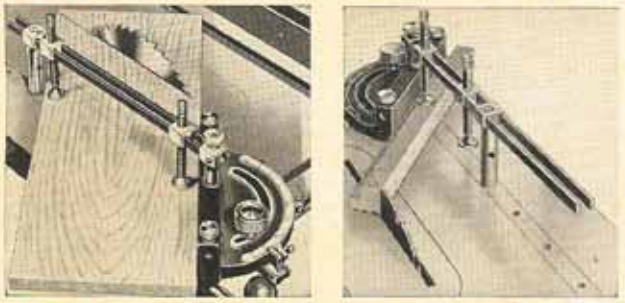
The attachment will take stock up to 2¾" thick, any width within the capacity of the saw, and tenons to 2" long on an 8" saw. With the use of No. 1171 spacing collars and an extra saw blade, ¼" or ⅜" tenons can be cut at one pass.

No. 1170 Tenoner for use with No. 1186 Sliding Jig. Consists of all parts as shown above, without base plate..... **$8.25**
Shipping Weight 21 lbs. Code Word TENJG.

No. 1172 Tenoner complete with base plate **11.75**
Shipping Weight 31 lbs. Code Word TENBP.

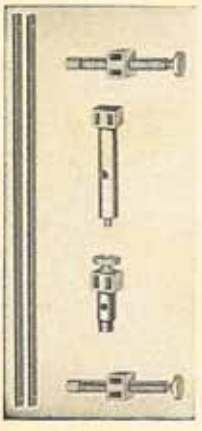
No. 1171 Spacing collar set (one ¼" and one ⅜" collar) ..... **.75**
Shipping Weight ⅝ lb. Code Word TENCO.

CLAMP INSURES ACCURACY· NO WASTE



The clamp attachment assures perfect safety in cross cutting and mitering, because the gage, carrying the clamped work, can be slid into the cut with one hand, back of the miter gage. The hand need never be in front of the miter gage or near the blade—and it is only on this gage with clamp attachment that this is true. With every other gage it is necessary to have one hand in front of the gage to hold the work.

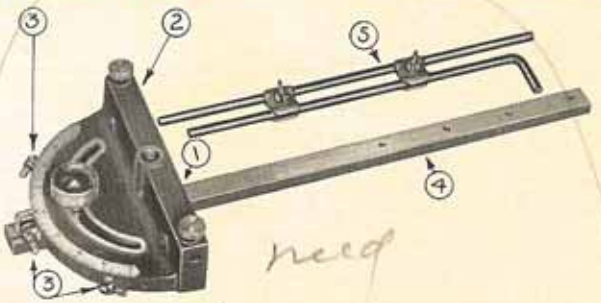
With this clamp there is no spoilage due to slippage—once clamped you know the cut will be true and accurate. For heavy, large boards it is of tremendous value—use it once and you never will be without it again.



No. 865 Miter Gage Clamp Attachment, consisting of Clamp Bars, two Sliding Clamp Screws, Front and Rear Posts, to fit No. 864 Miter Gage only..... **$1.95**
Ship. Wt. 2¼ lbs. Code Word NECLA.

No. 873 Extra Clamp Screw and Block for Clamp Attachment ..... **.45**
Ship. Wt. ¼ lb. Code Word NECCS.

MITER GAGE ADDS CONVENIENCE

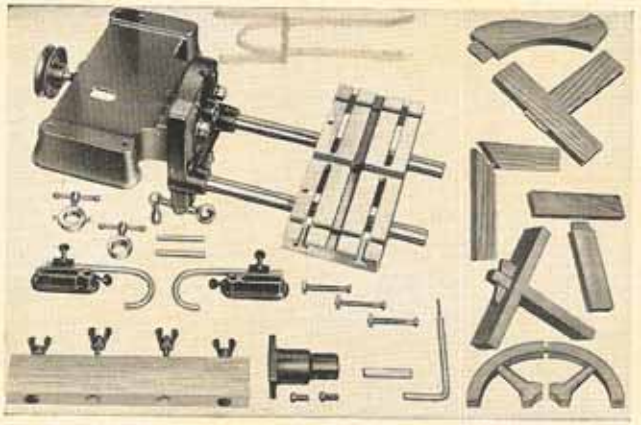


The first automatically indexed miter gage ever offered, and the only one with individually adjustable index stops, the "Auto-Set" Miter Gage offers the following unique advantages:

1. Unique tapered pivot insures close fit for entire life of gage, thus preserving accuracy.
2. Massive body, heavier than many gages on production machines, gives full support and will not spring. (Des. Pat. No. 89,818).
3. Individual automatic stops (U. S. Patent No. 1,902,270; Canadian Patent No. 340,750) make precision job of cross and miter-cutting. Only miter gages made under our patents have individual index adjustment, a necessity for absolute accuracy.
4. Heavy ⅜" by ¾" bar, very rigid and strong, 17" long.
5. Full ⅛" diameter stop rods, with two heavy clamps, not flimsy wires that are useless for accurate repetition work.

No. 864 "Auto-Set" Miter Gage, with ⅜" x ¾" bar, two ⅛" stop rods with clamps. Fits any table with ⅜" x ¾" groove **$3.75**
Shipping Weight 4½ lbs. Code Word NECMI.

MORTISER INCREASES OPERATIONS



The addition of the No. 458 Mortiser and Router to your No. 860 Circular Saw enables you to perform many difficult operations with ease. Boring, routing, mortising, grooving, counter-boring, inlaying, sanding and many other operations are performed on this attachment with accuracy and speed.

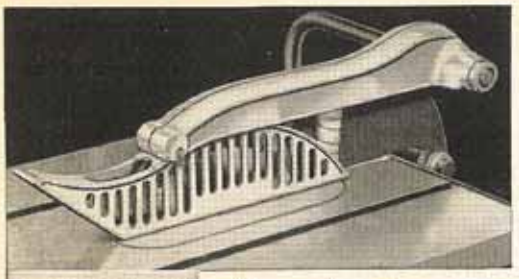
It may be mounted under the base of the No. 860 saw, or it may be used alone on stand or bench—there is no end to the convenient ways in which it can be used. **Not adapted to the No. 1160 10" saw.**

No. 458 Mortiser and Router only, includes everything shown in the photo..... **$26.25**
Shipping Weight 50 lbs. Code Word MORBO.

No. 430 V-Belt for above; Cir. In. 40⅞", Out. 42¾" **.95**
Shipping Weight ½ lb. Code Word FORSL.

No. 461 Foot-Power Feed for No. 458 Mortiser fits our Steel Stands **4.50**
Shipping Weight 8 lbs. Code Word MORFE.

GUARDS Provide The Maximum Protection To The Saw User

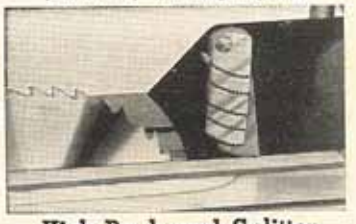


These guards may be swung completely back and out of the way in a second's time, and as quickly swung back when needed. They need never be removed for any reason.

These Circular-Saw Guards (U. S. Pat. No. 2,007,877) have been praised by all authorities as the only guards that really protect the saw user, while at the same time they do not interfere with his work. No other guards that we know of offer all the features of these, which meet the very exacting requirements of many Industrial Commissions.

The new "Anti-Kickback" attachment (right) an integral part of the splitter for the 10" saw, prevents the work being kicked back against the operator if the kerf pinches on the saw blade. It is invaluable when sawing poorly seasoned or warped wood. The kickback fingers take all work from the thinnest strips up to the full capacity of the blade, and adjust themselves to the work without any attention on the part of the operator.

Work entering guard on No. 860 8" saw. This guard while slightly different in construction details, has all the features of the larger guard.



Kick Back and Splitter

The splitter shown is the only practical type. It comes in three thicknesses to suit saws of different sets, it may be attached or detached in a moment, may be used either with or without the basket, and it floats to accommodate itself to the kerf.

No. 863 Swing Guard for No. 860 Circular Saw, complete with bracket, support rod, pivot arms, guard basket, collars and screws. Ship. Wt. 8 lbs. Code Word NECGA.... **$5.00**

No. 877 Splitter Attachment for No. 860 saw, consisting of 3 splitters, 2 collars for support rod, and kickback fingers. Shipping Weight 3 lbs. Code Word NECSC..... **3.00**

No. 1165 Swing Guard for No. 1160 Circular Saw, with bracket, support arm, pivot bracket, basket, collars and screws. Shipping Wt. 19 lbs. Code Word TENSK.... **$11.85**

No. 1166 Splitter Attachment for No. 1160 Circular Saw, consisting of three splitters, anti-kickback and collars for support arm. Shipping Weight 5 lbs. Code Word TENSL **3.85**

HOLLOW GROUND SAW BLADES

Ideal for fine and accurate work. The teeth have no set, and the work comes from the saw ready to put together, unless of such fine character that it requires jointing. This blade is intended for fine work only; it is not suitable for rough cutting. Properly used and cared for it will do the highest grade of work.

No. 326 8" Hollow-Ground Blade for No. 860 Circular Saw, ⅝" arbor hole..... **$5.65**
Shipping Weight 1½ lbs. Code Word EICSP.

No. 1016 10" Hollow-Ground Blade, for No. 1160 or 1450 Saw, ⅝" hole **6.75**
Shipping Weight 2 lbs. Code Word TENSR.

COMBINATION SAW BLADES

Combination Saw Blade rips and cross-cuts equally well. Serves a very useful purpose for general work. Teeth have proper set. Made of high-grade steel, properly tempered.

No. 325 8" Combination Rip and Cross-cut Blade, for No. 860 Circular Saw, ⅝" arbor hole..... **$3.00**
Shipping Weight 1½ lbs. Code Word EICBL.

No. 1015 10" Combination Rip and Cross-Cut Blade for No. 1160 for 1450 Circular Saw, ⅝" arbor hole. Shipping Weight 2 lbs. Code Word TENSP..... **$3.75**

No. 1017	10" Rip, for 1160 saw. TENSS. 2 lbs.....	3.75
No. 1018	10" Crosscut, for 1160 saw. TENST. 2 lbs.....	3.75
No. 324	8" Rip, for 860 saw. EICBR. 1½ lbs.....	3.00
No. 335	8" Crosscut, for 860 saw. EICBC. 1½ lbs.....	3.00

Above blades have ⅝" arbor hole.

CUTTING WHEELS for METAL, Etc.

Abrasive Cutting Wheels will cut freely and fast all of the materials listed below, and many other materials. All are ⅛" thick, 8" diameter, and have ⅝" arbor hole only. Bonded with genuine synthetic resin; should not be confounded with shellac-bond wheels.

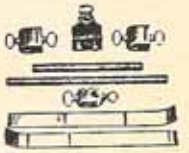
No. 223 8" Cutting Wheel, ⅛" thick, ⅝" hole, for cutting vitrified brick, cast iron, sand cores, slate and plain or glazed tile. Ship. Wt. 1½ lbs. Code BAKEC... **$1.75**

No. 225 8" Cutting Wheel, ⅛" thick, ⅝" hole, for cutting monel metal, steel tubing, hardened steel, stellite, stainless steel, aluminum tubes, etc. Sh. Wt. 1½ lbs. Code BAKED. **1.75**

No. 227 8" Cutting Wheel, ⅛" thick, ⅝" hole, for cutting porcelain, hard rubber, brass tubing, copper, brass and bronze. Ship. Wt. 1½ lbs. Code Word BAKEF..... **1.75**

No. 228 8" Cutting Wheel, ⅛" thick, ⅝" hole, for cutting soft steel and wrought iron..... **1.75**
Shipping Weight 1½ lbs. Code Word BAKEH.

HOLD DOWNS — KEEP FINGERS FROM BLADE



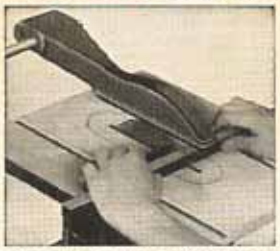
This attachment consists of a clamp which fits either side of the saw table, and which carries adjustable springs to bear on the work. One spring is adjusted to press the work to the fence and the other to press it down to the table. With this attachment the fingers need never come near the revolving blade at all.

No. 871 Hold-Down for No. 860 and 1160 Saws, with clamp, brackets and springs **$2.60**
Ship. Wt. 4½ lbs. Code Word NECHO.

Note: To adapt No. 983 shaper hold-down to fit circular saw, order the following parts:

No. 1131	Clamp Bracket, each.....	.75
No. 1132	Short rod (½"x6⅞") each	.20
No. 1133	Long Rod (½"x11⅛") each	.25

GUARDS FOR ABRASIVE CUTTING WHEELS



The guard is made of heavy cast iron, completely closed so that no particles can be thrown out.

No. 230 Abrasive Wheel Guard, with bracket and arm, to fit No. 860 Circular Saw. **$4.50**
Ship. Wt. 10 lbs. Code Word BAKEJ.

No. 231 Top Guard casting only. Used wherever saw is already fitted with circular-saw guard. Fits only No. 318 or No. 860 Circular Saw **2.50**
Ship. Wt. 7 lbs. Code Word GURDA.

No. 1470 Bent Arm and Bracket to fit No. 1155 Abrasive wheel Guard to No. 1450 Saw. Sh. Wt. 15 lbs. Code TILGA. **6.50**

No. 1156 Bent Arm and Bracket to fit No. 1155 Abrasive Wheel Guard to fit No. 1160 Saw. Shipping Weight 13 lbs. Code Word TENGB.... **5.85**

No. 1155 Abrasive Wheel Guard, cast, for No. 1160 or 1450 Saw, less arm and bracket. Sh. Wt. 10 lbs. Code TENGA. **4.50**

DADO HEAD CUTS CLEAN, SHARP GROOVES

For cutting of grooves varying in width from ⅛" to ¾" and up to 1¼" deep, either with or across the grain. Made of the finest steel, carefully hardened and tempered. Includes special ⅛" inside cutter. Fits 860, 1160 and 1450 saws.

No. 333 6" Dado Head, consisting of two outer blades, ⅛" thick, two inside cutters ⅛" thick, one inside cutter ¼" thick and one ⅛" thick. To cut grooves from ⅛" to ¾", advancing by ⅛". With ⅝" holes to fit No. 860 and 1160 Circular Saw..... **$11.50**
Shipping Weight 3½ lbs. Code Word EICDA.

No. 874 Table Insert for No. 860 Circular Saw..... **1.00**
Shipping Weight 1½ lbs. Code Word NECDA.

No. 1161 Table Insert for No. 1160 Saw..... **1.25**
Shipping Weight 1½ lbs. Code Word TENSF.

No. 1452 Table Insert for No. 1450 Saw..... **1.25**
Shipping Weight 1⅝ lbs. Code Word TILTC.

MOULDINGS In Hundreds Of Different Shapes Made On Your Saw By Means Of This Inexpensive Attachment

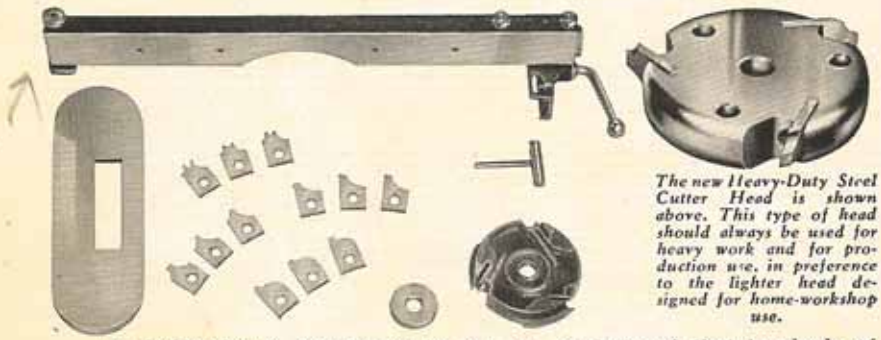
DOES MARVELOUS WORK

This unique attachment (U. S. Pat No. 1,830,813) is the only practical tool of its kind. It consists of a strong, well-designed head, which may be had either in light-duty or heavy-duty type. A set of three interchangeable knives is locked into the head so that they are completely safe in operation. The head may be used either on the 860, 1160 or 1450 circular saw, or on most other saws provided with a double-face fence.

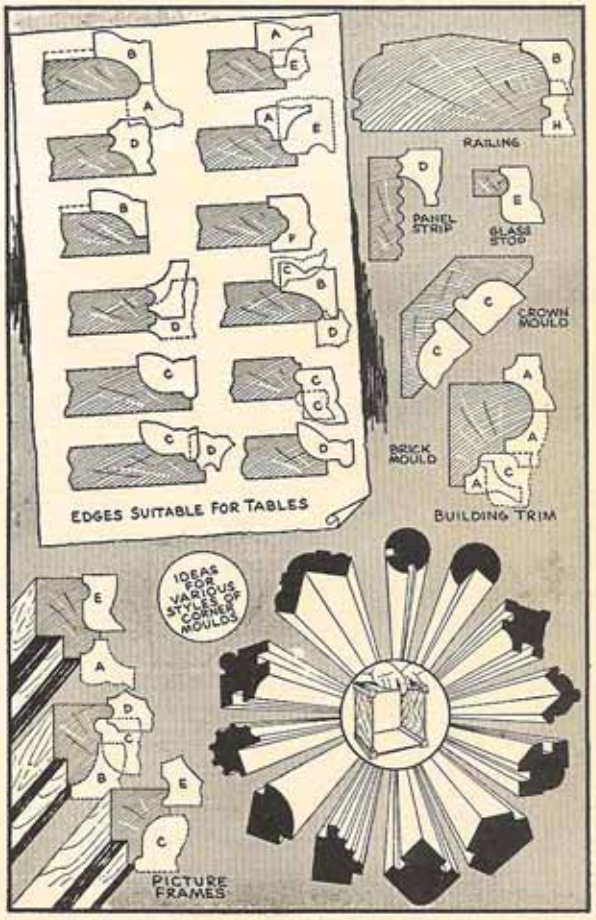
A perfect moulding may be produced with one pass over the knives, or, if the cut is a deep one, in two or more passes. The attachment is such a practical one that it is used in hundreds of production shops, yet it is priced within the reach of every small shop. A special solid-steel head is available for production or heavy-duty work.

There is nothing to get out of order in this tool, and it is extremely safe in operation because only the actual cutting edges of the knives are exposed, and even this is covered when the work is being run. Enthusiastic users tell us that it makes their saws into first-class moulding machines!

As seen at the right, the knives may be used singly or in combination to produce almost any type of exterior, interior or cabinet mouldings. This illustration shows only a few of the hundreds of moulding shapes that have been produced with this wonderful tool.



The new Heavy-Duty Steel Cutter Head is shown above. This type of head should always be used for heavy work and for production use, in preference to the lighter head designed for home-workshop use.



The knife shapes (originated by us) are so designed that hundreds of shapes can be made with only four sets of knives, as shown to the right. Additional knives are available as below.

Light-Duty Moulding Cutter Sets

Light Duty Sets For Home Workshop Use Only

No. 858 Moulding Cutter Set, to fit ⅝" arbor of No. 860 circular saw. Complete with four sets of high-speed cutters, styles A, B, C and D, oval table insert, micro-guide fence, collar, wrench and complete instructions **$17.20**

Ship. Weight 12 lbs. Code Word MOLDY.

No. 262 Moulding Cutter Set for other makes of circular saws with arbor up to ⅝" diameter. Price includes boring up to ½", ⅝", ¾" or ⅞" diameter. Does not include table insert or guide fence. Specify bore wanted **12.55**

Ship. Weight. 3 lbs. Code Word MOUHJ.

No. 1169 Moulding cutter set for No. 1160 Circular Saws. Same as No. 858, but without fence (wood facings are used on standard fences of these saws when moulding cutter is used) **$13.80**

Ship. Weight 8 lbs. Code Word TENMC

No. 1456 Light-duty Moulding Cutter Set for No. 1450 Circular Saw, with light-duty head. 4 sets of cutters, table insert, collar and wrench..... **13.80**

Ship. Weight 8 lbs. Code Word TILTG.

No. 868 Moulding Cutter Fence, 20¾" long, complete as shown above for No. 860 saw.. **3.65**

Ship. Weight 7 lbs. Code Word NECFE.

Heavy-Duty Moulding Cutter Sets

Heavy Duty Sets For Production Or Continuous Use

No. 859 Heavy-Duty Moulding Cutter Set for No. 860 Circular Saw. Same as No. 858, ⅝" bore, but with heavy-duty steel cutter head, without collar **$18.85**

Ship. Weight 14 lbs. Code Word MOUHL.

No. 267 Heavy Duty Moulding Cutter Set. Same as No. 262, but with heavy-duty steel cutter head, without collar **14.20**

Ship. Weight 5 lbs. Code Word MOUHK.

No. 1158 Heavy-Duty Moulding Cutter Set No. 1160. Same as No. 1169, but with heavy-duty steel cutter head, without collar. **$15.45**

Ship. Weight 10 lbs. Code Word MOUHM.

No. 1458 Heavy-Duty Moulding Cutter Set for No. 1450 Circular Saw. Same as No. 1456, but with heavy-duty head; without collar **15.45**

Ship. Weight 10 lbs. Code Word TILTJ.

All heavy-duty heads ⅝" bore. Extra for ¾" or ⅞"..... .75

Extra Cutter Heads and Inserts

No. 249 Moulding Cutter Head only, with screws, to fit ⅝" arbor, with collar. Does not include wrench or cutters..... **$2.45**

Extra for boring ½", ⅝" or ¾" . .75

Ship. Weight 1¼ lbs. Code Word MOUHA.

No. 265 Heavy-Duty solid-steel head only, to fit ⅝" arbor. Without wrench or cutter..... **4.25**
Not furnished in ½" bore

Extra for boring ¾" or ⅞"..... .75

Ship. Weight 3 lbs. Code Word MOUST.

No. 872 Moulding Cutter Insert only, to fit No. 860 circular saw **$1.00**

Ship. Weight 1½ lbs. Code Word NECIO.

No. 1162 Moulding Cutter Insert for No. 1160 saw **1.25**

Ship. Weight 1½ lbs. Code Word TENSG.

No. 1453 Moulding Cutter Insert for No. 1450 saw **1.25**

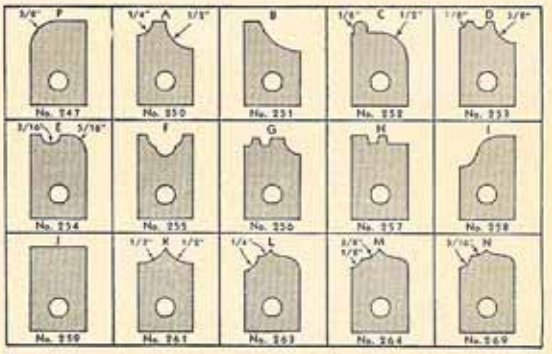
Ship. Weight 1½ lbs. Code Word TILTD

No. 1521 Wrench ..... **.15**
Sh. Wt. 6 oz. WRENB.

No. 245 Collar **.15**
Sh. Wt. ⅝ lbs. COLLA.

Extra Sets of Cutter Blades

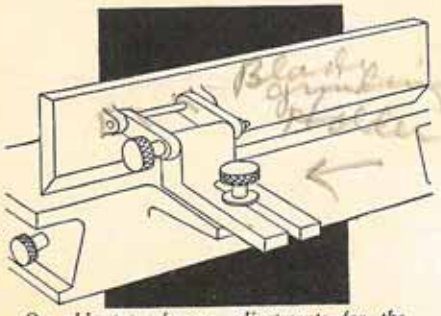
Cutters come in sets of three matched blades. Being made of high-speed steel (not carbon steel) they will cut thousands of feet of moulding before dulling. All these knives may be used with shaper cutter head No. 1343 listed on Page 19.



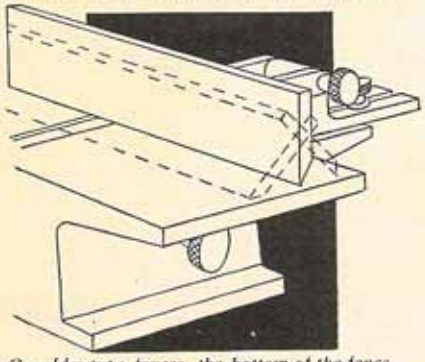
No.	Style	Description	Code	Price Set
247	P	Cove	MOULP	$2.45
250	A	Bead	MOULA	2.45
251	B	Bead	MOULB	2.45
252	C	Crown Mould.	MOULC	2.45
253	D	Panel Strip	MOULD	2.45
254	E	Glass Stop	MOULE	2.45
255	F	Screen Mould	MOULF	2.45
256	G	Drawer Joint	MOULG	2.45
257	H	Glue Joint	MOULH	2.45
258	I	O-G Curve	MOULI	2.45
259	J	Straight	MOULJ	2.45
261	K	Flute Bead	MOULK	2.45
263	L	Flute & Cove Comb.	MOULL	2.45
264	M	Flute & Cove Comb.	MOULM	2.45
269	N	Flute & Cove Comb.	MOULN	2.45

MORE FOR YOUR MONEY: You Get More For Your Money When You Buy One Of Our Jointers

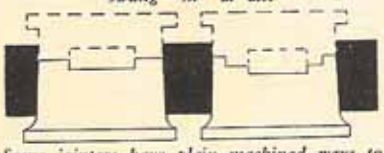
Here Are Some Of The Reasons Why:



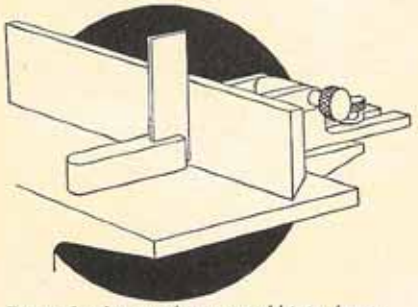
On older-type fences, adjustments for the fence are usually at the back of the fence, awkward to handle and hard to adjust exactly.



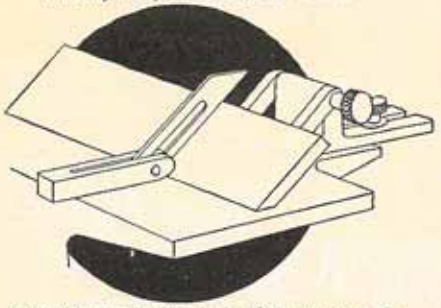
On older-type fences, the bottom of the fence swings in or out when tilted, requiring re-setting of the entire fence for many operations. On many fences, the fence cannot be swung "in" at all.



Some jointers have plain machined ways to carry the table, and some have plain rabbeted ways. Neither design provides any takeup for wear.



Due to the absence of stops on old-type fences, the square must be used to re-set the fence vertically every time the fence is tilted.



On old-type fences, it is also necessary to use a bevel gage or other angle gage every time the fence must be set to 45 degrees for miter work.

If we told you that we probably have more experience in manufacturing GOOD small jointers than anyone else in the world, it would be true, so far as we know—but it wouldn't mean very much. Even the "oldest manufacturer" in any field can go to sleep on his feet, and when he does, his past experience means nothing to the purchaser of his machines.

But when, in addition to years of experience in building GOOD jointers, a manufacturer is alert to every opportunity of improving his machines, of building into them even greater value, of making them more accurate, of increasing their convenience, of giving you more for your money—then his vast experience IS of importance to you.

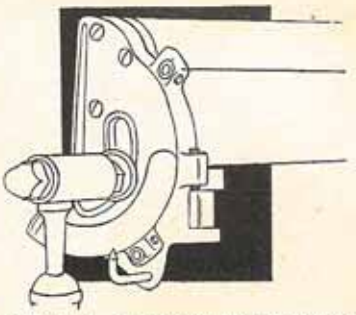
When you buy one of our 4" or 6" jointers, you buy the result of years of experience in building GOOD machines. You buy the result of years of experience in accurate workmanship, in advanced engineering. You buy the result of years of research, study and contact with thousands of jointer users. You buy —so far as it is humanly possible for us to insure it—thorough SATISFACTION!

Study the Drawings

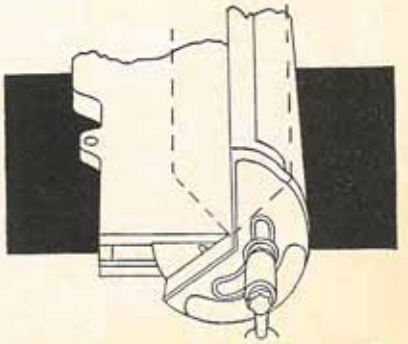
The illustrations on this page point out some of the differences between our jointers and others. But this is only a part of the reason for the superiority of our machines. There are other reasons, unseen, but important. Take machining, for example. We are not content merely to rough-bore and ream the seats for the ball bearings, although this might be "good enough." We diamond-bore these seats, to insure absolute accuracy.

The tables of our jointers are first rough-machined, singly. The machine is then carefully assembled with the tables mounted on the base, and both tables are then carefully and accurately finish-ground. This insures that the tables will be perfectly aligned, and, although it involves a number of additional operations, we consider it necessary for accuracy and for your satisfaction. Similarly with all other operations. You will find no skimping—no shoddy workmanship in our jointers.

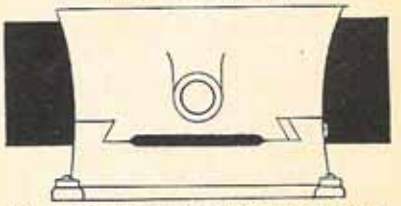
Study the drawings and the illustrations on the following pages, and you will readily see why you should have one of these jointers in your shop.



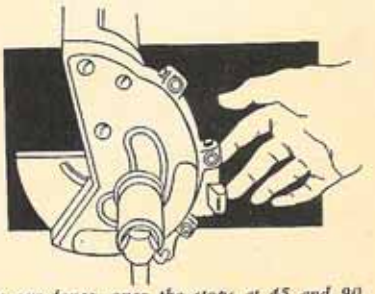
On our fences, both adjustments are at the front, combined in one simple, convenient control handle, providing fast, accurate adjustment.



On our fences, the bottom does not swing either in or out when tilted. This provides full table capacity for angular work—and the fence tilts both ways.



Our tables employ the finest type of mounting, with accurately machined dovetail ways, provided with gib and adjusting screws to take up wear.



On our fence, once the stops at 45 and 90 degrees have been set, there is never again any necessity to use the square or bevel. A flip of the finger takes the stop out of the way for tilting.

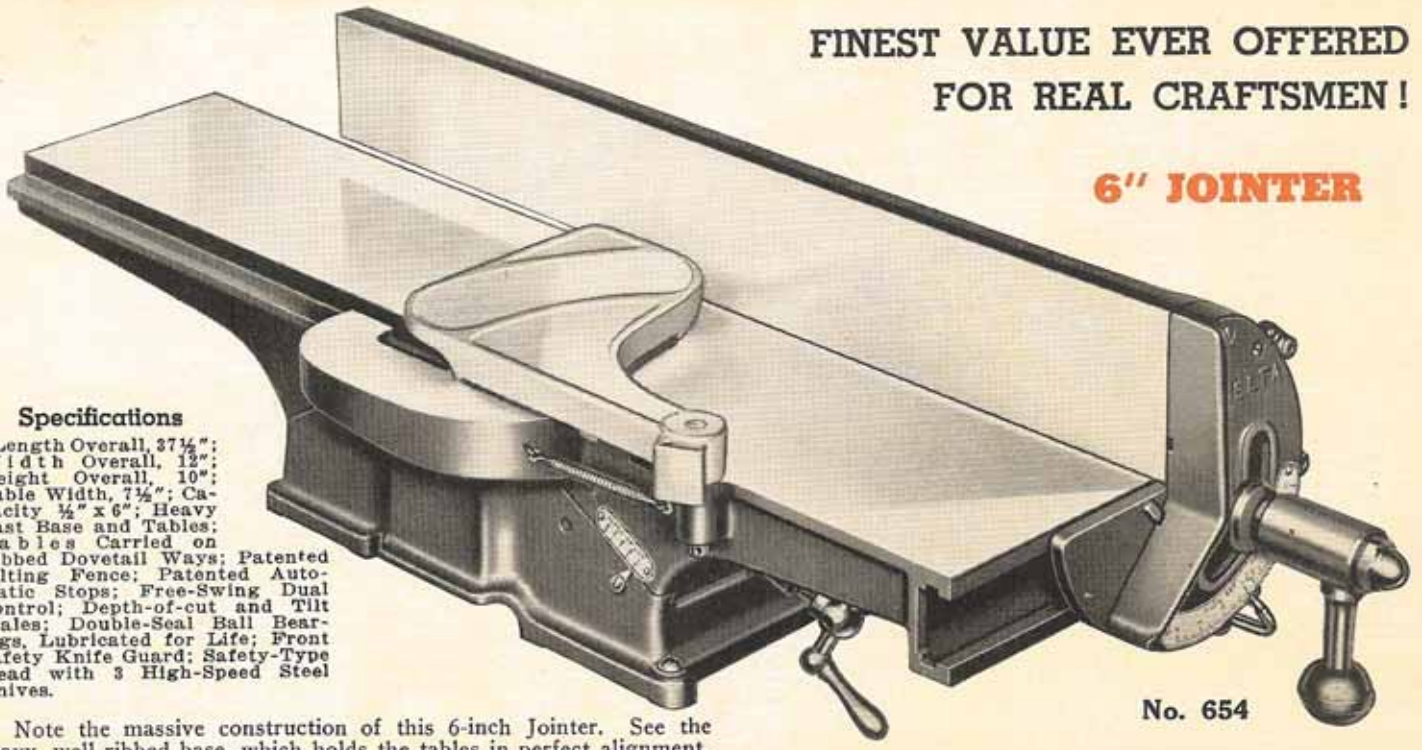
Thorough Engineering, Careful Design and Accurate Machining Assure You Good Machines

Aside from the advantages of the patented features of the machines themselves, there are many other reasons why it pays you to buy our jointers. Consider their self-sealed ball bearings—lubricated for life (not merely "dust-sealed"). Consider their thorough engineering, their careful, painstaking design, even in small details, the high-grade and accurate workmanship in every part. Compare them with other machines from every angle—price, capacity, appearance, design or workmanship—and you will understand why men who know good craftsmanship prefer these jointers for their work.

