

SHOPSMITH SHAVINGS



The Editor's Workbench

It wasn't too many years ago that craftsmen comprised a small group willing to expend great effort and long hours—an apprenticeship that was frustrating and disheartening to many others. The few power tools available were designed for industrial use. As such, they did not—could not do the home craftsman's work. A professional looking job was wholly dependent on a natural talent or skill that could only be acquired through constant practice with hand tools.

Magna Engineering Corporation is the outstanding exponent of tools now specifically designed to increase the expertise of everyone, to minimize the possibility of human error, to take all the work out and leave all

the fun in. An outstanding example of the creative thinking behind SHOPSMITH and its accessories is the Miter Gauge Safety Grip. We're so pleased with this revolutionary item, we won't be happy until every craftsman in the country owns one. It is typical of the kind of workshop equipment which automatically puts the user well on the road to successful craftsmanship.

It is not our purpose here to extoll on the virtues of SHOPSMITH and its accessories, but it would be a disfavor to SHOPSMITH owners if we failed to point out the contribution of such new accessories. This, we know, will lead to better, safer and happier craftsmen—which is our goal.

Pegged Joint for Drawers

An excellent drawer joint with the strength characteristics of the dovetail, but much easier to make, is accomplished with SHOPSMITH in horizontal position.

The drawer front, positioned by the miter gauge and backed up by the rip fence, is placed face down on the table. Table height is adjusted for hole edge distance. The set-up created on SHOPSMITH automatically locates all holes drilled on a common center line. Thus it is unnecessary to drill exactly in the center of the stock. Depth of hole is controlled by pre-determining quill extension and setting the automatic stops. The side of the drawer is held in place, as shown in the photograph, and a hole drilled through both pieces at the same time. Slipping a dowel peg in the drilled hole will hold parts together for subsequent drilling.

When a drawer is pulled out, its entire weight plus that of its contents, places a heavy strain where the sides of the drawer are joined to the front. The pegged joint, like the dovetail, is ideal for this use since it provides the tremendous strength needed. Naturally, pegged joints need not be limited to drawer fronts. They are applicable on any box structure. Exposed dowel pegs may be utilized as a design detail and may be given further emphasis if they are made of a contrasting wood.

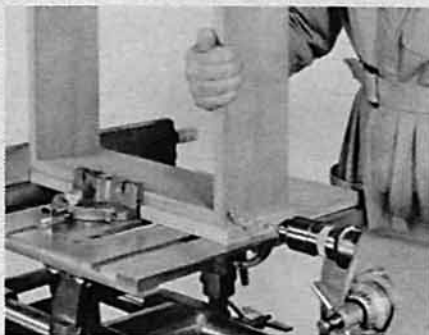
Cutting Spirals with Dado

Forming spirals is usually considered a lathe turning operation. Stock is mounted between centers, but actually the lathe only holds the work while the spiral shape is cut by hand. The following technique on the table saw will considerably reduce the amount of material that must be removed by hand (usually with files) and will automatically shape an even, uniform spiral.

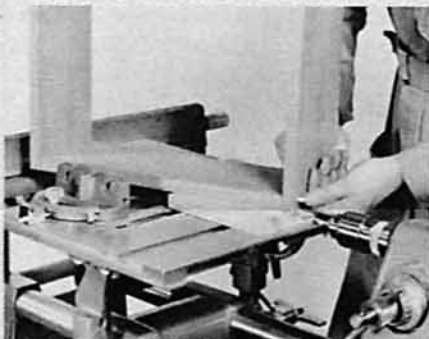
A dado assembly is mounted and set to cut a groove the desired size. The miter gauge, with miter gauge extension attached, is secured to the table with a C-clamp (or using taper lock set screw on SHOPSMITH Mark 5). The angle at which the miter gauge head is set determines "lead" of the spiral and is adjustable so the grooves may be formed close together or far apart. Depth of cut is determined by position of the miter gauge and the dado height above table. It is best to keep dado projection to a minimum. When starting the cut, hold stock firmly against the miter gauge extension and lower it slowly over the turning dado. When stock is firmly down on the table, slowly turn it. Hold stock firmly and remember to turn it slowly.

There is no limit to length or diameter of work which may be handled this way. In fact, even dowel may be spiraled using an ordinary saw blade instead of the dado.

