The Woodworker's Journal

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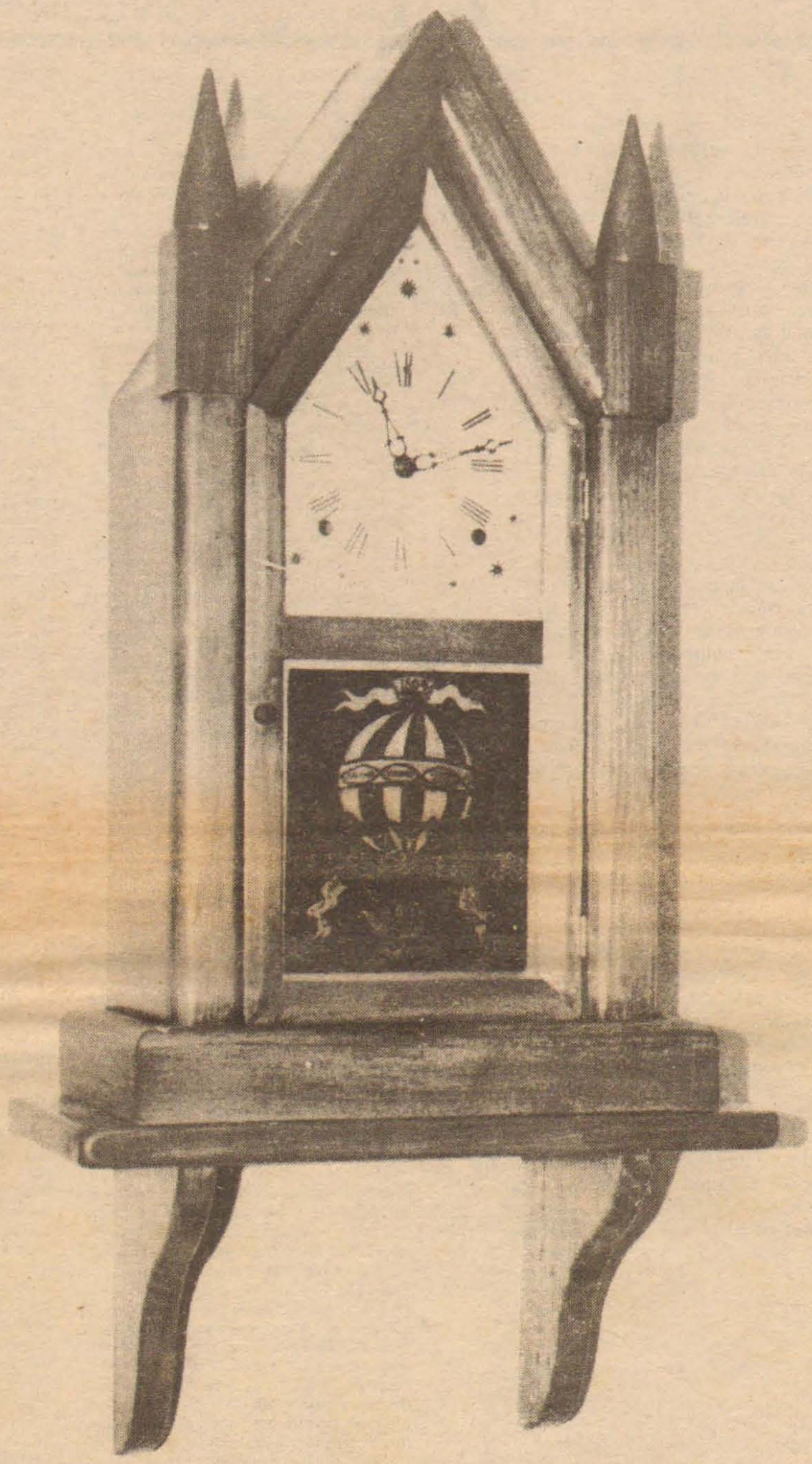

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Shoptalk

Back in the early 1960's, as we grimly commuted each day to New York City from Long Island, we nurtured dreams of opening a cabinet-maker's shop in a quiet place far from the strident jangle of the big city. With all due respect to Thoreau, it seems that at the time, we were marching to the beat of a different drummer. There just wasn't much popular interest in the crafts in those days, and cabinet-makers were more commonly associated with manufacturers of formica-covered kitchen counters. Man-made materials were being developed that promised to eclipse wood completely from our lives. Furniture and even musical instruments were being molded, extruded, vacuum-formed and blister-packaged ... from manufacturer to consumer to city dump in record time.

Happily, as a nation, we have began to cope with our technological explosion and it's mixed blessings. There has been a gentle and reassuring reactionary movement back to self-sufficiency and an increasing interest in the traditional crafts. Growing numbers of people have come to realize that their jobs may not provide sufficient outlet for self-expression and creativity, and as a result, are flocking to adult education classes to learn to use their hands as well as their heads, in the study of wood-working, weaving, metal-work, and ceramics. Many women have shown interest in woodworking in recent years, and this is particularly gratifying, for their inherent flair for design may well be an important influence on the design trends of the future.

The Woodworker's Journal is proud of the opportunity to play a small part in this renaissance of woodworking. It is our sincerest wish that through these pages, the novice will receive assistance and encouragement to further develop his or her skills; and the advanced woodworker will find enough interesting and practical projects and information to make those hours in the work-shop more rewarding.

Our special thanks to each and every one of the good people who had enough faith in us to lay six dollars on the line, without ever having seen a sample copy of our publication. Your response has been most encouraging, and we intend to live up to ... or exceed your expectations. As we feel our way into a satisfactory format, we shall depend very much upon the comments and criticisms of our subscribers.

Finally, we would like to dedicate this first issue to our uncle, Donald McLean, who has been a talented and prolific woodworker for fifty years. He provided the original inspiration that led us to purchase our first set of tools, and for that gift we cannot thank him enough.

Jim McQuillan

The Beginning Woodworker

You've decided, for one reason or another, to try woodworking as a hobby. Perhaps you're caught in the inflationary bind and would like to save money by making some of your own furnishings; or you're newly retired and need a rewarding activity to occupy your time. Whatever your reason, permit us to welcome you to the ranks of a club whose membership extends back to the dawn of Homo Sapiens.

Since he was first able to hack a point on a stick, man has been a woodworker, and he progressed rapidly once he started, for wood, in it's almost limitless varieties, was conveniently available and responsive to being cut and shaped. Thousands of years before the birth of Christ, a surprisingly high degree of craftmanship had been attained by artisans working with wood. Much later, the Vikings, who had enormous cultural impact on much of the Western world, achieved their prominence because of their ability to fashion seaworthy wooden boats. In the few examples of their work still surviving, the joinery and compound curves of their hulls are truly beautiful.

From the machines of Archimedes to the lofty, canvas-clouded clipper ships of Donald McKay, wood has been cut, carved, bent and joined into everything from the most mundane household objects to towering works of art. Acrylics, steel and fiberglass are useful, man-made materials and some handsome furnishings have been designed to make use of these materials; but they lack the look, feel, smell and sound of well-finished wood. Imagine, if you can, a stately Queen Anne highboy made of styrene plastic. Sounds almost obscene doesn't it? From the practical viewpoint of the home craftsman, or women, wood is the easiest material to obtain and shape — so, since we're obviously committed to the use of wood, lets see what tools are needed to get started.

The first project of any aspiring woodworker should be a simple workbench; something sturdy enough so that boards may be planed without the bench jumping all over the room. We shall therefore concern ourselves with the tools necessary to build such a bench. Before discussing individual tools however, a word of advice is in order. Please do not inflict punishment upon yourself by buying cheap or inferior tools. It is almost impossible to turn out quality work with shoddy tools; and they can actually be dangerous to work with. Avoid the tools that are sold in super-markets and variety stores. You know the kind; they're usually piled in a bin with a sign marked "Any Tool $1.98". Some tool companies produce several grades of tools from professional quality down to so-called handyman grades. The latter may be suitable for occasional light repair jobs around the house but you're much better off buying the best grade available. Good tools are a lifetime investment and will pay for themselves many times over the years. If you're short on cash, good used tools can sometimes be purchased at garage sales or auctions. Bring along an experienced woodworker to check them out if unsure of your judgement.

Most every household contains a hammer. Sometimes it is used for driving nails. More likely it has been used for everything from breaking up concrete to prying things apart. Keep that old, beat-up hammer for the dirty, rough jobs and get yourself a new 16 ounce hammer for your wood working projects. Check the striking face to see that it is well machined and slightly convex. A slight curve on the face enables you to drive a nail home without marring the wood. Old time ship-wrights call these hammer dents "monkey-faces", and they are frowned upon in quality work. Hammer claws should be curved with a clean vee-groove to grasp even finishing nails which have very little heads. Hammers with straight claws are called ripping hammers and are used by carpenters for prying and cleaning concrete forms. The curved claw model is the one to buy. You may choose a rubber or neoprene covered steel handle or be a traditionalist and stick with hickory. Just be sure that the head is firmly attached to the handle. You will want other hammers later; particularly a smaller one, but for your basic tool kit, the 16 ounce hammer is fine. You'll have little use for anything heavier unless you want to frame a house. Framing carpenters prefer the heft of a 20 ounce hammer for driving large nails and spikes.

Second item is a square. This is used for setting or checking lines or surfaces which have to be at right angles to each other. You will use the square often, and if you don't, your work will look as if it belonged on another planet, for squareness is the foundation of all woodworking procedures. We will concern ourselves with 2 basic types of squares. The first type is a large steel square with a long leg called the blade and a shorter leg, at right angles to it, called the tongue. Get the size that has a 24" blade and a 16" tongue. This square is called a framing or carpenters square, and contains scales graduated in inches and fractions of inches, as well as tables which enable carpenters to perform the calculations necessary for laying out rafter cuts, oblique joints, stairs, and other somewhat complicated jobs. Unless you plan to get involved with house carpentery, you'll only be concerned with using the square for testing the flatness and squareness of large surfaces, squaring ends of boards, and checking to see if one member is perfectly perpendicular to another. Books have been written on the subject of using the framing square in building houses, but you will not need this information for most furniture work. Since the framing square is large, it is not convenient to use on small work. For this purpose you will need a try square; which consists of two parts at right angles to each other; a thick wood or iron stock, and a thin, steel blade. Most try squares have

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The Beginning Woodworker

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blades graduated in inches and fractions of an inch. Blade length varies from 2" to 12". The most useful try square is called a combination or machinists square. This has a cast iron stock that slides along the blade and can be locked at any point. This square can be used for many measuring and checking operations and also has a small spirit level and steel-scribing awl in its stock. The combination square is obtainable at all hardware stores and is not expensive. Purchase a well-known brand of measuring tool. If it is inaccurate, your work will be inaccurate also.

The third major tool you will need to buy is a carpenters handsaw; commonly called a panel saw. This saw is generally 26" in length with a blade narrower at the end opposite the handle. The teeth are bent alternately to one side or the other, to make the kerf, or groove the teeth cut, wider than the thickness of the blade. This alternate bending of the teeth is called the "set" of the teeth. The number of teeth per inch, and the amount of set depend on the use to be made of the saw and the material to be cut. Panel saws are described by the number of points per inch. There is always one more point than there are teeth per inch. A number stamped on the saw gives the number of points of the saw. The saw to start with is a ten point cross-cut. Most of your initial cutting will be across the width and grain of boards, and this is the saw to use. A rip-saw is designed for cutting along the length and grain of a board, and if there is any extensive ripping of boards to be done, it is much easier and more accurate to do this with a power saw. Again, choose the best quality saw.

A tool for boring holes is also needed. The traditional hand tool for this job is the bit brace. This consists of a revolving knob held with one hand; and offset handle held in the other hand and swung in a circle, and a chuck for securing the auger bit. The brace should have a reversible rachet so it may be swung in either direction. A brace with a screw-driver bit is the best way to drive large wood screws as great leverage can be applied without the bit slipping from the slot of the screw and marring the surface of the wood. Purchase a brace and one 3/8" Jennings type double twist auger. Also needed are a screw-driver bit and countersink bit to fit the brace.

The hand drill is the favored tool for boring small pilot holes for nails and screws. This operates much the same way as an old fashioned egg-beater. At this point it may be a good idea to mention the electric hand drill. The price for one of these handy power tools is so reasonable (actually less than the price of the better hand-powered drills) that it is really a more useful tool for the money. It can drill large holes as well as small ones, though not as cleanly as a Jennings auger in a brace. There are also adjustable screw bits available for electric drills that can drill counter-sunk screw holes in one operation. For the construction of a workbench the electric drill can handle all the boring operations with a 3/8" spade bit and an adjustable screw bit that will handle screws up to 2" long.

No workbench is complete without a vise, and a good cabinet makers vise can be pretty expensive — fifty to sixty-five dollars. Smaller vises can be purchased for less, but are more limited in the work they can do. Look for a vise with wide, rectangular jaws that have smooth inside surfaces that will not mar the wood when it is clamped in place. The vise jaws should be at least 6" wide and the jaws should open to a maximum distance of at least 6". This would be a minimum vise. The larger models have a maximum opening of about 12".

Although not strictly essential, two iron C-clamps with a maximum opening of 4" will be very helpful in the construction of your workbench. Woodworkers never seem to have enough clamps and if you take your hobby seriously, you will soon have a large collection of various types. Purchase them as needed.

To drive smaller screws add a screw-driver with a 6" blade to your list; and of course, we can't forget a 10 foot steel measuring tape. Get the kind that retracts into its own case. A small adjustable crescent wrench will be needed to tighten the nuts on carriage bolts, and finally a 24" aluminum level will tell you if your finished work is level and plumb (perfectly vertical).

Now that you have your tools, take your material list to the lumber yard and purchase the necessary lumber and hardware. It is important that the lumber you purchase be straight, clear stock. Sight along each piece to make sure it has no kinks or twists. You will not build a solid, level workbench if you try to frame it with warped stock.

Start construction with the top frame shown in fig. 1. Cut all pieces to length, using your try square and a sharp pencil to scribe cutting lines. Take your time and try to work as accurately as you can. Lay out frame parts on a level surface such as your basement floor, and drill pilot holes through side pieces into the cross pieces. Countersink all holes and drive three 2½" screws into each joint; using your brace and a screw-driver bit. Drive screws below the surface. Rub screws on a bar of soap or a piece of bees wax and they will drive more easily. Stagger screws slightly so they do not all follow the same grain line. Use your framing square as a constant check for squareness during assembly.

Fig. 2 shows the next step which is the addition of legs. Cut all legs exactly alike. Clamp a leg into a corner of the upper frame and while it is clamped in place, drill the three holes for carriage bolts using your brace and a 3/8" auger bit. Space holes carefully so that the 6" carriage bolt will pass between the two 4" bolts. Hammer the carriage bolts into place, place washers and nuts, and tighten. Fasten other three legs in the same way.