SAVES ITS COST In a Small Shop In a Remarkably Short Time

FINEST VALUE EVER OFFERED FOR REAL CRAFTSMEN!

6" JOINTER



No. 654

Specifications

Length Overall, 37½"; Width Overall, 12"; Height Overall, 10"; Table Width, 7½"; Capacity ½" x 6"; Heavy Cast Base and Tables; Tables Carried on Gibbed Dovetail Ways; Patented Tilting Fence; Patented Automatic Stops; Free-Swing Dual Control; Depth-of-cut and Tilt Scales; Double-Seal Ball Bearings, Lubricated for Life; Front Safety Knife Guard; Safety-Type Head with 3 High-Speed Steel Knives.

Note the massive construction of this 6-inch Jointer. See the heavy, well ribbed base, which holds the tables in perfect alignment. Note the extremely rigid fence—a fence which cannot possibly spring sidewise as work is fed through. Note the heavy construction of the fence bracket and slide. You will then understand why this jointer produces such accurate work.

Careful machining, in addition to massive design, aids in producing precision work. The tables are not only ground flat and true individually, but, after assembly, they are ground at the same time on a larger grinder—no chance of any lack of alignment.

The fence tilts on our patented bracket, insuring sure, free action, and unvarying accuracy of the stop settings—something very difficult to achieve in machines without our principle. The swinging stop, with its individually adjustable stop screws at the 45, 90 and 135-degree positions, insures that, once the stop screws are accurately set, the double-tilting fence will invariably return to the same accurate setting after tilting. Once set, the fence is always set for these most frequently used positions.

And the dual-control handle: Slid in, it engages the tilting lock and a twist of the wrist tilts the fence. Slid out, it engages the bracket lock, enabling the whole fence to be moved across the table. In the center, it swings free, completely out of the way of the operator.

No. 660

No. 654	Patented 6" Ball-Bearing Jointer, with set of three High-Speed Steel Knives, 2-Way Tilting and Graduated Fence with Dual Control, 2¾" arbor pulley and front safety guard. Without motor, belt or motor pulley. Ship. Wt. 119 lbs. Code Word SIXJO.....	**$52.50**
No. 660	6" Jointer Unit consisting of No. 654 Jointer, No. 560 V-Belt, No. 5700 7" V-Pulley, No. 656 Steel Stand. Less motor, belt guard and switch rod. Shipping Weight 153 lbs. Code Word SIXUN.	62.15

Note: For regular use, specify No. 6400 motor and No. 1333 switch rod. For school and production use, specify No. 6600 three-phase motor. See pages 28-30 for prices.

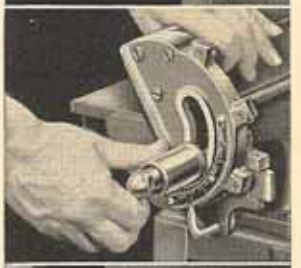
No. 560	V-belt, 22¾" center to center, (Use No. 510 Belt for combination units) ..... Shipping Weight 1 lb. Code Word EICVB.	1.10
No. 5700	V-pulley, drives jointer at correct speed (4200 R.P.M.). ½" bore furnished unless otherwise specified. Ship. Wt. 2 lbs. Code Word PULOL..	1.30
No. 659	Extra set of three high-speed steel knives. Ship. Wt. ⅝ lb. Code Word SIXKI.....	3.65
No. 656	Steel Stand for 6-in. Jointer (8" wide, 15⅞" long, 29½" high). Ship. Wt. 34 lbs. Code Word SIXST.	7.25
No. 661	Belt guard for 6-in. Jointer, with stud screws, etc. Ship. Wt. 33 lbs. Code Word SIXGA...	7.85
No. 662	Rear knife guard for 6-inch Jointer with spring. Ship. Wt. 2 lbs. Code Word SIXRE..	3.75

THESE PATENTED FEATURES INSURE

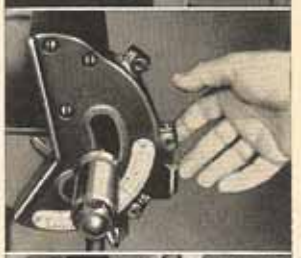
THESE FEATURES APPLY TO BOTH JOINTERS

When the dual-control handle is slid out it engages the bracket lock nut, which when loosened (by a twist of the wrist), frees the entire fence so that it can be moved across the table to any position desired. Tightening the nut, clamps the fence firmly and accurately in position.

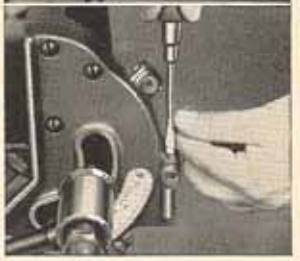
When the dual-control handle is slid in it engages the tilting lock nut. A twist of the nut loosens the quadrant so that the fence may be tilted to any angle desired. Tightening the nut locks the fence. When the handle is not engaged it swings free, out of the way.



A touch of the finger moves the patented stop links into or out of engagement with the individually adjustable stop set screws enabling the fence to be accurately stopped at 45, 90 or 135 degrees. The fence can be set accurately for other angles by means of large tilt scales.



To insure absolute accuracy when tilting the fence the stop screws are individually adjustable. This is another patented feature which makes the jointers the favorite of the real craftsman and insures that once the stops are set, the fence will always return to its setting.



FINEST VALUE Ever Offered in This 4" Ball-Bearing Jointer

Every Convenience of the Famous 6" Jointer, for Those Who Require Only 4" Capacity

4" JOINTER

No. 290

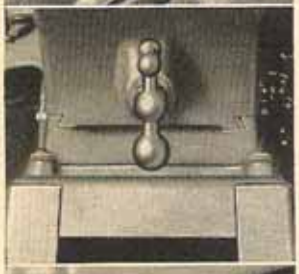
Specifications

Length Overall, 27⅛"; Width Overall, 9⅝"; Height Overall, 9⅝"; Table Width, 5¾"; Capacity, ¼" x 4"; Heavy Cast Base and Tables; Tables Carried on Gibbed Dovetail Ways; Patented Tilting Fence; Patented Automatic Stops; Free-Swing Dual Control; Depth-of-cut and Tilt Scales; Double-Seal Ball Bearings, Lubricated for Life; Front Safety Knife Guard; Safety-Type Head with 3 High-Speed Steel Knives.

ACCURACY—LONG LIFE—CONVENIENCE

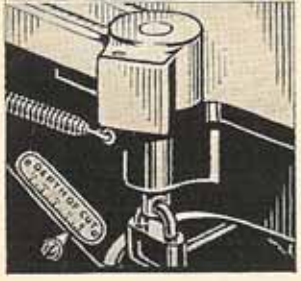
EXCEPT AS OTHERWISE NOTED

Rabbet cuts a full ½" on the 6" Jointer and a full ¼" on the 4" Jointer can be cut at one pass of the work. The guard is instantly removed for rabbeting and just as quickly replaced—a feature welcomed in all shops because it wastes no time—no tools are needed.



View of the underside of the table showing the rigid construction of the husky base casting and the dovetailed ways on which the tables move. Notice the gib at the right permits adjustment for wear which means this jointer will always be accurate.

The convenient ball-crank handle allows front table to be raised and lowered in a jiffy. Plenty of room means no skinned knuckles. The scale at the side shows depth of cut which is a maximum of ½" on the 6" Jointer and ¼" on the 4" Jointer—ample capacity for all work.



The flap guard on the 6" unit covering the knives may be locked to the machine with a padlock to prevent unauthorized removal of the guard—a very important feature in all shops. The 6" Jointer can also be fitted with a rear flap guard as listed which also may be locked.

The precision construction, built-in convenience and all around-handiness and accuracy of the No. 654 6" jointer—never before available in a jointer of this size—have led to an increasing demand for the same convenience and precision in a jointer of 4" capacity, and the result is the No. 290 jointer—the last word in tools of its size.

Every convenience and advantage of construction that have made the 6" jointer the standard in its class is incorporated in this new machine.

It is provided with the patented fence that insures sure, free action and unvarying accuracy of the settings. It has the patented swinging stop with its individually adjusted stop screws at the 90-degree and both 45-degree positions; it has the dual-control handle that makes control of the fence so convenient. The entire machine follows the same massive design that has made the 6" jointer such a success.

For those who require a machine for edge jointing and similar work up to ¼" by 4", this machine will quickly prove its superiority over any other of similar size. Tables are extra long—front table 11⅝", rear 14¼" and 27⅛" long overall, to aid in producing accurate work.

Precision machining, in addition to massive design, aids in producing precision work on this machine. The tables are guided on dovetail ways, gibbed as in the most expensive machinery. Tables are ground flat and true individually, and then again after assembly, to insure perfect alignment. Nothing omitted that would add to precision or convenience.

No. 292

No. 290 4" Ball-bearing Jointer, with Two-Way Tilting and Graduated Fence with Dual-Control Handle, set of three high-speed steel knives, arbor pulley and front safety guard. Without motor, belt or motor pulley **$32.50**
Shipping Weight 68 lbs. Code Word JOIBM.

No. 292 4" Jointer Unit, consisting of No. 290 Jointer, No. 560 V-belt, No. 5650 6½" V-pulley and No. 304 Steel Stand. Without motor or switch rod **41.45**
Shipping Weight 106 lbs. Code Word JOIBO.

Note: For regular use, specify No. 6400 motor and No. 1333 switch rod. For school and production use, specify No. 6600 three-phase motor. See pages 28 to 30 for prices. No belt guard available for this unit.

No. 5650 6½" V-pulley, ½" bore..... **1.20**
Shipping Weight 2 lbs. Code Word PULOQ.

No. 560 V-belt, center to center, distance 22¾"..... **1.10**
Shipping Weight 1 lb. Code Word EICVB.

No. 304 Steel stand, with chute **6.75**
Shipping Weight 31 lbs. Code Word JOIST.

No. 302 Extra Set of 3 high-speed steel knives..... **2.75**
Shipping Weight ½ lb. Code Word JOIKI.

MANY ADVANTAGES In These Combination Saw-Jointer Units

No. 368

8″ Circular Saw—4″ Jointer, No. 368

This combination unit utilizes the No. 290 Jointer shown on page 13 and the 8″ circular saw. Supplied with a larger stand giving greater distance between the units. Available to the home crafter who wants a better machine with a slightly larger jointer with its refinements. Capacity jointer: ¼″x4″; Saws 2¼″ thick, 15″x18″ table.

No. 1350

8″ Circular Saw—6″ Jointer, No. 1350

For those who need a larger jointer capacity this unit is available. No. 654 6″ Jointer (described on Page 12) is used in conjunction with the 8″ saw, No. 860. The ideal combination for the serious home crafter who makes units which require a real machine. Capacity Jointer: ½″x6″; Saw 2¼″ thick, table 15″x18″. See pages 12 and 7 for complete description of individual units.

No. 1164

10″ Circular Saw—6″ Jointer, No. 1164

Actually this combination has been developed for production purposes such as encountered in building, furniture manufacture and the wood specialty field. However, there are those home crafters who feel that their work is of such nature to warrant a machine of this kind. The best combination available. Capacity, Jointer: ½″x6″; Saw 3¼″ thick. See pages 5 and 12 for complete description of units.

No. 368 Combination Unit Includes:

No. 860	8″ Timken-Bearing Circular Saw	$35.00
No. 290	4″ De-Luxe Jointer, with guard	32.50
No. 361	Steel Stand, with chute and raising block	11.50
	Ship. Wt. Stand and Block Only, 81 lbs. Code CROSX.	
No. 5500	5″ V-pulley for saw, ⅝″ bore..	.85
No. 5650	6½″ V-pulley for jointer, ⅝″ bore	1.20
No. 560	V-belt for saw	1.10
No. 510	V-belt for jointer	1.10
	Total (less saw guard and motor)	$83.25

Shipping Weight 229 lbs. Code Word COMBG.

Use No. 9000 or 8050 motor for ordinary use. For heavy duty work Nos. 9100 or 9200 motors are recommended. No. 1334 switch rod. See pages 28-30. Stand dimensions: 14″ wide, 27½″ long, 26⅝″ high.

No. 1350 Combination Unit Includes:

No. 860	8″ Timken-bearing Circular Saw	$35.00
No. 654	6″ Ball-bearing Jointer	52.50
No. 1356	Steel stand, with chute and raising block	13.95
	Ship. Wt. Stand and Block Only, 80 lbs. Code CROSU.	
No. 5700	V-pulley for jointer, ⅝″ bore..	1.30
No. 5500	V-pulley for saw, ⅝″ bore.....	.85
No. 510	V-belt for jointer	1.10
No. 560	V-belt for saw	1.10
	Total (less saw guard, motor & switch rod)	$105.80

Shipping Weight 302 lbs. Code Word COMBE.

Use motor No. 9000 or 8050 for ordinary use. For heavy duty work Nos. 9100 or 9200 motors are recommended. Switch rod No. 1334. Stand dimensions: 16″ wide; 30″ long; 2⅝″ high.

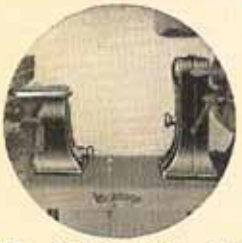
No. 1164 Unit, Consisting of:

No. 1160	10″ Circular Saw	$59.50
No. 654	6″ Jointer	52.50
No. 1168	Steel stand (16″ wide, 30″ long, 26¾″ high)	13.95
	Ship. Weight, Stand Only, 73 lbs. Code Word TENSO.	
No. 510	V-belt for jointer	1.10
No. 560	V-belt for saw	1.10
No. 5500	5″ V-pulley for saw, ⅝″ bore..	.85
No. 5700	7″ V-pulley for jointer, ⅝″ bore	1.30
	Price without motor, switch rod or circular saw guard	$130.30

Shipping Weight 389 lbs. Code Word TENSI.

No. 9000, 8050 or 9400 motors recommended for this machine for ordinary use. For heavy duty and production work No. 9100, 9200 or 9502 ¾ H.P. and 1 H.P. motors are recommended. Use No. 1334 Switch Rod See pages 28-30.

Belt Guards for Combinations



Adding still further to the safety of the 10″ saw and 6″ jointer in the No. 1164 combination unit, guards are now offered for the portions of the belts exposed above the top of the stands. Since the lower portion of stands are easily enclosed with wire mesh, these guards make it easy to have machines conform to industrial safety requirements.

No. 1176 Belt Guard for No. 1160 Circular Saw **$3.75**

Shipping Weight 12 lbs. Code Word TENSV.

No. 1177 Belt guard for No. 654 Jointer **2.10**

Shipping Weight 11 lbs. Code Word TENSW.

(For use on No. 1168 stand only)

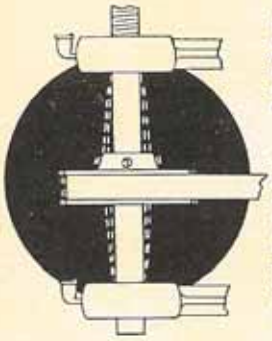
Rubber Feet for Steel Stands

These feet for steel stands and bench legs will make your machines run smoother and quieter, an advantage where noise must be kept to the minimum. They are of the correct composition to stand hard usage, while having enough flexibility to absorb slight vibrations. Supplied with metal plates to fit in the recesses of our stand feet, and drilled and tapped for machine screws inserted from the top of the feet.

No. 353 Set of rubber feet, with plates and screws **$ .95**

Shipping Weight ⅝ lb. Code Word RUBFE.

REASONS WHY You Get So Much More For Your Money When You Purchase OUR SHAPER

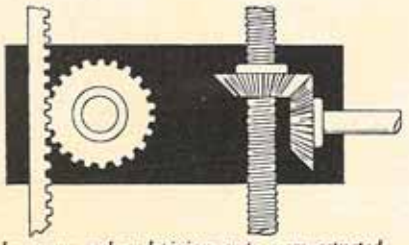


When shaper spindles are too light and the bearings comparatively far apart, destructive "whip" (shown exaggerated) develops at high speeds.

"Whip" is not only destructive to bearings, but sets up chatter in cutters. Many small shaper spindles must be lubricated through oil cups—not satisfactory for high-speed spindles.

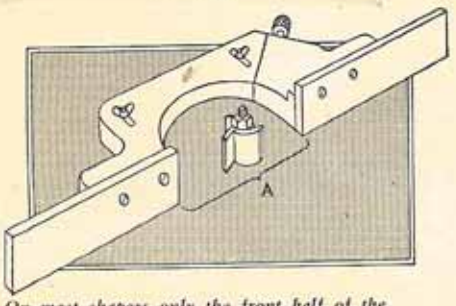
There are a number of reasons obvious to the experienced machine buyer why our shaper is used in hundreds of industrial, school and contractor's shops. Among these are its low cost—the wide range of the work it will handle—its availability in either bench or stand models—its thorough guarding—the low cost and wide variety of its cutters — the wide range of the work it will handle—its long life—its low power consumption.

But there are other reasons, hidden in the design of the machine, but none the less responsible for thorough satisfaction it is giving to users. Some of these are shown graphically on this page—others are inherent in the careful, painstaking machining of the parts (like the diamond-boring of the bearing seats). Others, again, require use of the machine to be appreciated.



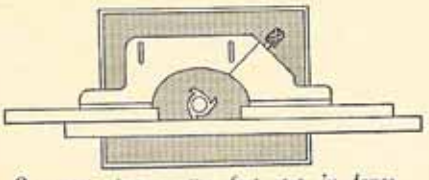
In many rack-and-pinion and screw actuated spindle-raising mechanisms, backlash makes accurate spindle setting hard to do quickly and accurately.

Four Simple Operations Instead of Six Awkward Ones

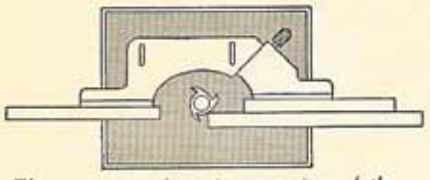


On most shapers only the front half of the fence is adjustable, and the non-adjustable fence faces leave a wide, dangerous opening around the cutter, as at "A".

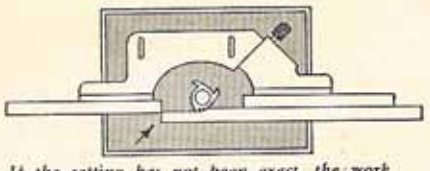
For example, most shapers are fitted with fences on which only one-half is adjustable. As the drawings at the left show, when setting up straight work, three operations must be performed before the work is ready to run. In ninety cases out of a hundred, some re-setting of the fence is necessary when the last setting is reached—and with the ordinary shaper fence *the complete setting must be done over again,* because the whole fence must be moved to correct the inexact setting. With our fence, the rear half is adjusted in a few seconds, *without disturbing the other settings,* and the work is ready to run. A simple, exact procedure instead of an awkward, inexact one.



On most shapers, the first step in fence adjustment is to set the entire fence with both faces level and adjusted to the cutter cutting circle.



The next step, where the entire face of the moulding is to be cut away, is to set the front half of the fence to the correct depth of cut.



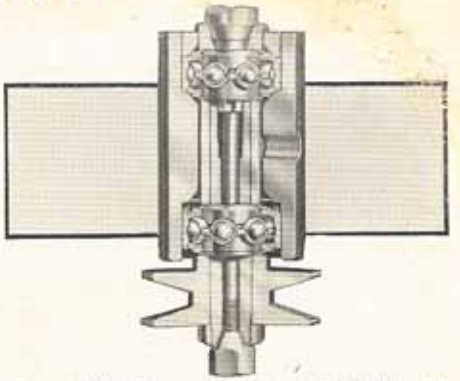
If the setting has not been exact, the work generally strikes the rear half of the fence, as indicated by arrow, and the whole setting operation must be done over again.

The difference in operation is even more pronounced whenever work must be done which requires the cutting away of the whole face of the work.

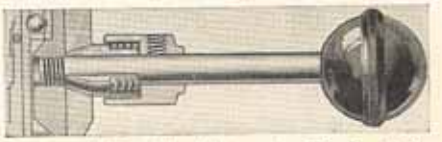
To do this on a fence with only the front half adjustable requires six operations, and requires the "juggling" of the whole fence and the front half until the setting is exact—a very clumsy operation.

On our fence, the settings for this kind of work are done in four simple, fast, easy operations, with no juggling—no guesswork.

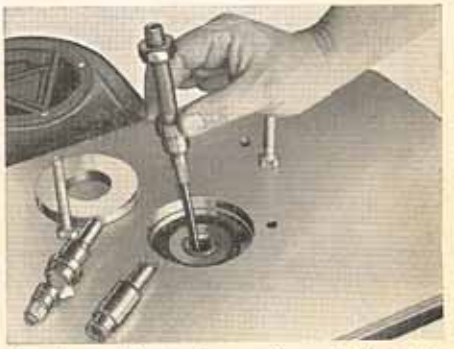
Study the construction and operation of this shaper point by point. Contrast it with others at anywhere near its low cost, and you will see why many users call it "the most satisfactory small shaper on the market today!"



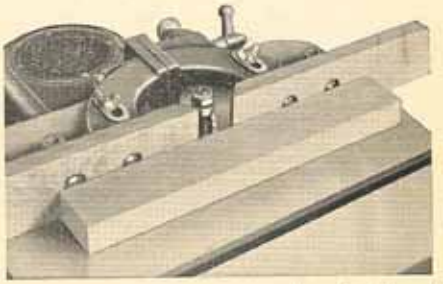
Our spindle drive, with short, stiff spindle and very closely spaced, preloaded bearings eliminating whip, produces chatterless work and requires no lubrication.



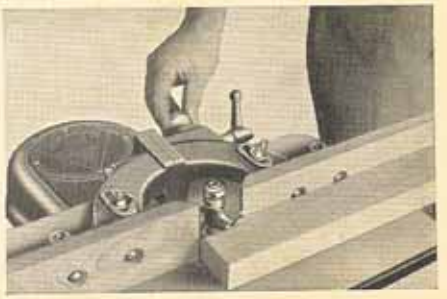
Our spindle height adjustment, with its spring-urged sleeve and tapered helical groove, eliminates backlash and makes accurate adjustment easy.



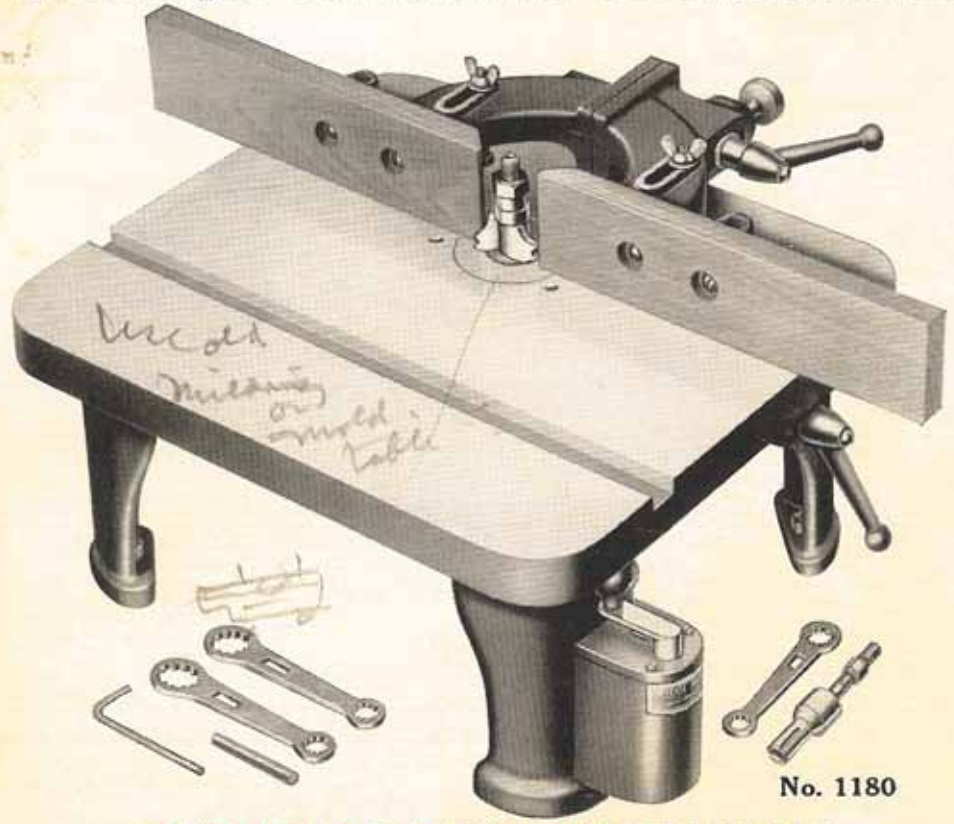
Interchangeable spindles permit use of wide variety of cutters, also stub spindle for cope cuts on sash and door and cabinet work.



In our fence, both halves are adjustable through one control, and the fence faces—adjustable endwise—permit the cutter opening to be made as small as possible—a valuable safety feature.



ASTONISHING VARIETY OF WORK Can Be Performed On This Shaper Built For the Professional and Amateur Craftsman



No. 1180

Specifications

Overall Dimensions
25" Wide, 10¼" High
15½" Front to Back
18" by 15½" Table
25" Long Fence

Speed 10,000 R. P. M.

5/16" and ½" Spindles

Spindle Carried in Double-Seal Ball Bearings
(Requiring no lubrication for life of bearings)

Spindle Travel ¾"

No-Backlash Spindle Adjustment

Spindle Height Lock

⅜"x¾" Table Groove for Sliding Jig

Tapered Starting Pin

Leg Drilled for Reversing Switch

V-Belt Drive and Many Other Features

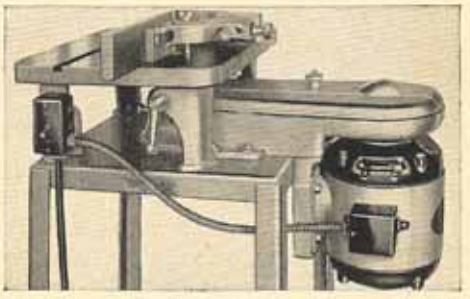
A MACHINE OF ASTONISHING VERSATILITY

Here is a bench shaper that embodies all the craftsman requires, whether he be professional or amateur. During the short time since it was introduced, hundreds of professional woodworking shops, from novelty shops to furniture manufacturers, have installed this machine as auxiliary to their larger shapers, and find that an astonishing variety of work can be performed with it.

It will make hundreds of mouldings using either ½" hole or ⅜" hole cutters. It will shape, form or mould the edges of almost any form of work that can be handled on a larger shaper; it will handle all of the window, storm and screen sash work of the average shop, and all of the cabinet work as well.

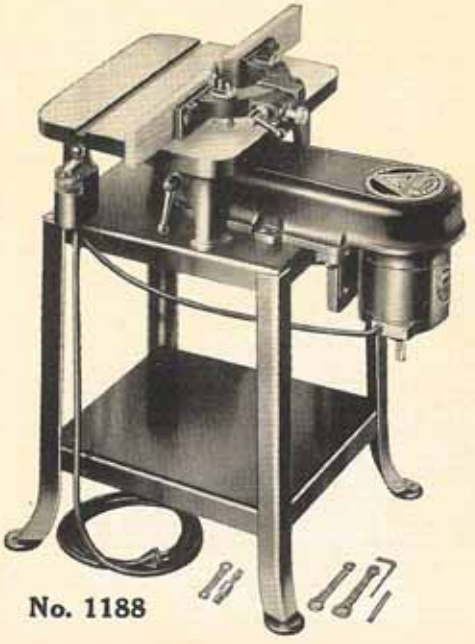
For ordinary work No. 6900 (old No. 915) reversible ½-H. P. motor is recommended. This is carried by a special bracket on the rear of the stand, carrying a guard which completely encloses belt and motor pulley. The front of the belt and the spindle pulley are enclosed by a separate guard, instantly removeable. Reversing switch for 6900 motor mounted on front shaper leg.

For production work No. 8100 (old No. 1075) 1-H.P. motor is recommended. This has a built-in reversing switch, and is provided with a snap-switch for mounting on the shaper leg as shown at the right. Both motors are 3450 r.p.m., and drive the spindle from a flat, flanged pulley which permits the spindle to be raised or lowered without strain or twist on the belt.



For heavy production work the 1 H.P. motor with built-in switch, as shown above, should be used.

No. 1180	Ball-Bearing Reversible Shaper, with Fully Adjustable Fence ⅜" and ½" Spindles, Table Insert, Starting Pin, Wrenches and Spindle Pulley. Without Motor or Motor Pulley, Reversing Switch, Cutters or Collars ..... Shipping Weight 68 lbs. Code Word SHAPR.	$29.50
No. 1185	Special flanged motor pulley, 5⅝" diam., ⅝" or ¾" bore, with keyway, for standard 60-cycle 3450 r.p.m. motor (specify bore).. Shipping Weight 2½ lbs. Code Word SHAPU.	1.55
No. 410	Special flexible V-belt for shaper (do not use ordinary V-belt). Shipping Weight ⅝ lb. Code Word BELTB.....	.95
No. 430	Special V-belt for use with No. 1197 motor bracket and 1-H.P. motor. (Shipping Weight 1 lb. Code Word FORSL.....	.95
No. 1181	Steel stand (Top 16⅛"x18¼"x26⅝" High)..... Shipping Weight 59 lbs. Code Word SHAST.	8.50
No. 1183	Belt Guard and Motor Bracket for ½-H.P. Motor..... Shipping Weight 27 lbs. Code Word SHABG.	5.75
No. 1197	Belt Guard and Motor Bracket for 1-H.P. Motor..... Shipping Weight 35 lbs. Code Word SHAPV.	7.35
No. 1188	Shaper Unit, consisting of No. 1180 Shaper, No. 1181 Stand, No. 1183 Belt Guard and Motor Bracket, No. 1185 Flanged Pulley and No. 410 V-Belt. Without motor or reversing switch, cutters or collars. Shipping Weight 154 lbs. Code Word SHAUN.....	46.20
No. 1199	Shaper Unit; same as No. 1188 but with No. 1197 Motor Bracket and No. 430 V-belt. Ship. Weight 167 lbs. Code Word SHAPW.	47.85



No. 1188

FOR LARGE TYPE PRODUCTION SHAPER SEE PAGE 45

END GRAIN SHAPING Is Fast, Easy, Accurate and Safely Done On This Shaper

Shaping of Short and Narrow Pieces Is Now a SAFE OPERATION

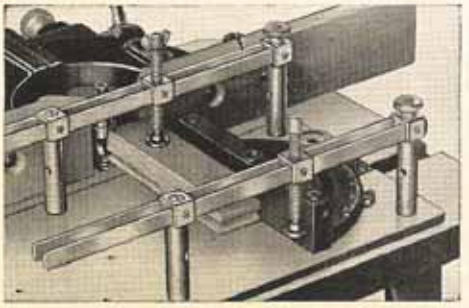
Striving always for complete safety in the operation of machines, our engineers have solved the problem of safe end-grain work, even on short and narrow pieces, by the design of the Sliding Jig for the shaper.