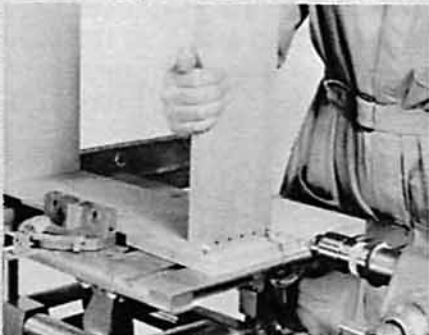
Drilling First Hole



Inserting Dowel in First Hole



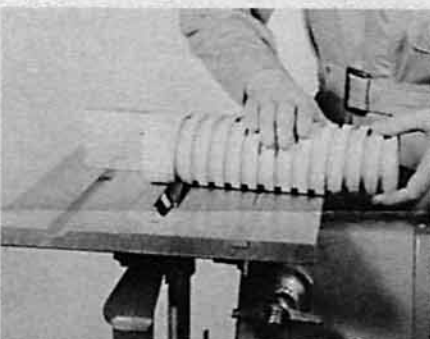
Drilling Subsequent Holes



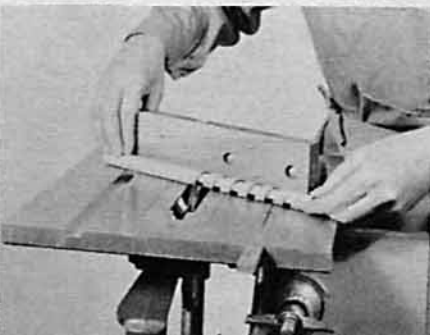
Starting the Spiral Cut



Almost Complete Spiral



Cutting Spiral on Dowel

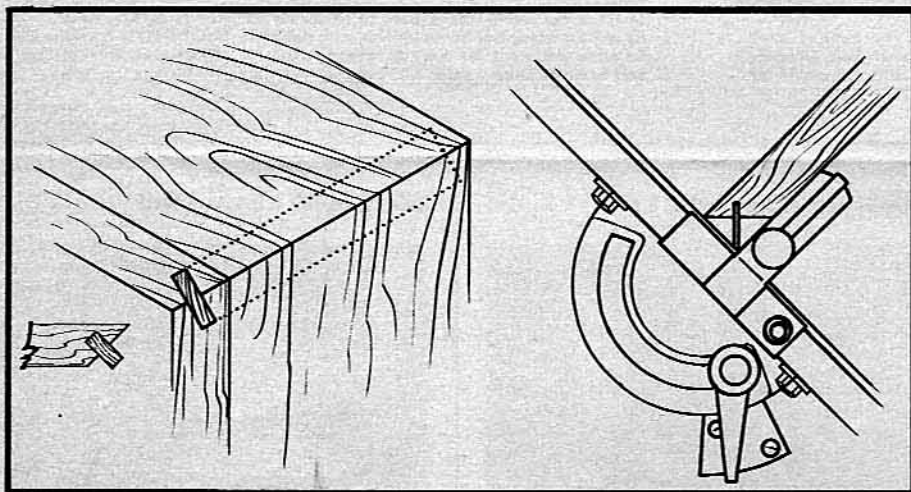


Making Splines

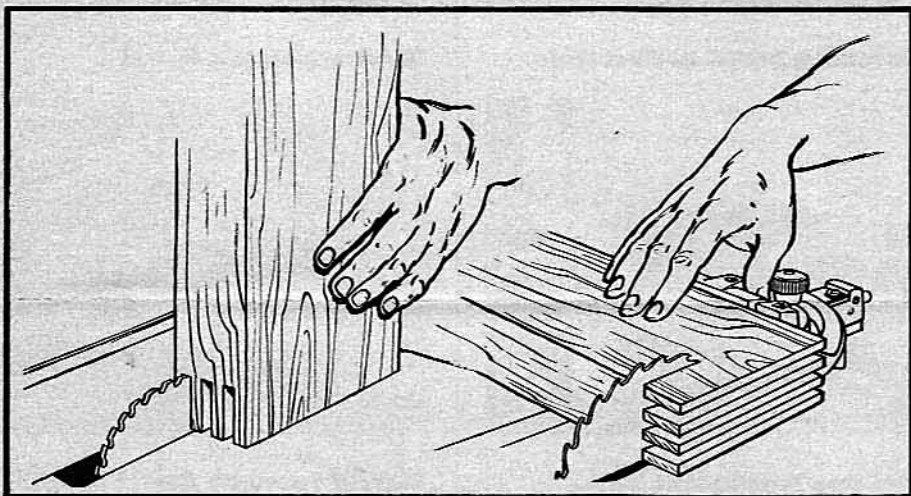
The splined joint is very practical because of its strength and ease of assembly. Strength of a spline depends on grain direction being at an opposed angle to the joint, therefore, grain should run across the narrow width of a spline and not along its length. Making splines is not difficult and if the same blade is always used to cut the spline grooves, splines may be made in quantity and retained for use when needed.