Next, cut the four pieces for lower frame, shown in fig. 3. Clamp the long rails in place first and bore for carriage bolts. Fasten long rails in place with 4 carriage

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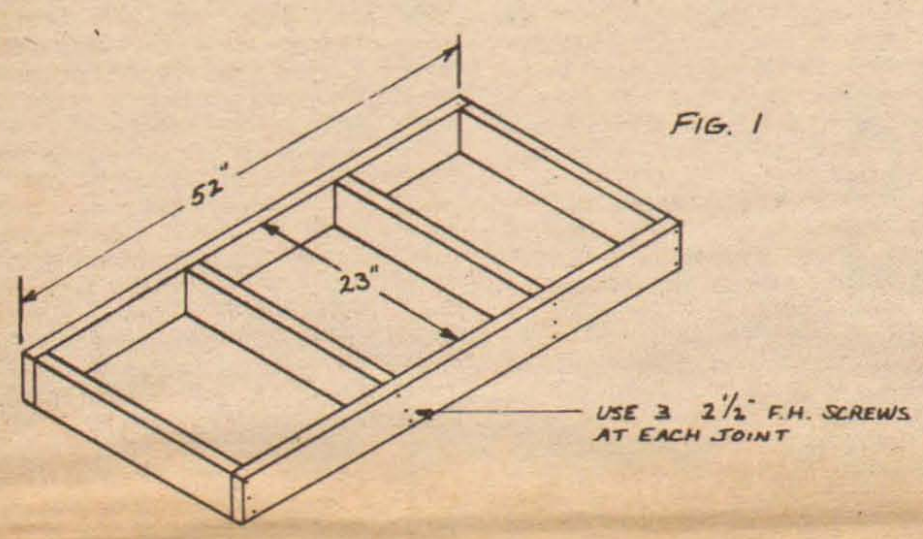


FIG. 1

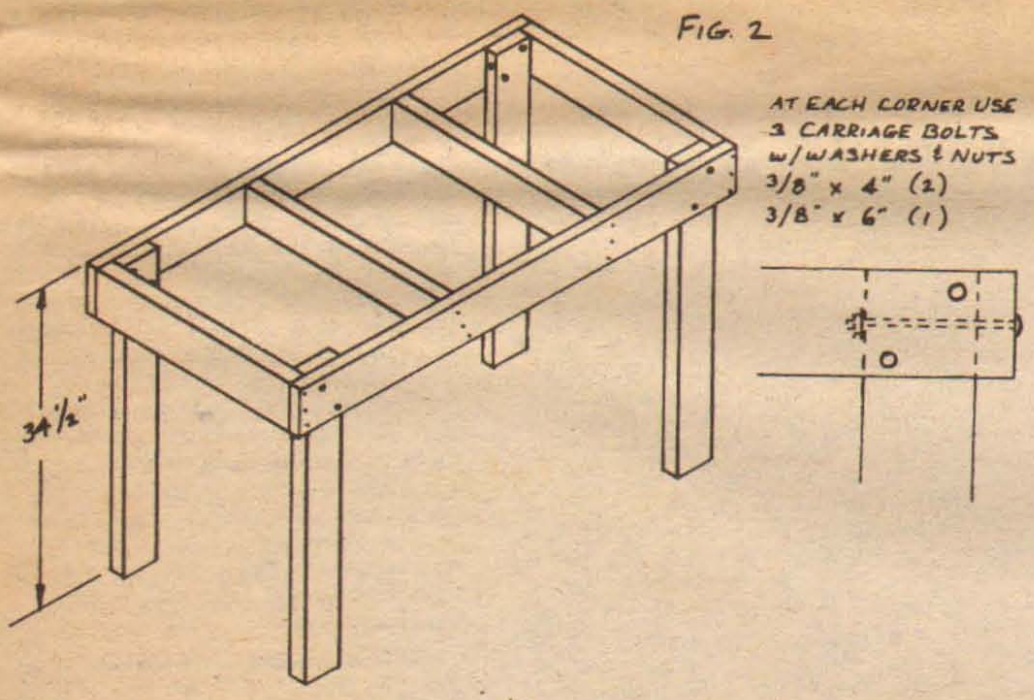


FIG. 2

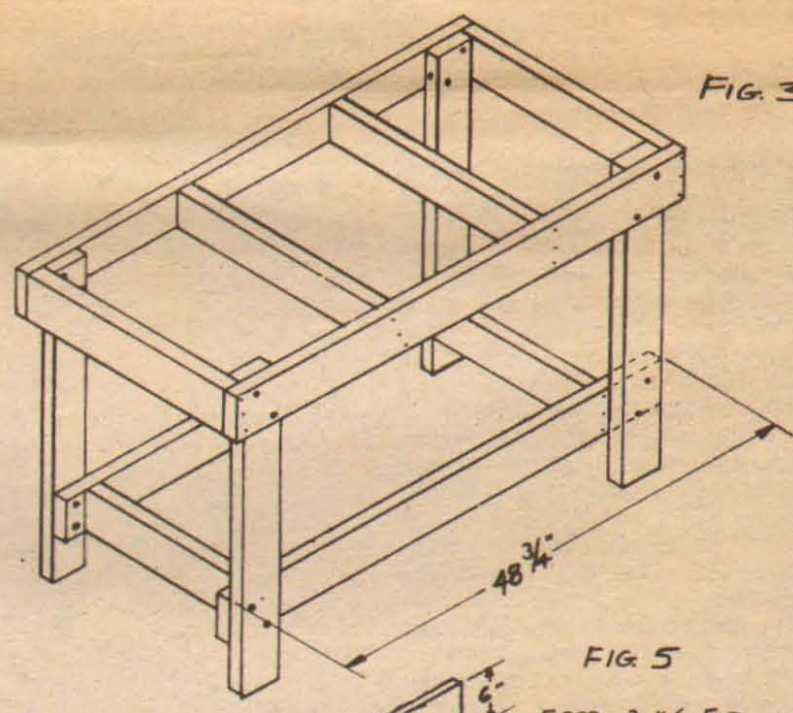


FIG. 3

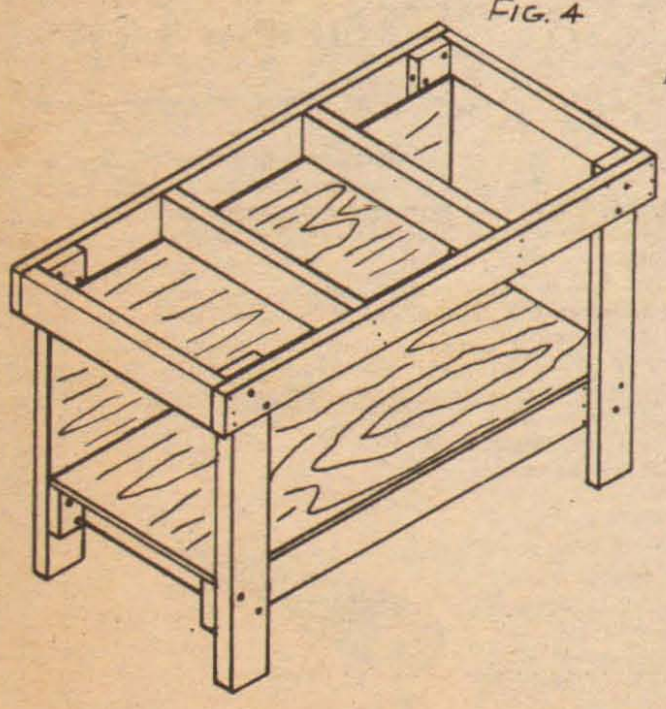


FIG. 4

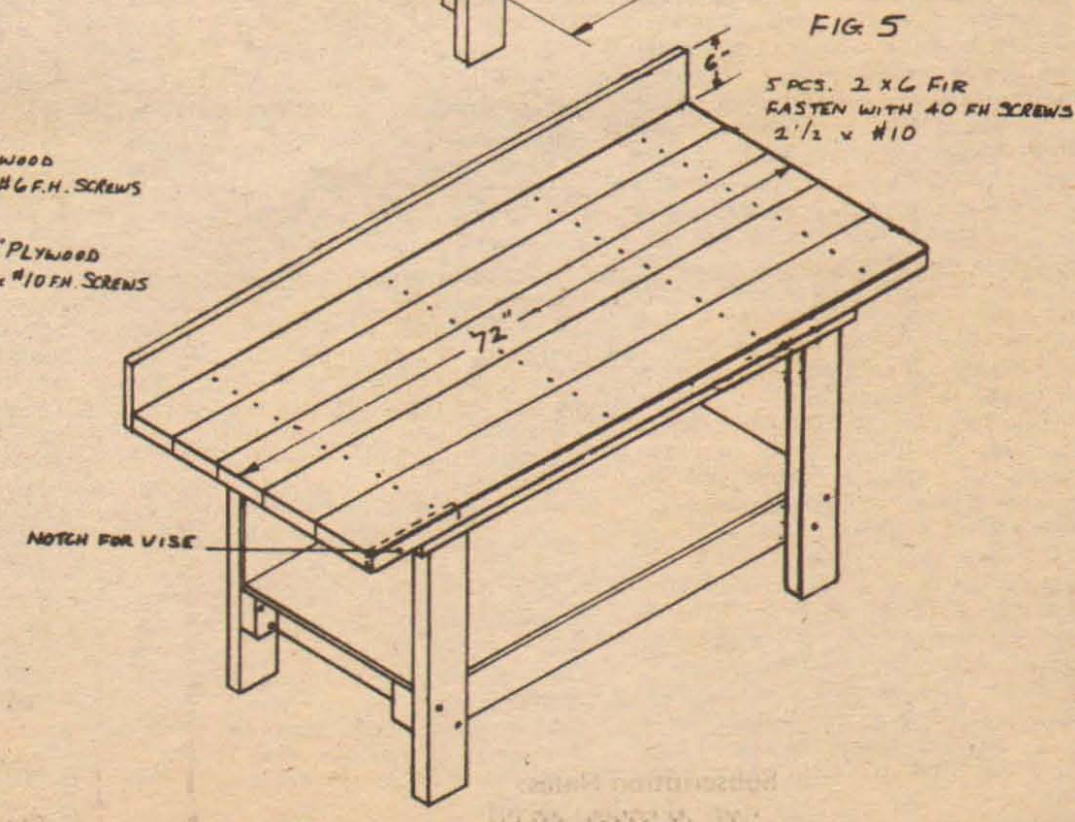
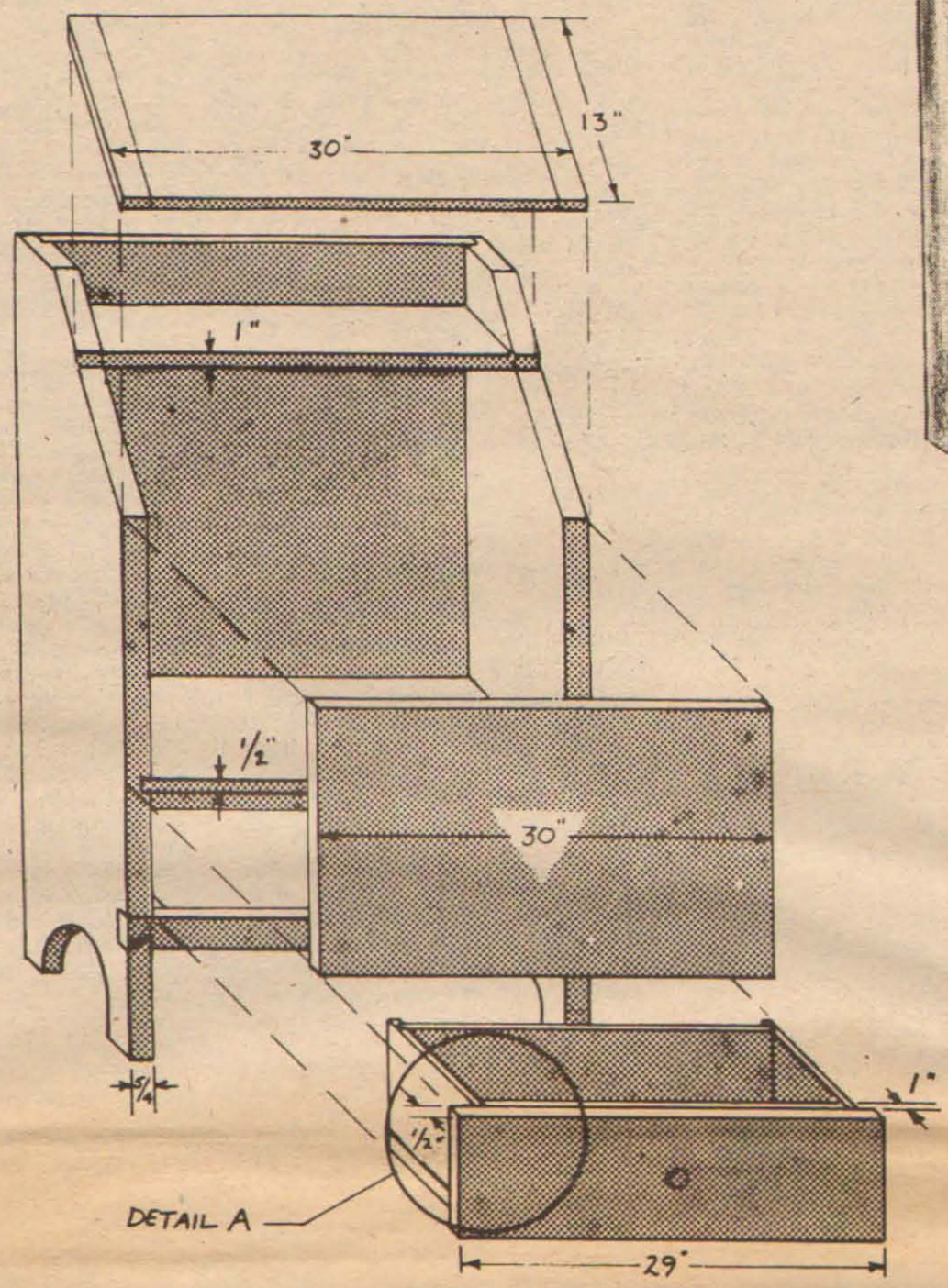
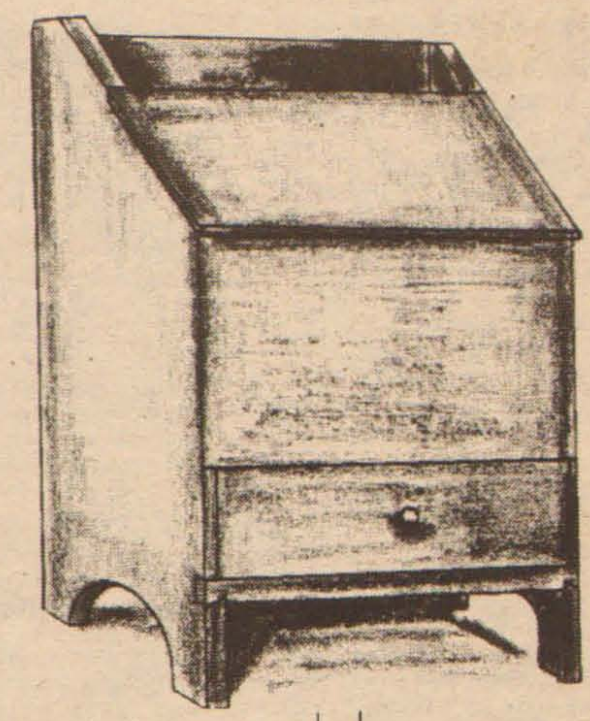
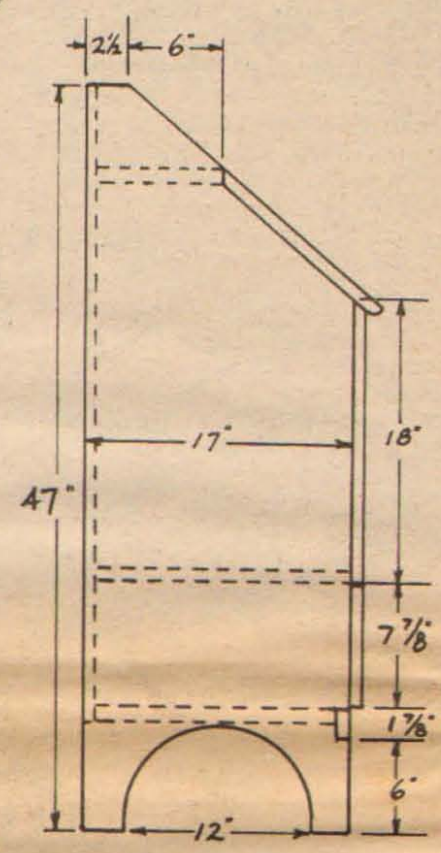


FIG 5

Shaker Woodbox



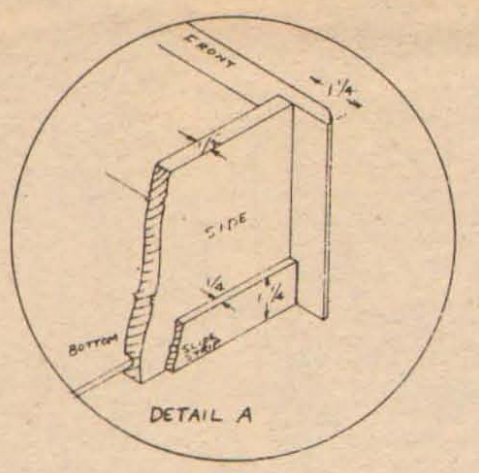




High home heating costs have resulted in a dramatic revival in the use of wood burning stoves and space heaters. If you plan to install such a stove, or have a fireplace, you'll need a woodbox to keep at least one day's supply of wood indoors. While almost anything will serve as a container, why not take the time to build a woodbox that will do the job and also be a handsome addition to the room. This Shaker design is a beauty, and if you give it a careful finish, it can also serve as a blanket or linen chest. Woodboxes take quite a beating in normal use so careful attention to joinery will result in a piece that will be around long enough to become an heirloom.

Begin construction by doweling and glueing 5/4" x 10" x 4' pine stock to form the sides. If you have trouble handling the wide pieces while cross-cutting with a small table saw, you may wish to square off the boards to 47" and cut the ⅜" dado on the pieces separately before glueing them together. If you do this, run a strip of ½" plywood into the dado when clamping the glued boards together. This will keep the dadoes exactly aligned.

Lay out the angle cut and notch for the lid on both sides. The back edge of each side should receive a ¾" rabbet so that the back boards will set flush with the sides and can be securely fastened to withstand the pounding that chunks of firewood will give them. The rabbet really should be stopped 12" from the bottom edge as shown on the plan but if you are inclined to run the rabbet all the way down and glue in a filler piece, we promise not to tell on you. Next, scribe the arcs and cut out with a sabre-saw. Do not lay out the half dove-tail notches at this time, but a line should be scribed square across the front edge of each side piece 8" from the bottom. Continue this line across the inside as a guide for the location of the drawer supports. Incidentally, when identical



operations are performed on identical piece, it is always good practice to lay the pieces exactly side by side and scribe lines across both at once. This will help to cut down on very small errors in measurement which can accumulate and cause later problems.