Photo at left shows how the jig is used on a sash operation, insuring absolutely accurate cuts. The photo at the right, below, shows how even a short, narrow block may be shaped safely by the use of the jig.

The jig consists of a ground plate, fitted with a key to slide in the groove in the shaper table. The plate carries the well-known Auto-Set miter gage head, which may be set at any angle and automatically stopped at 90 and 45 degrees.

Carried on top of the plate are two clamp rails, with screw clamps that may be slid to any position along the rails. When the work is clamped against the miter-gage head and against the plate, the whole jig is slid past the cutters.

The hands never come close to the cutters, and the work cannot slip. This means not only perfect safety but also much more accurate work.



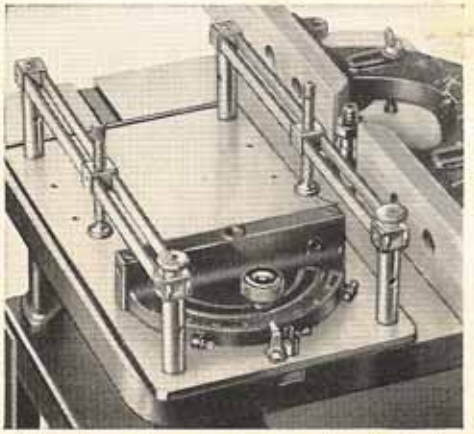


Photo above shows the jig for end-grain shaping from the right side of the machine, showing the stop pointer on the miter-gage head.

No. 1186 Sliding Shaper Jig, with ground base plate, fitted with miter-gage head and swinging stop link, four clamp-rail posts, four clamp rails and two clamp screws. To fit No. 1180 shaper **$9.50**
Shipping Weight 19 lbs. Code Word SHJIG.

No. 873 Additional clamp screw, with block, each..... **.45**
Shipping Weight 8 oz. Code Word NECCS.

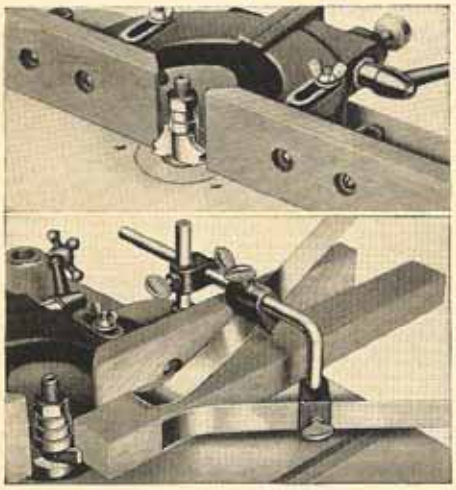
Note: This sliding jig may be adapted to many other machines and for many other operations. Key on base plate is ⅝" by ⅝".

Work Cannot Slip

The shaping of end grain work, especially when short or narrow pieces must be worked, as when "returning" the end of a moulding, has always been dangerous, because the narrow end, not having much bearing against the fence, is apt to be caught by the cutters and thrown out. This cannot happen when the sliding jig is used, because the work cannot slip and become caught.

For school work, or where inexperienced operators must be used, this feature of the jig is invaluable.

Fully Adjustable SHAPER FENCE Is Marvel of Convenience



Not only thoroughly safe to use, but unequaled in ease of operation, convenience of design and accuracy of adjustment, the No. 982 shaper fence (U. S. Pat. No. 1,947,885) is the best type available to the user of small shapers. For ordinary shaper work the two faces of the fence are set in line, while for jointing or for work where all the edge of the material is cut away, one face of the fence may be adjusted forward to support the stock as it leaves the cutter. **Each section of the fence may be adjusted forward or backward independently—and locked by a clamp lever which may be set at any angle to suit the operator.**

The No. 982 Safety Shaper Fence is standard equipment on the No. 1180 Shaper, and is designed to fit the No. 989 and No. 999 drill presses also. It can be used on any type of shaper, and is actually more massive and much more convenient than many fences supplied on many heavy production shapers.

Spring hold-downs, available for use with the fence, add much to the convenience of operation. They hold the work not only against the fence but also against the table. They can be used on either end of the fence, and are provided with universal brackets and long, flexible springs that accommodate work up to 3½" thick.

No. 982 Patented Shaper Fence to fit No. 989 and 999 drill presses, complete with wood facings, bolts and wingnuts, similar to standard fence on 1180 shaper **$7.50**
Shipping Wt. 12 lbs. Code Word NESSF.

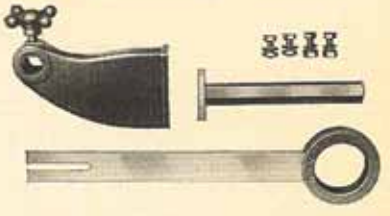
No. 983 Set of Shaper Hold-Downs, with straight and bent posts, two springs, two spring brackets, and one post bracket, for use with No. 982 shaper fence **$2.00**
Shipping Wt. 2 lbs. Code Word NESHD.

DEMOUNTABLE GUARD Protects User on Curved and Circular Work

Shaping a curved rail with the No. 987 guard in place. Note how completely the knives are covered.

While no more thoroughly guarded shaper than the No. 1180 is available today, with its complete belt guards and safety fence, the fence cannot be used on circular or curved work. For this, the No. 987 Shaper Guard should be used. This guard is not standard equipment, but may be purchased as an extra. It fits not only the No. 1180 shaper, but also the No. 989 and 999 drill presses, when these are used as shapers with the ⅝" cutters.

The guard is fully adjustable, and completely protects the operator from accidental contact with the revolving cutters, besides acting as a hold-down for the work. It is instantly removable, and does not interfere with the work.



No. 987 Shaper Safety Guard for curved work, complete with bracket for shaper table, adapter bracket for drill-press wood table (not shown), hexagon post, spring bar with guard ring and screws **$4.45**
Shipping Weight 9 lbs. Code Word NESGA.

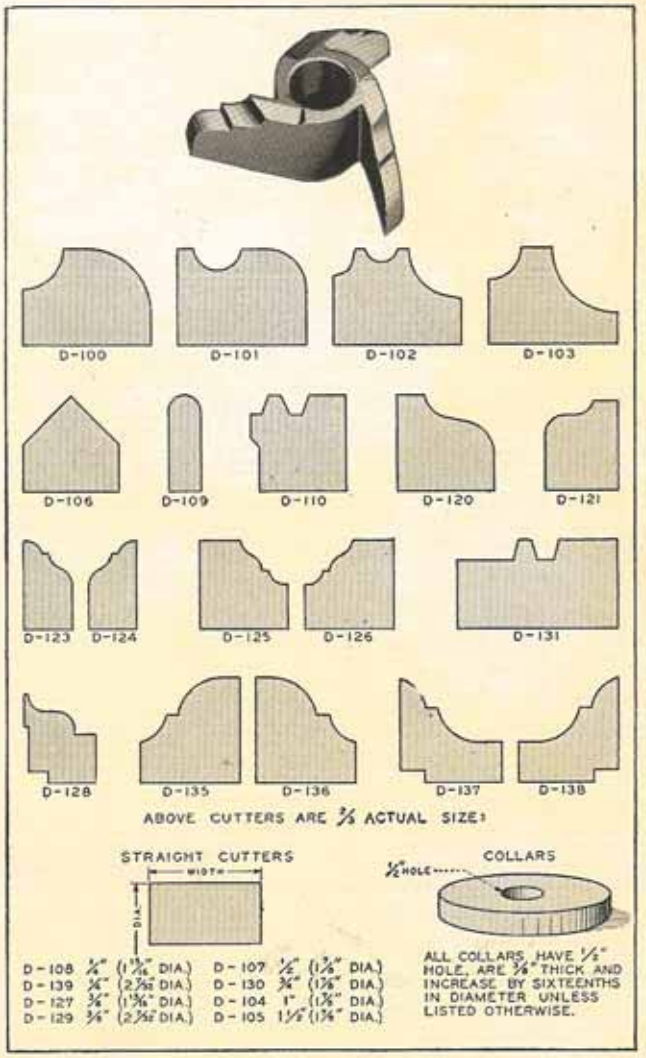
SHAPER CUTTERS In A Wide Variety Of Shapes Meet All Requirements

These 3-lip cutters are a new development in that they offer unlimited possibilities in hundreds of moulding shapes. Cope and reverse mouldings, sash mouldings, door mouldings, doors for cabinet work or buildings, brick moulds, base moulds, back moulding are but a few of the applications where these versatile cutters may be used.

Made of special steel and hardened in oil, these cutters can be resharpened again and again merely by grinding across the faces of the cutting lips. Since they have involute relief, the sharpening does not change their shape, and the relief permits a true shaving cut while leaving a strong, well-supported edge on the cutter. Collars for use with these cutters are ground to size, not merely rough-turned, so that they run perfectly true and will not score the work.

Sash and cabinet cutters offer unusual possibilities, not only for the man who likes to turn his home shop to the making of things useful as well as ornamental, but for the professional shop as well. With these cutters all the difficult cope and reverse mould shapes used on regular professional sash and cabinet work can be accomplished with ease.

With these, the owner of the No. 1180 shaper or any other shaper having a ½" spindle to which they can be adapted, is practically independent of the mill. He can make his own sash mouldings, door mouldings, doors for buildings or cabinet work, cabinet mouldings of all kinds, and all types of building trim, such as brick moulds, base moulds, back bands, etc., straight or circular. There is practically no limit to the amount of mill work he can do with both sets of cutters on hand. Sash cutters are designed for sash using 1⅜" to 1¾" stock. They can be used for many other purposes besides those briefly mentioned above.



INDIVIDUAL CUTTERS AND COLLARS

Above is shown special sash cutter D-128, with stub spindle, making cope cut on sash rail.

Making a combination rabbet and ogee cut on sash stock, using a spacing collar between cutters.

SHAPED CUTTERS

D-100	As Shown	$1.40
D-101	As Shown	1.40
D-102	As Shown	1.40
D-103	As Shown	1.40
D-106	45 Degree	1.40
D-109	Round Nose	1.25
D-110	Drawer Joint	1.60
D-120	Ogee	1.40
D-121	Female Sash	1.40
D-123	Cab. R. H. Male	1.25
D-124	Cab. L. H. Male	1.25
D-125	Cab. R. H. Fem.	1.40
D-126	Cab. L. H. Fem.	1.40
D-128	Male Sash	1.40
D-131	Glue Joint	1.60
D-135	Cove and Bd. L. H.	1.40
D-136	Cove and Bd. R. H.	1.40
D-137	Cope R. H.	1.40
D-138	Cope L. H.	1.40

STRAIGHT CUTTERS

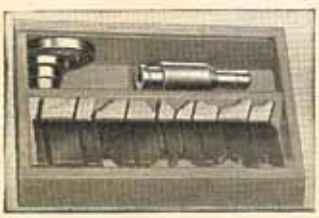
D-104	1"x1⅜" Dia.	$1.40
D-105	1 1/16"x1⅜" Diam.	1.70
D-107	½"x1⅜" Diam.	1.25
D-108	¼"x1 5/16" Diam.	1.25
D-127	¾"x1 5/16" Diam.	1.25
D-129	⅜"x2 3/32" Diam.	1.25
*D-130	¾"x1⅞" Diam.	1.40
D-139	¼"x2 3/32" Diam.	1.25

*For Sash Work.

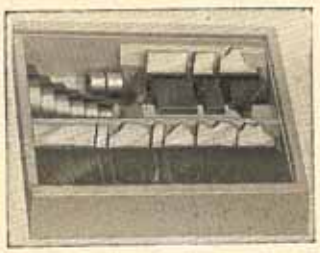
MISCELLANEOUS COLLARS

D-132	⅜"x1⅝"	$ .15
D-134	¼"x1⅜"	.15
D-140	¼"x1½"	.15
D-141	⅜"x1½"	.15
D-150	⅜"x1⅜"	.20
D-151	¼"x1⅞"	.20

Collars Have ½" Hole



No. 1184 Set of Sash and Cabinet Cutters, Collars, Spindle and Wrench, in wood box.



No. 1182 Standard Set Packed in Wood Box No. D-152.

COMPLETE STANDARD SETS

No. 1178 Cove and Bead Set Consisting of Cutter D-129, D-135 to D-139 Incl. D-132 and D-134 Collars with No. 1190 Stub Spindle for 1180 Shaper ..... $ 9.65
Shipping Weight 2 Lbs. Code SHAPY.

No. 1213 Cove and Bead Set, same as No. 1178, but with No. 1345 Stub Spindle for No. 1340 Shaper 9.90
Shipping Weight 2 Lbs. Code SHASB.

No. 1182 Standard Set Consisting of D-100 to D-109 Inclusive and 8 Suitable Collars Ranging From ¾" to 1¾" Diam. Packed in Wood Box (No. D-152) 15.55
Shipping Weight 3½ Lbs. Code SHACU.

No. 1184 Sash and Cabinet Set Consisting of D-108, D-120 and 121, D-123 to D-128 Incl. and D-130. Collars D-140, 141, 150 and 151 with 1190 Stub Spindle for 1180 Shaper. In Wood Box (No. D-154) 15.55
Shipping Weight 3 Lbs. Code SHACB.

No. 1214 Sash and Cabinet Set same as No. 1184 but with No. 1345 Stub Spindle for 1340 Shaper 15.80
Shipping Weight 3 Lbs. Code SHASD.

No. D-152 Wood Box with Slide Lid ..... .35

No. D-154 Wood Box with Slide Lid ..... .35

No. 1190 Stub Spindle with Screw and Allen Wrench 1.25

COLLAR SETS

Increased by Sixteenths Inches. ⅜" Thck. ½" Hole. Packed in Carton.

No. 1210 Seven Collars from ¾" to 1⅛" Diameter $1.00
Shipping Weight ¾ Lb. Code SHASU.

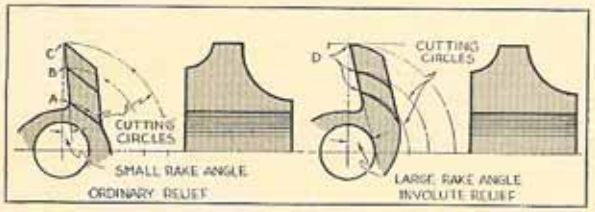
No. 1211 Six Collars from 1 3/16" to 1½" Diameter 1.25
Shipping Weight 1 Lb. Code SHASV.

No. 1212 Six Collars from 1 5/16" to 1⅜" Diameter 1.60
Shipping Weight 1½ Lbs. Code SHASW.

ADDITIONAL SHAPES Available By Means of These Cutters and Accessories

5/16" Cutters—Sizes and Shapes

	No.	Diam.	Width	Radius
D1 - D4	D-1	.950	.177	.125
	D-2	.950	.264	.187
	D-3	.950	.354	.250
	D-4	.950	.442	.312
D10 - D13	D-10	1.02	.177	.125
	D-11	1.06	.264	.187
	D-12	1.09	.354	.250
	D-13	1.13	.442	.312
D20 - D21	D-20	.994	.221	.125
	D-21	1.03	.442	.250
D30 - D31	D-30	1.18	.282	.125
	D-31	1.24	.344	.156
D40 - D41	D-40	1.09	.303	.093
	D-41	1.16	.388	.125
D50 - D51	D-50	1.13	194	.093
	D-51	1.20	.260	.125
D60 - D63	D-60	.950	.125	
	D-61	.950	.156	
	D-62	.950	.187	
	D-63	.950	.250	
D70 - D-71	D-70	1.12	.177	
	D-71	1.21	.282	
D-80	D-80	1.25	.442	1/4-1/2

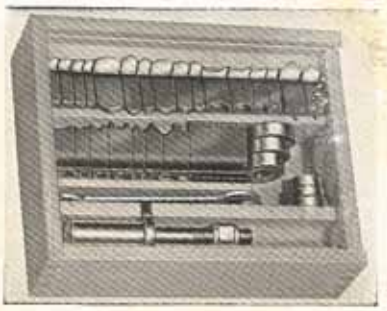


In the ordinary cutter, shown at left, points B and C must be left weak, to get adequate clearance at A. Note the small rake angle in this cutter. Notice how the involute relief of our cutters provides strong cutting edges at D, and the large rake angle which makes the edges cut instead of scrape.

SMALL SHAPER & DRILL PRESS CUTTERS—3-Lip Type

Like the larger ½" hole cutters intended for use on the shaper only, these 5/16" hole cutters—designed for use on shaper or drill press, are made of chrome-vanadium steel, which combines toughness with deep-hardening qualities. They are hardened and tempered in oil like all fine tools, so that they will not only stand up in service, but so that they can be re-sharpened without loss of cutting qualities. Cutters made of common machine steel may look like these, but they will not stand up, and, since they are merely case-hardened, they cannot be re-sharpened without ruining them.

One of the greatest advantages of our cutter design is the involute relief of the cutting edge, shown in the diagram below. While this requires special machinery to produce, it is important because it insures adequate clearance at the cutting edge, without at the same time weakening the edge as ordinary straight grinding does. The larger rake angle of our cutters also gives the cut more of a true shearing action, instead of a scraping one.



	All Cutters listed above (5/16" hole) Each	$ .65
D-69	Blank Cutter, similar to above, 1½" dia., 1" wide. Each	.90
No. 978	Adapter for 5/16" hole cutters. Fits No. 974 drill-press spindle. Each Shipping Weight 8 oz. Cord Word NESSA.	.90
No. 979	Set of six depth collars, 5/16" hole Shipping Weight 8 oz. Code Word NESDC.	.75
No. 980	Complete Set of 24 Cutters listed above, (including D-69), 5/16" hole, with No. 978 adapter and No. 979 collars, packed in wood box Shipping Weight 2 lbs. Code Word NESSC.	$16.95

CUTTER HEAD USES MOULDING KNIVES ON PAGE 10, INCREASES SHAPER RANGE

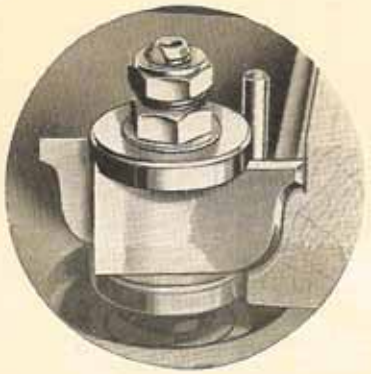
It is now possible for the craftsman who has any of the moulding cutter knives (listed on page 10) for his circular saw to now use these same knives on his shaper. The use of the No. 1343 Safety Cutter Head thereby increases the number of shapes which can be made on the shaper.

Made of steel accurately balanced for precision work this head is not only handy in the home workshop but due to its ruggedness is being used for heavy duty and production work. The three knives are locked into the head so that they are completely safe in operation. An accessory which permits you to get greater use out of your saw moulding knives.

Important: Do not use any of the saw moulding cutter heads (shown on page 10) on the Shaper!

No. 1343 3-Knife Safety Cutter Head, ¾" bore with ½" bushing, to fit ½" and ¾" spindles. Uses regular moulding cutter knives. With wrench **$4.25**
Ship. Weight. 1½ lbs. Code Word SHAND.

SAFETY CUTTER HEAD AND SEPARATE BLANK KNIVES FOR SPECIAL MOULDINGS

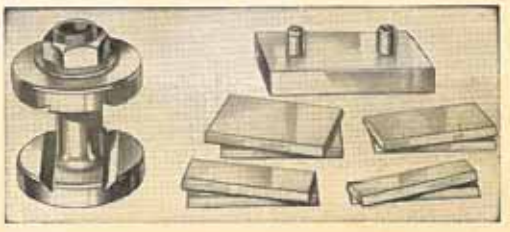


Special mouldings that cannot be made with the standard shaper cutters, special cope cuts —all the work that the experienced shaper operator wants to do can be done with the No. 1192 Cutter Head and blank knives. The head is an innovation. It is accurately machined so as to eliminate vibration; grooves are carefully milled to close tolerances to insure both knives being clamped with the same pressure and a spherical equalizing washer is used under the head. When a setup has been made it can be kept for future use, as the whole head may be removed from the machine. Head is bored for ½" spindle only.

Blank knives are 2½" long, self-hardening and sandblasted so that cutter design may be drawn directly on them.

No. 1192	Safety Cutter Head for blank beveled knives, with tightening block, but no knives. For ½" spindle only. Ship. Wt. 1½ lbs. Code Word SHAPB.	$4.25
No. 1342	Safety Cutter head same as No. 1192 but with hole for ⅝" spindle. Sh. Wt. 1½ lbs. Code SHANC.	4.25
No. 1193	½" wide blank knives, set of two. Code SHAPC.....	2.75
No. 1194	¾" wide blank knives, set of two. Code SHAPD.....	2.75
No. 1195	1" wide blank knives, set of two. Code SHAPE.....	3.00
No. 1196	1½" wide blank knives, set of two. Code SHAPF.....	3.75

Average shipping weight per set 6 oz.



PULLEYS, BELTS, Line Shaft Equipment and LAMP ATTACHMENT Find Many Uses In the Craftsman's Home Workshop!

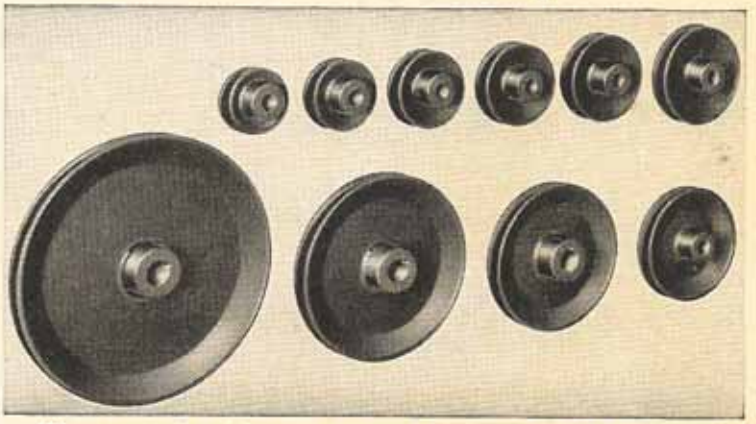
Pulleys for V-Belts

Type "A" Belts

Our V-Pulleys are designed for belts measuring ½" wide, 3/32" thick and angle of 45°. The width, angle and general shape are all scientifically designed, and the result of many years' experience with V-Belt Drives. All are of the Safety Disk Type—no spokes—and can be had with ½", 5/8" or ¾" bores. 5/8" and ¾" bores have 1/8" keyway.

All have 1/8" hollow-head setscrew. These are not ordinary stamped pulleys. They run true and are balanced perfectly. ½" bore furnished unless otherwise specified.

Cat. No.	Outside Diam.	Code Word	Price Each
5200	2"	PULOA	.45
5225	2¼"	PULOB	.45
5250	2½"	PULOC	.50
5275	2¾"	PULOD	.50
5300	3"	PULOE	.55
5350	3½"	PULOF	.60
5400	4"	PULOG	.60
5450	4½"	PULOO	.70
5500	5"	PULOH	.85
5550	5½"	PULOP	.95
5600	6"	PULOJ	1.00
5650	6½"	PULOQ	1.20
5700	7"	PULOL	1.30
5800	8"	PULOK	1.65
6100	10"	PULOM	2.20
6200	12"	PULON	2.95



Please note that Nos. 6100 and 6200 V-pulleys can be furnished in ¾" bore only. All other sizes can be furnished in ½", 5/8" and ¾" bores. For boring to other sizes, up to 1" add 25c to catalog price. Maximum bore available on Nos. 5200 to 5300 is ¾".

Cone Pulleys for V-Belts

Made for the same size V-belt as plain pulleys listed above, these cone pulleys are useful for a wide variety of drives. Pulleys may be used in pairs as listed in table below and will provide the speeds listed in the third column when used with 1725 r.p.m. motor.

All cone pulleys available in ½", 5/8" and ¾" bores. ½" furnished unless otherwise ordered.

Driver	Driven	Speeds with 1725 r.p.m. motor			
718	718	900	1500	2200	3450
720	720	1200	1545	1980	2575
718	720	650	1000	1300	1725
720	718	1725	2400	3400	5000
932	932	900	1400	2200	3400
985	985	590	1275	2450	5000

No. 718 Four-step cone pulley (small).....each **$ .85**
Shipping Weight 1¼ lbs. Code Word CONPA.

No. 720 Four-step cone pulley (large).....each **1.20**
Shipping Weight 1¾ lbs. Code Word CONPB.

No. 932 Four-speed cone pulley .....each **1.35**
Shipping Weight 2 lbs. Code Word DUBLC.

No. 985 Four-speed cone pulley .....each **1.45**
Shipping Weight 2 lbs. Code Word NEWPU.

V-Belts

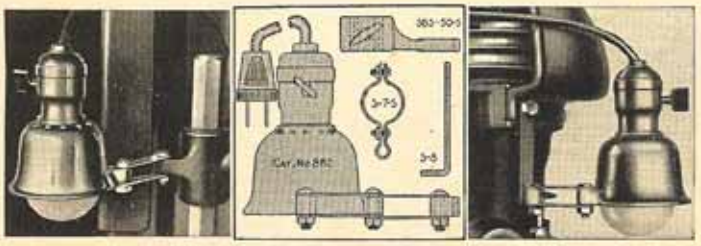
Designed to make complete and perfect contact with the sides of the V-groove, these belts will transmit maximum horsepower with minimum slip. Cords are saturated with pure liquid rubber and imbedded in special rubber stock which resists fatigue and carries off heat.

NOTE: When ordering belts for which number is not known, measure around outside diameters of pulleys, then select belt of nearest outside circumference in the table. Do not use inside circumference.

Cat. No.	Inside Circumference	Outside Circumference	Width	Thickness	Angle	Code Word	Price Each
284	28½"	30½"	½"	3/32"	45°	BELTA	.80
†331	33 3/32"	35¼"	½"	3/32"	45°	MULTG	.85
340	34 5/32"	36½"	½"	3/32"	45°	BELUX	.85
355	36 1/32"	38 5/32"	½"	3/32"	45°	FORVB	.85
387	37 5/32"	39½"	½"	3/32"	45°	FORDP	.90
410	39½"	41 11/32"	½"	3/32"	45°	BELTB	.95
430	40 7/32"	42¾"	½"	3/32"	45°	FORSL	.95
453	45 3/32"	47¼"	½"	3/32"	45°	MORBL	.95
501	49 7/32"	51 11/32"	½"	3/32"	45°	MORUV	1.10
510	50 7/32"	52 3/32"	½"	3/32"	45°	JOIVB	1.10
520	52¼"	54¼"	½"	3/32"	45°	BELTC	1.10
530	52½"	54 3/32"	½"	3/32"	45°	BELTD	1.10
560	56 2/32"	58¼"	½"	3/32"	45°	EICVB	1.10
568	57¼"	59¼"	½"	3/32"	45°	FORVD	1.10
583	58 2/32"	60¼"	½"	3/32"	45°	FORBL	1.20
588	59½"	61 3/32"	½"	3/32"	45°	FORVC	1.20
595	59 1/32"	61¼"	½"	3/32"	45°	BABEL	1.30
618	62 5/32"	64½"	½"	3/32"	45°	BELTL	1.30
644	64 2/32"	65 13/32"	½"	3/32"	45°	BELTF	1.35
670	67 2/32"	69"	½"	3/32"	45°	BELTU	1.35
*673	72 7/32"	74½"	1/32"	3/32"	45°	PREBL	1.40
750	75 1/32"	76 13/32"	½"	3/32"	45°	JORAS	1.85

*This belt 1/32" wide, for No. 620 drill press.
†Special belt for variable-speed scroll saw.

MANY USES for Versatile Lamp Attachment



To bring light to your work just where it is needed, in volume enough for accuracy in following layouts, yet not bright enough to glare, there is nothing quite the equal of the No. 882 lamp attachment. Swung on the built-in brackets on drill press, band saw, scroll saw or other machine, it brings the light just where it is needed, yet can be swung out of the way at touch of the finger. It furnishes every machine with its own individual illumination, and makes it independent of the shop lighting system.

It can be used as a workbench light, and provided with additional links to place it wherever wanted over a wide bench. It can be used as a sewing-machine light, as an illuminant for laboratory instruments and other purposes. Uses 15 or 25 W. Bulbs.

No. 882 Lamp attachment, with shade, socket and cord, four flat links, three bolts, spacer and attachment bracket. Shipping Weight 1½ lbs. Code Word LAMPA. **$1.85**

No. 1134 Extra support links with spacer, screw and nut, per pair. Code Word LAMPB..... **.15**

No. 1135 Lamp Attachment Bracket for 700 scroll saw, each.. **.20**

S-8 Lamp Attachment Clamp for 970 drill press, each.... **.15**

SBS-50-S Lamp Attachment Bracket for 785 and 385 band saws, each ..... **.35**

Speed Table

This table will enable you to select the proper pulleys for the approximate speeds listed. Machine pulley speeds are based on a motor speed of 1725 R.P.M.

Mot. Pulley Size, In.	Pulley on Machine: Size, In.											
	2	2¼	2½	2¾	3	3½	4	5	6	7	8	10	12
2	1725	1498	1325	1187	1075	903	781	614	503	425	371	295	245
2¼	1828	1725	1525	1360	1235	1040	897	684	577	490	426	327	282
2½	2120	1875	1725	1542	1402	1180	1019	794	655	556	483	372	319
2¾	2330	2120	1880	1725	1562	1317	1148	887	732	624	542	416	356
3	2550	2260	2040	1860	1725	1452	1252	980	807	685	596	458	392
3½	2990	2650	2380	2165	1985	1725	1489	1162	958	815	708	543	466
4	3800	3300	2920	2605	2360	2000	1725	1345	1100	940	820	650	540
5	4875	4230	3750	3350	3040	2560	2205	1725	1425	1210	1050	835	695
6	5900	5140	4550	4060	3700	3105	2680	2096	1725	1480	1250	1010	840
7	6950	6050	5340	4775	4350	3650	3160	2460	2025	1725	1500	1190	990
8	8000	6950	6150	5490	5000	4200	3600	2825	2320	1985	1725	1350	1135
10	10000	8750	7750	6920	6300	5300	4575	3560	2940	2500	2160	1725	1430
12	12000	10500	9350	8350	7560	6400	5500	4300	3540	3020	2620	2080	1725

LINE SHAFT EQUIPMENT

Shaft Hangers

Self-aligning in every direction. Adjustable up and down from 4" to 5". Large oil wells. For ¾" shaft only.

No. 370 Line Shaft Hanger **$2.50**
Shipping Weight 6 lbs. Code LIHAN

¾" Shaft Collars

Steel collars with ¾" bore. Have 1/4" x 1/4" hollow set screws. Used to keep shaft in proper position lengthwise.

No. 374 ¾" Shaft Collar.. **$0.30**
Shipping Weight 4 oz. Code LICAL.

Flexible Shaft Couplings

Used to connect motor direct to end of line shaft. One side bored ¾"; other, ½", 5/8" or ¾". Specify size desired.

No. 379 Flexible Coupling **$1.25**
Shipping Wt. 1½ lbs. Code LICOP.

¾" Line Shafting

Ground and polished to precision limits. Carried in 1', 2', 3', 4', 5', 6', 8' and 10' lengths. Above-the-average shafting.

No. 372 ¾" Shafting, ft. **$0.45**
Ship. Wt. 2½ lbs. per ft. Code LISHA

WHAT DO YOU WANT IN YOUR SCROLL SAW?

Here Are Some Of The Reasons Why Our Modern High-Speed Scroll Saw Gives You

BETTER PERFORMANCE — LONGER LIFE — FASTER OUTPUT

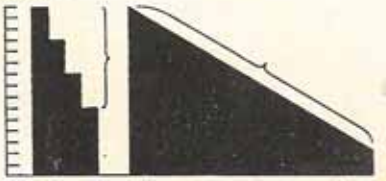
Experienced scroll-saw users know that there are several features essential in a scroll saw. It must be capable of using all types of blades efficiently. It must operate with minimum blade breakage. It must operate with minimum vibration at all speeds, and it must have a selection of speeds to suit various types of work. Only by purchasing a machine that offers ALL these features can you obtain full satisfaction. When selecting your scroll saw, ask yourself these questions:

Some scroll saws offer you only one speed. Some have only two speeds of very limited range.