Start by sizing a piece of stock to $\frac{3}{4}$ " by 4" by about 24" long. (This will produce splines 4" long.) Stock is resawed three times to produce three pieces about $\frac{1}{8}$ " thick. Thickness is determined by rip fence setting. To resaw on the table saw, make one pass with stock on edge, then turn stock over and make a second pass with stock resting on the opposite edge. Cut splines to width by using a stop block attached to the rip fence. To keep thin stock from splitting, it is best to use a hollow ground blade. Width of spline may vary, but about 1" wide is adequate for most joint assemblies. Final step is to sand the splines to exact thickness required by passing them between drum sander and table as shown in the photograph. When length of spline is such that it cannot be produced by resawing on the table saw, they may be cut from the end of a piece of stock which is as wide as the length of spline needed.

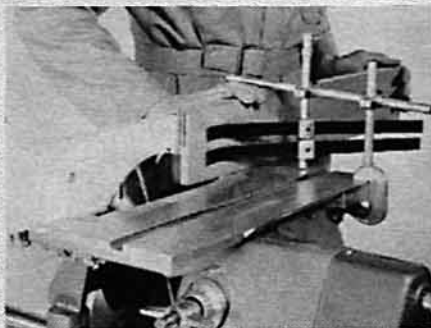
Sketch of Spline Joint



Cutting Long Splines from End of Stock



Resawing on SHOPSMITH



Drum Sanding to Exact Thickness



Jig for Finger Lap Joint

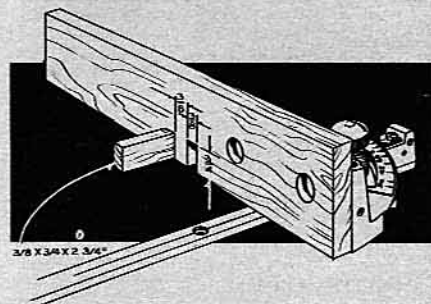
The multiple finger lap is an easy way to make a joint of great strength. It is especially useful on box corners and drawers and it frequently is used in exposed locations because of the interesting pattern formed by the interlocking fingers. A simple jig made from a Miter Gauge Extension facilitates cutting both halves of the joint at the same time. Once made, the jig may be used over and over again without limitation on width of work. This makes it possible to use the joint on shallow or deep boxes or drawers.

When making the jig, set the dado for a cut exactly $\frac{3}{8}$ " wide. Height of dado above table should be exactly $\frac{3}{4}$ " (or exact thickness of stock jig will be used for). Before cutting the notch in the Miter Gauge Extension, be sure it fits snugly in the miter gauge slots and lock nuts are securely tightened. Then make the pass. Cut second notch exactly $\frac{3}{8}$ " away from first one. The guide block is then glued in place in this second notch.

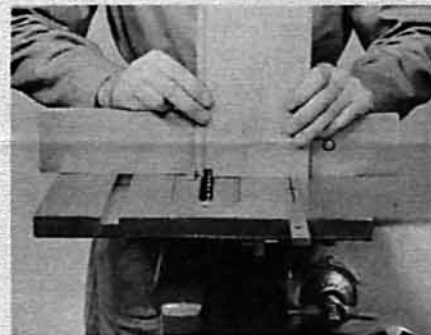
The first cut, made in only one piece, is gauged with a guide strip exactly $\frac{3}{8}$ " thick. This first cut is then butted against the guide block and the mating part is put in place. Remaining cuts are made simultaneously in both pieces and are automatically spaced by fitting preceding cuts over guide block.

When making the jig, be sure measurements are exact; this is important if mating pieces are to fit snugly together.