Cut 1" x 1" drawer supports to length to fit between back of woodbox and dove-tailed crosspiece. Hardwood is preferred for drawer supports in most cabinet work. Screw and glue these supports in place keeping top edges carefully aligned with the scribed line.

Dowel and glue two 1" x 10"s together for the front panel. Square off to 30" and screw and glue to the front of both side pieces, countersinking and drilling for dowel plugs. Plane off top edge of panel to match the slope of the sides. Now cut ½" plywood bottom 28½" wide by 16¼" deep and glue into dadoes. Drive 5 or 6 4p finishing nails through front panel into edge of bottom.

A sturdy back for the woodbox consists of 1" tongue and groove stock. The back boards should be glued and screwed to the sides. Now add the top shelf, cut from 1" x 10" stock and fastened by screwing through the sides; again drilling for dowel plugs. Finishing nails should be driven through the back into this shelf as well as into the plywood bottom.

The lid is doweled and glued from 1" stock. A nice touch would be to "bread-board" the lid with 2" edges blind doweled and glued, to hide the end grain and prevent splitting or warping. Note that the back edge of the lid is beveled to fit the edge of the shelf. The lid can be secured either with plain butt hinges or with flush mounted decorative brass or black hinges.

The half dove-tails should now be laid out on 1" x 2" stock. After cutting, carefully transfer the shapes to sides with a sharp knife or pencil. Now cut out half dove-tail sockets in sides using a back saw and cleaning up with a very sharp chisel. The crosspiece should be glued in place taking care to sponge off excess glue from all surfaces to avoid later staining problems. If the crosspiece was cut slightly long, it can now be trimmed exactly flush with the sides.

The drawer front is best made of 5/4" stock, each end rabbeted 1¼" as per detail "A". If you lack sufficient 5/4" stock then laminate ½" and 1" stock together, making the 1" piece 2½" shorter to form the rabbet at each end. Drawer sides and back are ½" pine. The front and sides should receive a ¼" groove for the plywood drawer bottom. Drawer sides are dadoed to receive the back and are fastened to front with glue and finishing nails. The plywood bottom is cut to size (allow for an easy slide fit) and fitted into grooves in front and sides. The back is then glued into side dadoes and plywood bottom is nailed to it. Throughout drawer construction, take care to check that drawer is square and sits flat; otherwise it will not rest level in its opening. Glue ¼" thick drawer slides to bottom edge of sides. These can be about 1¼" wide. Drawer slides will help reduce friction and enable the drawer to slide smoothly. Locate center of drawer front and fasten 1¼" wooden knob.

Prior to finishing, go over piece and set all exposed nails and glue ⅜" dowel plugs in screw holes. All front and top edges of the woodbox should be well rounded to prevent splintering. The overlapping ends of drawer front should be rounded as shown in detail A. Sand outside surfaces and stain to suit. The inside of wood compartment and kindling drawer should be given two coats of thinned shellac, to keep the wood surfaces clean. Two coats of thinned low-luster varnish to outside completes the job.

Shop-Tips

Dressmaker's pattern wheels are handy for transferring patterns from full size plans directly to wood. Lay the plan on the wood, securing it with a few strips of masking tape and then carefully run the small wheel along the outline of the piece you wish to transfer. The toothed wheel makes a series of fine, closely spaced dents which can easily be connected with a pencil line. This saves the time needed to lay out and cut a cardboard template.

Old-Time Toys

These simple wooden toys seem to have as much appeal for adults as they have for children. Both designs have been around for a long time, in one form or another, which is proof enough of their intrinsic amusement value. If you are inclined to make handcrafted wooden items for sale; these toys have always been excellent sellers at craft fairs and bazaars. The Sky-Hook, in particular, is a money-maker as it can be stack sawn from layers of wood and many dozens can be produced in a short time.

The Sky-Hook

You've got to see this toy in action to appreciate it. The balancing act it performs on the end of your finger or the edge of a table, is almost unbelievable. If ever there was an ideal first project for the young woodworker; this is it. Hardwood is best for this toy as considerable force is applied to the sharp end of the sky-hook when balancing a leather belt and the edge will quickly round off if soft pine is used. This will cause the toy to sway from side to side.

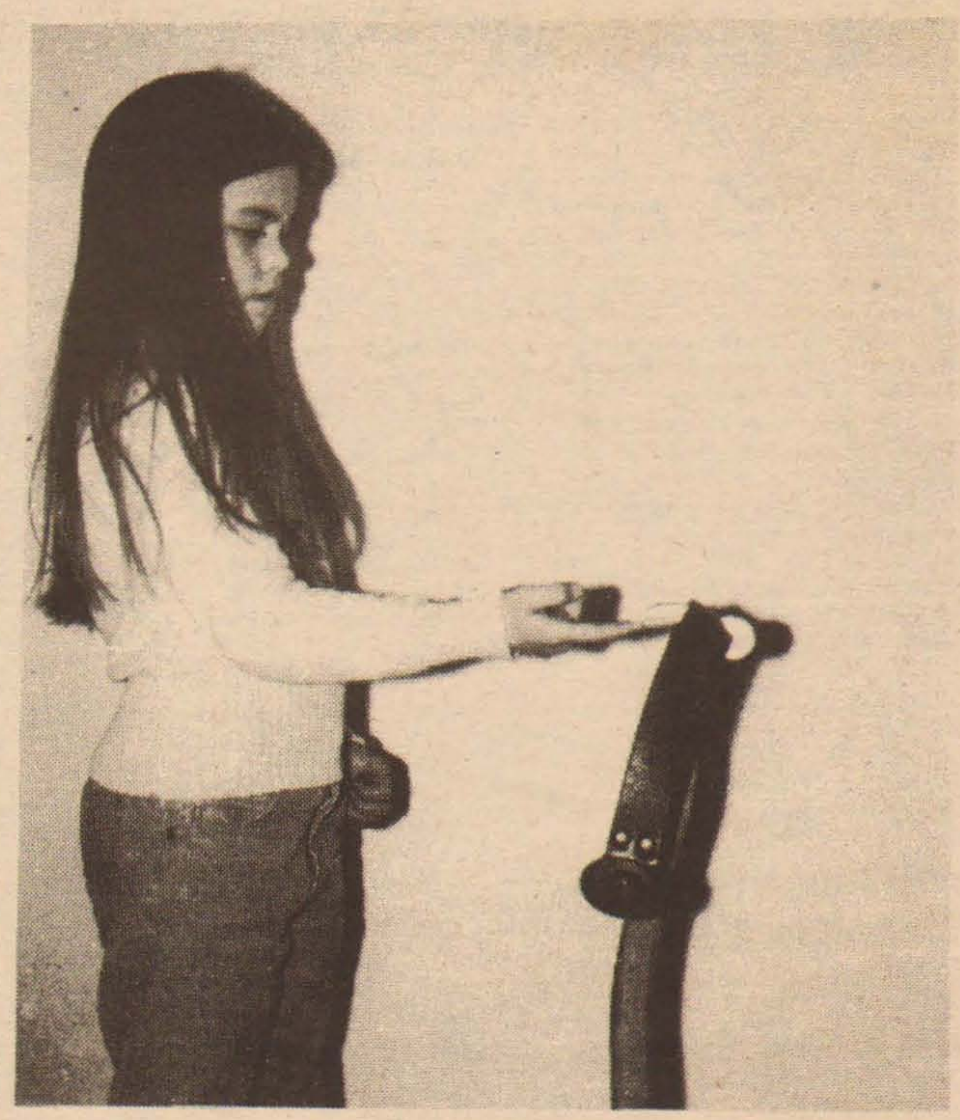
The illustration is actual size so it can be cut out or transferred to tracing paper and marked directly on the wood. Close adherence to the dimensions given will assure a surprising performance. Be sure to make the point of the hook straight across. To use, simply insert a leather belt in the slot and balance the end on your finger. If the buckle is very heavy, you will have to adjust the belt in the slot to its' approximate center of balance. One last point: only a leather belt will work; cloth belts lack the necessary weight and stiffness.

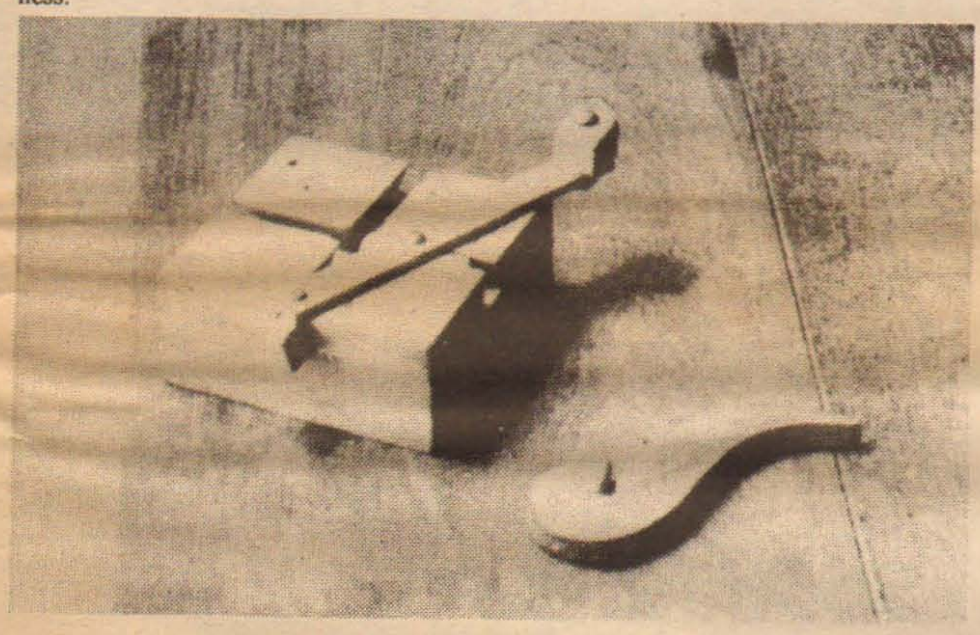
The Do-Nothing Machine

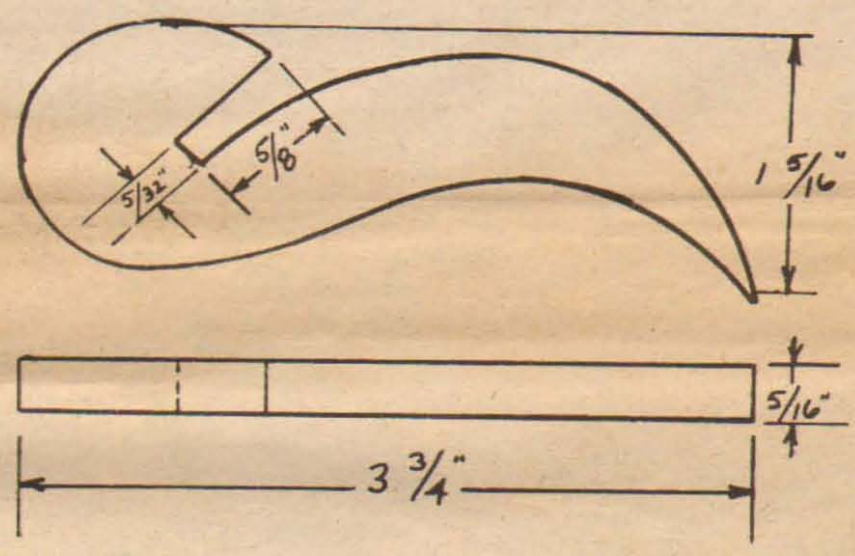
As it's name implies, this toy does nothing; but in a rather frantic and amusing way. As the handle is cranked, the two pistons whiz merrily back and forth in their grooves, almost but never quite falling out or colliding with each other. The dove-tail grooves can be cut quite easily with a router and dove-tail bit. If you lack a router then cut the base of the block $\frac{3}{4}$" thick and glue on 4 squares of $\frac{3}{8}$" stock with a bevel cut on two adjoining sides to form the grooves. This is far easier than trying to cut and chisel them by hand. Table saw blade tilt should be set to 18 degrees for the bevels.

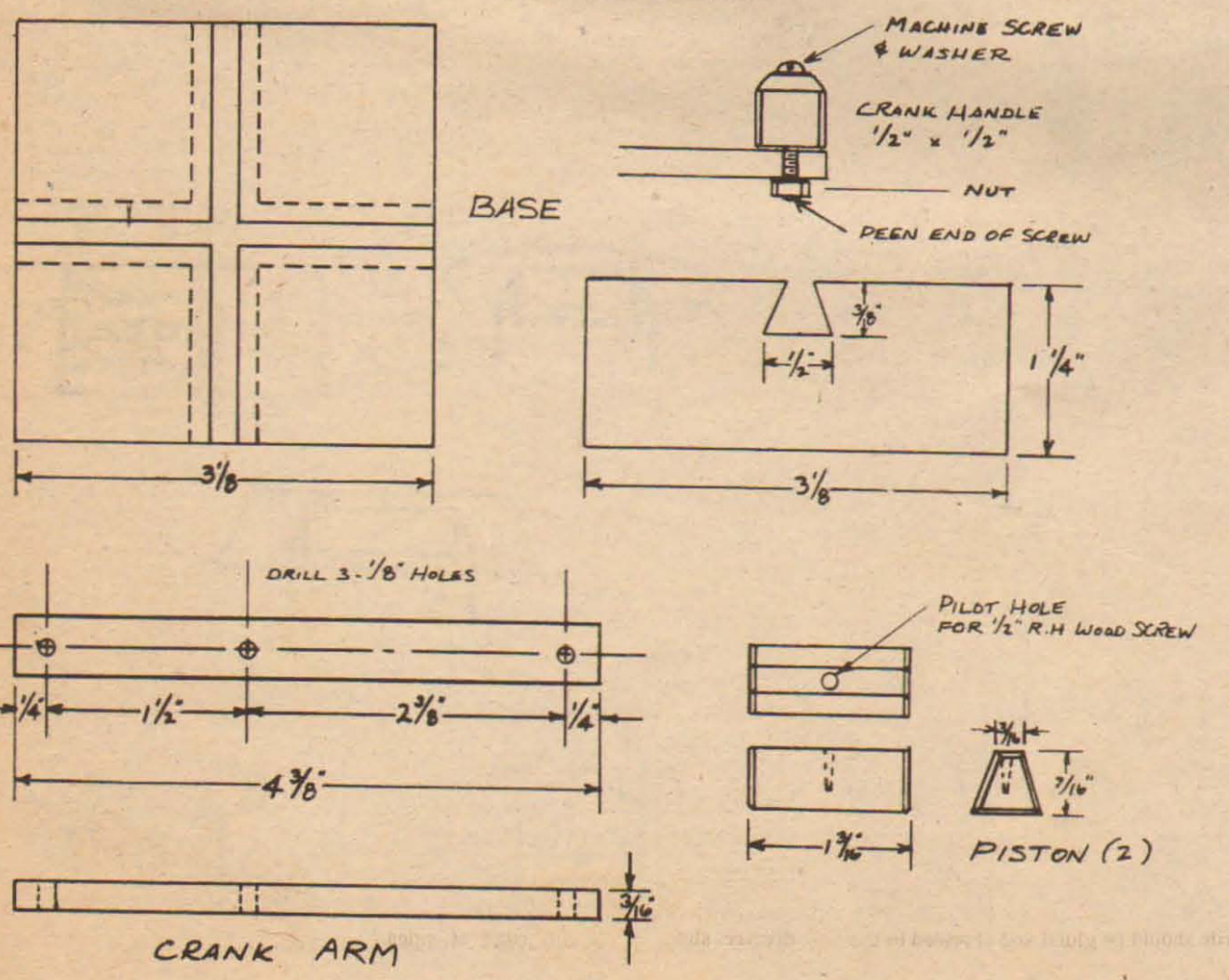
The toy shown in the photograph was made from a scrap of African mahogany, but any hardwood is fine. The pistons should be cut for an easy sliding fit, and all leading edges should be slightly chamfered. Drill pilot holes in pistons to prevent screws from splitting them. Drill $\frac{1}{8}$" diameter holes in the crank arm and handle as shown on plan.

The crank handle should be a loose fit so it can easily revolve, and may be fastened permanently by carefully peening the end of the machine screw to retain the nut. When pistons are fitted, and the operation of the toy is satisfactory, remove piston screws, coat threads with epoxy, and re-insert.