A Wide Range of Speeds—or Only One or Two?

Some scroll saws can be operated at only one speed. Some have only two. From our wide experience as the originators of the modern type of high-speed scroll saw, we know that it is not possible to get proper efficiency in cutting a wide range of materials, using a wide variety of blades, with only one or two speeds. If only one or two speeds are available, they must be a compromise between the correct speed for fine, delicate work and the correct speed for heavy work. And compromises are not good enough.

In our scroll saw, you can have your choice of either four well-selected speeds, suitable for a wide variety of work, or a drive that gives you ANY speed from 650 to 1700 r.p.m. You can select the speed you **need**; not a speed that "will have to do."



With our scroll saws, you may choose either four well-selected speeds or an infinitely variable range of speeds that will enable you to cut any material with maximum efficiency.

Many scroll-saw guides are elementary in design and suitable for only one blade. Others, which accommodate more blades, are clumsy and awkward to adjust.

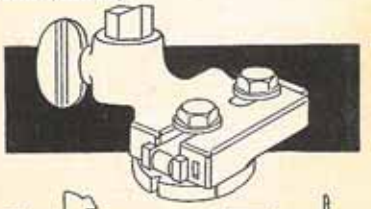
Others, while more effective than the first two, can take only a few sizes of blades with proper efficiency and are not completely adjustable.

Elementary, Limited Guides—or Guides that Are Efficiently Adjustable?

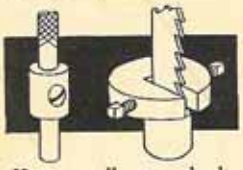
Some scroll saws are furnished with a guide that we regard as suitable only for one size of blade. Some are equipped with guides that are awkward to adjust and hard on blades. Some have roller guides which will take only a few sizes of blades efficiently.

Our patented Universal guides are the only guides we know of which will take all commercial sizes of blades and guide them properly and efficiently. This because the principle is entirely different from any other. You select a slot in the hardened-steel disk which is of the correct width for the blade—set it easily and quickly to the bottom of the blade teeth, (NOT to the bottom of the slot) then set the roller support to back it up. That is all there is to it—but the blade is guided properly and efficiently, as it can be in no other way. And the roller support is especially designed for high-speed reversing, so that it actually rolls, and does not drag on the blade.

You can use any blade in this guide, from the heaviest saber blade we list to the finest marquetry blade and adjust the guide to get the best work out of the blade.



Our Universal blade guide can quickly and easily be set to take any scroll-saw blade, set to exactly the correct tooth depth and properly supported by a high-speed roller.

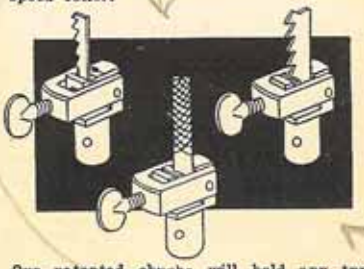


Many scroll saw chucks will not take saber blades or round-shank files. To hold these you must have extra chucks.

Chucks that Require "Extras"—or Chucks that Are Completely Universal

Many scroll-saw chucks or vises will hold only one type of blade—a jeweler's blade. If you want to use saber blades you must use an extra chuck, first removing the standard one. On many saws, you must use still another extra chuck if you want to use round-shank files or sanding attachments in the machine.

The patented chucks in our machine are completely universal. They will take jewelers' blades, pin blades, saber blades, round-shank files up to ¼" and any other tool with ¼" shank—without any "extras". And they hold saber blades in the only efficient manner—between V-jaws gripping the edges of the blades; not the flat.



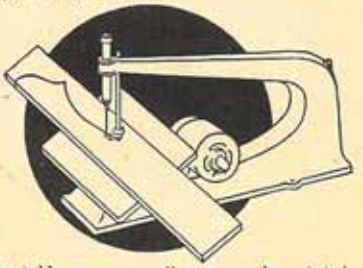
Our patented chucks will hold any type of blade, as well as files and round-shank tools, without extras

On many scroll saws where the table tilts only to right or left, long work cannot be bevel cut because it will strike the rear of the machine.

A Machine that Will Bevel-Cut Only Short Lengths—or One that Is Unlimited?

Most scroll saws have tilting tables—but what the prospective purchaser does not always realize is that the ordinary tilting table has one limitation. The table tilts to right or left as you face the machine, which means that if you want to rip or cut a piece of stock at an angle, you can feed the stock through the saw only until it strikes the saw overarm.

On our scroll saw, the table not only tilts normally to right or left, but, if you want to make a long cut on a bevel, you merely rotate the table bracket through 90 degrees, turn the chucks so that the blade cuts sidewise, and go ahead with your cut—because the table now tilts to the front, where there is no limit to the length of stock that can be cut.



The table on our scroll saw can be rotated and tilted to the front, so that work of any length can be bevel cut when required. Chucks are quickly turned for sidewise cutting.

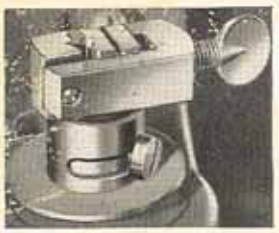
Make These Comparisons Yourself . . . . . .

There are many other features in our scroll saws that insure you of longer life, better performance, more convenience and faster output. Our scroll saws are equipped with Timken tapered-roller bearings, automatically lubricated from the splash system in the crankcase. Many other machines that **look** like ours have only plain bronze bearings. Our scroll saws are equipped with a continuous-flow air pump with intake and outlet valves, built into the crankcase and driven directly from the crankshaft. It is NOT built into the upper plunger, because when this is done, your fine, delicate blades must act as connecting rods to drive the pump, imposing an additional strain on them. In addition, a pump built into the upper plunger cannot be used for saber-blade work.

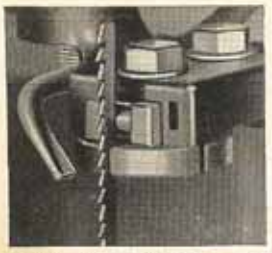
The spring hold-down on our guide tilts with the table so that it is effective on bevel cuts as well as on straight cuts—a feature missing in many other machines. The upper guide is removed in a flash for inserting blades in pierced work, and is automatically re-set as soon as replaced. The tension adjustment for the blades is fast and simple in action, with no complicated gadgets.....and so on.

Compare all these things, point by point, with any other machine, and you will realize just why these scroll saws offer you so much more value than any other.

FAST, ACCURATE Work Easy To Do on This 4-Speed Scroll Saw



Lower chuck of steel. Light but strong and holding all blades.



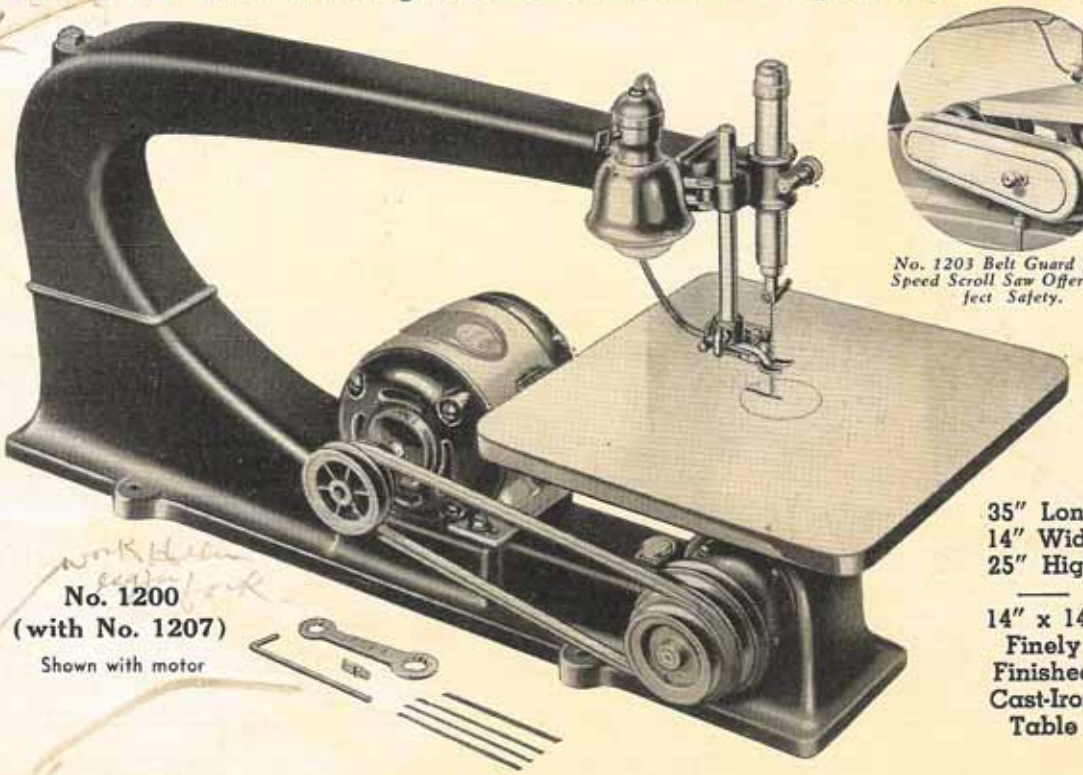
Highly efficient disk blade guide and roller support.

Work up to 1¾" thick may be cut on this saw.

Where very fine blades are used constantly the self-centering chuck jaw is used.

Tension of spring can be adjusted to suit blade, and graduations on tube and adjustment.

The spring hold-down functions even when the table is tilted; an important feature.



No. 1200
(with No. 1207)
Shown with motor

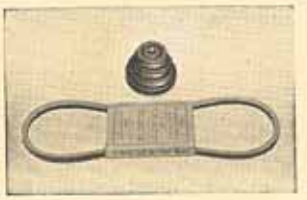
No. 1203 Belt Guard for 4-Speed Scroll Saw Offers Perfect Safety.

35" Long
14" Wide
25" High

14" x 14" Finely Finished Cast-Iron Table

Timken-bearing crankshaft . . shaft-driven blower pump which makes air available even for saber blades . . universal tilting table tilting for sidewise cutting as well as for straight cuts . . the finest completely universal blade guide made . . high-speed blade support . . adjustable blade tension . . splash-lubricated drive . . tilting spring hold-down . . these are only a few of the things that make our 24" scroll saws the finest tools of their type ever offered to the craftsman.

From the moment of its introduction, this was acknowledged by engineers, craftsmen and mechanics to be the finest scroll saw they had ever seen. Examine it for yourself; compare it with any other scroll saw—at any price—and you will see why these experts have called it *"The Finest Scroll Saw Ever Made"*.



Above: Section through pump. Right: No. 1207 accessory group.

Files, also, are held in the V-jaws of the lower chuck.

No. 1200	24" 4-Speed Scroll Saw, with one saber blade, 3 jewelers' blades, four speed cone pulley on arbor, light attachment and puzzle-blade jaw. Without motor, motor pulley or belt Shipping Weight 110 lbs. Code Word LUXSA.	$34.50
No. 1207	Standard accessory group for 4-Speed Scroll Saw, consisting of:	
No. 718	Cone pulley for motor, ½" bore; provides speeds of 650, 1000, 1300 and 1750 r.p.m. Shipping Weight 18 oz. Code Word CONPA.	.85
No. 340	V-belt (13" cent. to cent.) Shipping Weight 8 oz. Code Word BELUX.	.85
	Price of No. 1207 group complete Shipping Weight 1¾ lbs. Code Word LUXAC.	$ 1.70
No. 716	Steel Stand (Top 7"x33"; 31½" high) Shipping Weight 60 lbs. Code Word LASAS.	$ 8.75
No. 1206	4-Speed Scroll Saw Unit, consisting of No. 1200 Scroll Saw, No. 1207 accessory group, No. 716 steel stand with hook bolts. Without motor or belt guard.... Shipping Weight 170 lbs. Code Word LUXUN.	44.95
No. 1203	Belt and pulley guard for No. 1200 4-speed Scroll Saw Shipping Weight 7 lbs. Code Word LUXBG.	6.95

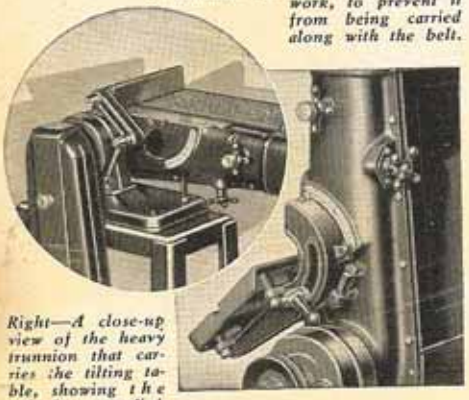
For either of these models, use Motor No. 6300 or 6000, or No. 6600 for three phase installation. See pages 28 to 30 for Motors.

No. 1206 4-Speed Scroll Saw unit. A similar Multi-Speed unit is available.

6-Inch Belt Sander Is Ball-Bearing Equipped

The No. 1400 6" Belt Sander is completely ball-bearing equipped. And the bearings used are the New Departure double-seal ball bearings that have proved themselves through years of service in our machines. They are lubricated at the factory for their entire life and require no further attention.

Left—View from rear, showing adjustable back stop and its bracket. This is available for use in sanding flat work, to prevent it from being carried along with the belt.



Right—A close-up view of the heavy trunnion that carries the tilting table, showing the swinging stop link and adjustable stop screws. A tilting scale and adjustable pointer are also provided.

Abrasive Belts for Sander

The garnet belts for wood finishing are far superior to ordinary sandpaper belts; they cut faster and last longer. The aluminum-oxide used on the belts supplied for metal finishing and polishing are also superior to emery belts. Aluminum-oxide is extremely hard and tough and does better and faster work than emery, besides having longer life.

Belts are 6" wide and 48⅞" long. Furnished in two garnet grits for wood finishing and two aluminum-oxide grits for metal.

No. 1412 6" Diagonal-lap garnet belt for wood. 80 grit (fine) cloth-backed. Fits No. 1400 sander. Ship. Weight 1 lb. Code Word SANDN... **$1.25**

No. 1413 6" Diagonal-lap garnet belt. No. 40 grit (coarse) cloth-backed. Fits No. 1400 sander. Shipping Weight 1 lb. Code Word SANDO.. **1.35**

No. 1414 6" diagonal-lap al. oxide belt for metal. 100 grit (fine) cloth-backed. Fits No. 1400 sander. Shipping Weight 1 lb. Code Word SANDP **1.25**

No. 1415 6" Diagonal-lap al. oxide belt for metal. 50 grit (coarse) cloth-backed. Fits No. 1400 sander. Ship. Weight 1 lb. Code SANDQ... **1.35**

Sawdust Blower a Convenience

Due to the complete enclosure of the No. 1400 belt sander, an exhaust blower for the sawdust is really practical. By actual test, 90% of the sawdust made by the sander is drawn into the cloth bag. The motor of the No. 1420 blower is of the universal type, and will operate on either 110 volts A. C. or D. C. Note that it can be supplied for 110-volt current only. Of special value for the production and school shop.

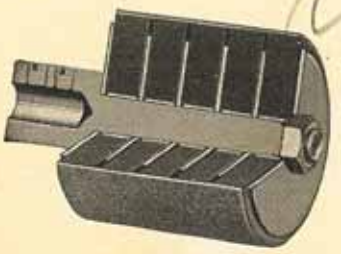
No. 1420 Exhaust Blower for No. 1400 Belt Sander, complete with mounting adapter, cloth bag, built-in switch, cord and plug. For 110-v. A. C. or D. C. only **$29.50**
Shipping Weight 11 lbs. Code Word SANDV.

SANDING DRUMS a Convenience for Any Shop

Wide Drums for Drill Presses and Lathes

Our rubber-cushioned sanding drums (U. S. Pat. No. 1,906,190) employ a principle that insures every part of the drum being evenly expanded. Many sanding drums expand more at the center than at the ends, which means that perfectly flat work is difficult to produce with them. Others, having fasteners for the sandpaper on their surface, will "bump" every time the fastening passes over the work.

In our drum, each rubber section is separated from its neighbor by non-corrosive bakelite washers, with metal bushings next to the arbor. The disks are expanded perfectly uniformly, produce perfect work and run dead true. No. 840 drum has ½" diameter stem to fit ½" hollow spindle or chuck. Others have ½" bore. See page 37 for drums with No. 2 Morse taper shank to fit No. 930 lathe.



No. 830 3" dia. x 3" Drum, with one sleeve. Fits ½" dia. shaft. Sh. Wt. 2 lbs. SADRA. **$2.65**

No. 831 3" x 3" sleeves, coarse garnet. Code SASLA. Per 6... **1.00**

No. 832 3" x 3" sleeves, medium garnet. Code SASLB. Per 6... **1.00**

No. 833 3" x 3" sleeves, al. oxide (for metal) Code SASLC. Per 6 **1.25**

Sh. Wt. 3" sleeves, 8 oz. per 6

No. 835 1¾" dia. x 2" Drum, with 1 sleeve. Fits ½" dia. Shaft. Sh. Wt. 1¾ lbs. SADRB **$1.65**

No. 836 1¾" x 2" sleeves, med. garnet. Code SASLE. Per 6.. **.80**

No. 837 1¾" x 2" sleeves, fine garnet. Code SASLF. Per 6.. **.80**

No. 838 1¾" x 2" sleeves, al. oxide (for metal). SASLG. Per 6 **.95**

Sh. Wt. 1¾" sleeves, 4 oz. per 6.

No. 840 ¼" dia. x 2½" drum, with one sleeve. With ½" shank to fit hollow spindle or chuck. Ship. Wt. 8 oz. Code SADRC. **$1.25**

No. 841 ¼" x 2½" sleeves, med. garnet. Code SASLK. Per 6... **.65**

No. 842 ¼" x 2½" sleeves, fine garnet. Code SASLM. Per 6. **.65**

No. 847 ¼" x 2½" sleeves, al. oxide (for metal). SASLO. Per 6 **.80**

Shipping Weight ¼" sleeves, 4 oz. per 6.

Note: Order sanding sleeves as "1 No. 831" where one package is wanted. Do NOT order "6 No. 831 sleeves," as this means 6 packages.

Narrow Drums for Hand Drills, Flexible Shafts, Etc.

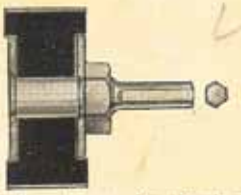
Designed for use where narrower-faced sanding drums than our Nos. 830, 835 or 840 are required, these new drums have several advantages over ordinary drums of the same type.

Painstaking attention to every point that might add to the usefulness of the tool and the convenience of the user is reflected in such details as the recessed mounting of the end washer, as shown in the cross section. This enables the drum to be used right up into the corners, which cannot be done if the outside washer is not recessed.

Another detail is the shape of the shank. This permits the sanding drum to be used in all ⅛" collets, in all ¼" and ⅜" three-jaw chucks and in most ¼" three-jaw chucks.

The drums themselves are of live flexible rubber, which is expanded to hold the abrasive sleeves by tightening the spindle nut. Sleeves are of aluminous oxide and cut accurately and fast.

Especially adapted for use in flexible shafts, portable electric hand drills, drill presses, lathe, polishing heads, etc.



Cross-section shows how end washer is recessed to enable drum to be used into corners, also unique shaft section.

No. 679 1½" dia. x 1" face Drum, ⅛" shank, with one sleeve ..... **$ .75**
Sh. Wt. 6 oz. Code SANAA.

No. 682 1½" dia. x 1" sleeves. No. 40 grit. Per 6 ..... **.55**
Ship. Wt. 4 oz. Code SANAD.

No. 683 1½" dia. x 1" sleeves, No. 80 grit. Per 6..... **.55**
Ship. Wt. 4 oz. Code SANAE.

No. 680 2⅛" dia. x 1" face Drum, ⅛" shank, with one sleeve. Sh. Wt. 8 oz. SANAB. **$ .85**

No. 684 2⅛" dia. x 1" sleeves. No. 40 grit. Per 6. Sh. Wt. 5 oz. Code Word SANAF ..... **.55**

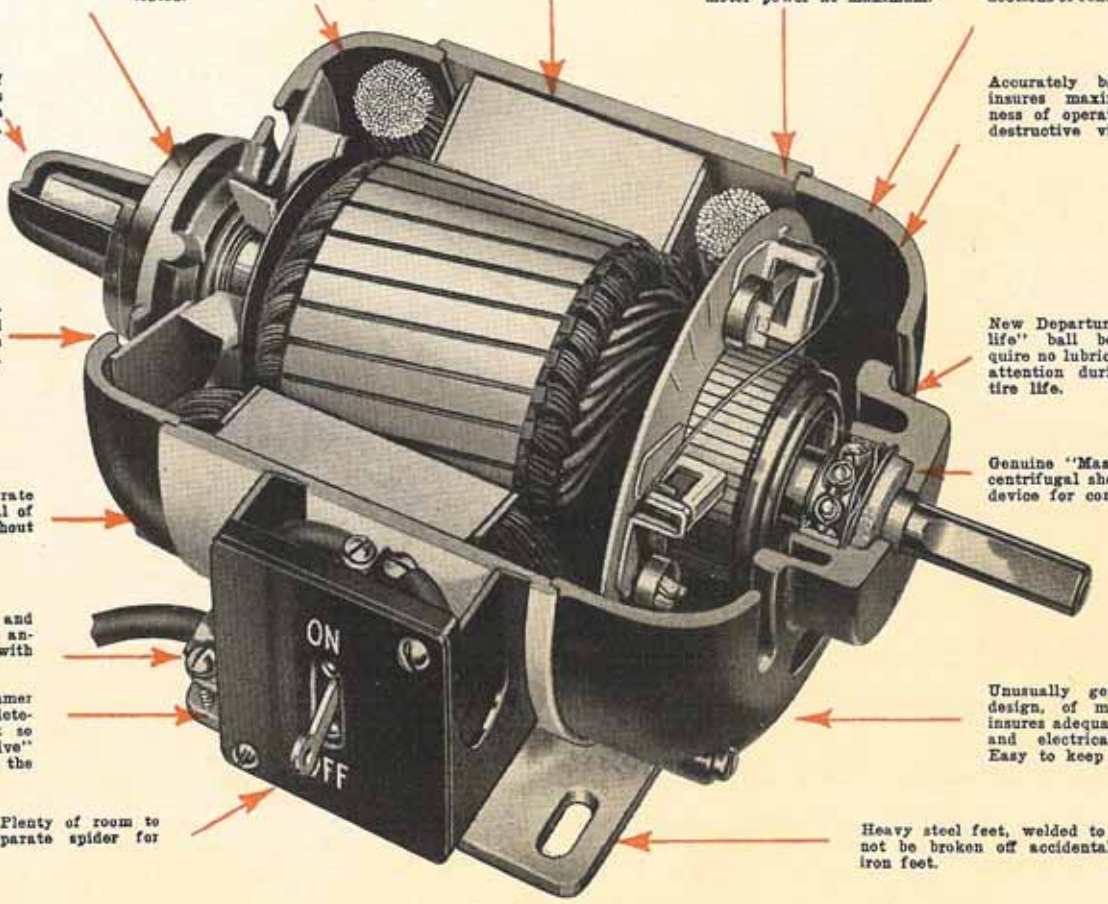
No. 685 2⅛" dia. x 1" sleeve, No. 80 grit. Per 6. Sh. Wt. 5 oz. Code SANAG ..... **.55**

No. 681 3" dia. x 1" face Drum, ⅛" shank, with 1 sleeve. Sh. Wt. 12 oz. Code SANAC.. **$1.10**

No. 686 3" dia. x 1" sleeves. No. 40 grit. Per six. Sh. Wt. 7 oz. Code Word SANAH ..... **.70**

No. 687 3" dia. x 1" sleeves, No. 80 grit. Per six. Sh. Wt. 7 oz. Code Word SANAI ..... **.70**

RUGGED, DEPENDABLE: These Motors Give You More For Your Money Because They Are Built For Long, Trouble-free Service



As the typical cross-section above shows, our motors are designed and built in accordance with the very best practice in motor design. They are comparatively low in cost—but they are NOT built down to a price; quality must be maintained in every particular, and we believe that they are the finest motors obtainable at anywhere near their price.

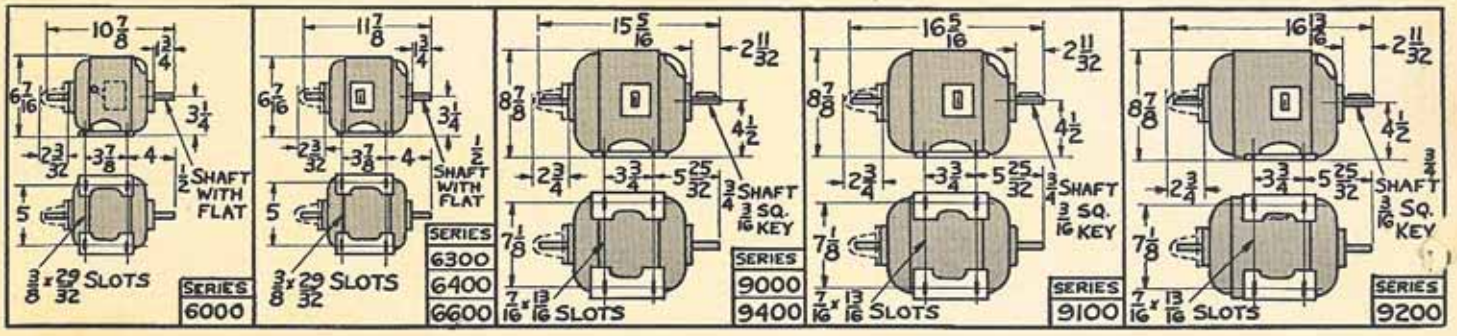
Casings are of heavy welded steel, with steel feet welded on. These cannot be broken off by accidental impact, as may happen with cast-iron feet on cast end brackets.

These motors will deliver more than their full rated horsepower on all machines for which they are specified. Their overload capacity, due to their generous design and fine construction, is far greater than many similar motors—the overload capacity in most types being 250% of rated horsepower or over.

Our motors in 8½" frame, rated at ½-H.P. and over, should not be confused with high-speed motors of the same rating built into small frames. Our motors are all of standard speed (1725 r.p.m.) for regular installations. We do not consider that a small-frame, high speed motor is the equal of a standard speed motor built into a large frame, or that it offers any real saving to the customer even though the original price may be lower.

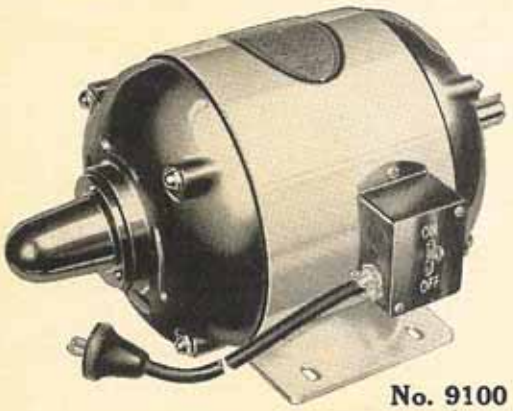
Note that our switches are of heavy-duty two-pole construction (Cutler-Hammer) and are mounted on a separate spider in the extra-large-size conduit box. This switch not only cuts the current completely from the motor when the switch is "off" (which a cheap single-pole switch will not do), but also permits the removal of the conduit box cover for wiring, inspection, etc., without disturbing the switch. This is required by many electrical codes.

Study the features illustrated above. Compare the design and construction of these motors with others and you will realize why they offer such extraordinary value for their comparatively low cost.



POWERFUL MOTORS: The Best In Modern Motor Desi

Highest Value in These 1/3 to 1 H. P. Ball Bearing Repulsion-Induction Motors

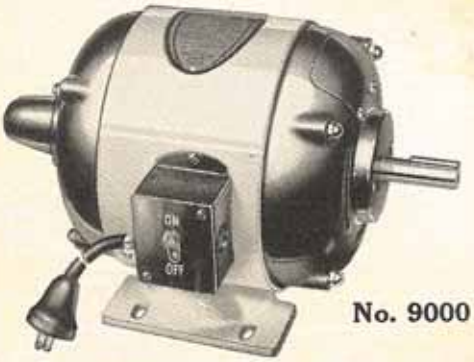


No. 9100

These motors are completely described on page 28, on which the sectional illustration shows the many features that make our repulsion-induction motors such outstanding value. Note that all of these motors are equipped with heavy-duty rubber-covered cord and soft-rubber plug, together with double-pole switch.

Our motors built into 8½" diameter frame should not be compared with high-speed motors rated at the same power, but built into 6" frames for special service.

Made for use on either 110 or 220-volt lines, they are normally supplied connected for 110 volts.



No. 9000

Design and Letters Patent Pending

No. 6400

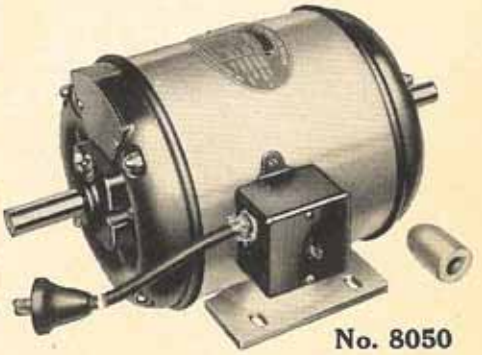
New No.	Old No.	H.P.	R.P.M.	Volts	Cycles	Frame	Shaft	Bearings	Price	Code	Ship. Wt.
6400	900	⅓	1725	110/220	60	6"	½"	Ball	$19.95	SACCA	34 lbs.
6410	901	⅓	1425	110/220	50	6"	½"	Ball	19.95	SACCD	34 lbs.
6420	906	⅓	1425	110/220	25	6"	½"	Ball	20.85	SACCF	34 lbs.
9000	820	½	1725	110/220	60	8½"	¾"	Ball	31.85	NACAA	68 lbs.
9010	821	½	1425	110/220	50	8½"	¾"	Ball	31.85	NACAC	68 lbs.
9020	829	½	1425	110/220	25	8½"	¾"	Ball	33.85	NACAE	68 lbs.
9100	924	¾	1725	110/220	60	8½"	¾"	Ball	37.85	NACBA	80 lbs.
9110	925	¾	1425	110/220	50	8½"	¾"	Ball	37.85	NACBC	80 lbs.
9200	1094	1	1725	110/220	60	8½"	¾"	Ball	43.85	NACDA	85 lbs.
9210	1095	1	1425	110/220	50	8½"	¾"	Ball	43.85	NACDE	85 lbs.

½-H.P. Sleeve-Bearing Repulsion-Induction Motor

Built to the same high-grade material specifications as our regular ball-bearing repulsion-induction motors, this motor will give splendid service where a ball-bearing motor is not required. It is fitted with 8-ft. cord and soft-rubber plug, with double-pole switch, but switch is not mounted on separate spider in box. Equipped with plain bronze bearings with wick oiling system. Furnished with plain wood shaft protector instead of non-rotating type.

Should not be used for vertical installation or with No. 1426 Disk Sander.

No. 8050 (Old No. 1120) Sleeve-bearing Repulsion - Induction Motor, for 110-220 volt, 60-cycle A. C. 1725 R.P.M. With switch, cord and plug **$24.85**
Shipping Wt. 65 lbs. Code Word EACBA.



No. 8050

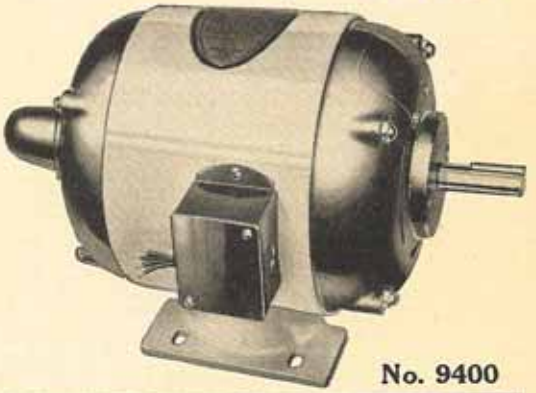
1/3 to 1½ H.P. 3-Phase Heavy-Duty Motors

Three-phase motors are particularly adapted for industrial and school installations, and should be specified for all heavy-duty, continuous production applications, especially where large gangs of machines are installed (which should not be operated from lighting circuits).