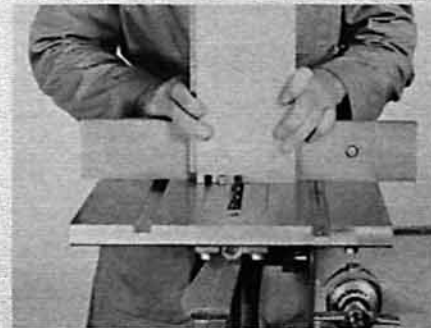
Details of Jig



Making First Cut



Making Subsequent Cuts





about SHOPSMITH ACCESSORIES

Making "Tough Ones" Easy

There are a few power tool operations which at first glance seem difficult to some people. By utilizing features incorporated in the machine or by creating "set-ups," the job is made easier and more accurate.

Here is news of great interest to every owner of SHOPSMITH Model 10ER. This new miter gauge (Accessory No. 12 353) incorporates all the latest accuracy and convenience features. Special Nylok set screws which hold their setting without bothersome adjustment and tightening of jam nuts provide positive stops at most common angular settings. An adjustable vernier plate provides an easy method for exact setting to the required degree.

The new miter gauge provides for mounting Stop Rods, Extensions, Universal Hold Down and, most important, it is designed for Magna's revolutionary Miter Gauge Safety Grip. This is easily mounted on the miter gauge and is essential for so many operations that we urge all owners to try one. When the handle is gripped, the hold down rod automatically bears down on the work thus holding it firm against the miter gauge head and the table. This action keeps the work firm throughout the pass eliminating tendency of saw blade to cause work to "creep." Its great advantage is that it insures accuracy on all miter cuts.

Once mounted, the Miter Gauge Safety Grip becomes a natural part of the miter gauge and is used constantly for all sawing operations as well as operations on Sander, Drill Press, etc. When the hold down rod is not needed, it is easily removed by loosening one Allen set screw. The pistol grip handle remains mounted and actually facilitates use of the miter gauge.

Power-Mount Adapter

Another new item for SHOPSMITH Model 10ER is the Power-Mount Adapter (Accessory No. 11 800). It fits on the tailstock end of SHOPSMITH and enables the Model 10ER owner to use the new Magna Power-Mount accessories such as the 18" Jigsaw and new Magna Sprayer. This new adapter insures, too, all early model SHOPSMITH owners that the full line of Magna accessories (several still to come) will be available to them.

MAGNA Sprayer

To date, SHOPSMITH could do anything with wood but apply the finish. Now, with the introduction of the new Magna Sprayer (Accessory No. 66 000), you can accomplish even this on SHOPSMITH. Of course, it is not just a conventional sprayer. It, too, has a twin tube mounting arrangement so SHOPSMITH Mark 5 Speedial and powerful motor are utilized. Because of this power and choice of available speeds, the Magna Sprayer comes equipped with a combination internal mix and external mix spray gun. Most home workshop sprayers must be used only with internal mix guns. This precludes spraying fast-drying materials such as lacquers and shellacs, so necessary to professional furniture finishing. A very simple adjustment on the Magna Sprayer sets it up for either internal or external mix spraying so that either lacquers and the other fast-drying materials or heavy bodied, slower drying materials such as enamel may be sprayed.

To provide complete flexibility of movement, the sprayer is designed so up to one hundred feet (if needed) of ordinary garden hose may be coupled between two lengths of regular hose supplied with the unit. Use of garden hose, which has sufficient inside diameter to deliver air efficiently, permits painting an entire house or spraying insecticide over a garden without having to move the compressor itself.

The extension also makes possible spraying furniture away from the compressor. This eliminates the intake of overspray (paint in air) which eventually clogs and reduces efficiency of the compressor.

The Magna Sprayer is a complete package including special flexible coupling and mounting base for use on either SHOPSMITH Model 10ER (with Power-Mount Adapter) or SHOPSMITH Mark 5. It includes a dusting nozzle so you can use compressed air to clean the workshop and a tire inflator which you can use to inflate automobile and bicycle tires.

The following are examples of operations made easier by machine design (on SHOPSMITH, of course!):

1. Use of extension table to cut large panels and long boards.
2. Use of micro quill feed for precise saw blade settings.
3. Use of miter gauge and fence as jigs to gauge duplicate cuts exactly right.

This is only a sample of the many techniques (made possible by SHOPSMITH) which lend skill to your efforts.

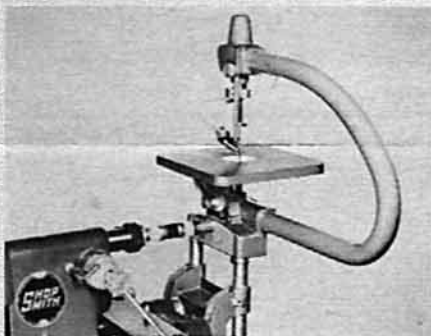
This "thinking" can be carried further by the owner and applied to operations requiring set-ups not created by standard equipment.