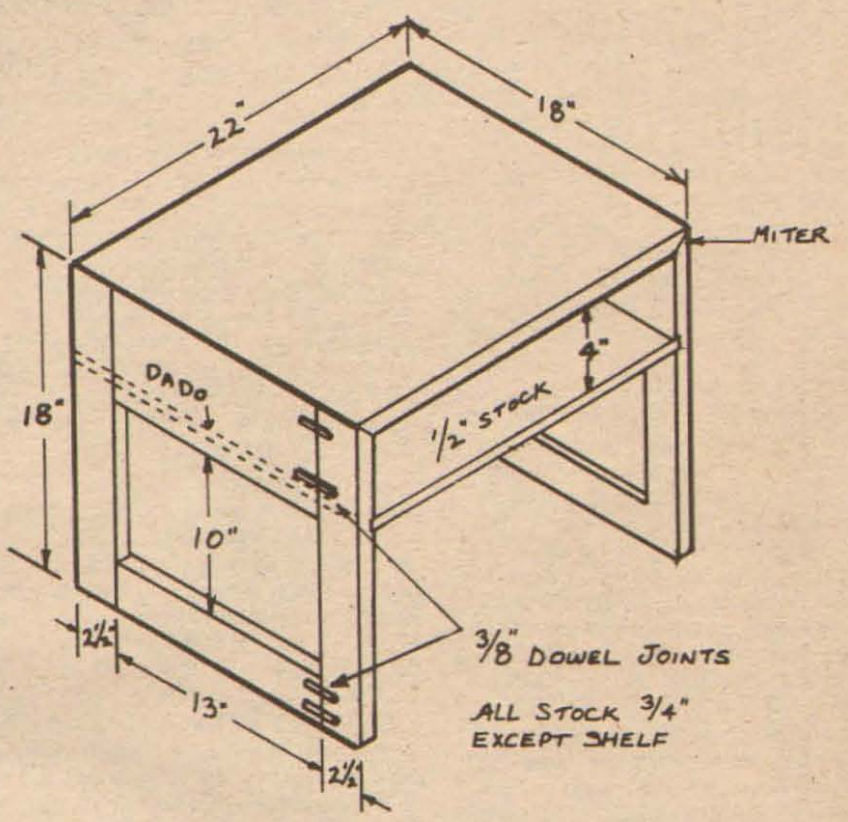
Bunching Tables

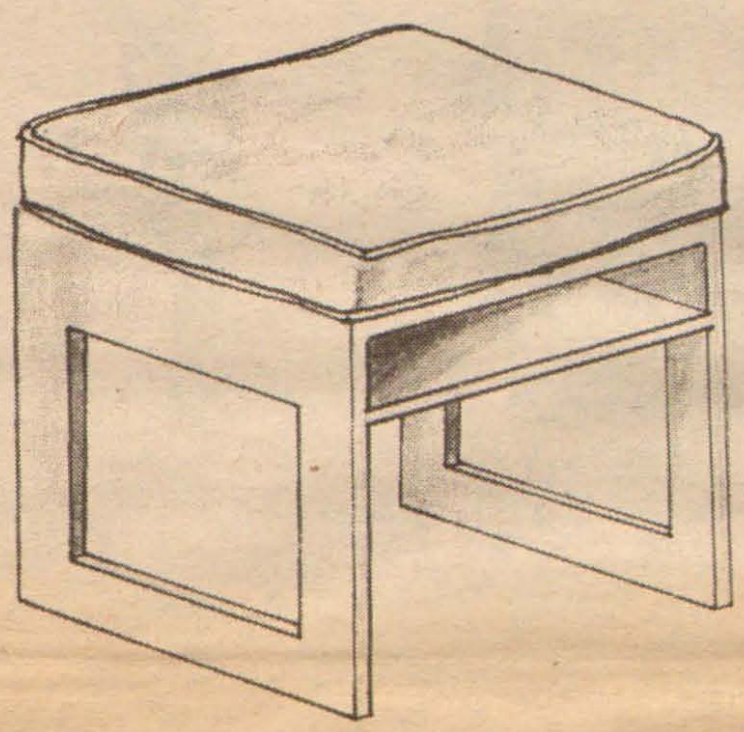
These multi-purpose tables with a contemporary look can be bunched together as a cocktail table, used separately as snack or end tables or, with the addition of cushions, serve as handy seats. The storage compartment for the cushion is open at both ends and is handy for magazines. Careful attention to joinery will result in the clean crisp look so essential to good contemporary furniture.

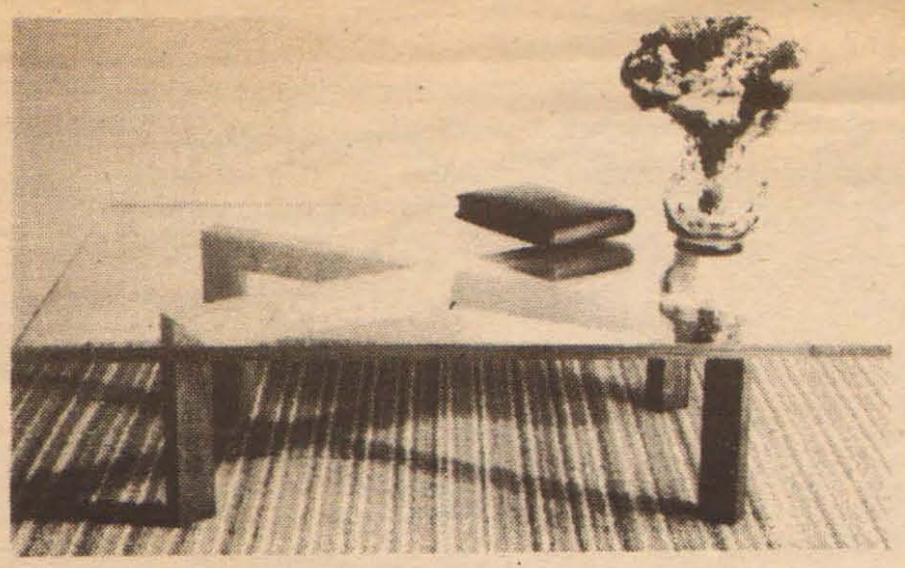
Choose a suitable hardwood in ¾" thickness. If a natural blonde finish is desired, to match other furnishings, birch or maple would be a good choice. Walnut has a dark, rich tone. If the tables are to be painted; fir or poplar can be used and the top and shelf can be ¾" and ½" plywood respectively. Whether painted or natural, the ½" thick shelf is best made of plywood with both exposed edges covered with a wood or veneer strip.

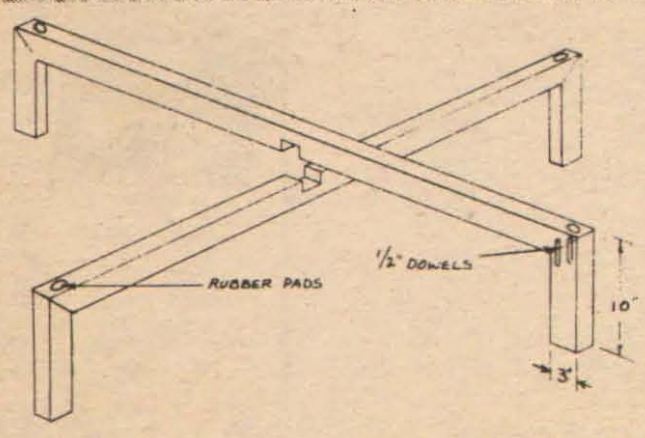
Construct sides of table, doweling all joints; running a ¼" deep dado for the shelf, and cutting a 45 degree angle on the top edge for miter joint. The top is added, glueing and nailing to the sides. Set all nail heads. If a plywood top is used, it should be cut ¼" less than 18 inches and both exposed edges covered with ⅛" strips of matching wood. The plywood shelf is also edged in the same way and glued into the dadoes.

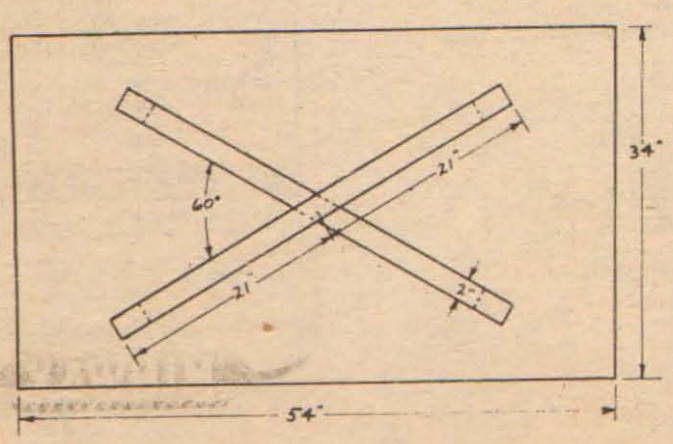
Fill nail holes with wood dough or wax chosen for color match. Cushions are 4" foam rubber covered with the material of your choice. If tables are to be painted, sand carefully, breaking all sharp edges, and apply two coats of thinned shellac, sanding lightly between coats before applying paint.











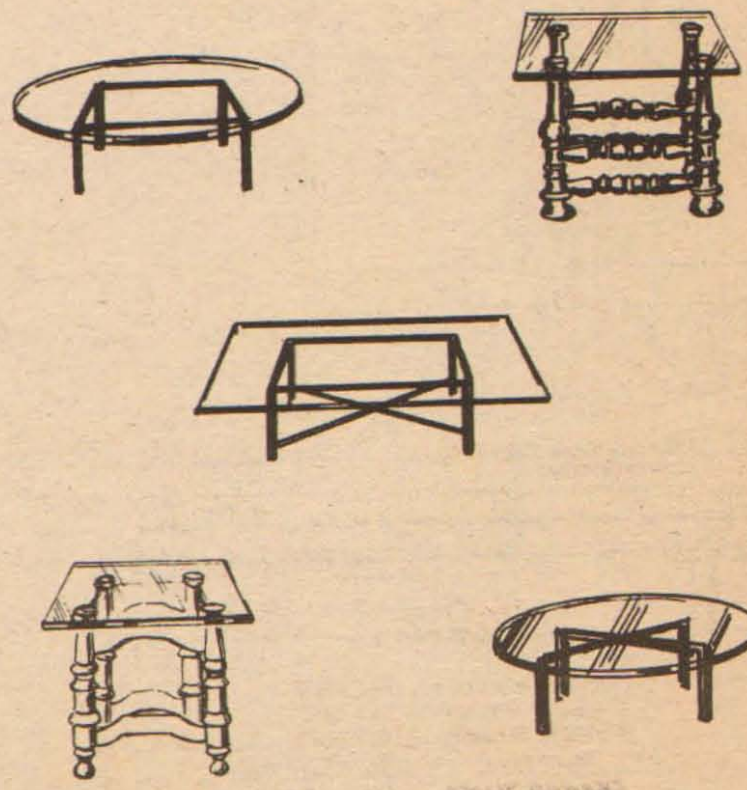
Glass Top Tables

Tables with heavy plate glass tops have a light and elegant look that fits in well with almost any decorating scheme. In thicknesses from ½" to 1", glass with polished edges is expensive. Recent quotes from dealers ran $12.00 to $12.50 per square foot for ¾" plate glass with edges polished. Still, nothing quite equals glass for certain effects, and the top comes ready made, saving considerable labor and the cost of high grade hardwood.

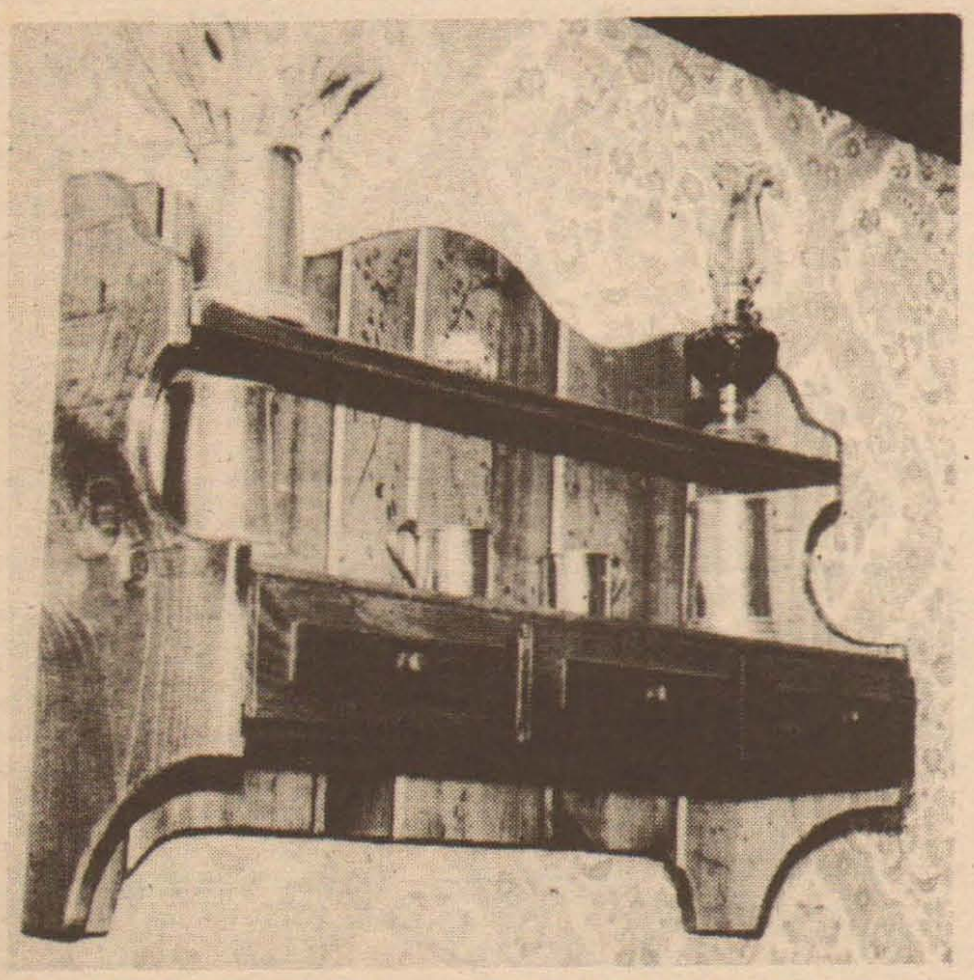
A simple frame enhances the overall design and the possibilities are limited only by your imagination and ambition. Several sketched examples are shown, and you can readily see that a large number of coffee, snack, or end tables can be quickly produced. Frames can be enameled to complement a maxi-graphic decor in which case ordinary fir framing lumber can be used provided that straight, clear kiln-dried stock is chosen. Natural or stained finishes can run the gamut from bleached to dark oiled walnut ... whatever turns you on.

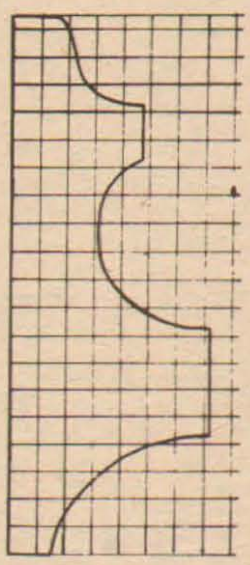
Construction is straight-forward and uncomplicated. Match the cross angle of the legs to suit the size top you want. If necessary, lay out the table top shape with chalk on your shop floor. This will help you to visualize the design and achieve a pleasing proportion. Use a bevel guage and protractor, or your table saw miter guage to mark the half-lap joints. The table shown in the plan has supports crossing at an angle of 60 degrees. For a longer, more narrow top, the angle will have to be more acute. A miter joint is shown joining the legs to the cross supports but if the frame is to be painted, a simple butt joint can be used; glued and doweled of course.

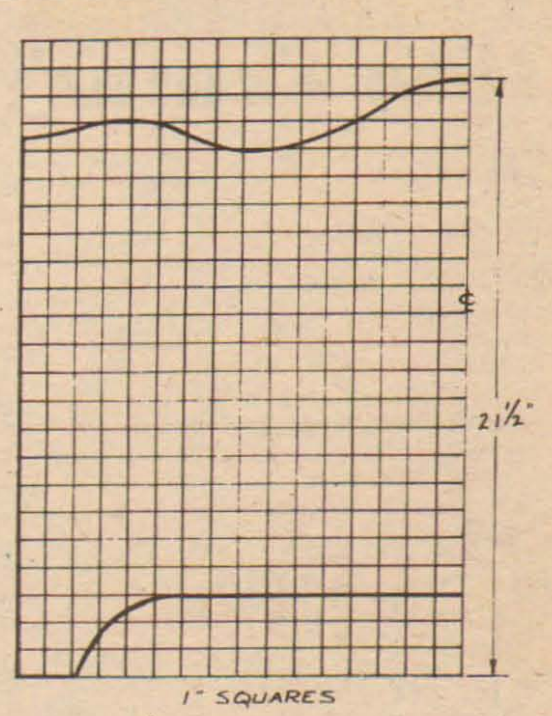
It is not necessary to glue the half-lap joint; in fact the table can be easily disassembled and packed for moving if this joint is left dry. Try for a clean, tight fit of the half-lap joint though, for it will be forever visible through the glass. Small soft rubber pads cemented to the tops of the legs will provide the friction needed to help hold the glass in place. Actually, the glass is quite heavy and if a wide and steady support is provided, there is no need to fasten it.