When so used, three-phase motors will save from 30 to 40 per cent of the power consumed by split-phase and similar motors, besides delivering greater power and lowering maintenance costs.

Identical in material specifications with our repulsion-induction motors, they are not supplied with switch, cord or plug, as they must be connected in conduit.

Note that ½-H. P. three-phase motor in 6" frame cannot be used on 17" drill press.



No. 9400

NOTE

We can supply direct-current and alternating-current motors in a wide variety of voltages and frequencies in addition to the standard motors listed on these pages. Write for quotations on motors not listed here.

Three - phase motors cannot be furnished with switch, cord or plug, as they must be connected by an electrician.

New No.	Old No.	H.P.	R.P.M.	Volts	Cycles	Frame	Shaft	Bearings	Price	Code	Ship. Wt.
6500	802	½	1725	220	60	6"	½"	Ball	$18.85	SACDA	31 lbs.
6600	920	½	1725	220	60	6"	½"	Ball	23.85	SACHA	33 lbs.
6610	921	½	1425	220	50	6"	½"	Ball	23.85	SACHF	33 lbs.
9400	922	¾	1725	220	60	8½"	¾"	Ball	38.85	NACHA	80 lbs.
9502	1512	1	1725	220/440	60	8½"	¾"	Ball	44.85	NACKC	85 lbs.
9595	....	1½	1725	220/440	60	8½"	¾"	Ball	53.75	NACMA	85 lbs.
9596	....	1½	1425	220/440	50	8½"	¾"	Ball	53.75	NACMB	85 lbs.

DEPENDABLE SERVICE: Your Guarantee In These Powerful Motors

1/4 and 1/3-H.P. "Double-Duty" Split-Phase Motors

These ¼ and ⅓-H.P. Split-Phase Motors are built to exactly the same material specifications and exacting standards of workmanship as the motors described on the previous pages.

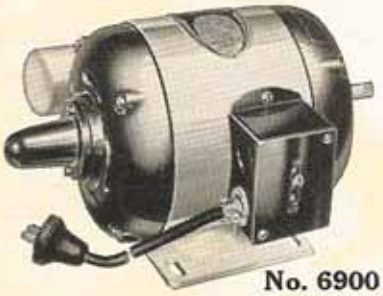
All, with the exception of Nos. 6000, 6010 and 6020, (which have wick-lubricated bronze bearings) are equipped with New Departure "sealed-for-life" ball bearings. Fitted with double-pole on and off switch, cord and soft-rubber attachment plug.

Double shafts, ½" diam. x 1½" long. Extra shaft covered by non-rotating protector (pat. pending).

New No.	Old No.	H.P.	R.P.M.	Volts	Cyc.	Bearings	Price	Code	Ship. Wt.
6000	1100	¼	1725	110	60	Bronze	$ 8.50	SACAA	27 lbs.
6010	1101	¼	1425	110	50	Bronze	8.50	SACAD	27 lbs.
6020	1108	¼	1425	110	25	Bronze	12.85	SACAG	27 lbs.
6300	800	⅓	1725	110	60	Ball	13.85	SACBA	31 lbs.
6310	798	⅓	1425	110	50	Ball	13.85	SACBD	31 lbs.
6320	795	⅓	1425	110	25	Ball	19.85	SACBG	31 lbs.

Only ⅓ or ½-H.P. motors in 6" frame should be specified for use on 14" drill presses. Do not order ¼-H.P. motors for this service. Do not specify bronze-bearing motors in vertical installations. Write for prices on other voltages, etc.

No. 6300



No. 6900

Reversing switch at left is standard on Nos. 6900 and 6910 motors. Can also be used on any standard split-phase motor having both ends of starting winding brought out. Cannot be used on our regular repulsion-induction motors.

High-Speed Reversible ½ and 1-H.P. Shaper Motors

Specially designed for use on No. 1180 shaper, these motors are intended for high-speed work. They are made in three types; a capacitor-type motor in 6" frame, intended for light shaper duty, a heavy powerful repulsion-induction motor, reversible at will and a 1-H.P. heavy-duty three-phase motor. Speeds of all motors are 3450 r.p.m. Shaft size, ½-H.P. motor is ⅝"; 1-H.P. motors have ¾" shafts. ½-H.P. motor fitted with reversing switch shown at left. 1-H.P. repulsion-induction motor fitted with reversing mechanism on brush ring.

1-H.P. motors should always be specified for production work on the shaper. They should be connected to 220-volt power line wherever possible.

No. 8100

No. 6900 (Old No. 915) ½-H.P. 3450 R.P.M. Ball-Bearing Capacitor Motor, for 110v, 60-cycle, A. C. only. With special 4-wire cord, reversing switch, 8-ft. 2-wire cord and plug, connected ready for use. Complete $24.85
Shipping Weight 42 lbs. Code Word SACLA.

No. 6910 (Old No. 916) ½-H.P. 2850 R.P.M. Ball-Bearing Capacitor Motor, with reversing switch, 4-wire cord, 2-wire cord and plug. Same as No. 915 but for 110v, 50-cycle A. C. $24.85
Shipping Weight 42 lbs. Code Word SACLI.

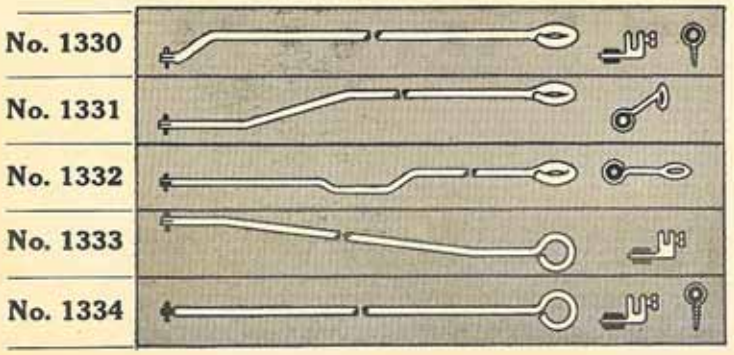
No. 6920 (Old No. 917) ½-H.P. 3450 R.P.M. Ball-Bearing Capacitor Motor, same as No. 915, but without reversing switch or 4-wire cord. With plain 2-pole toggle switch and 8-ft. cord and plug. $22.75
Shipping Weight 41 lbs. Code Word SACMA.

No. 1116 Reversing switch only, for use on No. 917 motor, or with any standard split-phase motor. With four wire cord, connected..... $4.00
Shipping Weight 2 lbs. Code Word SWREV.

No. 8100 (Old No. 1075) 1-H.P. Ball-Bearing, 3450 R.P.M. Shaper Motor. With built-in reversing mechanism, on-and-off switch connected to motor with BX cable, 9-ft. cord and rubber plug. Single shaft, ¾" diameter. For 110-220v, 60-cyc. A. C..... $51.45
Shipping Weight 85 lbs. Code Word EACCA.

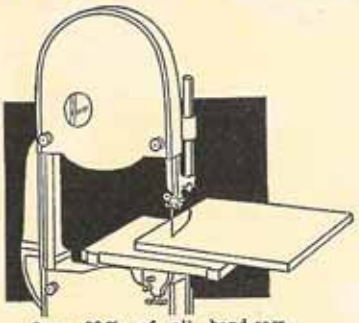
No. 9532 1-H.P. Three-phase Ball-Bearing, 3450 R.P.M. Shaper Motor. Not furnished with reversing switch, on-and-off switch or cord and plug, as it should be connected to 220 or 440v, 60-cycle line by licensed electrician $42.85
Shipping Weight 85 lbs. Code Word NACKS.

Switch Rods for Finger-Tip Control



FOR UNITS NUMBER	Code Word	Price	Ship. Wt.
No. 878: No. 950 No. 1175	RODNA	$ .50	1½ lbs.
All 11" and 14" Drill Presses	RODNB	.50	1½ lbs.
All 17" Drill Presses	RODNC	.50	1½ lbs.
No. 292: No. 660	RODND	.50	1½ lbs.
No. 368: No. 714: No. 777 No. 881: No. 892: No. 1164 No. 1350: No. 1402: No. 1432 No. 1465 and all our benches with wood tops	RODNE	.50	1½ lbs.

BETTER VALUE: Here Are Some Of The Practical Reasons Why Our BAND SAWS Offer More Convenience; Greater Safety And Higher Efficiency



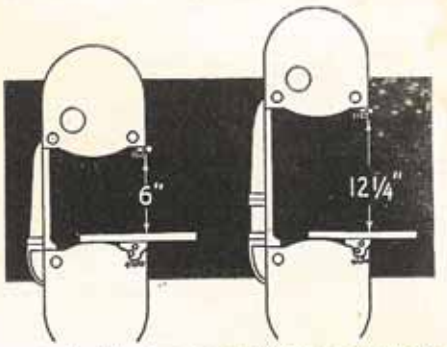
Over 90% of all band-saw work is done on the outside of the table as shown above. A 14" machine will handle this work just as effectively as a machine four times its size. If greater throat capacity is required for work of unusual swing, then an additional capacity of one or two inches is seldom of practical value.

Why a 14" Band Saw Is the Most Practical Medium-Size Machine

The capacity of the No. 890 band saw—14"x6"—was selected after the whole field of band-saw work had been thoroughly studied and after hundreds of band-saw users had been consulted to determine the most useful capacity for a medium-sized machine.

Since over 90% of all band-saw work is done on the **outside** of the table, on the side away from the frame, the 14" capacity is fully as effective as that of any other band saw, no matter how large. In the comparatively few cases where the "swing" of the work required a larger throat capacity, it was found that a band saw of from 20" to 24" swing was required, and that the addition of one or two inches to the throat was of no practical value.

Similarly, since over 90% of all band-saw work is done on stock less than 6" thick, to provide greater capacity than this is merely to penalize the user who does not require it. So our standard machine is provided with a raising attachment which permits the user who requires 12" capacity to obtain it economically, while the user who never requires this capacity is not penalized by higher cost.



Our standard band saw has a 6" capacity under the guide. If capacity up to 12¼" is ever required for special work, it is economically obtained with our height attachment.

On all other band saws the saw entering slot runs to the front of the table. This forces the use of a single trunnion as above, or a slotted trunnion which makes a less rigid construction.

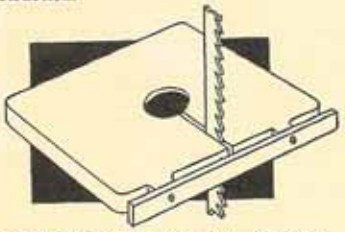
How Double Table Trunnions Provide Greater Rigidity—More Convenience

In our tables, the slot for entering the blade runs to the side of the table (patented). In all other machines the slot runs to the front. This older type has several disadvantages: The use of the front slot practically forces the use of a single trunnion, mounted at one edge of the table. This means loss of support to the front of the table—less rigidity. Even if double bearing surfaces are used on the trunnion, there is still only one trunnion. If two trunnions are used, the front one must be slotted to permit the passage of the blade, which weakens the trunnion.

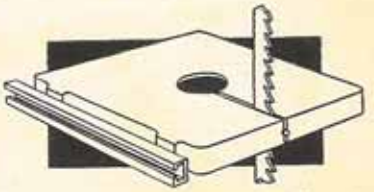
The second disadvantage is that if a front guide bar is fitted to carry a rip gage, the bar must be unscrewed and removed every time a blade is changed.

With our patented construction, on the contrary, the table is solidly supported on two widely spaced trunnions. Since the entering slot is at the side of the table, the rip-gage bar need never be removed to change blades. It is obvious that this saves time and means much greater convenience in use.

Our patented system of construction permits the use of two solid, widely spaced trunnions, which gives the table maximum rigidity at any angle, better clamping and increased accuracy.



With the front table slot, rip-gage guide bar must be removed every time the blade is changed.



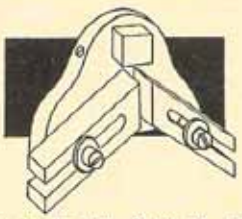
With our patented side slot, there is no necessity ever to remove the rip-gage guide bar.

Fully Adjustable, Micrometer Guides Make Adjustments Fast and Accurate

On most medium-sized band saws and on many larger ones, the guides are not what we consider fully adjustable. That is, the blade support moves with the bracket carrying the blade guides, so that the adjustment of the blade support automatically means that the guides must be re-adjusted and vice versa. This means that the two adjustments must be "juggled" in order to obtain an exact setting. And, since the exact setting of the guides is a large factor in good work and long blade life, we regard such mountings as highly unsatisfactory.

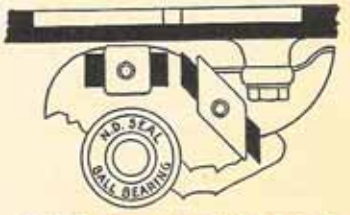
In our guides—completely described and illustrated on the following pages—the guides are adjusted to the thickness of the blades and set to the tooth depth without affecting the adjustment of the blade support. Similarly, the blade support can be set precisely without disturbing the guide adjustment. And both adjustments are "set to a hair" with micrometer adjustment screws.

Some band saws have guides above the table only. Some have guides above the table and blocks for cleaning the blade (not guides) below. In our machines, exactly the same high-grade guide design is used above and below the table—and the lower guide comes within ¾" of the bottom of the work, to give maximum support to the blade. In addition the adjustments are brought out to the front of the table, so that the operator's hands need never be near the saw blades while the machine is in motion.



Many band saws have no guides under the table to support the blade after it goes through the work. This means less accuracy, as the blade is easily twisted or moved sidewise.

Other saws have only wood blocks with steel blade support pin to serve as "guides" under the table.



Not only have our saws the same high-grade guides under the table as above, but the lower guides come within ¾" of the bottom of the work.

These Are Only a Few of the Less Obvious Reasons Why . . . . .

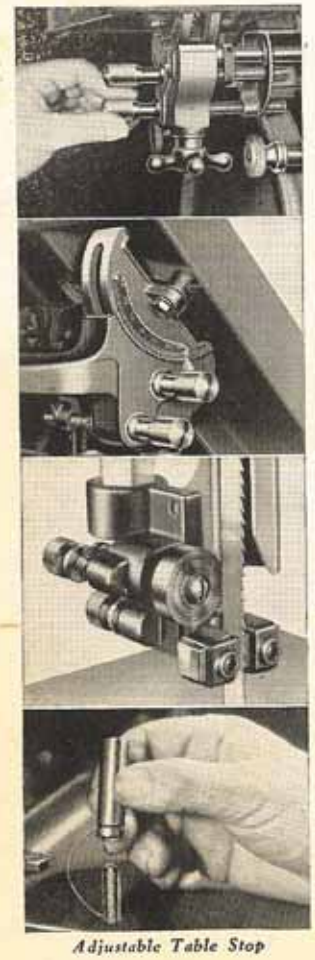
It is naturally impossible in limited space, to show you all the reasons why these band saws have become so popular in hundreds of shops. We have shown only a few reasons, and others are illustrated on the following pages. We could point out the additional safety of our solid-surface guards, mounted rigidly on the frame of the machine (not on the tilting bracket or other moving part.) These guards completely cover the wheels front and rear. In many band saws the guards are of an open pattern which are not regarded as adequate by many safety authorities, and in others the rear of the wheel is not enclosed.

We could tell you about the sturdy tilting mechanism, which slides in a bracket cast as a part of the overarm itself so that it cannot get out of line. We could tell you about the use of "sealed-for-life" New Departure ball bearings throughout the machine, so that lubrication or other bearing attention is never required. We could point out the care and accuracy used in machining and assembling the parts—the design of the wheel rims, which require no cementing on of the rubber tires, and many other things.

New Departure "sealed-for-life" ball bearings are used throughout.

We honestly have tried to make our band saws the finest machines of their type on the market today, and if you will study the features of their design point by point, we are confident you will agree that these band saws represent more value for the money than you can find anywhere else.

10-INCH BAND SAW: Built For The Craftsman Who Demands The FINEST For His Workshop



Adjustable Table Stop

Specifications

Overall Dimensions: 33½" high; 11¾" wide; 23" front to back.

Capacity: 10" blade to upper arm; 6" under guide.

Table: Heavy cast iron, swinging on double trunnions. 11" by 11¾" surface.

Accurate, true-running balanced disk wheels, carried on self-sealed New-Departure ball bearings. Lubricated at factory for their entire life. Heavy, accurately ground main shaft.

Micrometer-adjustment upper guide. Each adjustment independent of others, and each made with precision.

Micrometer lower guide, with adjustments brought out to front of table. Operator's hands never come near blade. An exclusive feature.

Upper wheel tilting device and tension scale similar to that used on 14" band saw.

Both wheels and blade thoroughly guarded; only portion of blade actually used for cutting is ever exposed.

Welded stand available to make machine a self-contained unit.

½-H.P. motor sufficient for all average work.

Massive Frame

The frame of this machine is of exceptionally heavy and rugged design. It follows closely the construction of our 14" band saw which has been so extremely popular.

Double-Seal Ball Bearings

Machine is completely equipped with double-seal ball bearings—the finest type made—which insure complete absence of bearing trouble, and require no attention during their entire life. They are lubricated at the factory, and need never be re-lubricated. Blade supports are of the same type.

Patented Table Design

The table, which is of cast iron 11" by 11¾" in size, and is heavily ribbed and smoothly ground, swings on two widely spaced trunnions, one in front and one in back. This is made possible by our patented construction, and makes a table that is very much superior to the usual design. Adjustable table stop can be removed for a 10° left table tilt.

No. 777 Shown with motor

Micrometer Adjustments

Adjustments of the upper and lower guide are of the same micrometer type that have been so popular on the No. 890 14" band saw. Guide and blade-support adjustments are independent of each other, and all adjustments are made with the utmost precision. Lower-guide adjustments are brought out to the front of the table, so that the operator's hands need never come near the blade for any reason whatever—an important safety feature.

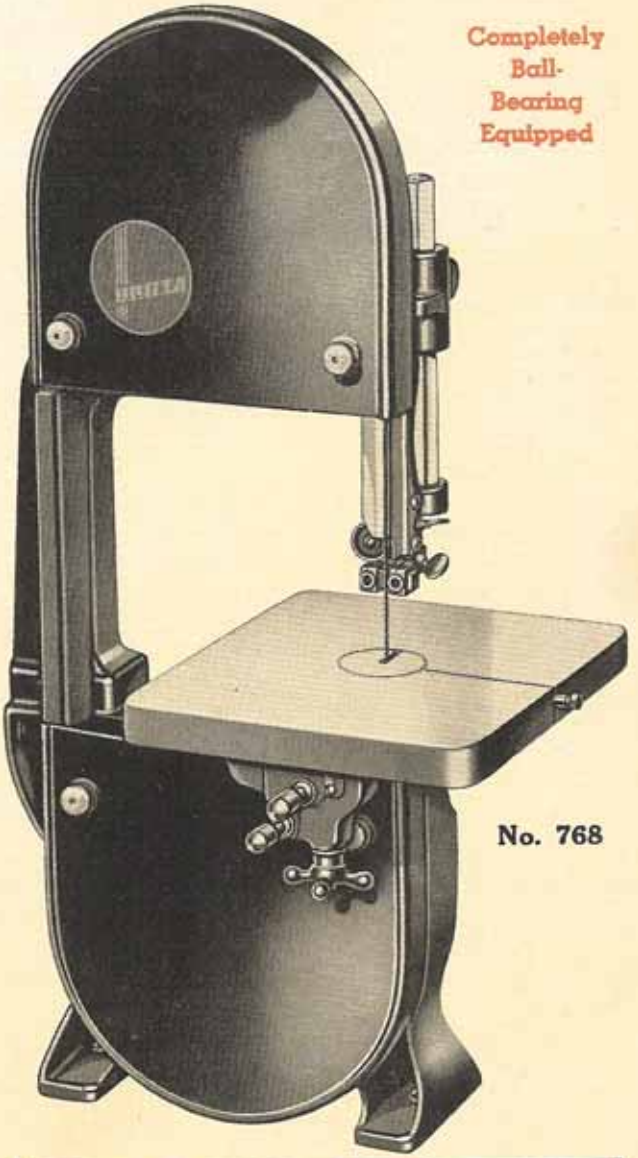
Complete Guarding

Upper and lower wheel guards on this saw are of the same design as on the 14" saw.

Many Other Features

The massive design, advanced engineering, thoroughly studied design and accurate construction of this machine make it the finest 10" band saw ever offered to the craftsman. Its capacity under the guide make it the equal of many machines of larger throat capacity. Examine it; compare it with others, and its superiority will be apparent at once.

Completely Ball-Bearing Equipped



No. 768

No. 768 10" Ball-Bearing Safety Band Saw, with guard, ¼" blade and 5" arbor pulley. Without belt, motor or motor pulley **$36.50**
Shipping Weight 95 lbs. Code Word BANDA.

No. 5275 V-pulley, 2¾" dia. by ½" bore... **.50**
Ship. Wt. ¾ lb. Code Word PULOD.

No. 560 V-belt, 22¾" center to center.... **1.10**
Ship. Wt. 1 lb. Code Word EICVB.

No. 329 Steel stand (Top 7" by 12½"; 29¾" high) **5.85**
Shipping Weight 31 lbs. Code Word EICST.

No. 777 10" Ball-bearing Safety Band-Saw Unit, consisting of No. 768 Band Saw, No. 5275 2¾" pulley, ½" bore, No. 560 V-belt and No. 329 Steel stand **$43.85**
Shipping Weight 126 lbs. Code Word BANDL.

No. 6300 or 6400 motor recommended for this unit and No. 1334 switch rod. See pages 28-30.
No belt guard available for this unit.

Blades for No. 768 Band Saw, 74" Long

(Cannot be used on No. 785 Saw)

Cat. No.	Width	Cut Radius	Code	Price Each
770	⅛"	¼"	BANDC	$1.20
771	⅛"	½"	BANDE	1.20
772	¼"	⅝"	BANDG	1.20
773	⅜"	1"	BANDH	1.20
774	¼"	¾"	BANDI	1.65

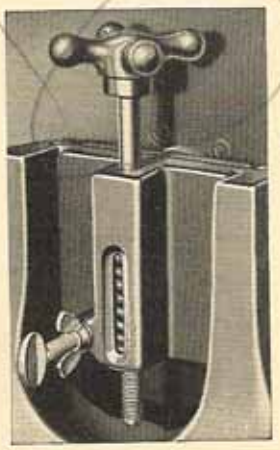
Shipping Weight 9 oz. each.
(No. 774 blade is for soft metals)

FOR A PRODUCTION TYPE METAL CUTTING BAND SAW SEE PAGE 46

14-INCH BAND SAW: First Choice For The Man Who Knows And Wants GOOD TOOLS

Upper wheel completely enclosed, having rear guard as well as removable front guard, complying with school and industrial requirements.

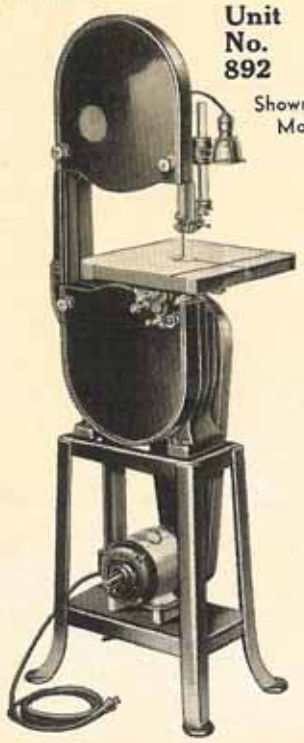
Upper-wheel adjustment has quick index to show blade tension. See photo below.



Hollow-cast upper arm of great stiffness and strength. Removeable to permit use of height attachment which increases capacity of machine to 12¼" thick.

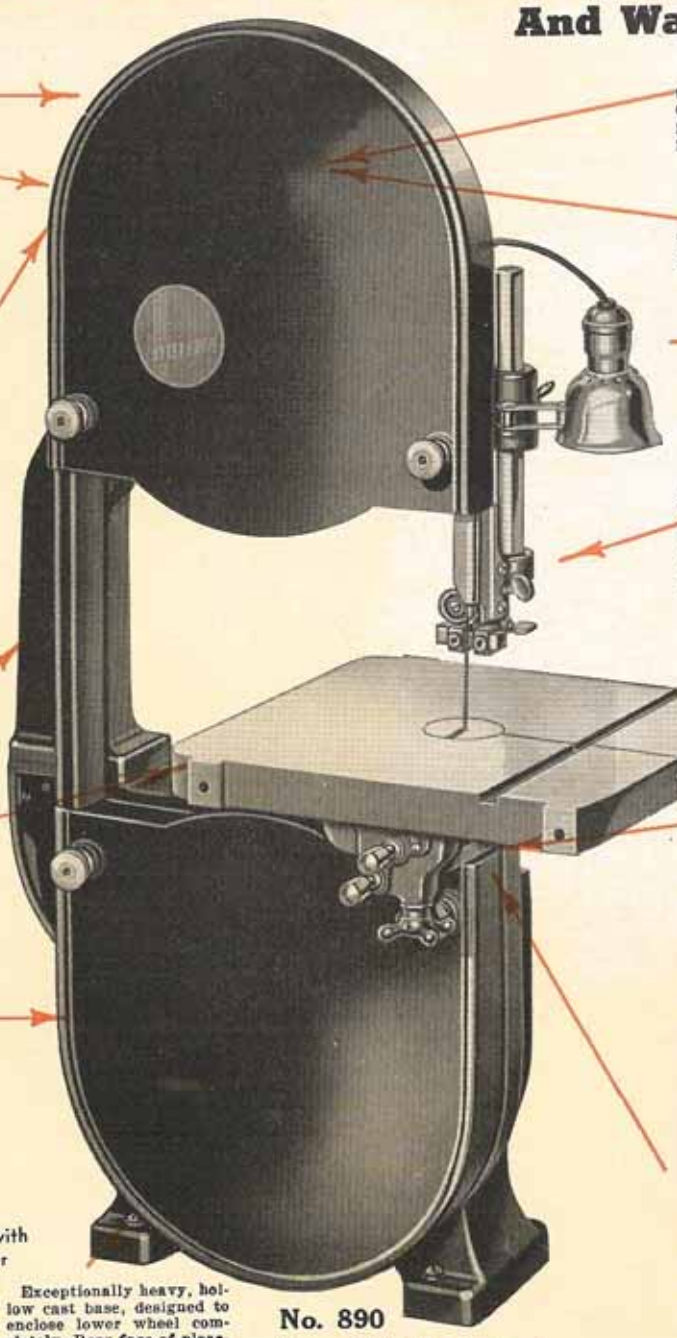
Massive table, 14" x 14", swinging smoothly on double trunnions (patented). Makes very rigid table mounting, and permits removal of blade without disturbing rip-gage bars. Table tilts 45 deg. to right and 10 deg. to left. Positive stops. ⅜"x¾" groove for miter gage.

Lower wheel completely guarded front and rear; mounted on ball bearings sealed on both sides and lubricated for the entire life of the bearing. Neither grit nor improper lubricant can enter these bearings, which increases their life three or four times over old-style bearings.



Unit No. 892

Shown with Motor



Exceptionally heavy, hollow cast base, designed to enclose lower wheel completely. Rear face of pleasing design, easily cleaned

No. 890

Shown with Light Attachment

Heavy machined, cast iron wheels rimmed to make tire renewal easy; no cement required. Carried on double-seal ball bearings, wheels are practically frictionless, which means minimum power consumption and permanent alignment.

Bearings in upper wheel also lubricated and sealed at factory to insure trouble-free service for the entire life of the bearing—a feature pioneered by us.

Light attachment No. 882 available (extra) which permits machine to be used wherever most convenient for the job in hand and assures plenty of light on the work.

Finest type of guide ever offered. Each adjustment independent of others, and each made with micrometer accuracy. Guide pins can be set to blade teeth without disturbing the setting of the blade support, and blade support without altering adjustment of guide pins. High-grade reversible double-seal ball-bearing blade supports. (Patented.)

Lower guide of same construction as upper one, with added safety feature that all controls are brought out to front of table as shown in the photo below, so that operator's hands never come near blade—an important safety feature (pat. app. for). Guide comes within ¾" of table top.

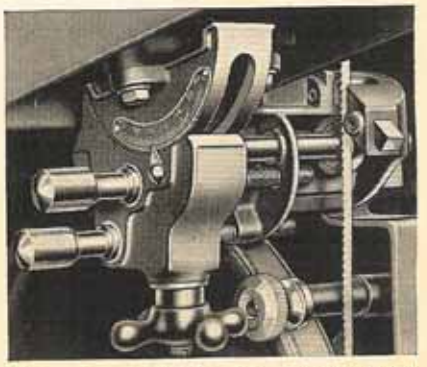


Photo above shows how the controls of the lower guide are brought to the front of the table—at the operator's finger tips.

Height 41¼"; Width 16¼"; Front to Back 24¾"; Weight 152 Lbs.

This band saw has become the standard 14" saw used in industrial and school shops everywhere. It offers every advantage found in larger machines, plus a decided saving in first cost, in maintenance cost, and in power cost. Hundreds of shops have installed them as auxiliaries and as regular production units.

Both wheels are completely enclosed. Controls for the lower guide adjustments are brought out to the front of the table, so that the operator can make final adjustments while the machine is running without having his hands anywhere near the blade—an important safety feature. There are new heavy-duty trunnions, spaced far apart to give the utmost rigidity to the table (a patented feature). There are many other refinements.

See this saw yourself, and you will know why it is the choice of all good professional craftsmen....who know *good* tools.

No. 890	14" Band Saw, with wheel guards, ¼" blade and 8" arbor pulley, but without Light Attachment ..... Shipping Weight 155 lbs. Code Word LABAN.	**$52.50**
No. 5275	2¾" V-pulley, ½" bore..... Shipping Weight ¼ lb. Code Word PULOD.	.50
No. 568	V-belt, 24⅞" center to center..... Shipping Weight 1 lb. Code Word FORVD.	1.10
No. 891	Steel stand, Top 7⅞"x15⅞"; 24" high.. Shipping Weight 31 lbs. Code Word LABST.	6.85
No. 892	14" Band-Saw Unit for woodworking, consisting of No. 890 band saw, No. 5275 V-pulley, (2¾" dia., ½" bore), No. 568 V-belt, and No. 891 steel stand. Without motor, belt guard, switch rod or light attachment..... Shipping Weight 186 lbs. Code Word LABUN	**$60.95**

No. 6400 motor and 1334 switch rod recommended. See pages 28 to 80.

FOR A PRODUCTION TYPE METAL CUTTING BAND SAW SEE PAGE 46

BLADES For 10 and 14-Inch Saws—14-Inch Saw ACCESSORIES

Band-Saw Blades

Made of high-grade Swedish steel, accurately set, spaced and jointed, these blades will stand up under hard work. Standard blades for 14" band saws are 93" long; special blades for use with height attachment are 105" long.

14-inch Band-Saw Blades; 93-inch

Cat. No.	Width	Cut Radius	Code	Price Each
1032	⅛"	¼"	BLABA	$1.35
1033	3/16"	½"	BLABB	1.35
1034	¼"	¾"	BLABC	1.35
1036	⅜"	1"	BLABD	1.35
1038	½"	1¼"	BLABE	1.60
1040	¾"	1¾"	BLABF	1.60

Shipping Weight 1 lb. each.

14-inch Band-Saw Blades; 105-inch

Cat. No.	Width	Cut Radius	Code	Price Each
1045	⅛"	¼"	BLABJ	$1.65
1046	3/16"	½"	BLABK	1.65
1047	¼"	¾"	BLABL	1.65
1048	⅜"	1"	BLABM	1.65
1050	½"	1¼"	BLABO	1.80
1052	¾"	1¾"	BLABP	1.80

Shipping Weight 1⅛ lbs. each.

Metal-Cutting Blades; 93-inch

Cat. No.	Width	Teeth per in.	Code	Price Each
1060	½"	14	BLMET	$2.20
1062	½"	18	BLMEU	2.20
1064	½"	24	BLMEX	2.20

Shipping Weight 1 lb. each.
NOTE: These are hard-edge blades for cutting all metals.