One such operation is the cross mitering of a panel or long board. Normally, with a long board the pass is made with the miter gauge on the righthand side of the blade. A Miter Gauge Safety Grip used here makes this kind of pass easy and accurate. If the work cannot be handled with a miter gauge (such as a large panel), then the rip fence may be used as a guide. The fence is locked on the righthand side of the blade and the pass made with work riding against it. This wastes some wood since an allowance is required to provide clearance between fence and saw blade. Also, care must be exercised near the end of the cut to keep weight of work off saw blade.

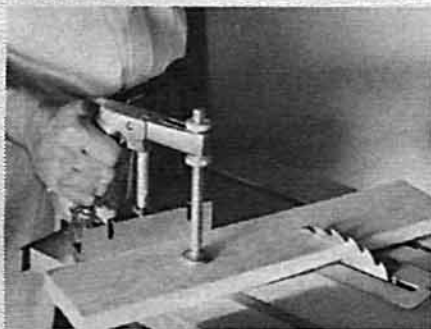
Another technique applicable to panels or boards is to nail or clamp a guide strip to the underside of the work. This guide, riding against the lefthand edge of the table, not only assures accuracy, but prevents weight of work from bearing down on saw blade. Since the rip fence is not used, it is unnecessary to make a waste allowance. A very careful measurement is required to position the guide strip. This is best established after the table has been tilted by making a trial cut in a scrap board.

ALL THESE ACCESSORIES ARE AVAILABLE THROUGH YOUR LOCAL SHOPSMITH DEALER.

Jigsaw in Use on 10ER Power-Mount Adapter



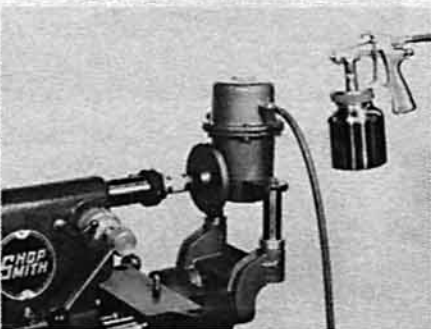
Using Miter Gauge Safety Grip for Accurate Miter



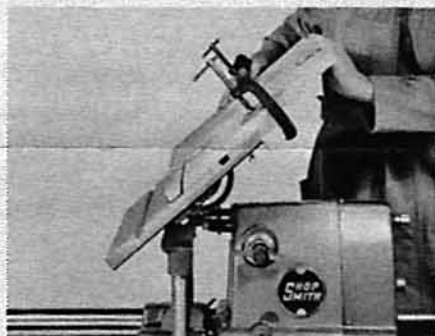
Magna Sprayer on SHOPSMITH Mark 5



Magna Sprayer on SHOPSMITH Model 10ER



Using Guide Strip for Cross Mitering Panel



Using Guide Strip for Splining Cross Miter



Shop Chips and Chats



**A Corner of
William Bader's Workshop**

Try this for an interesting and novel finish on a small project. Mount a coarse wire brush on a SHOPSMITH and brush surfaces of the project parts or, if small enough, the complete project. The wire brush removes soft wood from between hard grain and produces a sculptured texture. After brushing, apply a resin sealer. When dry, liberally apply a base color over entire project. Let dry and then "dry-brush" with a contrasting color. Dry brushing is done by wiping off most of the paint after brush has been dipped and then applying it very lightly in grain direction. Raised areas will pick up second color to provide contrast with base coat. This technique results in an interesting two-tone effect. Although wire brushing may be done on most woods, it is particularly effective on redwood and fir. Some good color combinations are flat black over white, green over yellow, and so on. Be sure to wear safety goggles when wire brushing. Projects too large to handle on a spindle mounted wire brush may be done with wire brush mounted on a flexible shaft.

A simple method of reversing direction of rotation on spindle turnings is to reverse work between centers. Sanding in one direction lays down a fine "nap" which should be removed for a really super-smooth surface. Reversing work between centers before final sanding accomplishes this. On new SHOPSMITH Mark 5, it is also possible to reverse direction of rotation on face plate turnings merely by removing work from main spindle and mounting it on upper auxiliary spindle.