Early American Wall Shelf







This charming piece has the happy facility of being attractive in almost any room of the house. The photograph shows it hung over the dining settee in a kitchen. Construction should present no great problems for the craftsman lacking power equipment. Dados may be omitted by fastening the shelving units to the sides with screws counter-bored for dowel plugs.

Enlarge pattern for sides and transfer to ¾" x 8" pine. It's best to cut both sides at the same time; otherwise cut sides separately, clamp together and rasp and shape them as one unit. Mark location of shelf units and cut dados ¼" deep.

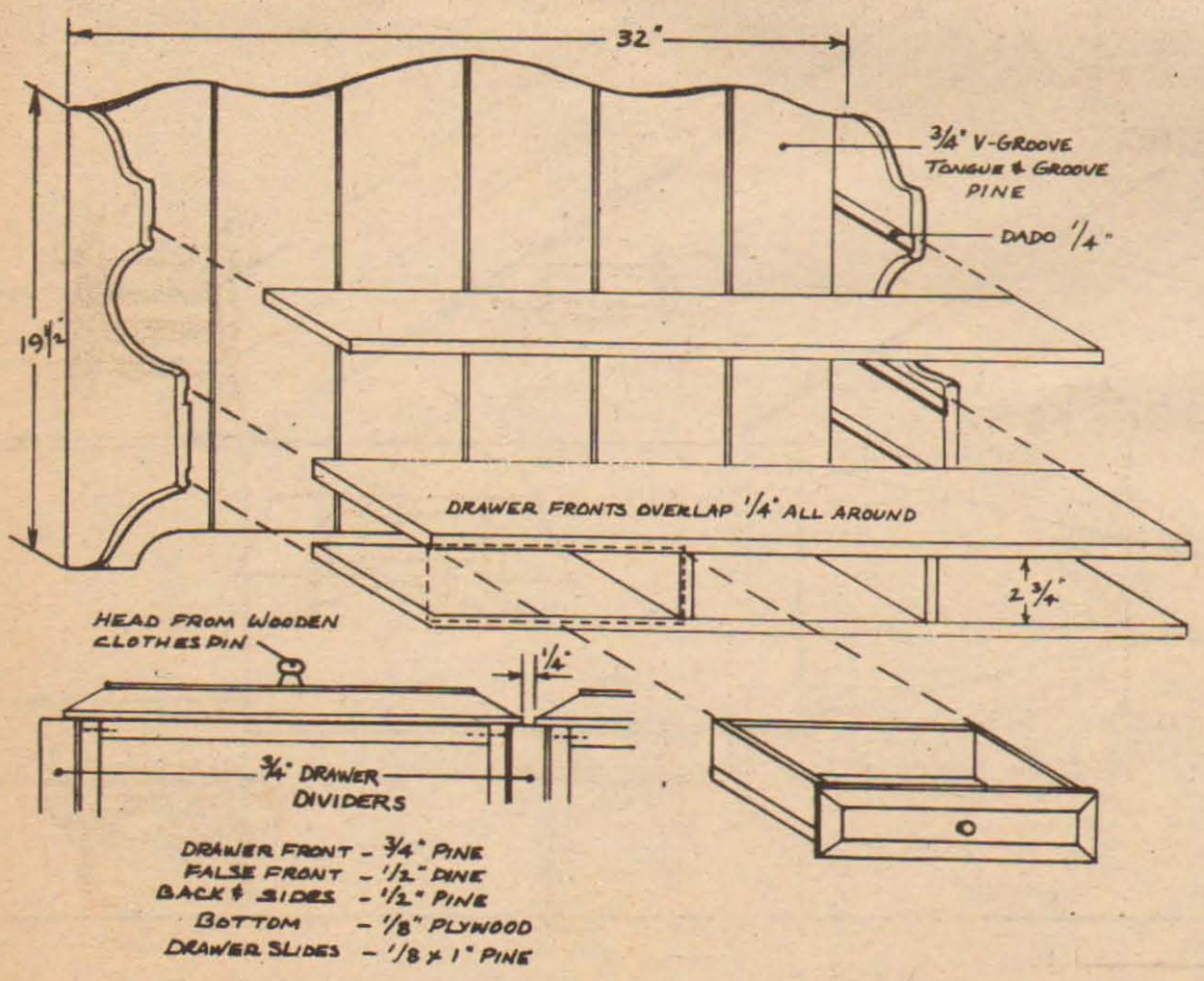
Clamp and glue ¾" tongue and groove stock for back unit. Transfer scroll pattern to glued up stock and cut to shape. Note that the back unit is 30½" in length. When the sides are butted and fastened to the back, the overall length of the piece is 32". This facilitates fastening to wall studs. If you choose to alter the length to fit a particular area, it will probably be necessary to fasten to the wall with flange-type fasteners designed for plasterboard.

Fasten back to sides with glue and finishing nails. Cut top shelf to length. The width of this shelf should allow it to project beyond the dados by ⅛". Fasten shelf with glue and finishing nails driven through back. Be careful to sponge off glue drippings. Assemble drawer frame-shelf unit with dividers equally spaced, and glue into dados, again nailing through back unit.

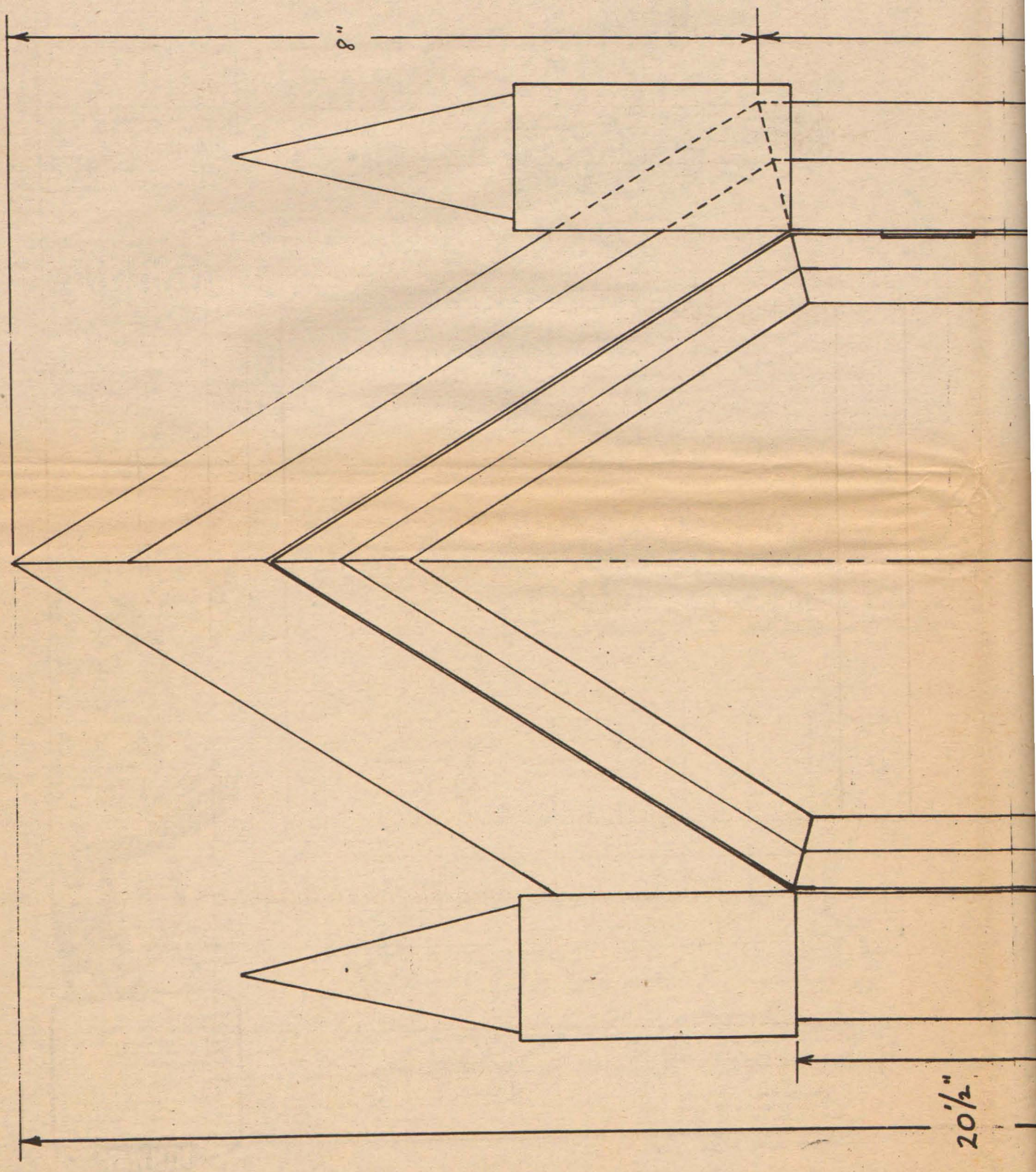
Drawer fronts are of ¾" pine cut with a raised center panel. Again if power equipment is lacking, the bevels may be cut with rasp or plane. False fronts of ½" pine are cut to length to provide a rabbet wide enough to accommodate ½" drawer sides, ⅛" slide strips, and ¼" drawer lip overlap. Exact measurements are not given, as it is best with small drawers to cut and fit each drawer unit to its own opening.

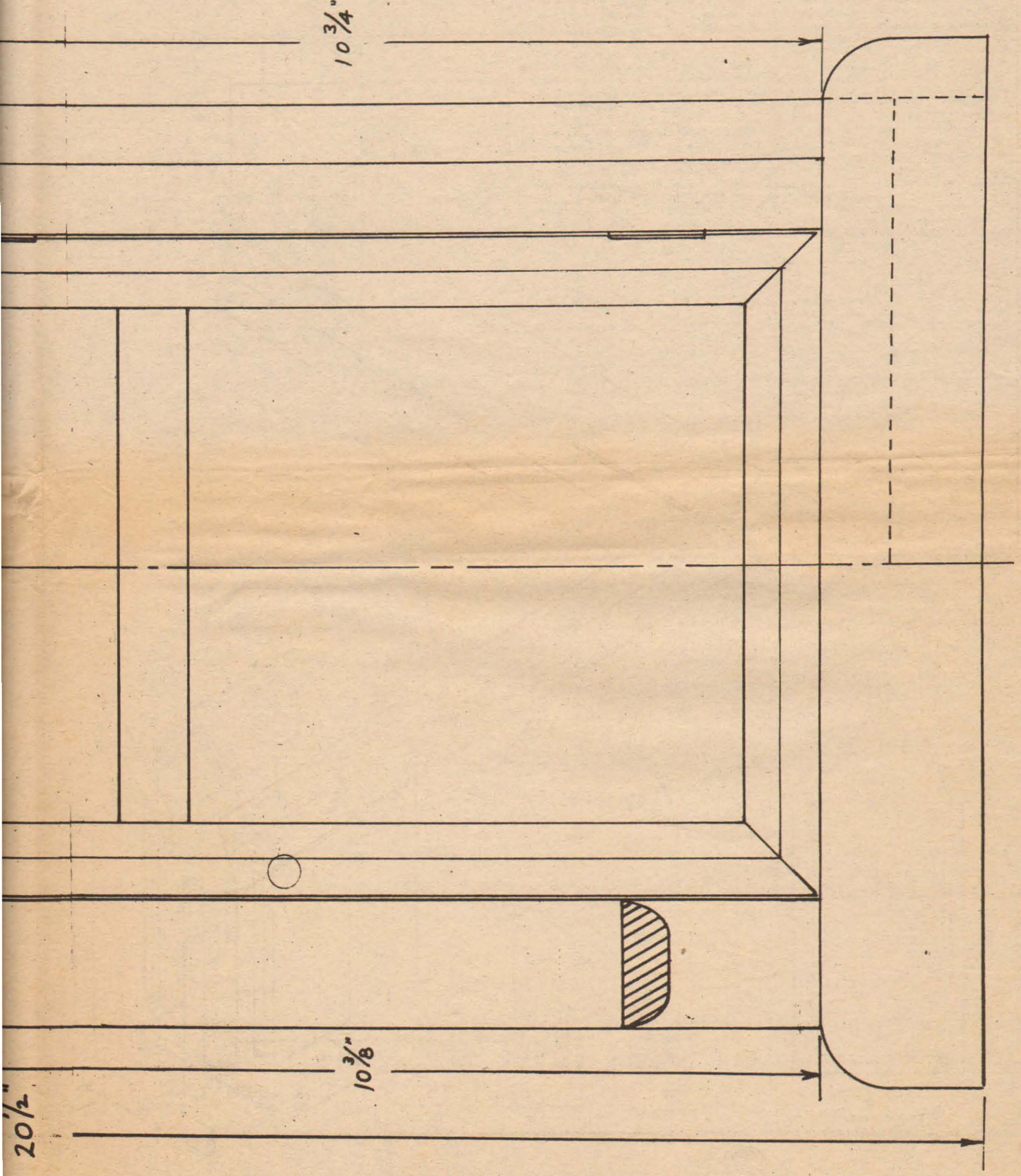
False fronts and sides are grooved ¼" to receive plywood bottom. If you wish to avoid hand cutting these grooves, the drawer bottoms may be glued to ½" x ½" cleats glued and bradded to the front and sides. This is acceptable for small drawers but requires careful fitting of the plywood bottom. Cutting these grooves with hand saw and chisel is a good exercise in basic woodworking technique and will increase skill, confidence and pride in your work. The drawer backs are dadoed into sides, or butted and nailed. Plywood bottoms are nailed to backs. Drawer knobs are cut from heads of wooden clothespins, or use commercial ½" wooden knobs. These can be mounted using long round-head screws driven from the back or more authentically, using ⅛" dowel pegs and glue.

Go over entire piece rounding all edges and beveling the slight protrusion of upper shelf. The judicious use of tire chains, hammer, and awl will provide the distress marks that add considerably to the charm of old pine. Sand well, working down to a fine grit paper, and stain to your preference. Two coats of a dark stain such as Minwax Special Walnut looks particularly good with distressed pine. Two coats of thinned shellac including all interior surfaces, followed by two coats of satin varnish completes the project. For wall mounting, fasten mending plates to back edges of sides with screws.



19th Century Steeple Clock




10 3/4"
10 3/8"
20 1/2"

19th Century Steeple Clock

The Steeple clock or Gothic Sharp clock, as it was originally called, was designed by Elias Ingraham of Bristol Connecticut about 1835. It proved to be one of the best sellers of any distinctively American clock design. Unfortunately Ingraham failed to secure a patent for his design so it was widely copied and sold by many manufacturers. This example is larger than most Gothics being commercially produced today. It is a very imposing piece when mounted on a wall shelf or mantel.

A fine case such as this should have an 8 day spring driven movement which strikes the hour and half hour; but a smaller battery or spring wound movement without strike can be used. Walnut or cherry are the best choices for the case, although mahogany or clear pine with an antique finish are also handsome. Please note that board thicknesses are actual size; therefore it will be necessary to have some boards surfaced to ⅝". The full size view will prove very helpful as parts may be cut and laid out on the sheet. An accurate fit will be easily attained in this way.

Begin construction with the base (A) which is ¾" x 5¼" x 10". Next, round off the top edge of a 2 ft. length of ⅝" x 1¾" stock giving it about ¾" radius and from this, cut side and front trim pieces (B.) These are glued to base with mitered joints at the front corners. Drive small brads into base to prevent trim from creeping when applying clamp pressure. Cut and fit glue blocks as shown.

Cut sides (C) to size, notching for the steeples and running a ¼" rabbet along back edges for the back panel. Assemble sides to base with glue and 2 countersunk fh wood screws on each side. Make roof pieces (D) with rabbets and steeple notches and attach with glue and carefully fitted glue blocks. Stiles (E) are cut and attached flush to sides with glue. Make moldings (F) and glue to front of case. Drive screws through stiles into moldings.

Shape door frame members (G) in one length, then cut to length and join with glue and ⅛" splines. Muntin (H) is assembled from 2 pieces; the back piece 5/16" x ¼" (shown in section BB) is 1½" longer than the front piece. This is rabbeted into the sides of door frame. Install glass in top and bottom sections. Glass is kept in place by glueing ¼" strips into rabbets. Mortise hinges into right door edge; install brass knob and small friction catch and hang door. Note that door is off-set ⅛" out from stiles. Glue in ¼" x ¼" door stop.

Cut dial support (K) to size and cement dial to it using rubber cement. Using dial as a pattern, locate and drill holes for hand shaft and 2 key stems if 8 day movement with striker is installed. The clock hands should be located as close as possible to the door glass without actually touching. Fasten movement temporarily to back of dial support and measure the projection of hand shaft. The dial support blocks (J) are cut to a thickness to provide the slight clearance between hand shaft and glass. Upper support blocks are 4¾" long x ⅜" wide. Lower blocks are 2¾" long x ⅜" wide. These blocks are glued to stiles. Screw dial and support to support blocks (J).

Make steeple assemblies and glue into place. Remove movement and sand case carefully. Finish with desired stain and four coats of lacquer; also coating inside surfaces to minimize shrinkage and swelling. Re-install movement with bushings furnished and fasten back panel with 5 small brass fh screws. If a pendulum movement is installed, always remove pendulum before moving the clock.