Blades for No. 785 Saw 66" Long

(Will not fit No. 768 10" band saw)

Cat. No.	Width	Cut Radius	Code	Price Each
732	⅛"	¼"	BABLK	$1.10
733	3/16"	½"	BABLL	1.10
734	¼"	¾"	BABLM	1.10
736	⅜"	1"	BABLP	1.10
781	¼"	¾"	BAMEU	1.65

Shipping Weight ¾ lb. each.
(No. 781 Blade is for soft metals.)

Blades for 12" Saw 78" Long

Cat. No.	Width	Cut Radius	Code	Price Each
532	⅛"	¼"	BABLA	$1.20
533	3/16"	½"	BABLB	1.20
534	¼"	¾"	BABLC	1.20
536	⅜"	1"	BABLE	1.20
381	¼"	¾"	BAMET	1.60

Shipping Weight ¾ lb. each.
No. 381 Blade is for cutting soft metals.

INCREASE CAPACITY with this Attachment

This inexpensive attachment increases the capacity of the 14" band saw from 6" to 12¼". Although 99% of the average shop work can be done on a 6" capacity you have here a simple means whereby the capacity of the saw can be increased without the necessity of buying a larger unit. It consists of a 6" extension block which fits under upper arm, extension wood guard, extension telescoping blade guard, necessary bolts, etc., can be added any time —105" blades are used.

No. 894 Height attachment for 14" band saws, with cast block, dowels, bolt, extension front blade guard and wood back blade guard. Ship. Wt. 14 lbs. LABHA. **$6.00**

Rip Gages for the 14-inch Band Saw

Two rip-gage attachments are available for use with any of our 14" band saws for wood or metal. No. 893 has 18" guide bars, and No. 895 has 32" guide bars, the only difference being in the capacity. Bars are fastened to front and rear edges of table with screws, and, due to patented construction of the table, need not be removed to change blades. Fence has the same "Micro-Set" adjustment as the No. 860 circular-saw fence.

No. 893 Rip-Gage Attachment for No. 890 14" Band Saw, with 18" front and rear guide bars, "Micro-Set" fence and screws for attaching guide bars..... **$5.50**
Shipping Weight 11 lbs. Code Word LABGA.

No. 895 Rip-Gage Attachment for No. 890 14" Band Saw, same as above but with 32" guide bars instead of 18". Shipping Weight 12 lbs. Code Word LABGB... **6.00**

Belt Guard for the 14" Band Saw

This belt guard, which completely encloses the belt on the 14-inch band saw front and rear, is designed to conform to all safety-code and industrial-commission requirements. When applied to the No. 892 band saw unit, with front and rear wheel and blade guards, the unit is made thoroughly safe, even for inexperienced help in the industrial shop or for students in the school shop.

The guard is made of cast iron, and is fastened to the steel stand with screws. The front of the guard is hinged to provide ready access to the belts and pulleys. Fastened by tightening one conveniently operated clamp knob.

No. 883 Belt guard for 892 band-saw, with screws to fasten to stand **$9.60**
Shipping Weight 41 lbs. Code Word LABAB.

A SPIC AND SPAN SHOP Is Easy to Have with These Products

Gray Machine Enamel

Hundreds of users have purchased the attractive gray enamel with which we paint our machines, in order to paint benches, other tools and accessories in their shops to match. A number of industrial users have also standardized on our gray enamel for the machines in their shop. For the convenience of our customers we are now cataloging our standard enamel in three shades of gray. Light gray, which is the standard gray familiar to all wood-working machine customers; medium gray, which is the color of the latest Delta machines and standard dark machine-tool gray.

No. 101—Light Gray Machine Enamel
1 quart $1.15
½ gallon 2.10
1 gallon 4.10
Code Word PAINA.

No. 102—Medium Gray Machine Enamel
1 quart $1.15
½ gallon 2.10
1 gallon 4.10
Code Word PAINB.

No. 103—Dark (Machine-Tool Gray) Enamel
1 quart $1.45
½ gallon 2.75
1 gallon 5.40
Code Word PAINC.

Shipping weights: 1 qt., 5 lbs.; ½ gal., 8 lbs.; 1 gal., 14 lbs.
Note: Paint is not mailable. Shipment must be made by express or freight.

KEEP YOUR TOOLS BRIGHT WITH "RUST-GO"

"Rust-Go" is a rust and grease-remover designed to remove instantly all traces of oxidation from the surface of polished iron and steel. It not only leaves a chemically clean surface, but destroys the chlorides which are primarily the cause of rust.

It will make your treasured tools, machine tables and other polished surfaces and parts clean and bright.

No. 100 Rust-Go ½ Pt. $ .50; ½ Gal. $2.40; 1 Gal. $4.50

"Rust-Go" is not mailable and is not shipped direct. Your local dealer has it in stock and can supply you with the ½-pint size.

"STOP-RUST" PREVENTS RUST FORMATION

"Stop-Rust" is a rust preventive entirely new and highly efficient. It not only forms a film over the surface but penetrates deep into the pores, thus preserving the metal and retaining its effectiveness long after it is wiped off.

It is an effective polish and you need not go to the added expense or trouble of polishing. You merely apply "Stop-Rust", according to directions and you will have a polished, safely protected surface, one without a trace of smeariness.

No. 100—"Stop Rust"—1 pint can. Code Word STOPO ..... $ .50

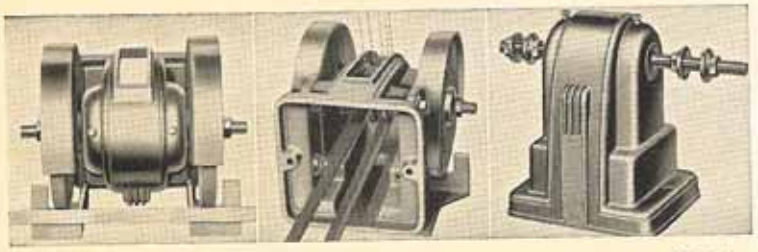
New A LOW COST GRINDER AND BUFFING HEAD

A Sturdy, Accurate Unit Which Meets All Requirements in the Home Workshop

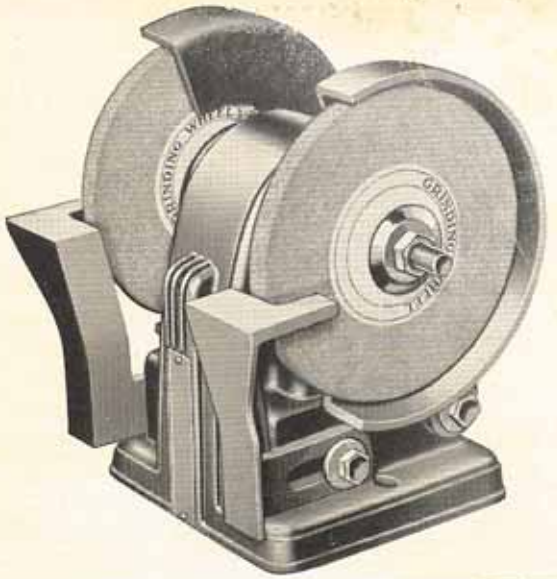
HERE, in this new tool, you have for the first time a grinder that embodies all the precision design and construction found in our other tools at a price which is extremely attractive. From its heavy close grained cast iron housing-stand to its adjustable tool rests, it offers quality not found in similar units.

Its bronze bushings need only a minimum of lubrication. The wheels are ½" x 6", one of 50 grit (coarse) the other 60 grit (fine). Spindle diameter is ⅝" with ½" ends. Cast iron guards provide ample safety yet are readily removable should a buffing wheel be used. Adjustable rests are surface ground. Can be driven from bottom or back as desired—belt not furnished. Maximum safe speed is 3500 R.P.M. which gives a surface speed of 5500 ft. per minute.

The 3110 Buffing Head is similar to the grinder except that guards and rests are eliminated. Has right hand thread on right side for wheel 2¼" wide—left hand thread on left side for wheel 1" wide. Threads are ½"—24 so that many standard attachments such as wire brushes, scratch wheels and other wheels with ½" hole can be used.



Wheels are so set that long work can be passed over wheels without interference. *Housing is designed so that unit may be driven from either back or bottom.* *No. 3110 Buffing Head is a sturdy well constructed unit which has many uses.*



No. 3100	Bench Grinder with one 46 grit and one 60 grit wheel, tool rests, guards, but without belt. Ship. Wt. 17 lbs. GRIAA	**$5.75**
No. 3101	½"x6" 46 grit grade M Wheel, ½" hole. Ship. Wt. 1¾ lbs. Code GRIAB.	**1.00**
No. 3102	½"x6" 60 grit grade N Wheel, ½" hole. Ship. Wt. 1¾ lbs. Code GRIAC.	**1.00**
No. 3110	Buffing Head with collars, but without buffing wheels Shipping Weight 10 lbs. Code Word GRIAD.	**3.25**

Wheels and Brushes for buffing head. ½" hole, 6" diameter—Two sections—¾ lb.

No. 3114	Fine Wire Brush. GRIAH	$1.45
No. 116	Medium Wire Brush. WIRRO	1.65
No. 3113	Coarse Wire Brush. GRIAG	1.15
No. 3115	Fibre Brush. GRIAI	1.20
No. 113	Buffing Wheel. BUFFO	.75

New DIAMOND POINTED WHEEL DRESSER

An efficient and inexpensive tool for dressing all type of general grinding wheels. The diamond is securely held—the tool is sturdy, 9¼" long and has a comfortable handle.

No. 3121 Dressing Tool. Ship. Wt. 1 lb., Code Word GRIAO. . **$5.00**

MOTOR DRIVEN GRINDER—An Efficient Unit That Cannot Forget Its Goggles

The Safety Twin-Lite guards throw the light down on the face and both sides of the wheel. (Patented.)

Underside of lamp attachment showing bayonet type bulbs—polished reflectors — safe wiring.

Wheel at 8000 R.P.M. smashed with a bullet. Showing perfect safety of grinder — only damage: bent spark guard!

The Finest, Safest and Most Accurate Bench Type Motor Driven Grinder Made

From double-seal ball bearings to Twin-Lite safety-glass shields, these new grinders offer the utmost in efficiency, convenience and safety. New standards of grinder design have been set with this model. Wheels are balanced to within 1/100 inch-ounce to insure vibrationless performance and accurate tool grinding....the Twin-Lite Safety Shields provide perfect vision and complete illumination on both sides and the face of the wheel....ball bearings are lubricated for their entire life.... accurate tool supports, adjustable spark guards, swinging water pot—every feature has been considered to make these the most efficient grinders yet developed for all-around work.

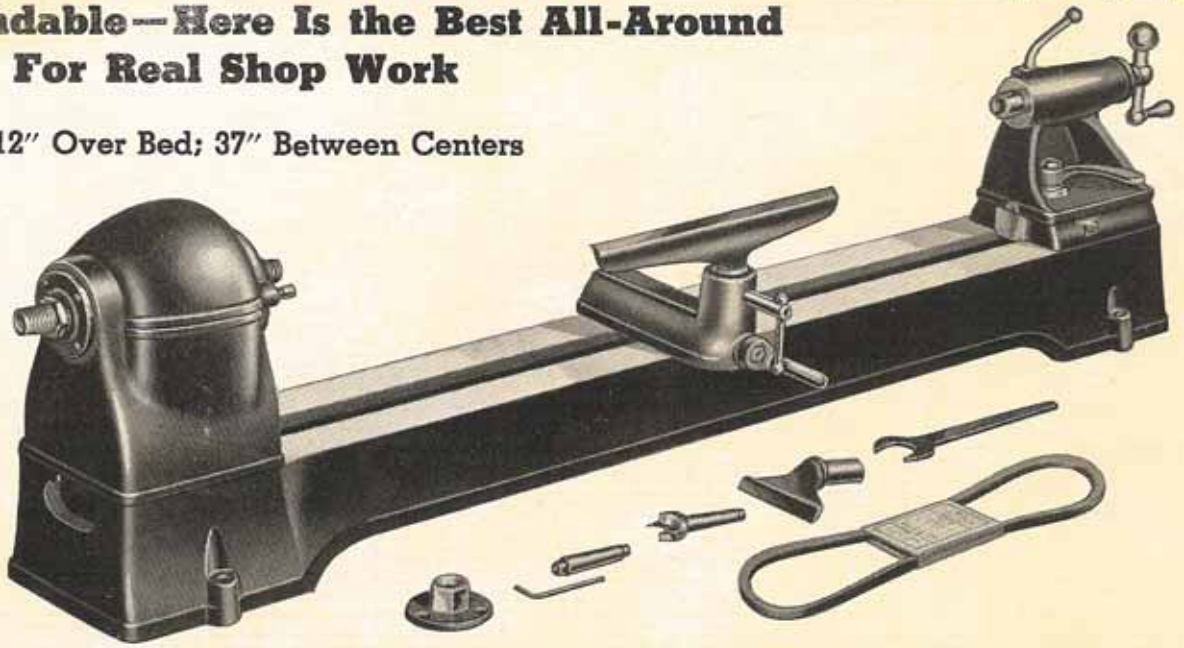
You will recognize in them honest value, and tools built for a life-time of trouble-free operation.

No. 1240	Motor-Driven Bench Grinder, for 110v, A. C. 60 cycle current, complete with ¾"x7" 60-N and 46-M Aluminous Oxide wheels, two Lamp Attachments, Water Pot and Bracket, Tool Rests, Wheel Guards, Toggle Switch, Cord and Plug, without bulbs Shipping Weight 95 lbs. Code Word GRINA.	**$47.50**
	(For 110v, 60 cyl. Single Phase A. C. only. 3450 R.P.M. unless 1750 is specified.)	
No. 1245	7" Aloxite wheel, balanced within 1/100 oz.-inch, 60 grit, Grade N, ⅝" Hole Shipping Weight 2 lbs. Code Word GRINJ.	**3.25**
No. 1247	7" Aloxite wheel, balanced within 1/100 oz.-inch, 50 grit, Grade M, ⅝" Hole Shipping Weight 2 lbs. Code Word GRINK.	**3.25**
No. 1250	Lamp Attachment and Safety Shield (one only) with sockets, reflectors and armored cable, but without lamp bulbs Shipping Weight 3 lbs. Code Word GRILT.	**5.75**
No. 1280	Lamp Bulb for Safety Shield, each Shipping Weight ½ lb. Code Word GRILB.	**.40**

For Pedestal and Belt Driven Bench Grinders See Page 46

12-INCH BALL BEARING Lathe Is Accurate, Rigid, Safe, Dependable—Here Is the Best All-Around Lathe For Real Shop Work

Swings 12" Over Bed; 37" Between Centers



★**SELF-INDEXING:** Here is the built-in indexing device first applied to lathes by us—made still more convenient.

★**SELF - LUBRICATING:** New Departure self-sealed ball bearings, which require no lubrication during their entire life, eliminate any need for bearing attention.

★**UNIVERSAL TOOL SUPPORT:** Quick as a flash in action, solid as a rock in use, locked by a convenient lever on the front of the base--you'll like this support!

★**4 OR 16 SPEEDS:** Four speeds—all that are necessary for woodturning. But, if you want sixteen speeds, for speed lathe work in metal, a simple countershaft arrangement provides for them.

★**EFFICIENT DRIVE:** A simple, dependable, V-belt drive — over 90% efficient — provides plenty of power for all your work.

★**SAFETY HEADSTOCK:** Pulley and belt are completely covered from front and top of lathe—it's practically impossible for fingers to be caught. And belt drive can be taken either from below or rear—an added convenience.

Here is a lathe that was designed with only one purpose in mind—to provide the biggest amount of real lathe for the least amount of money. And when you study the design you will see that it provides just that. No unnecessary frills; no skimping on hidden details; nothing added merely for "looks" and nothing essential omitted for "cheapness".

Designed by engineers with years of experience in making tools for your requirements, built by real mechanics who know and appreciate good machines, it is an honest, solid, dependable lathe for REAL craftsmen—the lathe you want for YOUR shop, whether it is a home shop, a school shop or an industrial shop. See it—try it—and we know you'll agree!

Read the specifications below, and a few of the highlights at the left:

OVERALL DIMENSIONS WITH REGULAR TOOL REST: Length 57". Width 10½", Height 13¾". Width with slide rest 15".

BED: Heavy, substantial, fine-grained cast iron, heavily ribbed to provide utmost rigidity and accuracy. 53½" long, 8½" wide, 4⅜" high. Machined and polished ways 2" wide front and back.

HEADSTOCK: Rigid substantial cast-iron body, adapted to take V-belt drive from either bottom or rear. Fitted with belt guard completely covering top of headstock pulley and belt; guard instantly removable to facilitate changing belt on pulley cones. With built-in indexing mechanism having two rows of holes—8 holes and 60 holes—in cone pulley, to provide maximum number of index divisions. Index pin mounted to engage either row of holes.

SPINDLE: Full 1¼" diameter spindle, with ⅝" hole through center to facilitate repetition work. Nose machined No. 2 Morse taper for centers. Nose threaded 1" diameter 8 threads per inch for chucks and faceplates. Rear end of spindle with 1"—8 thread left-hand thread for outboard work. Spindle carried on two heavy-duty double-seal New Departure ball bearings, preloaded to insure maximum rigidity and accuracy. Spindle quickly removable to facilitate belt removal or installation. Speeds: 900, 1400, 2200, 3400 r.p.m.

TAILSTOCK: Substantial, fine-grained cast-iron body, with sub-base and provision for set-over of tailstock for center alignment and taper turning. Tailstock locked to bed with hand lever conveniently located at front. Tailstock sleeve operated with large ball-end crank handle, and locked with ball-end lever actuating lock cams. Sleeve machined for No. 2 Morse-taper centers. Centers self-ejecting.

TOOL REST: Lathe equipped with quick-acting, universal tool-rest base, locked to bed by convenient handle at front of base. 4" and 12" tool rests, adjustable in tool-rest base by means of lock screw with ball-end lever.

ACCESSORIES: 4" and 12" tool rests, 3" faceplate, drive center for wood, tail center for wood, headstock wrench, Allen wrench and belt for lathe-stand installation.

No. 1465
Shown with Motor

No. 1460 12" Ball-Bearing Lathe, complete with No. 644 belt, 3" faceplate, No. 2 Morse-taper drive and tail centers, 4" and 12" tool supports, spindle wrench, Allen wrench, and tool support base... **$46.85**
Shipping Weight 160 lbs. Code Word CASTL.

No. 932 4-speed motor pulley, ½" bore.... **1.35**
Shipping Weight 2 lbs. Code Word DUBLC.

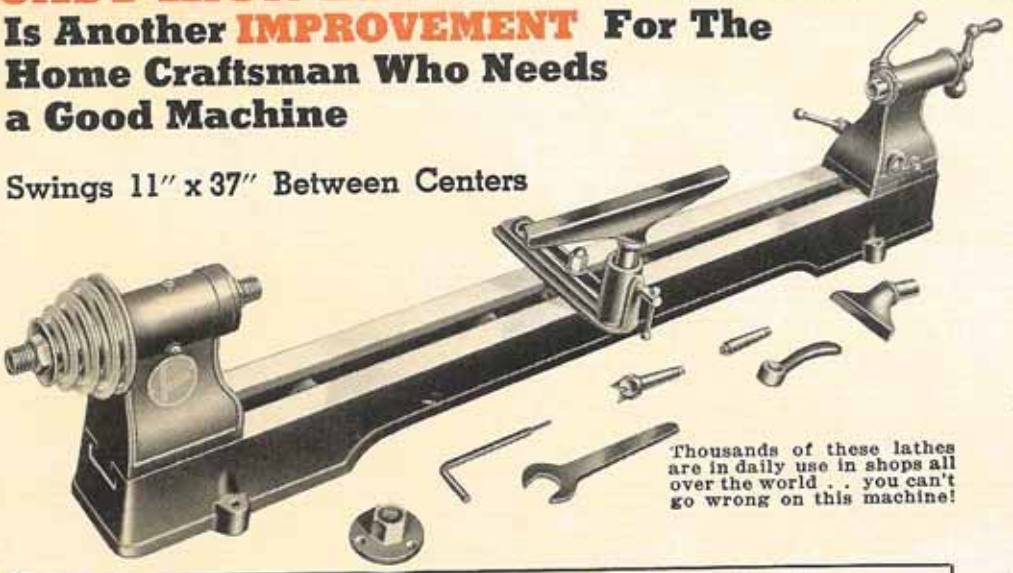
No. 1463 Lathe stand only, complete with legs, top, shelf and bolts..... **$22.85**
Shipping Weight 97 lbs. Code Word CASTP.

No. 1465 12" Four-speed Lathe Unit, including No. 1460 Lathe, No. 1463 Lathe Stand, No. 932 4-speed pulley without motor or switch rod. **71.05**
Shipping Weight 257 lbs. Code Word CASTR.

No. 6460 Motor and No. 1334 Switch Rod recommended. **See pages 28-30.**

CAST IRON BED On This Famous 11-Inch Timken Bearing Lathe Is Another IMPROVEMENT For The Home Craftsman Who Needs a Good Machine

Swings 11" x 37" Between Centers



Thousands of these lathes are in daily use in shops all over the world . . you can't go wrong on this machine!

The improved No. 930 11" lathe offers exceptional value. It has a new heavy cast iron bed. . . . self-indexing headstock . . . four speeds from 900 to 3400 r.p.m. . . . 37" capacity between centers . . . No. 2 Morse taper centers in head and tailstocks . . . Timken bearings in headstock for long wear . . . a full 1¼" diameter hollow spindle threaded for inboard and outboard chuck and faceplate work.

No. 950
Shown with Motor

No. 930	11" Lathe with accessories as shown, less belt and motor pulley ..... Shipping Weight 76 lbs. Code Word DUBLA.	**$31.50**
No. 932	Four-step Motor pulley, ½" bore..... Shipping Weight 2 lbs. Code Word DUBLC.	**1.35**
No. 521	V-belt, 62¾ O. D. ..... Shipping Weight 1 lb. Code Word BELTP.	**1.10**
No. 950	Four-speed 11" lathe unit, with No. 1463 stand, motor pulley and belt. Without motor or switch rod..... Shipping Weight 170 lbs. Code Word DUBUN.	**56.90**

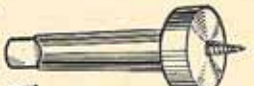
ACCESSORIES For 12 and 11-Inch Lathes and Lathes With No. 2 Morse Taper

No. 933 Drive center for 11" and 12" lathes. Fits any headstock with No. 2 Morse taper hole. Has replaceable center pin and 4 accurately milled teeth **$1.25**
Shipping Weight ⅝ lb. Code Word DUBLD.

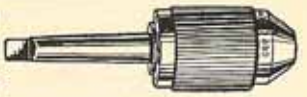
No. 934 Cup center for 11" and 12" lathes. Fits any tailstock with No. 2 Morse taper hole. Has replaceable center pin. Hardened and polished **$1.25**
Shipping Weight ⅝ lb. Code Word DUBLE.

No. 935 Adapter for 11" and 12" lathes. Has No. 2 Morse taper shank on one end—other end ½" diameter. Enables use of all attachments with ½" bore to be used **$1.25**
Shipping Weight ⅝ lb. Code Word DUBLF.

No. 940 Screw center for 11" and 12" lathes. Fits any headstock with No. 2 Morse taper hole. Replaceable screw 1⅛" long. **$1.35**
Shipping Weight ½ lb. Code Word DUBLJ.



No. 166 Keyless chuck for 11" and 12" lathes. Fits any headstock or tailstock with No. 2 Morse taper hole. Holds drills up to ½". Invaluable for drilling..... **$3.75**
Shipping Weight 2½ lbs. Code Word CHTAP.



Screw-on arbor for 11" and 12" lathes. Makes grinder or buffer out of lathe.

No. 144 Right hand .. **$1.35**
Sh. Wt. 1 lb. Code Word ARBOS.

No. 145 Left hand..... **1.35**
Ship. Wt. 1 lb. Code Word ARBOT.

No. 936 3" faceplate for 11" and 12" lathes. Faced true, has three screw holes. R. H. thread only **$1.00**
Sh. Wt. 1½ lbs. Code Word DUBLG.

No. 937 6" faceplate for 11" and 12" lathes. Has special thread to fit right hand or left hand threaded spindles **$2.25**
Sh. Wt. 3 lbs. Code Word DUBLH.

No. 938 5" handwheel for 11" and 12" lathes. Left hand thread only. Used by professionals for quick stopping. **$1.95**
Sh. Wt. 2 lbs. Code DUBLI.

No. 948 Steady rest for 11" lathe with steel bed. 7 lbs. **$4.65**
DUBRE .....

No. 948-A Steady rest for 11" lathe with cast iron bed. 7 lbs. DUBRG **4.65**

No. 1468 Steady Rest for 12" lathe **4.65**

Ship. Wt. 7½ lbs. Code CASTU. Capacity 2¼" dia. Prevents vibration on long and slender work.

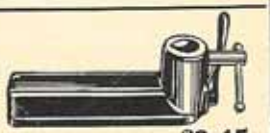
Tool support bases for 11" lathes only. Has hole for ½" to 1" shank. Clamp, plate, spring, washers and nut included. 3 7/16" high.

No. 941 For 11" lathe with steel bed. 3 lbs. DUBLK..... **$1.25**

No. 941-A For 11" lathe with cast iron bed. 4½ lbs. DUBLL **1.25**

No. 1461 Tool Support base for 12" lathe only. V-shaped hole for ½" to 1" shank. Clamp plate spring, washers, nut included, 3½" high **$3.45**

Ship. Wt. 5 lbs. Code Word CASTM.



No. 951 8½" Sanding disk for 11" lathe only. With one garnet disc. R. H. thread only **$2.25**
Ship. Wt. 2 lbs.
Code Word DUBLM.

Sanding table for 9" and 11" lathe only. Used with No. 951 Sanding disc. A rigid, solid table which tilts. Has graduated scale, ½" groove for miter gage.

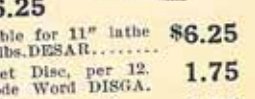
No. 347 Sanding Table for 11" lathe with steel bed. Sh. Wt. 15 lbs. **$6.25**
DESAT .....

No. 347-A Sanding table for 11" lathe with cast iron bed. 15 lbs. DESAR..... **$6.25**

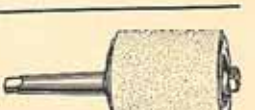
No. 153 Coarse Garnet Disc, per 12. Ship. Wt. 1¼ lbs. Code Word DISGA. **1.75**

No. 157 Fine Garnet Discs, per 12.... Ship. Wt. 1¼ lbs. Code Word DISGB. **1.75**

No. 163 3"x3" Sanding drum for 11" and 12" lathes. Fits any headstock with No. 2 Morse taper hole. See page 27 for sanding sleeves.. **$2.85**
Ship. Wt. 2½ lbs. Code Word SATAP.



No. 164 1⅝" x 2" sanding drum for 11" and 12" lathes. Fits any headstock with No. 2 Morse taper hole. See page 27 for sanding sleeves. Sh. Wt. 1¾ lbs. Code SATAQ.. **$1.95**



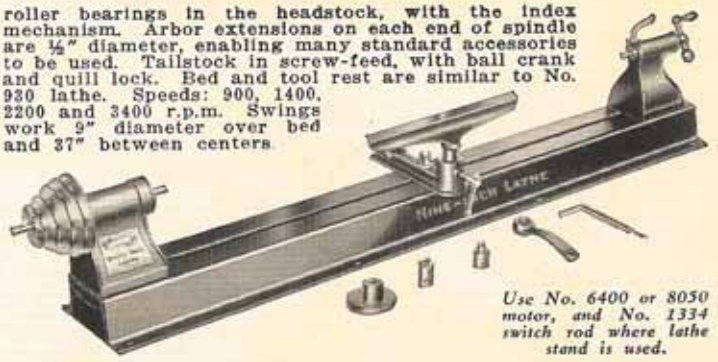
No. 968 Geared chuck for 11" and 12" lathes. Fits any headstock or tailstock with No. 2 Morse taper hole. Capacity ½", with key... **$6.95**

Ship. Wt. 2½ lbs. Code Word CHGEA.

NOTE—Additional attachments which are used on all lathes listed on page 38 (lower).
See page 27 for other sanding drums.

9-IN. TIMKEN BEARING LATHE Offers Real Value Consistent With Price

The 9" lathe offers real value to the man who wants to equip his shop at the lowest cost consistent with the purchase of quality tools. Built to the same standards of accuracy and construction as the 11" lathe, the No. 955 offers husky Timken tapered-roller bearings in the headstock, with the index mechanism. Arbor extensions on each end of spindle are ½" diameter, enabling many standard accessories to be used. Tailstock in screw-feed, with ball crank and quill lock. Bed and tool rest are similar to No. 930 lathe. Speeds: 900, 1400, 2200 and 3400 r.p.m. Swings work 9" diameter over bed and 37" between centers.



Use No. 6400 or 8050 motor, and No. 1334 switch rod where lathe stand is used.

No. 955 9-inch Four-Speed Timken Bearing Lathe, including 3" faceplate, spur center, cup center, 12" tool-support, tool-support wrench and special Allen wrench, as shown, 4" tool support and tool support base **$21.50**
Shipping Weight 70 lbs. Code Word NEWLA.

No. 932 Four-speed Motor Pulley (⅛" Bore)..... **1.35**
Shipping Weight 2 lbs. Code Word DUBLC.

No. 568 V-belt, 24⅞" center to center..... **1.10**
Shipping Weight ⅝ lb. Code Word FORVD.

No. 960 9-inch Four-speed Lathe Unit, including No. 955 Lathe, No. 1463 Lathe Stand, No. 932 four speed pulley ⅛" Bore and No. 568 V-belt, similar to No. 950 unit shown on page 37 ..... **$46.80**
Shipping Weight 170 lbs. Code Word NEWUN.

ACCESSORIES FOR 9-INCH LATHE ONLY OR LATHE WITH ½-INCH ARBOR EXTENSIONS

Sh. Wt. ½ lb. Code SPURO

No. 138 Drive center for ½" spindle. Replaceable center-form milled teeth.... **$1.00**

Sh. Wt. ⅝ lb. Code SCREC

No. 140 Screw center for ½" spindle. 1½" dia. body. Excellent for small work. **$1.00**

Sh. Wt. ½ lb. Code CUPPO

No. 141 Cup center for ½" tailstock. Replaceable center. Hardened, well-made **$1.00**

Sh. Wt. 1 lb. Code ARBOR

No. 118 Arbor for grinding wheels, buffers, etc., ½" hole for ½" spindle **$1.00**

Sh. Wt 1½ lbs. Code CHUKO

No. 120 Keyless chuck. Capacity 33/64". Fits any ½" shaft. Accurate, high grade **$1.85**

No. 151 8½" dia. Sanding disk. ½" bore. With one garnet disc. Ship. Wt. 2¼ lbs. Code DISSA **$2.10**

Sh. Wt. ⅛ lb. Code FACEO

No. 143 3" face plate. Fits any ½" shaft. Has two Allen set screws, four holes for wood screws.... **$1.00**

No. 696 Tool rest base. V-hole for ½" to 1" shank. Spring, washer, bolt, nut. Ship. Wt. 4 lbs. Code TOSUB **$1.15**

Sh. Wt. ½ lb. Code AWREN

No. 192 Allen wrench for ⅛" Allen set screws. 6" long. Especially useful in tightening cone pulleys **$ .25**

No. 958 Steady rest. 9" lathe only. Prevents vibration in long and thin turnings. Complete. Sh. Wt. 6 lbs.. **$4.65**
Code NEWRS

ALL LATHES In This Catalog Can Use The Accessories Listed Here

No. 690 4" tool rest. 1" dia. shank. Very strong and heavy. Sh. Wt. 1¾ lbs. **$ .75**
Code TOSUP.

No. 692 12" tool rest. 1" dia. shank. Heavy, strong, designed for minimum interference with tools and hands **$1.10**
Sh. Wt. 3 lbs. TOSUM.

No. 695 Right-angle tool rest. 1" dia. shank. Extremely useful for faceplate work.. **1.65**
Sh. Wt. 3 lbs. TOSRA.

No. 694 24" tool rest for extra long turnings. Has two 1" dia. shanks. This rest requires an extra tool rest base for the lathe on which it is used **$2.25**
Sh. Wt. 7 lbs. Code TOSUL.

Sh. Wt. 40 lbs. Code TOSTA.

No. 697 Heavy, rigid floor stand for faceplate work on left of spindle. Tripod legs, pipe support. V-hole for ½" to 1" shank. Knocked down **$8.75**

Wire and fibre brushes for cleaning metal, removing burrs. Well made, two sections. 6" dia., ½" hole.