POWER TOOL WOODWORKING FOR EVERYONE has been selected by the Technical Book Company of Los Angeles as one of the best 100 Do-It-Yourself books available. This is even more significant when one considers that the list included a dozen or more classifications, one being USE OF TOOLS. In this particular category only seven books were selected and **POWER TOOL WOODWORKING FOR EVERYONE** was among these.

McCall's Magazine introduced in January a new series of project plans specially designed for the homemaker. An interesting innovation is the method of transferring the pattern to the wood with an electric pressing iron. Patterns will be available through the hardware department of large stores and other outlets. For more complete information, see the January issue of McCall's Magazine.

Better Homes and Gardens, no newcomer in the project pattern field, will soon be placing patterns for retail sale through lumber yards, building material companies, etc. A good assortment will be immediately available and new plans will be added each month.

Many of you are probably familiar with Bill Baker's column syndicated in many newspapers throughout the country. His projects have become quite popular with many craftsmen. For those who might like a complete listing of available patterns, we suggest dropping a card to **BILL BAKER'S FURNITURE PATTERN SERIES, P. O. BOX 89, VAN NUYS, CALIFORNIA.**

The Easi-Bild Pattern Company in Pleasantville, New York, has recently issued a new catalog. It includes many outstanding designs so you are bound to find a pattern or patterns to please you. Some brand new items such as projects that can be made from do-it-yourself aluminum have been included. U-Bild Enterprises in Van Nuys, California, is another excellent source for project plans.

William Bader of Huxley, Iowa, points out the practical aspects of using "vertical drawers" for storage of small hand tools. "These vertical drawers," says William, "are set on metal rails to guide them in and out. I find the vertical drawer very convenient and an aid in finding tools quickly and easily. They also keep in better condition than when mixed in a drawer or bin with all kinds of tools." Those interested in William Bader's idea might do well to investigate the possibility of utilizing overhead slides and rollers normally used for sliding doors.



All power tool owners will be interested in the new RUBBER BONDED ABRASIVE WHEEL recently added to the line of SHOPSMITH accessories. No ordinary grinding wheel this, but specially designed for putting that professional, keen edge on any cutting tool. Kitchen knives, lathe chisels, butt chisels, carving tools, etc., all will be easier to use because they will stay sharp longer when honed on the RUBBER BONDED ABRASIVE WHEEL.

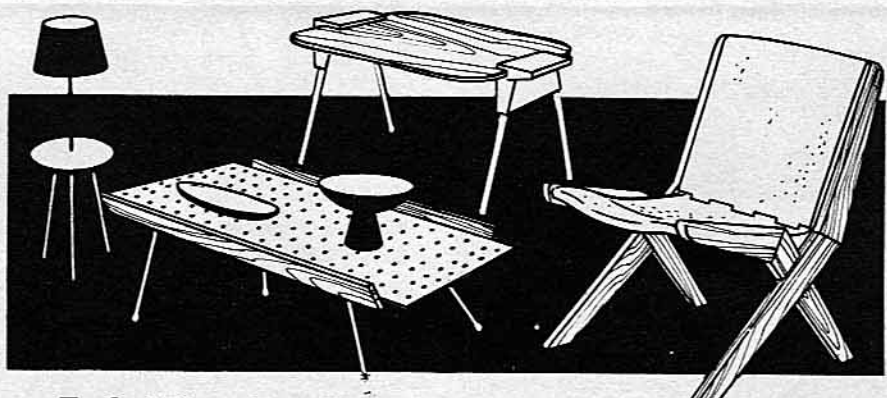


At Last!

"Power Tool Projects You Can Make"

Craftsman-writer Tom Riley has written a project book having particular significance for SHOPSMITH owners since the projects shown and detailed were designed with special attention to SHOPSMITH applications. All necessary operations to successfully complete each of the numerous and varied projects are illustrated right on your favorite power tool. Here is an excellent source of project material that will keep you and SHOPSMITH happily humming for many, many hours. Some of the projects included are a built-in corner cupboard, coffee table, Swedish lounge chair, aluminum base floor lamp, stacking TV snack tables.

The book may be purchased from your SHOPSMITH dealer or by sending \$2.00 in the enclosed postage-free envelope directly to Magna Publications.



Typical Pieces From "Power Tool Projects You Can Make"

Magna Engineering Corporation

MENLO PARK · CALIFORNIA

PLANTS IN BERKELEY AND CLEVELAND

Copyright 1955
Magna Engineering Corp.

*Reg. U. S. and Foreign Countries
EM-9962-2-55