Clock parts required are: movement with hands, dial, and door hardware. The decorative lower door panel can be handled in a number of ways depending upon your artistic ability and inclination. A suitable scene cut from a Christmas card can be fastened to the back of the glass or you may want to try your hand at reverse glass painting. A simple gold and red sunburst design on a black background looks very good. The Mason and Sullivan Company of Osterville Mass. sells a painted panel that will fit this door. The clock on the cover has a reverse glass painting depicting an ornate hot-air balloon launched in commemoration of Napoleans' coronation.

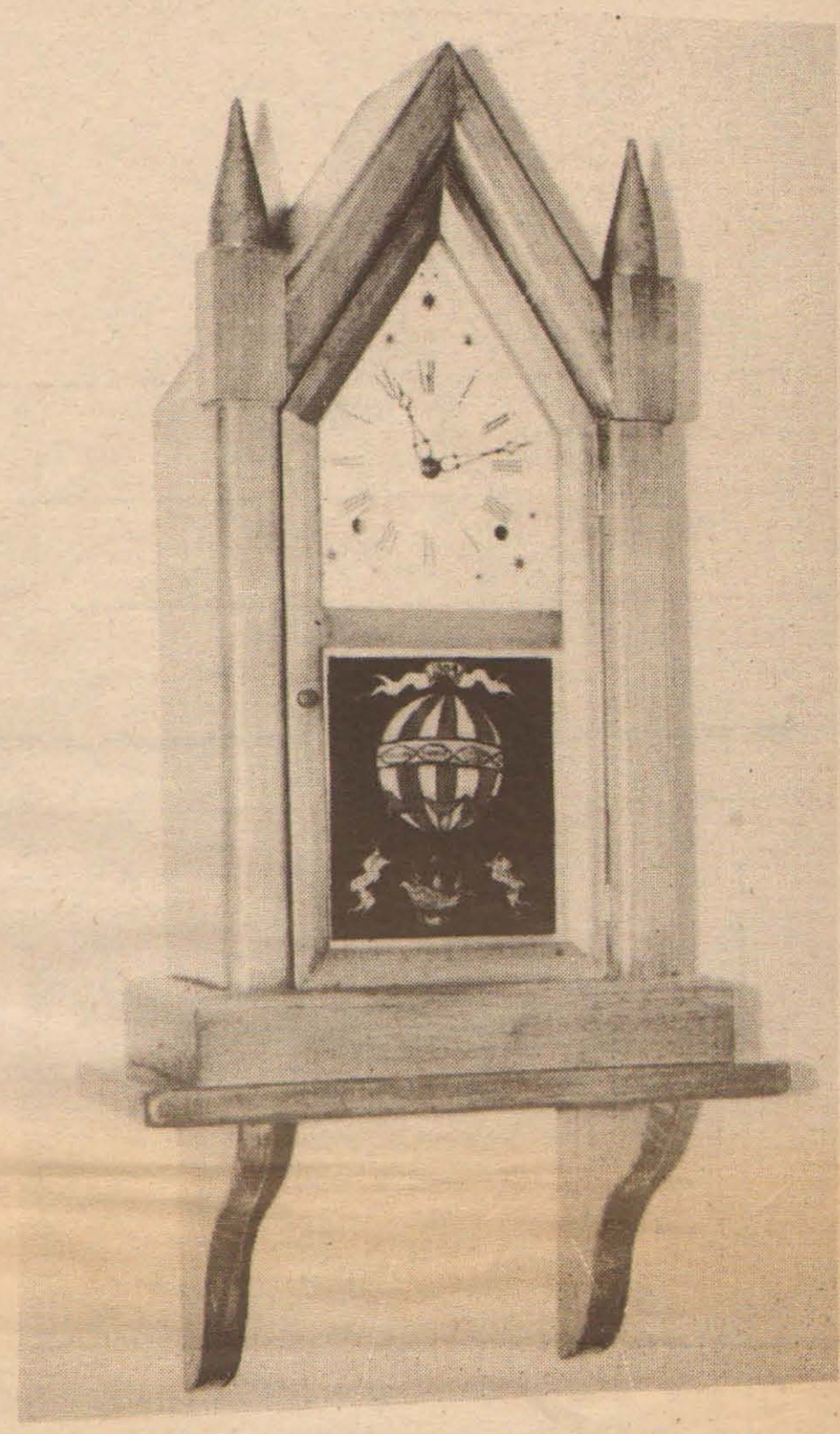
Suppliers of clock movements and hardware:

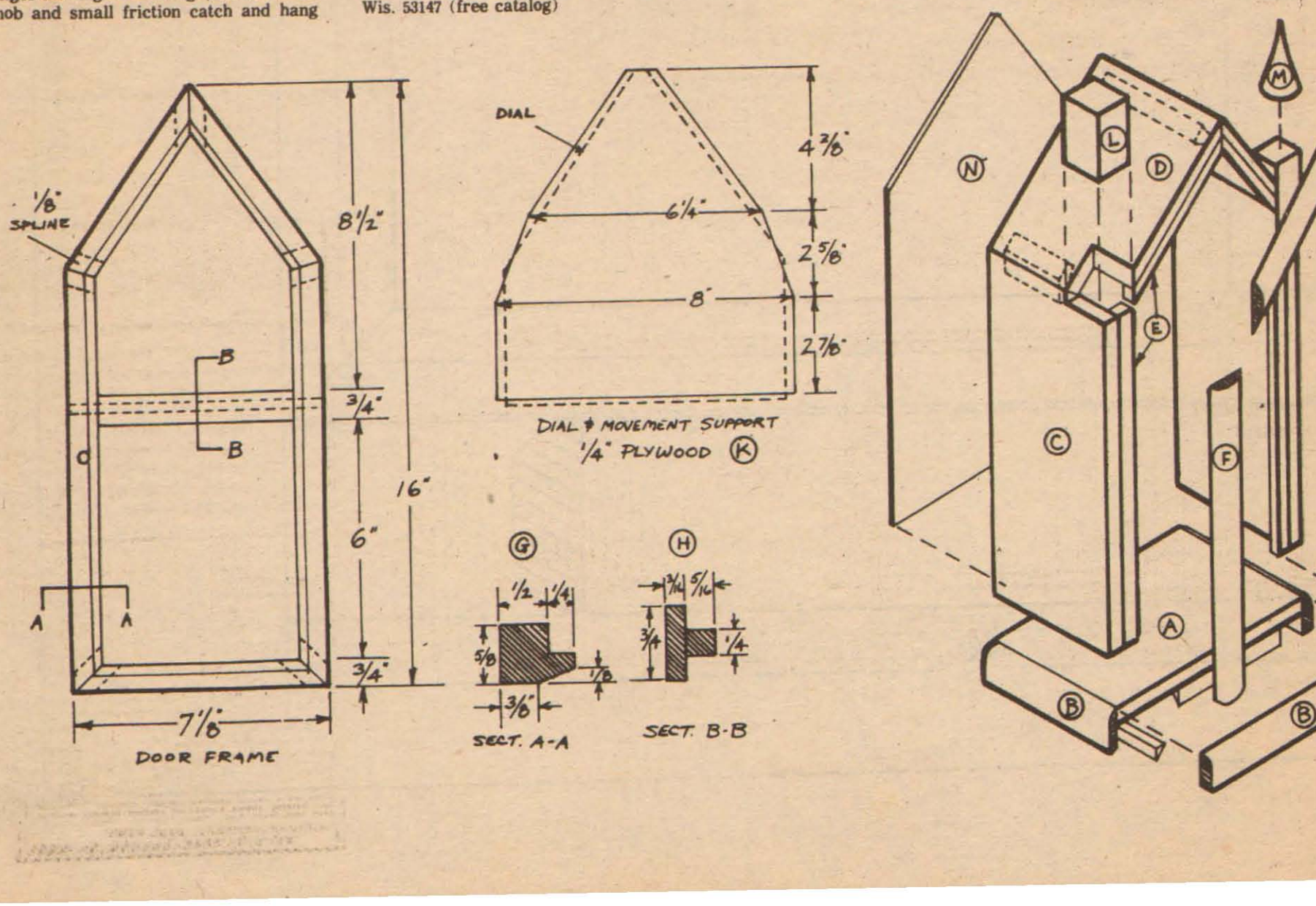
Mason and Sullivan, Osterville, Mass. 02655 (catalgo 50 cents)

Craft Products Co., Elmhurst, Illinois 60126 (catalog 50 cents)

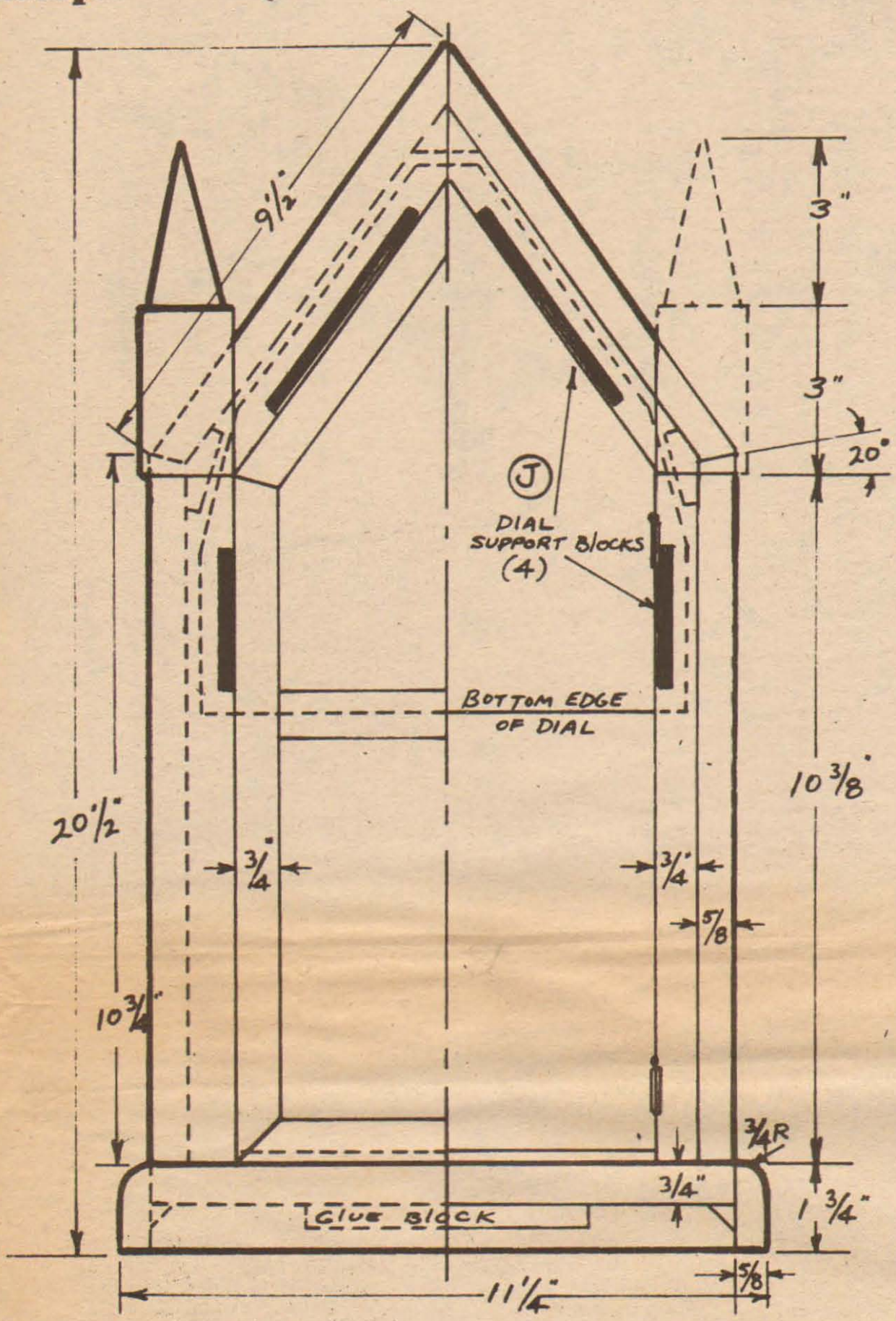
Newport Enterprises Inc., 2309 W. Burbank Blvd., Burbank, Calif. 91506 (catalog 50 cents)

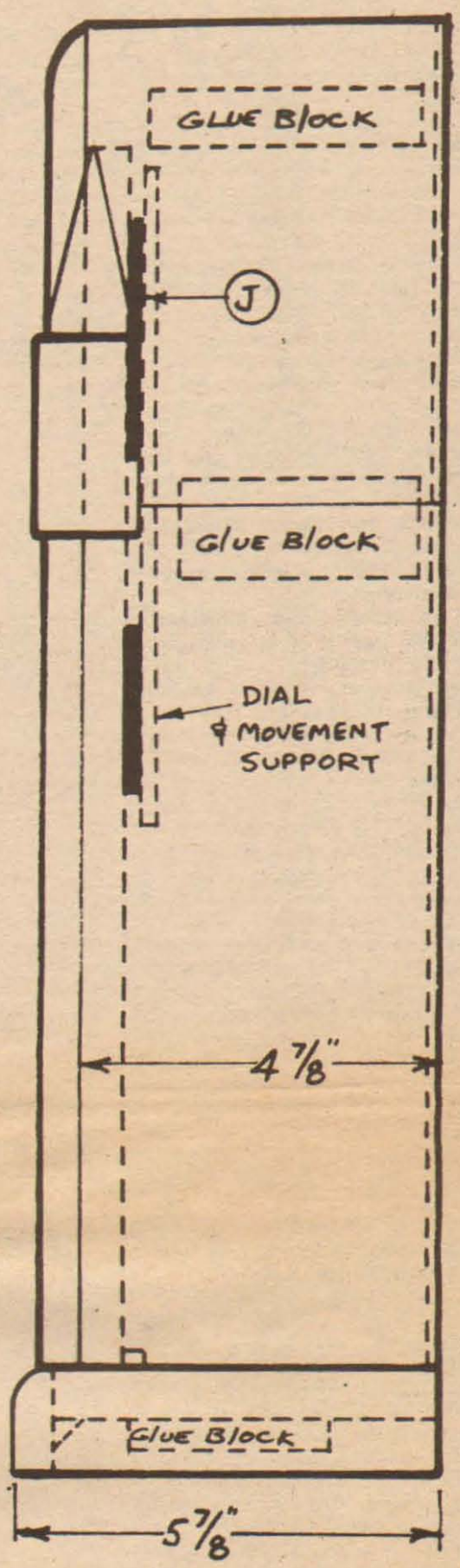
Klockit, P.O. Box 629, Lake Geneva, Wis. 53147 (free catalog)

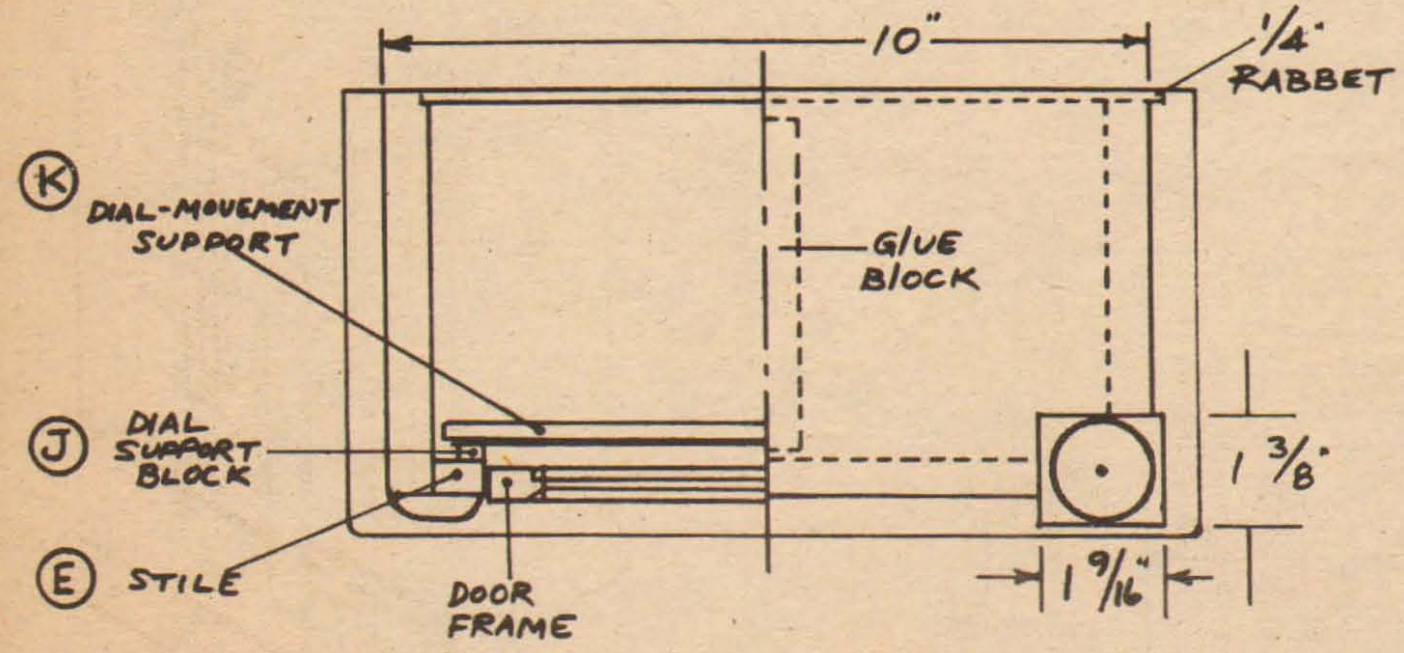




Steeple Clock (cont'd)