No. 3114 Wire, fine. GRIAH **$1.45**
No. 116 Wire, medium. WIRRO **1.65**
No. 3113 Wire, coarse. GRIAG **1.15**
No. 3115 Tampico fibre. GRIAI **1.20**
Shipping Weight 1 lb. each.

No. 113 6" dia. two Section buffing wheel. ½" hole. **$ .75**
Ship. Wt. ½ lb. Code BUFFO

6" dia. high grade fast cutting emery wheels. ½" wide. ½" hole.

No. 3101 50 Grit. GRIAB **$1.00**
No. 3102 60 grit. GRIAC **1.00**
Sh. Wt. 1¾ lbs. ea.

ALLOY-STEEL WOODTURNING TOOLS

Our wood-turning tools are made of very high-grade Alloy Steel, which will not lose its edge even if the tools become so hot that they turn blue. They are sharpened ready for use. They are fitted with extra-long hardwood handles (1¼" diameter x 10½" long). The overall length of each tool is approximately 15". They should not be confused with ordinary carbon-steel tools, as they are superior in every way. Shipping Weight 1¼ lbs. each.

No. 121 1" Skew Chisel. Code Word SKERE **$1.60**

No. 125 ⅛" Parting Tool Code Word PARTO **$1.25**

No. 122 ¾" Gouge. Code Word GOUGU **1.60**

No. 126 ½" Gouge. Code Word GOUGO **1.40**

No. 123 ½" Gouge. Code Word GOUSA **1.35**

No. 127 ½" Spear Point Code Word SPEAR **1.10**

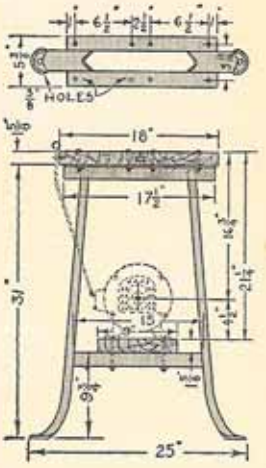
No. 124 ½" Skew Chisel Code Word SKEWO **1.10**

No. 128 ½" Round-Nose. Code Word RONOS **1.25**

No. 130 Set of Eight Turning Tools, styles and sizes as above **10.65**
Shipping Weight 6 lbs. Code Word TOSET.

STEEL BENCH LEGS

Take all the grief and hard work out of building a substantial bench. Strongly made and beautifully designed of welded steel, these legs should not be confused with cheap bolted bench legs which will not make a rigid bench. With these, all that is needed for a perfect bench is three 2" planks, 9½" wide, of good select stock.



No. 344 Steel bench leg only, as shown, Each **$3.35**
Sh. Wt. 20 lbs. Code LEGSO.

Cast Iron BENCH LEGS
No. 945 Cast Iron Bench legs as illustrated with No. 1465 lathe. Per pair.. **$14.95**
Sh. Wt. 60 lbs. Code DULEG.

METAL TURNING Is Simple and Profitable With This Equipment

16-SPEED METAL WORKING LATHES

The addition of a countershaft unit (as illustrated) to the 11-inch and 12-inch lathes turns these units into efficient and accurate 16-speed lathes for metal working. The slower speeds can be used for large face plate wood turning. The addition of the slide rest gives you a practical machine for light metal work. Practically everything in lathe work with the exception of screw cutting can be done. Speeds range from 350 to 3160 R.P.M. For 11 and 12-inch lathes. Illustration shows 12-in. lathe—11-in. lathe is similar in appearance.

No. 1466 12" 16 speed lathe (illustrated) with No. 1430 lathe, No. 1463 stand, No. 1464 countershaft unit. Without motor or switch rod..... **$79.85**
Ship. Weight 260 lbs. Code Word CASTS.

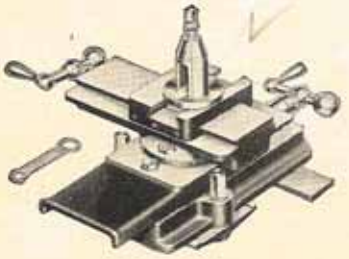
No. 952-A 11" lathe 16 speed unit, with No. 930 lathe, No. 1463 stand, No. 1464 countershaft and No. 588 belt. Without motor or switch rod..... **$65.70**
Ship. Weight 195 lbs. Code Word DUBUT.

No. 1464 Countershaft unit, consisting of two No. 370 hangers, 1 No. 378 shaft, 1 No. 718 pulley, ½" bore for motor, 1 No. 720 pulley, ⅝" bore for shaft, 1 No. 932 pulley, ⅝" bore for shaft, 1 No. 284 V-belt, 2 No. 374 collars, bolts and nuts..... **$10.15**
Ship. Weight 20 lbs. Code Word CASTQ.

COMPOUND SLIDE REST ENABLES YOU TO DO MANY OPERATIONS

This slide rest is a high-grade accessory, heavily and accurately built, with dovetail slides and a graduated compound base rotating through 360 degrees. Feed screws are covered to protect them from dirt and chips, and are fitted with micrometer sleeves, accurately graduated. Alignment bar on front of 11" lathe model can be set for permanent alignment with centers.

Should be used only with No. 952-A or No. 1466 sixteen-speed units, or other lathes with 9" to 12" swing and with speeds low enough for metal turning.



No. 965 Compound slide rest for 11" lathe. With steel bed. 31 lbs. Code DURST. **$21.75**

No. 965-A Compound Slide rest for 11" lathe with cast iron bed. 35 lbs. DURSV. **$21.75**

No. 1462 Compound slide rest for 12" lathe, same as No. 965, but with sub-base. Without alignment bar **$23.00**
Sh. Wt. 32 lbs. Code CASTO.

No. 1467 Sub-base, clamp and bolts only; to convert No. 965 slide rest into No. 1462.. **$2.30**
Sh. Wt. 5 lbs. Code CASTT.

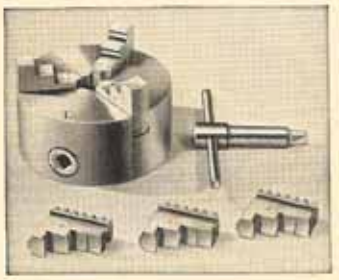
UNIVERSAL CHUCK FITS EVERY NEED OF THE SMALL LATHE

No. 963 Three-Jaw Universal Chuck, with inside and outside hardened-steel jaws, and wrench. Without back plate **$16.50**
Sh. Wt. 6 lbs. Code Word CHUNP.

No. 963-A Back plate for No. 963, turned and threaded to fit spindle of No. 930 and 1460 lathes, but not fitted to chuck... **2.00**
Sh. Wt. 2 lbs. Code Word CHUPI

No. 964 Back plate for No. 963 and 943-A, completely unfinished. For lathes of other make. **$0.75**
Sh. Wt. 2 lbs. Code Word CHUPL

High-grade self-centering universal chuck, with heavy cast-iron body and two sets of hardened-steel jaws, adaptable for either 11" or 12" lathes. For use with No. 930 or 1460 lathes, order chuck with No. 963-A back plate. For use with other lathes order back plate No. 964. Back plates must be turned to fit chuck while mounted on lathe on which they are to be used, in order to insure accuracy. Diameter of chuck, 4". Maximum capacity, 4".



BORING BARS & HOLDER

Holds both bars and square ⅛" bits. Two holes in holder facilitate holding of tool. Tool steel, case hardened.

No. 962 Boring-bar holder, with ⅛" ⅞" and ¼" bars **$3.75**
Ship. Wt. ¾ lbs. Code Word DUBBO.

No. 966 Set of three boring bars, ⅛", ⅞" and ¼" **1.45**
Ship. Wt. ½ lb. Code Word DUBOR.

Independent Chuck

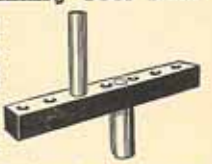
No. 943-A 4-Jaw Independent Chuck. Very heavy cast-iron body with hardened steel jaws. Chuck diameter 4". Maximum capacity 4¼". Each jaw independantly adjustable. Without back plate

Sh. Wt. 3½ lbs. Code DUCHO.. **10.50**

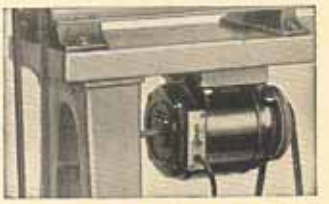
No. 943-B Back plate for No. 943-A chuck, to be machined by customer to fit No. 930 and 1460 lathes.... **1.95**
Sh. Wt. 2 lbs. Code Word DUCHI.

Metal Spinning Tool Rest

Movable pin and holes in top of rest facilitate placing of spinning tool for proper leverage. Exceptionally heavy, rigid. 1" shank.



No. 1491 Tool rest for metal spinning **$2.25**
Sh. Wt. 4 lbs. Code SPINB.



FEET FOR YOUR LATHE

Used only for metal turning, to permit the chips to drop clear of the Bed.

No. 961 Set for four Lathe Feet.... **$2.10**
Sh. Wt. 9 lbs. Code Word DUBFE.

New TOOLS FOR METAL SPINNING


No. 1495


No. 1492


No. 1493


No. 1494

EACH TOOL IS COMPLETE WITH HANDLE

These fine metal spinning tools are heavy and strong so that the spinning metal may be forced over the form with ease and safety. Made in four different styles, each with handle, they fill the requirement for all ordinary work.

No. 1492 Flat Tool. SPINC **$2.65**

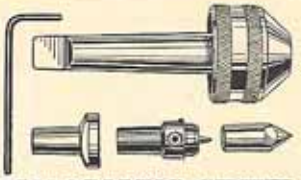
No. 1493 Point Tool. SPIND **2.65**

No. 1494 Cut-off Tool. SPINE **2.65**

No. 1495 Reading Tool. SPINF **3.85**

Shipping Weight 2½ lbs. each.

No. 1496 Set of Four Tools. SPING. **11.80**
Shipping Weight 9 lbs.



BALL-BEARING CENTER

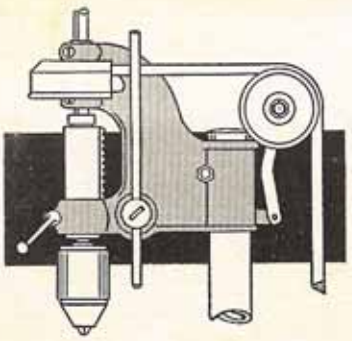
Fitted with 60° center, cup center (pin may be removed) and flat center. Used for clamping follow block in metal spinning.

No. 1490 Complete as illustrated ... **$6.00**
Sh. Wt. 1½ lbs. Code SPINA.

PLAIN 60° CENTER

No. 939 60° plain center with No. 2 Morse taper shank used for metal turning. Hardened and ground
Sh. Wt. ⅝ lb. Code DUBLO. **$1.35**

MAKE SURE That The Drill Press You Purchase Has Both a SELF-ALIGNING Drive And a FREE-FLOATING Spindle



The first successful ball-bearing drill press in the small-tool field was our No. 620 drill press shown at the left. This was a four-bearing drill press. One ball bearing was used above the spindle pulley and one below. Two ball bearings were used to carry the spindle in the quill. Since in this design none of the belt pull was transmitted to the spindle, we called this type of drive "free-floating".

Our engineers soon found that this type of design, while excellent for its original purpose, had certain decided limitations. In the course of years of experiment and study incidental to the introduction of 14" sensitive drills for industrial use (in which we were the pioneers), we tested dozens of different ball-bearing combinations in dozens of different designs—and finally evolved the present patented three-bearing design used in our 14" drill presses.

Our exceptionally wide experience has convinced us that this three-bearing design is far superior to any four-bearing drill press using the type of design that we formerly used on our now-obsolete No. 620 drill press. And the experience of thousands of users bears out our own experience.

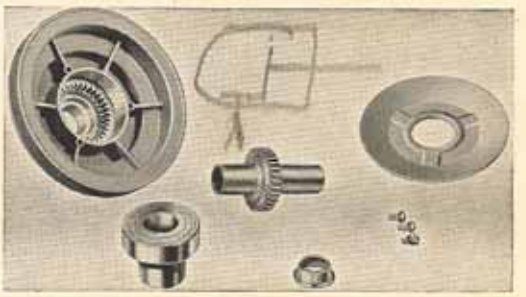
Only Our Patented Design Gives You BOTH of These Features!

With the latest and most modern machine equipment, including "diamond-boring" machines as used in our shops, it is an easy matter to bore drill-press bearing housings, quill seats, etc., to close tolerances. But the design of a high-speed telescoping drill-press spindle drive requires more than precision machining—it requires a design that will *stay* in alignment. And there are a number of factors that make this problem more difficult than it looks.

First, the comparatively long range of telescoping of the spindle and quill; second, the high speed at which the spindle rotates; third, the fact that the quill and spindle must be locked or clamped in various locations; fourth, the fact that the spindle is often subjected to severe side thrusts, and so on. When all these factors are considered, it is obvious that the slightest variation in alignment is likely to produce difficulties.

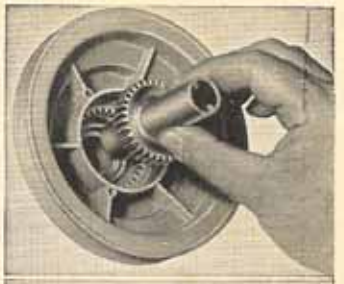
The mis-alignment encountered in service may be small — perhaps not more than .002"—but we consider that even this slight amount is sufficient to cause trouble in high-speed spindles, and it is this trouble that our patented type of drive is designed to prevent.

In a four-bearing drill press similar to our now obsolete No. 620 machine, you may have a so-called "free-floating" design, in which the belt pull is not transmitted to the spindle. But you do NOT have the self-aligning features of our improved drive (designed to overcome the troubles of the four-bearing type) because these features are *patented.*



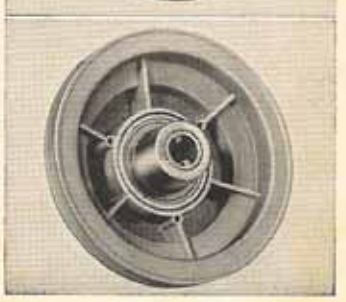
This photo shows the drive pulley, with its internal gear, the floating sleeve with its spur gear, the huge ball bearing that carries the pulley and the lower pulley cover plate.

How the floating sleeve is engaged with the internal gear in the pulley is shown in the first photo. This forms a clutch which permits the sleeve to float in all directions but one.



The floating sleeve engaged with the pulley. This forms a positive driving medium for the spindle, but at the same time takes up any minute variations in alignment that may occur in service.

The pulley is carried on a large sealed-for-life ball bearing, requiring no lubrication, and with a load capacity far in excess of any pull ever placed on it by the belt.



There is no power-wasting fan action in this pulley, because the plate that secures the bearing in place also completely covers the pulley ribs—the final detail of a high-grade design.

The Spindle Drive STAYS Aligned!

From the outside, our driving pulley looks like any other simple pulley. But, as the photos show, it is actually radically different. The pulley itself is carried on a huge sealed-for-life ball bearing, of special deep-groove tight-fitting design, with enormous reserve capacity above that required to take the belt pull, and requiring no lubrication or other attention. This bearing is mounted by means of a special extension of the inner race so that it cannot be sprung. This is very important.

The actual drive of the pulley is transmitted to the spindle through a floating sleeve, with spur-gear teeth cut around its hub. These teeth mesh with an internal gear in the pulley so that the sleeve can "float" in **all** directions except the driving direction. This floating sleeve drives the spindle through splines fully 3¼" long.

The underside of the pulley is covered with a heavy pressed-steel plate, which not only secures the bearing in the pulley, but which also covers the pulley ribs and prevents power-wasting "fan action" and keeps out dirt when the drill head is operated upside-down.

Study the action of the floating sleeve and you will see that you not only get a true "free-floating" drive, but that you also get complete freedom from misalignment troubles due to wear or any other service conditions. This drive **stays** aligned

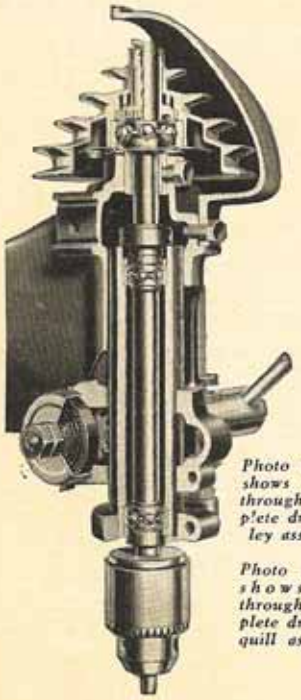
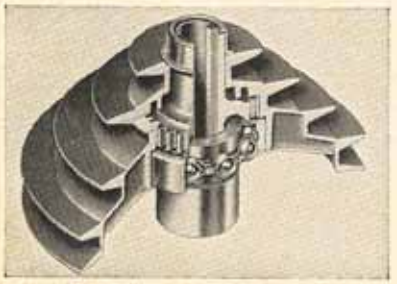
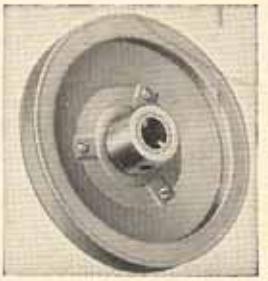


Photo at right shows section through complete drive-pulley assembly.

Photo at left shows section through complete drive and quill assembly.





THE FINEST Small Drill Press Ever Offered The Craftsman

The owner of the small shop who does not require the capacity of a large machine, yet who wants the highest quality in his tools will find in the No. 645 drill press the answer to all his requirements.

It will, of course, perform all the drilling in metal that is to be done around the shop—and it takes drills up to 33/64" in diameter. In addition to this, it will take all standard wood bits with ½" shanks, and can be used for boring holes up to 2" in diameter with standard multi-spur bits.

With the addition of the No. 976 mortising attachment, it becomes an efficient mortising machine, making square-end mortises from ¼" to ½" width, and of any length, with ease and speed.

Standard router bits with ½" shanks are held in the No. 974 router spindle, and permit much intricate work to be done which would otherwise take hours of tedious hand labor. Expert craftsmen find numerous uses for this feature.

Sanding, too, is done with the utmost facility, using the No. 835 or 840 drum sanders, rigidly held in the No. 974 spindle. These sanders smooth the edges of straight and curved work with a quickness and sureness that is a revelation to those accustomed only to the tediousness of hand finishing.

And many craftsmen whose hobbies include metal working, will find that the accurate construction and convenient adjustments of this drill press enable it to be used for many jobs of surface grinding, using a No. 992 cup wheel on the No. 991 spindle.

All of the spindles used for the No. 970 drill press may be used on this machine also. The standard machine is fitted with a high-grade keyless chuck of our own design, thousands of which are giving every satisfaction to craftsmen everywhere.

Study the features of this machine; its massive design, its precision construction, the tilting table with its locating pin, the graduated quill and adjustable pointer for depth boring and drilling, the stop rod and nuts for repetition drilling. Study the floating spindle pulley (originally developed by us) that eliminates belt pull and strain on the spindle—the self-sealed New Departure ball bearings used throughout, and which require no lubrication during their entire life, and you will see why we say that this is the ideal machine for the small shop—ideal for the craftsman who demands the best even in a smaller machine.

No. 645

Specifications

Overall dimensions with motor: 34½" high, 11¾" wide, 19" front to back. 8" x 8" slotted, finely machined cast-iron table. 6¼" x 7½" table surface on base.

Maximum distance, chuck to table 10⅛"; chuck to base 14". Spindle travel, 4". Column diameter, 1⅞". Chuck capacity 33/64". Drills to center of 11" circle.

Full-floating, automatically aligned spindle pulley. "Sealed-for-life" ball bearings throughout; lubricated for life of bearings.

Graduated quill. Adjustable depth pointer. Stop rod and knurled nuts. Tilting table with index pin.

All interchangeable spindles for 14" drill press can be used on this machine.

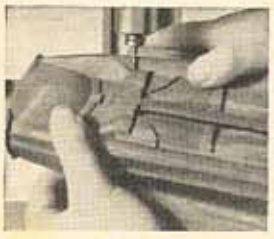
No. 645 11" Bench-model Drill Press, with No. 340 V-belt and No. 985 V-pulley, ½" bore, but without motor. **$32.00**
Shipping Weight 88 lbs. Code Word PRENU.

No. 340 Extra V-belt for above, 13" center to center ..... **$ .85**
Shipping Weight ½ lb. Code Word BELUX.
No. 6400 motor recommended. See pages 28-30 for price.

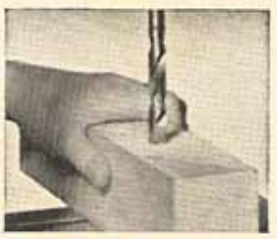
No. 992 3½" x 1½" cup wheel for use with No. 991 spindle on all 11" and 14" drill presses (See Pg. 42)..... **$2.75**
Shipping Weight 1½ lbs. Code Word NEWOU.

SEE PAGE 44 FOR 17 INCH DRILL PRESS

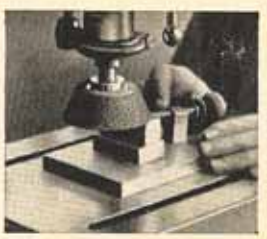
See How Versatile This Machine Is for the Small Shop!



Using small carving bits for carving in the round saves hours of patient labor for the carver.

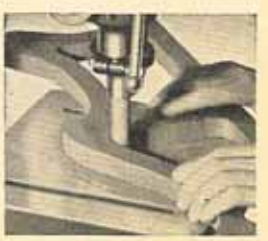


Boring in wood with spur bits is practical because of the standard high speed.



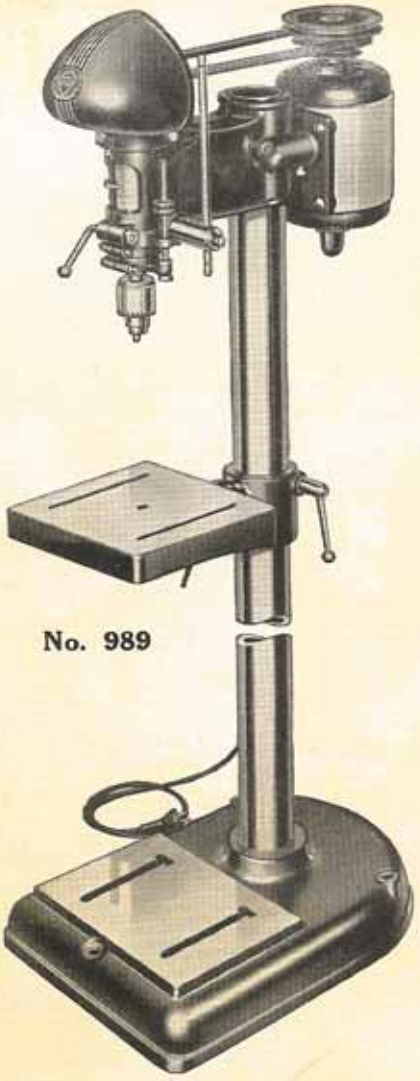
Surface grinding is one of the unusual jobs for which this modern tool is adapted.

The routing of all kinds of grooves is made absurdly simple, using standard router bits.



Sanding the edges of carved work with the sanding drum saves hours of tedious labor.

14-INCH DRILL PRESSES Will Save Time and Money in Your Shop



No. 989

There are many reasons why this drill press is the one that you should buy for all drilling up to ½" in metal, whether it is to be used for industrial, school or home shop. The experience gained during our development of drill presses of this type for industrial purposes insures that it is the finest machine of its kind you can buy.

For industrial use, the advantages of low initial investment, plus very low maintenance and power cost, are so obvious that thousands of industrial shops use these tools for these reasons alone. But there are additional advantages that make them the ideal machines for production use. They are completely portable, so that they require no installation expense and can be set anywhere in the shop to suit changing production conditions. They can be used to supply additional spindles on multi-spindle machines. They can be set up alongside other machines so as to employ the operator's idle time. They can be used to make up complete, self-contained drilling units which actually cost less than conventional jigs. The heads can be used to make up special drilling units at a fraction of the cost of special machines for the same job.

In the school shop, they offer the same advantages of low first cost, low maintenance and power cost, portability and adaptability. They can be used for drilling and boring in metal or wood, for shaping, routing, surface grinding, mortising and sanding, and the design of the interchangeable spindles insures minimum overhang under the quill bearings, and thus better work.

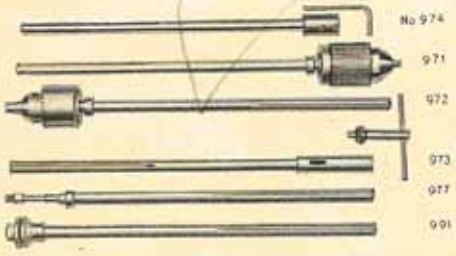
For the home shop, the fact that thousands of these machines are used in industrial and school shops is evidence that they offer maximum value. And its versatility—the dozens of jobs that can be done on it—makes this drill press a favorite with all craftsmen who know **good** tools.

"Sealed-for-Life" Bearings Eliminate Lubrication

No lubrication is ever required on these drill presses. The New Departure bearings used throughout are lubricated and sealed at the factory, and require no further attention during their entire life. Both floor and bench-type machines are equipped with Jacobs' geared chucks of full No. 60 to ½" capacity. These should not be confused with lighter chucks of from ⅛" to ½" capacity. All chucks are balanced for high-speed work. Spindles have deep double splines which insure proper balance and long wear due to their wide area of contact.

Condensed Specifications

Overall height:
Floor model...68" Bench model...36½"
Column diameter, both models.....2¾"
Table travel:
Floor model...43" Bench model...11½"
Spindle travel, both models..... 4"
Drills to center of 14" circle.
Max. Distance, table to spindle:
Floor model..41¾" Bench model..11½"
Chuck to base:
Floor model....47" Bench model....17"
Table size, both models, 10" x 10"



Special Spindles

No. 974 With ½" hole for router bits, etc. Sh. Wt. 2½ lbs. NESPD. **$2.20**

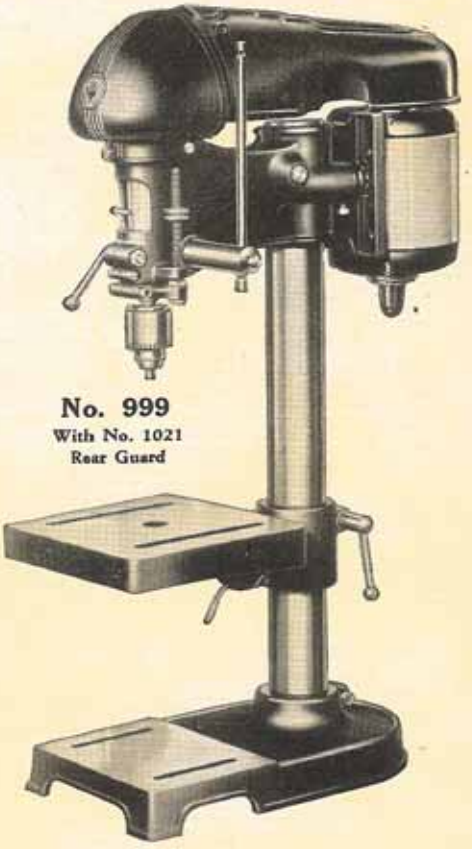
No. 971 With Keyless Chuck, cap. 0-¼". Sh. Wt. 3½ lbs. Code NESPA. **3.95**

No. 972 With Jacobs Chuck, cap. No. 60-⅛". Sh. Wt. 3½ lbs. NESPB **6.95**

No. 973 With No. 1 Morse-Taper hole Sh. Wt. 2 lbs. Code NESPC. **3.95**

No. 977 For ⅜" hole shaper cutters. Sh. Wt. 2 lbs. Code NESPF. **2.20**

No. 991 For cup wheels ..... Sh. Wt. 2 lbs. Code NESPG. **2.20**



No. 999
With No. 1021 Rear Guard

FLOOR-TYPE 14" DRILL PRESSES

High-Speed Models

680, 1250, 2400 and 4600 R.P.M.

No. 989 Floor-type, High Speed, 14" Drill Press, with ½" Jacobs geared chuck, No. 387 V-belt and No. 985 motor pulley. Without motor or switch rod... **$47.50**
Shipping Weight 145 lbs. Code Word NEWJC.

No. 970 Same as No. 989 but with No. 971 Keyless Chuck.... **44.50**
Shipping Weight 145 lbs. Code Word NEWDP.

Slo-Speed Models

470, 780, 1300 and 1950 R.P.M.

No. 1286 Floor-Type, Slo-Speed Drill Press, as above, but with No. 1 Morse Taper Spindle (without motor) **$46.00**
Shipping Weight 151 lbs. Code Word SLOFB.

No. 1289 Same as No. 1286, but with ½" capacity geared chuck and spindle (without motor)..... **49.00**
Shipping Weight 151 lbs. Code Word SLOFC.

No. 1270 Same as No. 1286, but with keyless chuck (without motor) **46.00**
Shipping Weight 151 lbs. Code Word SLOFA.

ACCESSORIES

No. 387 Extra Belts ..... Sh. Wt. 1 lb. Code FORDP. **$ .90**

No. 985 Motor Pulley, ½" bore... Sh. Wt. 2½ lbs. NEWPU. **1.45**

No. 1331 Switch rod for all 11" and 14" drill presses, with loop. To fit new style motors ..... **.50**
Shipping Weight 1½ lbs. Code Word RODNB.

No. 1010 Collar for drill-press column (2⅜" Diam.).... **.75**
Shipping Weight 2 lbs. Code Word NESCC.

No. 1021 Cast Aluminum Guard for 14" High Speed Drill Press **8.75**
Shipping Weight 13 lbs. Code Word PRODG.

No. 1022 Cast Aluminum Guard for 14" Slo-Speed Drill Press. **9.75**
Shipping Weight 17 lbs. Code Word PRODH.
This type of guard is shown on No. 999 Drill Press.

Use No. 6300, 6400 or 6600 motor. Switch Rod No. 1331. See pages 28-30.

SEE PAGE 44 FOR 17 INCH DRILL PRESS

BENCH-TYPE 14" DRILL PRESSES

High-Speed Models

680, 1250, 2400 and 4600 R.P.M.

No. 999 Bench-type, High Speed, 14" Drill Press, with ½" Jacobs geared chuck, No. 387 V-belt and No. 985 motor pulley, without motor, switch rod or rear belt guard. Sh. Wt. 100 lbs. Code BENJC. **$42.00**

No. 995 Same as No. 999 but with No. 971 Keyless Chuck.... **39.00**
Shipping Weight 100 lbs. Code Word NEWBE.

Slo-Speed Models

470, 780, 1300 and 1950 R.P.M.

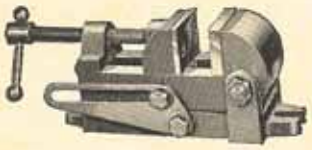
No. 1300 Bench-Type Slo-Speed Drill Press, as above, but with No. 1 Morse Taper Spindle (without motor) Sh. Wt. 106 lbs. Code Word SLOBF. **$40.50**

No. 1302 Same as No. 1300, but with ½" capacity geared chuck and spindle (without motor) **43.50**
Shipping Weight 106 lbs. Code Word SLOBG.

No. 1295 Same as No. 1300, but with keyless chuck (without motor). Sh. Wt. 106 lbs. Code SLOBE **40.50**

ACCESSORIES For Drill Presses Increase Use Of The Machine

New DRILL PRESS AND ANGLE VISES



The latest additions to the Delta line are these vises which essentially are a Drill Press, Milling Machine, Grinder and Bench Vise all in one. They can be used in the tool room—in the shop for bench and production work.

By merely raising the vise to the position desired it may be locked by tightening the clamp screws. The side of the vise is accurately graduated for angle work.

No. 1025 Vise in Angle Position

These vises are accurately machined. The base, body and sliding jaws are of semi-steel casting, jaws of hardened steel. The clamping screw has a fine pitch thread and a long bearing in the vise body.

No. 1024 1½" Drill Press Vise, jaw size 1½"x1", opening 1⅝" **$3.50**
Shipping Weight 5 lbs. Code VISEA.

No. 1025 1½" Angle Vise, jaw size 1½"x1", opening 1⅝"..... **4.95**
Shipping Weight 6½ lbs. Code VISEB.