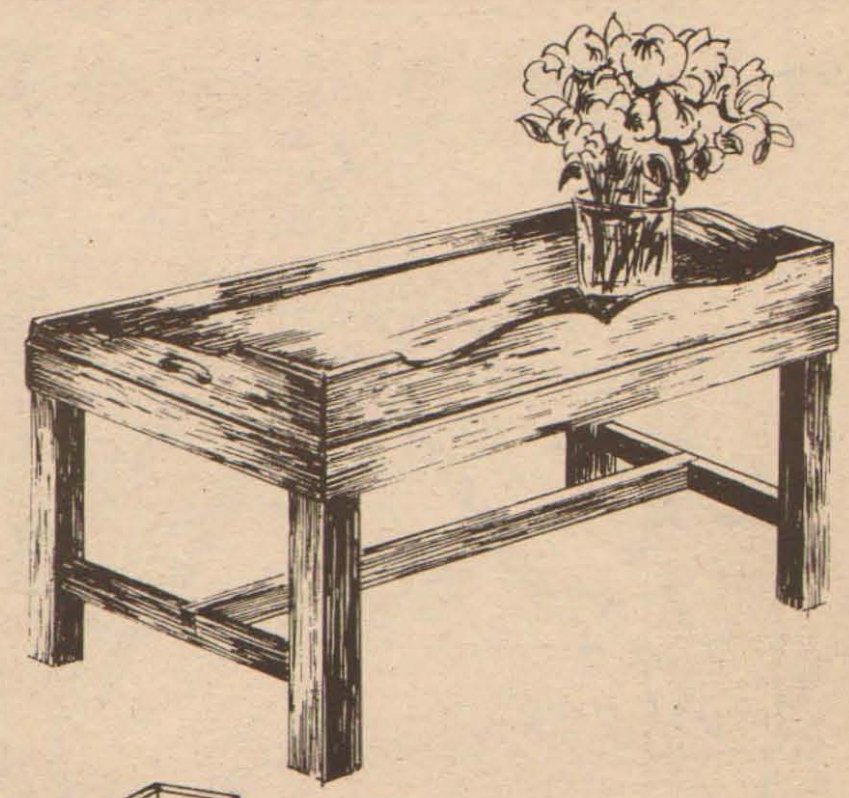


TOP VIEW

Shop-Tips

When using glue that comes in powdered form and must be mixed with water, try mixing your batches in soft plastic containers such as the little tubs that margarine comes in ... or cut up bleach or detergent bottles. Whatever glue remains in the container can be easily popped out when it hardens; resulting in a clean container ready for re-use.

Butler's Tray Table



This fine Mahogany table is based on an 18th century English design. The tray top with hand grips is removable for serving and features a handsome scrolled rim. The table top and tray bottom are of ¼" mahogany plywood — all other stock is solid Honduras mahogany.

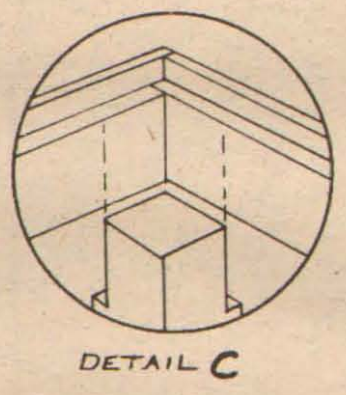
Eighteenth century English cabinetmakers worked with mahogany cut in the West Indies and Central America. This variety, referred to as Honduras mahogany is the proper type for reproduction of fine period English and American furniture. Many lumber dealers stock Phillipine mahogany which is not really a mahogany but a type of tropical cedar called Luan or Bataan. This is a light weight and soft wood, not suitable for most furniture. It is good for shelving, veneering of flush door panels and boat planking. You may also come across African mahogany which is a tough, hard wood; quite handsome with its dark reddish color. This type is often used in boat construction.

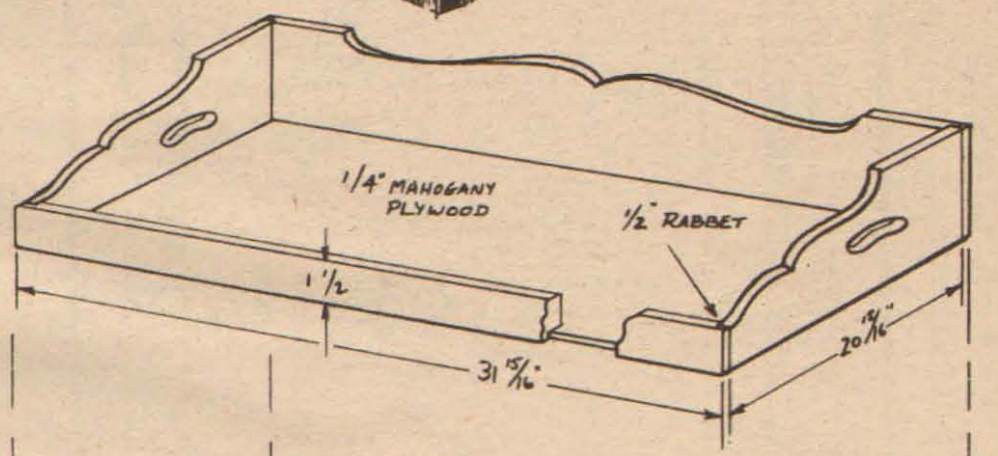
Begin construction by glueing and clamping two lengths of ¾" mahogany together to form the legs — or use solid 1½" stock. Shape top of legs as shown in detail A. Legs are cut to 16½" length. Cut table front, back, and end rails from ¾" stock and rabbet upper inside edges of all pieces as per detail B. In addition to the upper edge rabbet, the front and back rails are rabbeted ¾" to receive the end rails. Glue and clamp pieces together, taking care to keep the assembly square. Drill pilot holes and glue, clamp the screw legs in place as in detail C; using 1¼ x No. 8 fh screws. Cut ¼ plywood top very slightly oversize and plane for good final fit before glueing and clamping in place.

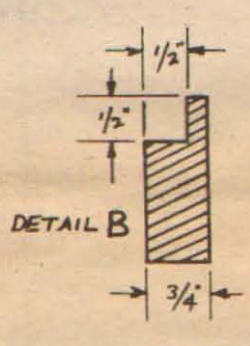
Stretchers are cut from ¾" stock, cut to length and half-notched to receive the lower cross-rail. Glue this assembly together and then glue and clamp in place between legs with lower edges 5" up from bottom of legs. After glue has thoroughly dried, mark and drill for ¼" dowels. Drill dowel holes 2¼" in depth. Cut dowels slightly long and groove them to release trapped air before driving into glued holes with a soft mallet. Chisel excess dowel off.

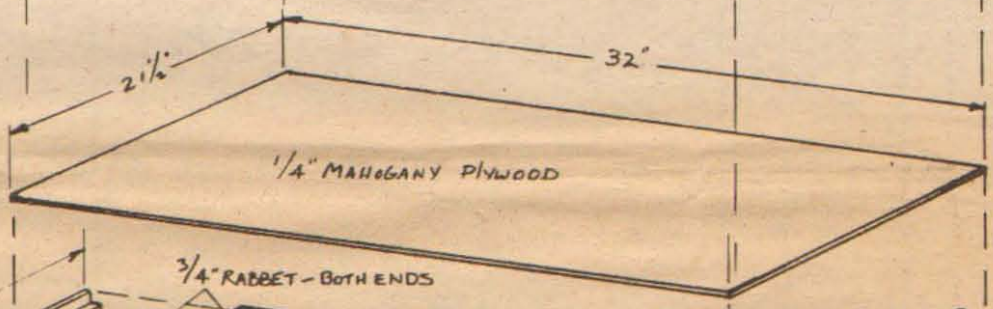
Cut four tray rim pieces from ½" stock. Run ½" rabbets on ends of front and back rim pieces, and a ¼" rabbet on lower inside edge of all pieces to hold tray bottom. Enlarge grid drawings and transfer to back and side pieces. Shape with saber saw. Next, drill 1" holes at each end of hand grips and remove stock in between with saber or coping saw. Rasp and sand all curves smooth and round off top edges. Glue and clamp tray together, again taking care to keep the assembly square. Cut and plane plywood bottom for a snug fit and attach with glue and brads.

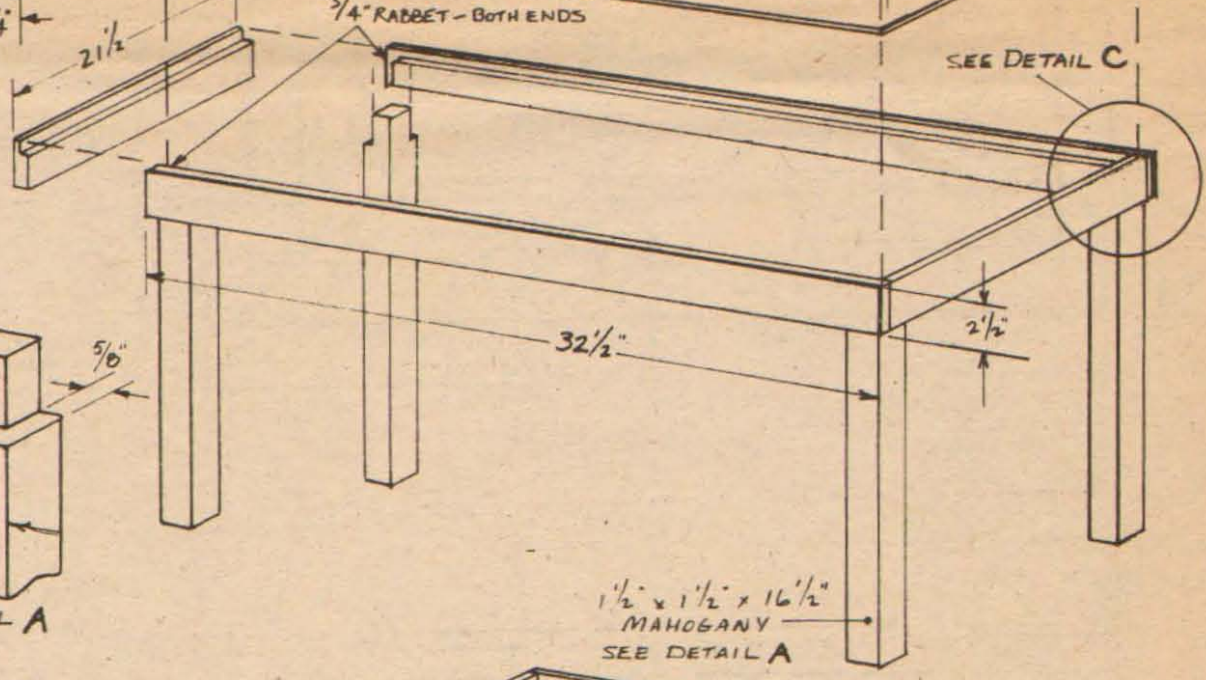
Sand entire piece carefully with medium, fine, and very fine sandpaper rounding top edges of table top and tray and breaking sharp corners on legs and stretcher assembly. Dust piece and apply mahogany stain to the desired tone. After stain has dried, brush on a wash coat of thinned shellac. For a very smooth finish on open-grained woods such as mahogany, a paste wood filler should be used. Choose a wood filler that is color-tinted to match the mahogany, and apply according to manufacturers directions. It is best to work a small area at a time, using a short-bristled brush and following the grain of the wood. When filler begins to lose its shine, wipe off with burlap pads rubbing across the grain. Follow this by rubbing lightly with a clean cloth until all surplus filler is removed. Allow to dry for at least 24 hours before applying sealer coat of thinned 50/50 varnish and turpentine. When sealer coat is dry, sand lightly and go over piece with a tack cloth before laying on final coat of full strength satin finish varnish.

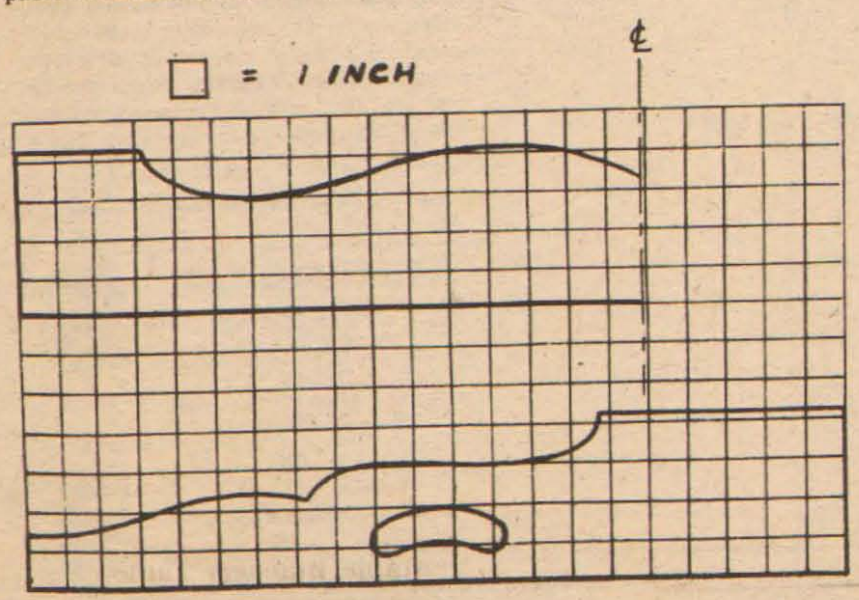


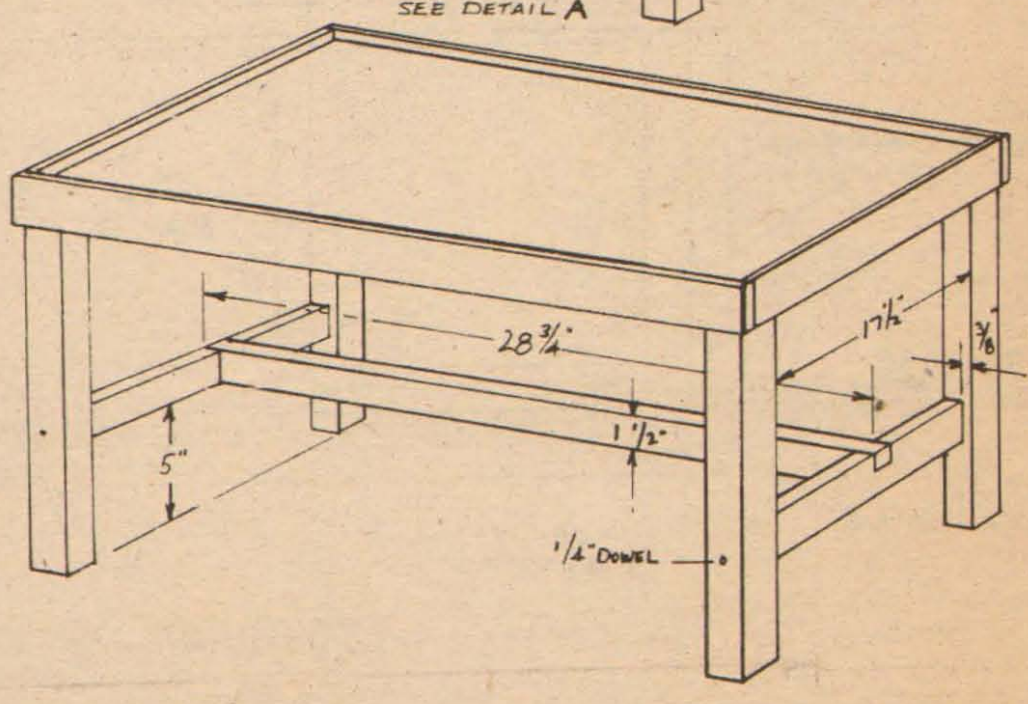












Velvet Lined Treasure Case

This fine case can be adapted to hold almost any small prize possession; perhaps an antique set of measuring instruments, or a jewelry collection. The case shown in the photograph was made for an 1861 Colt Union Army revolver and appropriately, the velvet is dark blue.

This is a deceptively simple project. Considerable care will be required to achieve neat and tight joints; but much of the beauty of the case lies in it's well fitted dovetail and rabbetted joints. Take your time on this one, handling your tools with affection, as you should, and you will turn out a piece that will bring a feeling of pride everytime you look at it.