No. 1026 2½" Angle Vise, jaw size 2½"x1 1/16", opening 2½"..... **7.95**
Shipping Weight 10 lbs. Code VISEC.

FOOT FEED FOR 14-INCH DRILL PRESS

Here—for the first time—is a foot feed for your 14" drill press which is thoroughly engineered for long life and maximum efficiency. There are only two links, which eliminates a number of sources of wear. The operating bracket is guided in a straight line by a heavy shaft carried in two substantial bearings. Pressure is applied to the quill on a line parallel to the spindle axis, which eliminates side thrusts on the quill, and consequently cuts down wear.

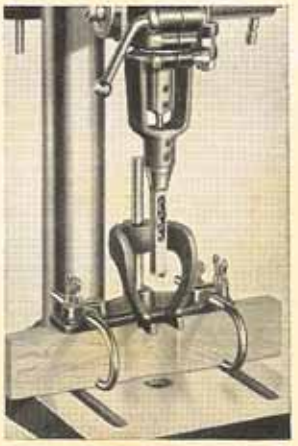
No. 1007 Food feed for 14" drill press only, consisting of foot lever and bracket, connecting rods and tube, two column brackets, shifter bracket, shifter shaft, two springs and adjusting collar **$15.75**
Shipping Weight 38 lbs. Code Word NEWFF.

ATTACHMENT CONVERTS DRILL PRESS INTO MORTISER

Using our simple, easily installed attachments, our 11" and 14" drill presses can be used by anyone, even without previous experience, to make straight, true square-end mortises in all woods, and of practically any width, in a fraction of the time necessary by hand methods.

No. 976 Mortising Attachment for the 11" and 14" drill presses enables mortising to be done from ¼" to ½", in any wood. Chisel holder clamps to quill in place of stop-rod casting. Fence carries hold-down casting and bracket for hooked rods. Capacity under hold-down up to 4¾" thick. Capacity from ends of hooked rods to fence 2¾". This attachment must be used with No. 974 spindle, which takes the regular bushings supplied for mortising chisels.

Note: This mortising attachment can not be used on Drill Presses with Morse taper spindle.



No. 976 Mortising Attachment for 11" and 14" drill presses, complete with fence, hold-down bracket, hold-down and rod, chisel holder, curved arms and bolts. Without No. 974 spindle **$5.25**
Shipping Weight 7 lbs.
Code Word NEMOR.

Produce square-end mortises. Made of selected steel, suitable for the highest grade of work. The bit operates inside the chisel, is driven by the drill-press or mortiser spindle, while the chisel is held stationary by means of a chisel holder. When used in the 11" and 14" drill press, No. 974 spindle must be used, each bit should be ordered with its proper bushing.

Outside diameter of bushings is ½". Shank of chisel ⅝"x1½". Shipping weight per set, 1¼ lbs.

Standard Hollow Chisels

No.	Size	Depth of Mor.	Code	Price
504	¼"x¼"	1⅞"	CHISA	$4.50
505	5/16"x5/16"	1⅞"	CHISB	4.50
506	⅜"x⅜"	2¾"	CHISC	5.75
508	½"x½"	3¼"	CHISE	6.25

Bushings

No.	Size	Code	Price
524	3/16"	BUSHA	$ .50
525	¼"	BUSHB	.50
526	19/64"	BUSHC	.50

Bits

No.	Size	Shank	Code	Price
514	¼"	3/16"	BITOA	$1.65
515	5/16"	¼"	BITOB	1.65
516	⅜"	19/64"	BITOC	1.65
518	½"	19/64"	BITOE	1.65

MACHINE SPUR BITS

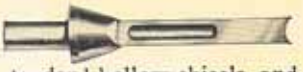
Made of selected steel, properly hardened and tempered for keen cutting qualities and long life. They have a diamond point and two cutting lips which sever the fibers of the wood, produce clean holes. All are approximately 6¼" long overall, and have ½" shanks to fit standard ½" hole machine chucks, also mortiser spindle and No. 974 drill-press spindle.

No. 804	¼"	SPURA $1.15	No. 808	½"	SPURE $1.60
No. 805	5/16"	SPURB 1.20	No. 809	5/8"	SPURF 1.80
No. 806	⅜"	SPURC 1.25	No. 810	⅝"	SPURG 2.00
No. 807	7/16"	SPURD 1.45	No. 812	¾"	SPURK 2.50

Shipping Weight, Each ⅝ lb.

No. 818 Complete Set of 8 Machine Spur Bits, from ¼" to ¾" **$12.95**
Shipping Weight 3 lbs. Code Word SPURL.

SPECIAL HOLLOW CHISELS



They are the same sizes as the standard hollow chisels, and take the same bits and bushings. Not recommended for production work. Approximate Shipping Weight ½ lb. each.

Cat. No.	Size	Depth	Code	Price Each
634	¼"x¼"	1⅞"	HOLOA	$1.65
636	⅜"x⅜"	2¾"	HOLOC	1.65
638	½"x½"	3¼"	HOLOD	1.65

HIGH GRADE ROUTER BITS

For routing, carving, round-end mortises and grooving work. Shank diameter is ½".

Cat. No.	Size	Shank Dia.	Lg. of Flute	Code	Price Each
474	¼"	½"x1½"	1¾"	ROUTA	$1.15
475	5/16"	½"x1½"	1¾"	ROUTB	1.15
476	⅜"	½"x1½"	1¾"	ROUTC	1.15
477	7/16"	½"x1½"	1¾"	ROUTD	1.15
478	½"	½"x1½"	1½"	ROUTE	1.25

Shipping Weight ¼ lb. each.

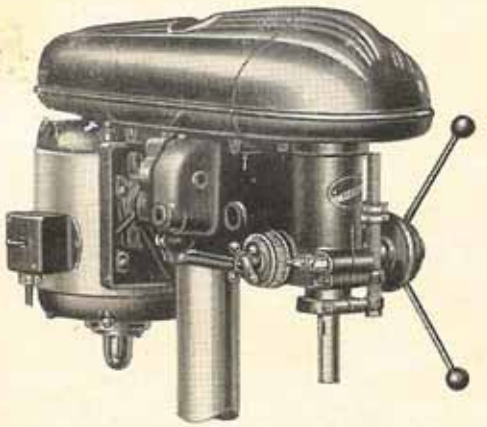
No. 480 Set of five Router Bits, sizes as above.... **$5.50**
Shipping Weight 2 lbs. Code Word ROUTO.

PLUG AND DOWEL CUTTERS

Cat. No.	Size	Shank Dia.	Lg. of Cut	Code	Price Ea.
814	⅜"	½"x2"	2"	PLUGA	$3.25
815	½"	½"x2"	2"	PLUGB	3.45
816	⅝"	½"x2"	2"	PLUGC	3.95
817	¾"	½"x2"	2"	PLUGD	4.45
819	1"	½"x2"	2"	PLUGE	5.75

Shipping Weight Approximately ⅝ lb. each.

No. 822 Complete setof 5 Plug Cutters, sizes as above Ship. Wt. 2½ lbs. Code Word PLUGS. **$20.75**

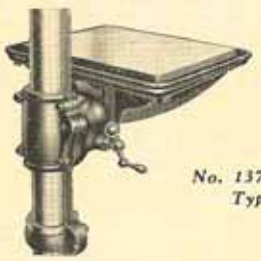


No. 1370 "SLO-SPEED"

No. 1370-H HIGH SPEED

No. 1375 Bench Type Drill Press with Production Style Base.

Above: No. 1371—Foot feed for floor type 17" drill presses.



No. 1372 Production Type Table.

17 inch Industrial Drill Press Offers Entirely New Standards

THIS radically new type of 17" drill press has met with wide and instant acceptance since its introduction a short time ago. The advanced engineering evident throughout the design; the fine, accurate workmanship; the wide adaptability of the machine and its many built-in improvements have led to its adaptation by hundreds of manufacturers as a standard production tool.

Many shops use them in batteries of from five to twenty on straight production work, in addition to using them in the toolroom and general machine shop. They can be installed in a few minutes anywhere they are needed, can be used to supplement multiple-spindle machines where additional spindles are required, can be adapted easily and cheaply for special operations, replacing expensive single-purpose machines—they have so many uses and are so economical in first cost, power consumption and maintenance that no progressive shop can afford to be without them.

FLOOR TYPE with Table Raising Mechanism

Cat. No.	Type of Spindle	Description	Ship. Wt. Lbs.	Code Word	Price
"SLO-SPEED" MODELS: 385, 600, 935, 1450 and 2240 R. P. M.					
1370	No. 2 Morse	Std. Tilt Table as Illus.	340	DRILA	**$98.00**
1384	No. 2 Morse	Std. Tilt Table and Foot Feed	374	DRILO	**116.50**
1382	No. 2 Morse	1372 Prod. Table	385	DRILM	**107.50**
1386	No. 2 Morse	1372 Prod. Table and Foot Feed	419	DRILQ	**126.00**
1376	½" Jacobs	Std. Tilt Table	340	DRILG	**104.00**
1385	½" Jacobs	Std. Tilt Table and Foot Feed	374	DRILP	**122.50**
1383	½" Jacobs	1372 Prod. Table	385	DRILN	**113.50**
1387	½" Jacobs	1372 Prod. Table and Foot Feed	419	DRILR	**132.00**
HIGH SPEED MODELS: 725, 1150, 1750, 2700 and 4400 R. P. M.					
1370-H	No. 2 Morse	Std. Tilt Table as Illus.	340	DRIAA	**$98.00**
1384-H	No. 2 Morse	Std. Tilt Table and Foot Feed	374	DRIAI	**116.50**
1382-H	No. 2 Morse	1372 Prod. Table	385	DRIAJ	**107.50**
1386-H	No. 2 Morse	1372 Prod. Table and Foot Feed	419	DRIAK	**126.00**
1376-H	½" Jacobs	Std. Tilt Table	340	DRIAG	**104.00**
1385-H	½" Jacobs	Std. Tilt Table and Foot Feed	374	DRIAL	**122.50**
1383-H	½" Jacobs	1372 Prod. Table	385	DRIAM	**113.50**
1387-H	½" Jacobs	1372 Prod. Table and Foot Feed	419	DRIAN	**132.00**

BENCH TYPE with Head Raising Mechanism

"SLO-SPEED" MODELS: 385, 600, 935, 1450 and 2240 R. P. M.					
1375	No. 2 Morse	Prod. Style Bench Base	400	DRILF	**127.50**
1377	½" Jacobs	Prod. Style Bench Base	400	DRILH	**133.50**
HIGH SPEED MODELS: 725, 1150, 1750, 2700 and 4400 R. P. M.					
1375-H	No. 2 Morse	Prod. Style Bench Base	400	DRIAF	**127.50**
1377-H	½" Jacobs	Prod. Style Bench Base	400	DRIAH	**133.50**

All Models Include: Streamlined Belt Guard. Slo-Speed models include No. 520 Belt and No. 1311 Motor Pulley. High Speed models include No. 501 Belt and No. 1312 Motor Pulley.

Above Listings Do Not Include Motor or Switch. See Pages 28 and 30.

No. 968 ½" Geared Jacobs Chuck with a No. 2 Morse Taper Shank **$6.95**

Shipping Weight 2½ lbs. Code Word CHGEA.

(Note: Order geared-chuck models where straight-shank drills only are to be used. Where taper-shank drills, or both taper and straight-shank drills are to be used, specify the models with No. 2 M. T. spindles. Gear-chuck models have greater capacity under the spindle.)

SPECIFICATIONS

Floor Model 66" high. Bench Model 42½" high, 18" wide, 27" front to rear. 10"x13¾" floor base table surface; 11"x12" tilting table floor model; 16"x18" production table bench model; 23½"x26⅝" production table overall. 3½"x60" column. Capacity: 34" Spindle to table, floor type, 44½" Spindle to base, floor type; 26½" Spindle to table, bench type. Quill has 5" stroke. Drilling capacity is ¾" in cast-iron. Built-in depth stop gauge. Depth scale or spindle return spring housing.

No. 1371 Foot Feed for 17" Floor-Model Drill Press, including Splined Shaft, gear Segment and Lever, Connecting Rods, Foot Lever and Bracket, Studs, and Bolt..... **$18.50**

Shipping Weight 38 lbs. Code Word DRILB.

No. 1372 Production Table for 17" Drill Press, to fit Standard Bracket on Floor Machine..... **15.00**

Shipping Weight 75 lbs. Code Word DRILC.

14-inch and 17-inch Drill Presses are available in two and four spindle models. Refer to Industrial Catalog for details—A copy will be sent upon request.

HEAVY DUTY Delta Power Tools For Industrial Appli[illegible]

A PERFECTED 10-INCH TILTING ARBOR SAW

THE UNISAW is the result of many years experience in producing circular saws of high quality and it therefore embodies all of the best features of operation, accuracy and convenience.

It is completely self contained, motor and driving mechanism being enclosed in a handsome, modern, tremendously strong steel cabinet. The saw table is 20" x 27" (with wings 27" x 36") and will handle work up to 50" wide and 3⅛" thick. Guide bars allow fence to be moved 24" to right of blade and 15" left of blade.

Saw blade tilts 45 degrees to right, operation being effected by a large convenient hand wheel. Blade is raised and lowered by another hand wheel at front of machine. Dado heads, moulding cutters and many other convenient attachments may be used.

FEATURES OF DESIGN:

Rigid, scientifically designed housing...No useless weight...Highly efficient "Texrope" drive...Powerful, fully enclosed motor...Perfected raising, lowering and tilting...Double-face, double-lock rip fence... Exclusive precision auto-set miter gage...Patented tubular ripping extensions...Solid forged alloy-steel saw arbor..."Sealed-for-life" Ball bearings...Full 50" ripping capacity...Sawdust receptacle located in base..."Point of use" controls...No twisted belts...No gears...No noise.

Cat. No.	Description	Wt. Lbs.	Code	Price
1450	10" Tilting Arbor Unisaw, with 20"x 27" Table, Micro-Set Rip Fence, Auto-Set Miter Gage, Extension Rip-Fence Guide Bars, Motor Pulley and Belts. Without Motor, Switch or Table Side Wings	290	TILTA	$95.00
1455	Side Extension Wings to Make 27"x36" Table. Per pair	52	TILTF	11.00
291	Extra V-Belt for 1450 Saw (3 Required). Each	¾	BELTW	.80

MOTORS FOR THE UNISAW

Cat. No.	Type	H. P.	Volts	Cy.	Ship. Wt. Lbs.	Code Word	Price
8250	R. I. A. C.	¾	110/220	60	80	EACHA	38.75
8300	R. I. A. C.	1	110/220	60	85	EACIA	44.75
8400	3 Phase	¾	220/440	60	63	EICLA	43.75
8450	3 Phase	1	220/440	60	70	EACMA	48.75
8500	3 Phase	1½	220/440	60	80	EACRA	51.75
8650	Dir. Cur.	¾	115	..	80	EDCER	55.75
8700	Dir. Cur.	1	115	..	85	EDCOB	63.75

Above Motors are 1725 R. P. M. Motors for other voltages and frequencies described in Industrial Catalog along with accessories.

SWITCH EQUIPMENT FOR 3 PHASE MOTORS

No. 1459—Parts for mounting No. 1320 switch on tilting arbor saw cabinet. Shipping Weight 2 lbs. Code Word TILTK.....$2.00

No. 1320—Three phase manual starter. Specify motor number for which it is to be used when ordering..... $8.20
Shipping Weight 6 lbs. Code Word SWIPH.

NEW SHAPER HAS THE FEATURES YOU WANT

HERE is the machine you have been waiting for—the No. 1340 shaper built to the same exacting standards that characterize all our machines. Designed and built to handle heavy, fast cuts, it is ideal for the cabinet shop, furniture factory, specialty shop, sash and door company; as a matter of fact, any shop where accurate production shaping must be done at low cost.

SPECIFICATIONS:

Height of table from floor, 34"; Table size, 27" x 28"; Table size with back wing, 27" x 36"; Spindle diameter, ¾"; Capacity of Spindle (under nut), 3¼"; Spindle travel, 3"; Spindle speed, 8500 R.P.M.; Largest cutting circle recommended, 3½"; Motor Drive up to 1½ H.P., 3-phase Spindles are interchangeable; Size of fence, each side: 3¾" x 12⅜" x ¼".

No. 1340—Shaper complete with fence, ¾" spindle, 27"x28" table, table insert, starting pin, wrenches and spindle pulley. Without belt, motor, motor pulley, reversing switch, or cutters. Shipping Weight 300 lbs. Code Word SHANA.....$95.00

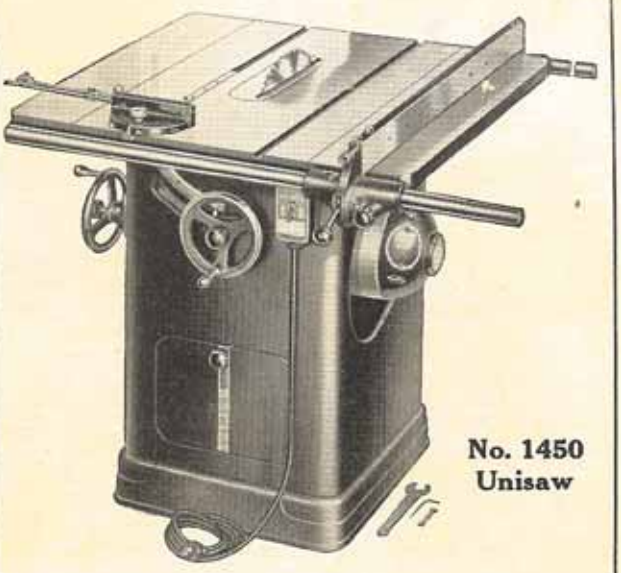
No. 8120—½ H. P.—R. I. 110/220 60 Cy. A. C. Motor, 3450 R. P. M. with built-in-reversing mechanism, separate 8 ft. cord and plug. Single shaft, ¾" diameter $51.45
Shipping Weight 85 lbs. Code Word EACCP.

No. 9532—1 H. P. 3-Phase 220/440 60 Cy. Motor, 3450 R. P. M. Not furnished with reversing switch, on and off switch or cord or plug as it should be connected by a licensed electrician. Single shaft ¾" diameter $42.85
Shipping Weight 85 lbs. Code Word NACKS.

No. 8150—1½ H. P. 3-Phase 220/440 60 Cy. Motor, 3450 R. P. M. Not furnished with reversing switch, on and off switch or cord or plug as it should be connected by a licensed electrician. Single shaft, ¾" diameter. Ship. Wt. 85 lbs. Code EACDA.....$48.85

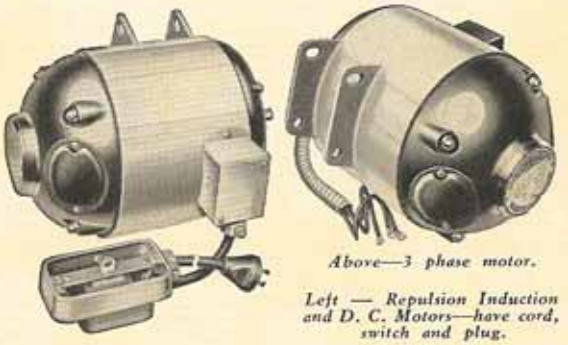
No. 8820—1 H. P. 115 Volt D. C. Motor, 3450 R. P. M. Not furnished with reversing switch, on and off switch or cord or plug. Single shaft, ¾" diameter. Ship. Wt. 85 lbs. Code NDCUS.....$55.85

Accessories, Switches, etc., described in Industrial Catalog—copy on request.



No. 1450 Unisaw

MOTORS FOR NO 1450 UNISAW



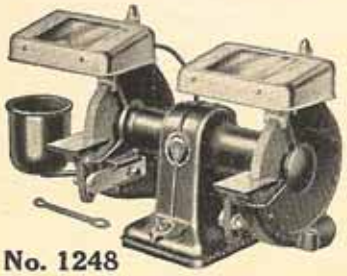
Above—3 phase motor.

Left — Repulsion Induction and D. C. Motors—have cord, switch and plug.

No. 1340 Shaper

HEAVY DUTY Delta Power Tools For Industrial Applications

No. 1268



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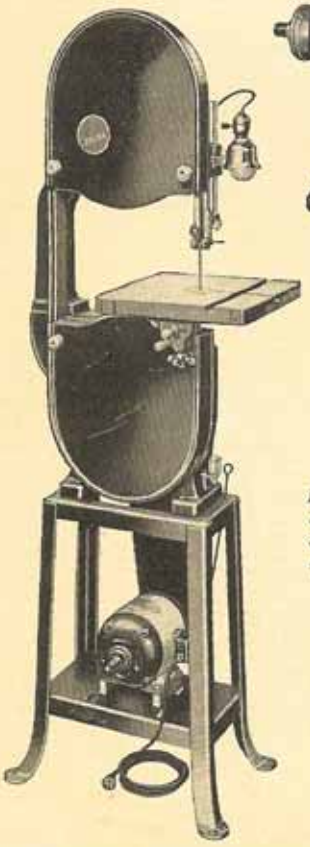


Left: Model 881 metal cutting band saw without light, belt guard, motor or switch rod.

PEDESTAL TYPE INDUSTRIAL GRINDERS

"That Cannot Forget Their Goggles"

This pedestal tool grinder is the most accurate, finest and safest grinder made—regardless of price! From the double-seal ball bearings to the Twin-Lite Safety Shields these new grinders offer the utmost in efficiency, convenience and safety and set new standards because they contain additional features not found in competitive makes. Wheels 60N and 50M Aloxite, ¾" face by 7" diameter with ⅝" hole.

Cat. No.	Motor	R.P.M.	Type of Switch	Ship. Wt. Lbs.	Code Word	Price
1268	110/60 ½ H.P. Sin. Phase.	3450	Overload	170	GRINT	$81.00
1242	110/60 ½ H.P. Sin. Phase.	3450	Toggle	170	GRINO	71.00
1246	220/60 ½ H.P. 3 Phase...	3450	Overload	170	GRING	87.00
1275	110/50 ½ H.P. Sin. Phase.	2850	Overload	170	GRIFO	83.00
1274	110/50 ½ H.P. Sin. Phase.	2850	Toggle	170	GRIFB	73.00
1281	220/50 ½ H. P. 3 Phase...	2850	Overload	170	GRIFH	87.00
1306	115 D. C. ½ H.P.....	3450	Overload	170	GRIFL	91.00
1305	115 D. C. ½ H.P.....	3450	Toggle	170	GRIFK	81.00
1309	230 D. C. ½ H.P.....	3450	Overload	170	GRIFP	91.00

3450 R. P. M. = 6500 Ft. per Min. 2850 R. P. M. = 5370 Ft. per Min.
For Other Motors and Switches Write for Specifications and Prices.

EFFICIENT BELT DRIVEN BENCH GRINDER

Housing is designed so that either single or double belt drive may be used from below or rear. Wheels are ¾" x 7", ⅝" holes, arbor ⅞" diameter at center. Supplied with patented Twin-Lite Safety Shields—standard machined tool rests.

No. 1248 Belt Driven Bench Grinder complete as illustrated, without motor pulley and light bulbs... **$35.00**
Shipping Weight 58 lbs. Code Word GRINH.

INEXPENSIVE BELT DRIVEN BUFFING HEAD

Identical in design with the belt-driven grinder, but with the wheels, light attachments, tool rests and switch omitted, the buffer shown offers superlative value at a moderate price.

No. 1282 Belt Driven Buffing Head, complete as illustrated, with No. 387 V-Belt **12.00**
Shipping Weight 22 lbs. Code Word GRIBU.

Accessories for BELT DRIVEN UNITS

No. 387 V-Belt for above machines ..... .90

No. 5500 5" Motor Pulley, ½" bore ..... .85

NOTE: With the above motor pulley a 1750 R.P.M. motor is recommended. Machine should not be run over 3400 R.P.M. Nos. 6300 and 6400 motors are suitable for average work. For heavy work use No 9000 or 8050 motor and double-belt drive.

14-INCH METAL CUTTING BAND SAW

There is almost no limit to the type and kind of material which may be cut on this heavy duty, 14-inch metal cutting band saw and the uses to which it can be put in the shop. It is equipped with a self-contained gear unit so that with a 1725 R.P.M. speeds of 125, 175, 250 and 340 feet per minute are obtainable. The throw of a lever changes it into a wood-cutting band saw with a speed of 2200 feet per minute. It therefore is a dual-purpose machine and since it contains all the latest features of design and construction it is the finest unit available for your shop.

CATALOG LISTING OF 14" METAL CUTTING BAND SAW

No. 880 Complete with Wheel Guards, 8" Arbor Pulley for Wood, Cone Pulley for Metal and One Metal Cutting Blade. Without Light Attachment, Belts, Belt Guard, Stand, Motor or Motor Pulley **$85.00**
Shipping Weight 175 lbs. Code Word LABMA.

No. 881 Complete with No. 880 Band Saw, No. 891 Stand, No. 718 Cone Pulley, Nos. 387 and 568 V-Belts, Without Light Attachment, Belt Guard, Motor or Switch Rod..... **94.70**
Shipping Weight 206 lbs. Code Word LABMB.

Motors Recommended: Nos. 8050 ½ H. P., 6600 ½ H. P. 3 Phase, 9600 ½ H. P. D. C., or 9400 ¾ H. P. 3 Phase. See pages 28 to 30 for Motors and Switch Rods.

METAL CUTTING BAND SAW BLADES. 93 Inches Long

Made of High Grade Electric Furnace Steel, Accurately Set, Spaced and Jointed. These Blades Will Stand Up Under Hard Work. These are Hard-Edge Blades for Cutting All Metals.

Cat. No.	Width	Teeth Per Inch	Ship. Wt. Lbs.	Code Word	Price
1060	½"	14	1½	BLMET	$2.20
1062	½"	18	1½	BLMEU	2.20
1064	½"	24	1½	BLMEX	2.20

AN INDUSTRIAL CATALOG WILL BE SENT UPON REQUEST

New CUT-OFF MACHINE

Low in Cost—Speedy—Accurate

Again you are offered a new, highly adaptable machine that incorporates the very best in engineering design and practice coupled with low first cost.

This new cut-off machine has hundreds of uses. It can be used in shops and factories of all kinds, both large and small—everywhere, in fact, where material must be cut to exact lengths on a production basis.

It will cut—accurately and fast—a wide variety of materials too numerous to mention. It is specially recommended for non-ferrous metals which can be cut with polished smoothness by means of a special metal cutting blade. Complete information will be sent upon request.

It is sturdy, cuts clean and accurately—has rugged construction with heavy castings throughout—widely spaced Timken roller pivot bearings and double arbor bearings which require no lubrication—steel pulleys—powerful Texrope drive—accurately machined table—adjustable fence.

Either an abrasive wheel, a high speed steel blade, or a circular saw blade may be used.

Specifications:

Capacity: 2" x 6".
Spindle speed: 4000 R.P.M.
Feet per minute: 10,500.
Diameter of wheel blade: 10".
Diameter of arbor 5/8".
Wheel collar:
2 sizes, 3½" and 5" diams.
Drive: 3 V-Belt Texrope.
Size: 30" wide, 47" high
35" front to back.

CATALOG LISTING OF CUT-OFF MACHINE

No. 1630 Non-Ferrous Cut-Off Machine (Bench Type) with No. 1600 Cut-Off Machine, No. 1626 Blade, No. 1632 Oiling Device, Blade Guard, Belt Guard and Chip Guard, without Belt, Motor or Pulley **$102.00**
Shipping Weight 415 lbs. Code Word CHOPU.

No. 1600 Abrasive Cut-Off Machine (Bench Type) with Wheel Guard, Belt Guard, Chip Guard, 2 Sets of Collars, Adapter Plates for Motor and Fence with Stop. Without Legs, Motor, V-Belts, Motor Pulley or Abrasive Wheel..... **$75.00**
Shipping Weight 235 lbs. Code Word CHOPA.

Complete information on abrasive wheels, and high speed steel blades for non-ferrous material and application of the machine will be sent upon request.

No. 1620 Woodworking Cut-Off Machine (Bench Type) with No. 1018 Cross Cut Blade, Saw Guard, Belt Guard, Chip Guard, 2 Sets of Collars, Adapter Plates for Motor and Fence with Stop. Without Legs, Motor, V-Belts or Motor Pulley. **$78.75**
Shipping Weight 240 lbs. Code Word CHOPW.

MOTORS

No. 9595 1½ H. P. 3 Phase 220 V. 60 Cy. 1725 R. P. M., with Conduit Box..... **$53.75**
Shipping Weight 80 lbs. Code Word NACMA.

No. 9596 1½ H. P. 3 Phase 220 V. 50 Cy. 1425 R. P. M., with Conduit Box **53.75**
Shipping Weight 80 lbs. Code Word NACMB.

6-INCH JOINTER AND CAST IRON STAND

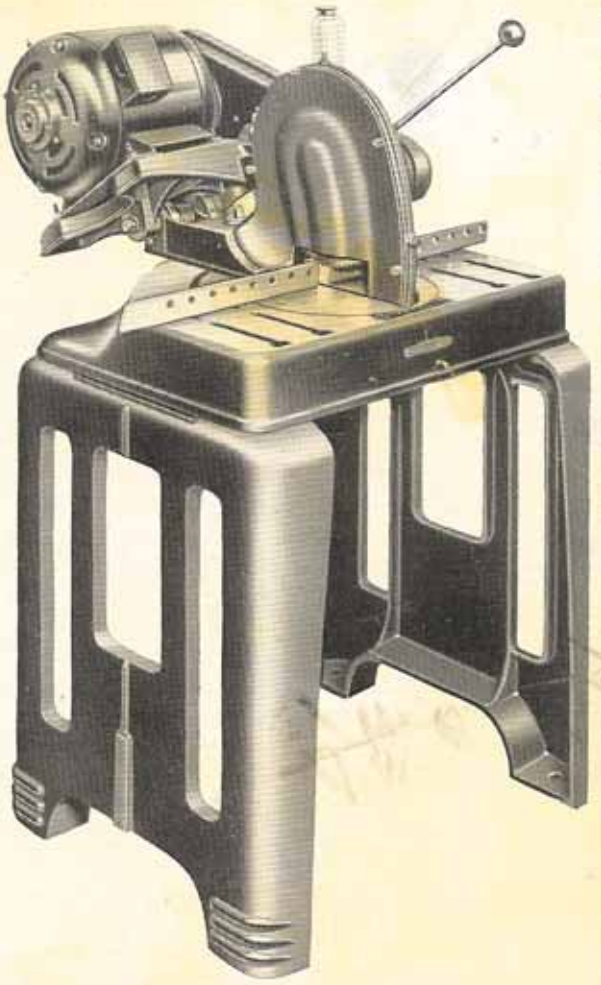
This new Jointer unit has been made available because of the demand coming from both schools and industry. The Jointer is the regular No. 654 described on page 12 of this catalog using the same belts, motor pulley, etc. The stand, however, is new. It is of heavy cast iron, modern in design and a perfect companion of the Unisaw and No. 1340 Shaper. There are no recesses or openings—all corners are carefully rounded so that cleaning is easy—an important item in the school shop. Motor is fully enclosed yet readily accessible. Belt is completely covered—built in chute carries off shavings.

No. 666 6" Jointer Unit Consisting of No. 654 Jointer, No. 560 V-Belt, No. 5700 7" V-Pulley, No. 667 Cast Iron Stand with Motor Plate and Belt Guard, without Motor or Motor Switch **$76.85**
Shipping Weight 234 lbs. Code Word SIXCB.

No. 667 Cast Iron Stand for 666 Unit with Motor Plate and Belt Guard **21.95**
Shipping Weight 115 lbs. Code Word SIXCC.

For Production and School Work use 3-Phase Motor No. 6600. For average Duty Work use Motor 6400. Use No. 1334 Switch Rod. See Pages 28 to 30 for Prices.

AN INDUSTRIAL CATALOG WILL BE SENT UPON REQUEST



No. 666 With
No. 132 Switch

DELTA INDUSTRIAL TOOLS

DELTA INDUSTRIAL POWER TOOLS

have found their way into thousands of factories because alert operators and production men have found in them a way to increase production and cut costs. These units are briefly described on pages 45 to 47. The Industrial Catalog describes them completely — a copy will be sent upon request.

THE DELTA MFG. CO.

DELTA MILWAUKEE

MILWAUKEE WISCONSIN