All stock is ½" thickness (actual). The original case is pine, but walnut would be an excellent choice. The top and bottom are identical, and each is made up of 3 jointed and edge-glued pieces; cut to size and planed dead flat. It is important that these pieces be flat in order to cut rabbets accurately. Run the ½" rabbets around all 4 edges, leaving a lip three-sixteenth to one-quarter inch thick.

Next, cut stock for sides of case and lay out dovetails. A cardboard template of the dovetails will assure uniformity. Lay out male pins and cut with a fine dovetail saw and razor sharp chisel. You will note that the pins are quite narrow; a style that gained in popularity towards the middle of the 19th century. After completing a set of pins, stand them against the adjoining case side and scribe around the pins with a small, sharp knife to transfer the exact shape for the corresponding sockets. Cut our sockets and identify each completed set with a light pencil mark as you proceed so that each set of pins can be later fitted to their particular sockets.

After all dovetail joints are cut, the case is assembled with glue. After drying, a cut is made completely around the box 1⅛" down from the best surface selected to be the top. If this operation is performed on a table saw, use a blade that will cut as narrow a kerf as possible. After the lid has been cut off, cut a slab of 2" styrofoam to fit inside the box. Lay out the treasures the case is to contain and outline them on the styrofoam with felt-tip pen; then using a gouge or even a sharpened spoon, cut out the styrofoam to the depth and shape necessary to contain the item to be displayed.

Velvet in the color of your choice is then wrapped around the styrofoam much as you would wrap a package. Excess material is folded neatly and flapped underneath where it can be secured with staples or thread. Leave sufficient slack in the velvet covering so it can be pushed down into the shaped depression.

When the styrofoam is covered to your satisfaction, set aside and sand and stain the case. Apply sealer to all surfaces of case sanding lightly between coats. Three or four well laid on coats of varnish, a final rubbing with 4/0 steel wool, followed by paste wax and buffing, will give the piece a finish with depth and durability. Small corner pads or felt may be fastened to the bottom if desired. Finally, mount solid brass hinges and hasp or lock with escutcheon plate.

Workshop Income

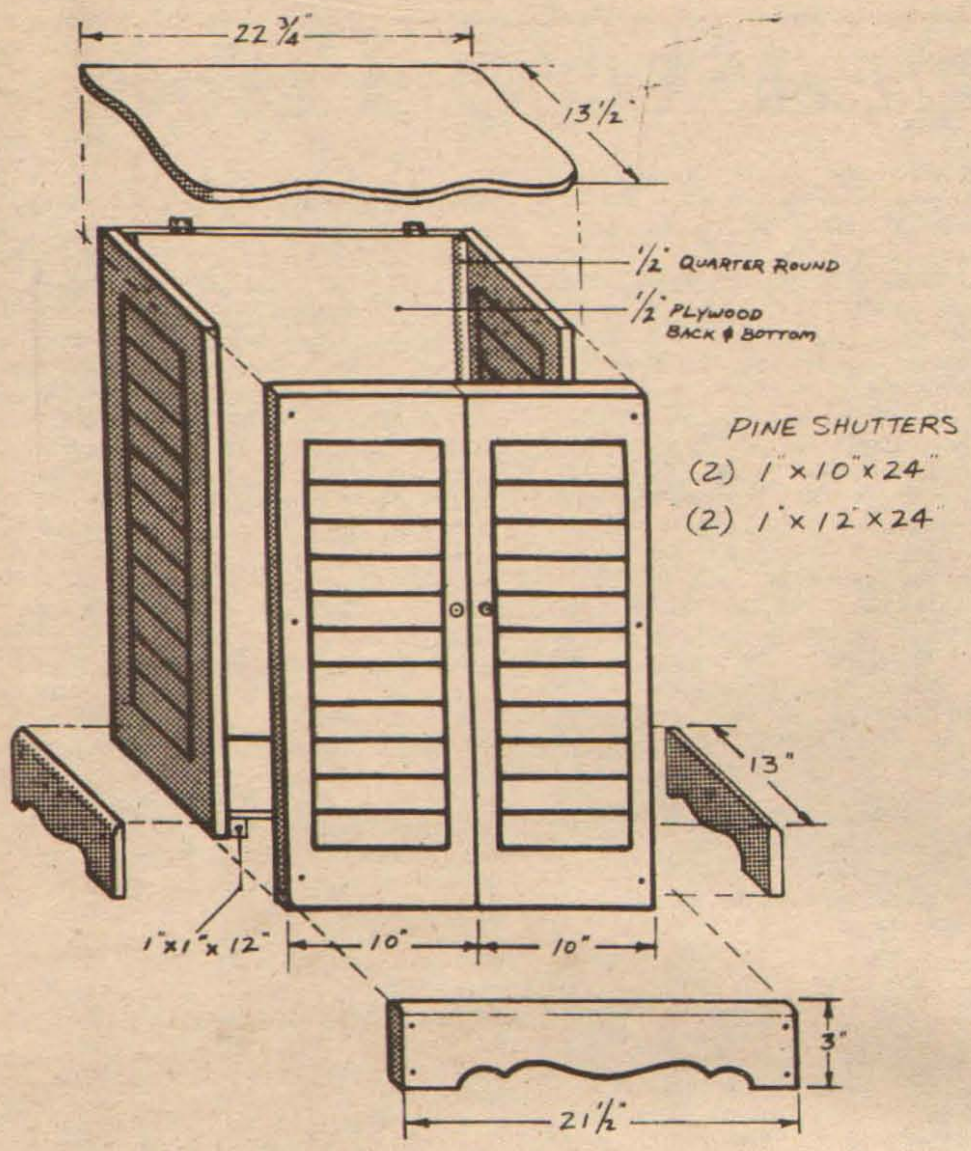
If you would like to make a profit on something produced in your shop, you've got to find something that will sell well, preferably over a long period of time. It's also necessary to keep your eyes and ears open to new trends, and do the bit of legwork needed to set up a way of marketing your product.

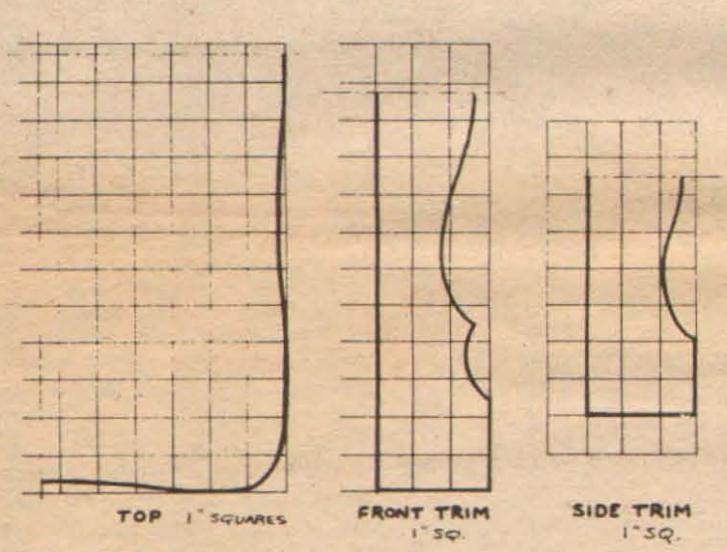
Speaking of new trends; have you noticed how many people are beginning to use firewood as a supplementary heat source in their homes? Since the price of fuel oil has soared, we have noticed large numbers of wood-burning stoves and space heaters being advertised. Stores specializing in wood stoves and fireplace equipment have been popping up all across the country. These stores sell not only stoves, but all the accessories needed for burning wood ... such as stove pipe, log carriers, and those circular racks for storing firewood.

Try putting together an attractive woodbox and showing this sample to as many stove and fireplace stores as you can easily reach. Consider a large, permanent wood box such as the Shaker box shown in this issue, or a small box with hand-grips that can also serve as a carrier. There is a definite and growing market for attractive woodboxes and these stores are an ideal outlet. It may be necessary to leave a piece on consignment the first time around, but thereafter, you should receive cash for your product. Several of these stores could provide enough business to really keep you busy ... and the price of fuel oil will continue to climb.

Included In The Next Issue:

- Authentic Colonial Butterfly Table
- Turned Fife Rail Table
- Maple Butchers Table





Louvered Hamper

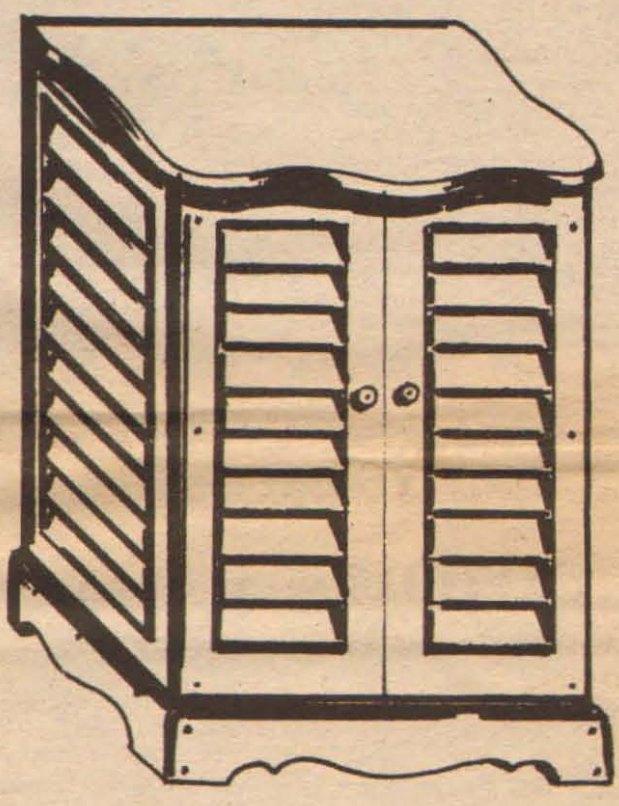
This handsome and useful piece will present no building problems for the novice cabinetmaker, and should be a very satisfying first project. With a stain and varnish finish, it has a definite Early American appearance. Painted, with an anitque glaze, it will fit in with almost any decor. The louvered shutters can be purchased ready-made at most lumberyards.

Begin construction by glueing and clamping the two front shutters together. This assembly gives the appearance of double doors, but actually, access to the hamper is through the hinged top lid. While the glue is drying, fasten 1" x 1" cleats with glue and screws flush with bottom edge of side units. These are the supports for the ½ inch plywood bottom. As an alternative, if you have a table saw you may choose to cut dadoes in the side units to provide slots for the bottom. The next step is to glue the bottom into place. The bottom, which is ½ inch plywood butts against the back. It should therefore be cut 11½" deep.

Glue and brad ½ inch quarter-round mouldings to back edge of both side units, taking care to locate moldings ½ inch in from the back edge. It's best to scribe a guide line to lay the molding along. Fasten front assembly to sides with screws and glue, countersinking and counterboring flat head screws for ⅜ inch dowel plugs. Now turn entire hamper face down and glue in plywood back, adding weights or clamping until glue dries.

Enlarge front and side trim to full size on stiff paper and transfer shapes to ¾ inch pine. Cut scrolls with saber saw and round off top edges with rasp or plane. The trim pieces are attached to hamper 1½ inches up from bottom edge, using screws and glue. These screws are also counterbored ¼ inch for ⅜ inch dowel plugs.

Glue and dowel two pieces of ¾" pine together to form the top and using full size paper patterns, mark and cut to shape. Locate and attach butt hinges and fasten top to hamper. Plug all screw hole with dowel plugs glued in place. Sand entire hamper with medium to very fine sandpaper. After sanding and rounding all edges, remove dust, and stain or paint to suit. The inside should be given two coats of thinned shellac.



The Beginning Woodworker

(Continued from Page 3)

bolts apiece. The short cross braces are 17" long. Screw these in place flush with inner edge of each leg. Check with your framing square to make sure assembly is square.

Using your framing square and measuring tape, lay out the ½" plywood shelf panel and ¼" back panel. Use a straight piece of stock as a straight edge to draw cutting lines. Cut both pieces to size and fasten shelf first. It should be screwed flush with the outer edge of lower frame rail with a ¼" gap at the rear for the back panel. Drive 1" x No. 10 screws evenly along edges. Next, add back panel behind shelf panel and resting on back lower frame rail. First, drive ⅝" x No. 6 screws from behind through back panel and into the edge of the shelf. Align ends of back panel with outside edges of legs, clamping in place if necessary, while driving ⅝" screws through panel into each back leg. Make sure that this panel is square and it will help pull the frame square when the two are screwed together.

Fig. 5 shows how the five lengths of 2 x 6 fir are fastened with two countersunk 2½" No. 10 fh screws at each frame cross piece. Fasten rear plank first, aligning it with back edge of frame, and centering it so that there is a 10" overhang at each end. Push other planks snug against the first and screw in place. Fasten 1 x 8 pine backboard in place by driving eight 1½" No. 10 ph screws through board into edge of plank.

The bench top may be used as is but the top planks may shrink a bit and you will find that small screws, nails, and wood chips will fall through the gaps between planks. For this reason, and for better appearance, it is advisable to cover the planks with ¼" hardboard or plywood. About a dozen ⅝" fh screws, well countersunk, will do the job.

Finally, measure the width of your vise and cut a narrow strip from the left front corner of the bench to permit the rear jaw of the vise to set exactly flush with the front edge of the bench top. Set completed bench in its desired location and level from end to end and front to back. If bench does not sit solidly, it may be necessary to shim one or more legs and fasten to floor with angle irons and lag screws.

Material List

Upper Frame — 2" x 4" fir, 17 ft.; 24 fh screws, 2 ½" x No. 10.

Legs — 2" x 4" fir, 12 ft.; 8 carriage bolts, ⅜" x 4" with nuts and washers; 4 carriage bolts, ⅜" x 6" with nuts and washers.

Lower Frame — 2" x 4" fir, 13 ft.; 8 carriage bolts, ⅜" x 4" with nuts and washers.

Shelf Panel — 1 pc. ½" fir plywood, 48¾" x 19¾"; 24 fh screws, 1" x No. 10.

Back Panel — 1 pc. ¼" fir plywood, 48¾" x 19½"; 20 fh screws, ⅝" x No. 6.

Top Planks — 2" x 6" fir, 30 ft.; 40 fh screws, 2½" x No. 10.

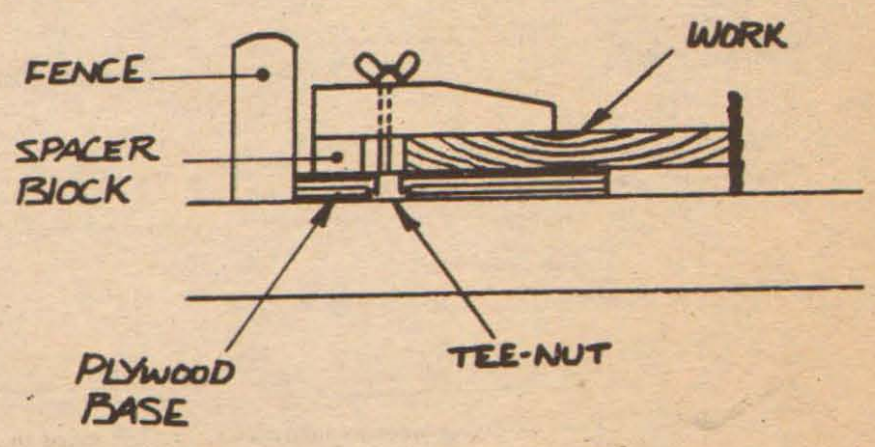
Top Panel (Optional) — 1 pc. ¼" hardboard or fir plywood, 28" x 72"; 12 fh screws, ⅝" x No. 10.

Back Board — 1 pc. 1" x 8" pine, 6 ft.; 8 fh screws, 1½" x No. 10.

Shop-Tips

Hardwoods are pretty expensive, but you can realize considerable savings if you're able to purchase lumber in the rough and surface and true it yourself. Boatyards and firms specializing in boat lumber sell seasoned oak and mahogany in the rough at reasonable prices but the boards are usually flitch cut from the log with the sapwood and bark still on. A jig is needed to clamp to the board so that one edge may be trued on the table saw. With one true edge, all further cuts are easily made.

A jig is easily made from a length of ½ x 6 inch plywood. The length of the jig will depend on how long most of the rough lumber is, but a length of 6 to 8 feet should suffice. Attach at least 2 hold-down clamps to plywood base with Tee-nuts and thumb bolts as shown. The factory cut edge of the plywood base rides against the table saw fence.



Colonial Pipe Box

Pipe smokers of the 18th century had to have some way to store and protect their long, delicate clay pipes. These decorative little boxes were usually hung on the wall near the fireplace, and a number of pipes could be stored bowl down in the upper compartment, along with a supply of pine slivers for lighting up. The small drawer held a supply of tobacco. There were many variations in design, and many were well decorated with chip carving and sunbursts.

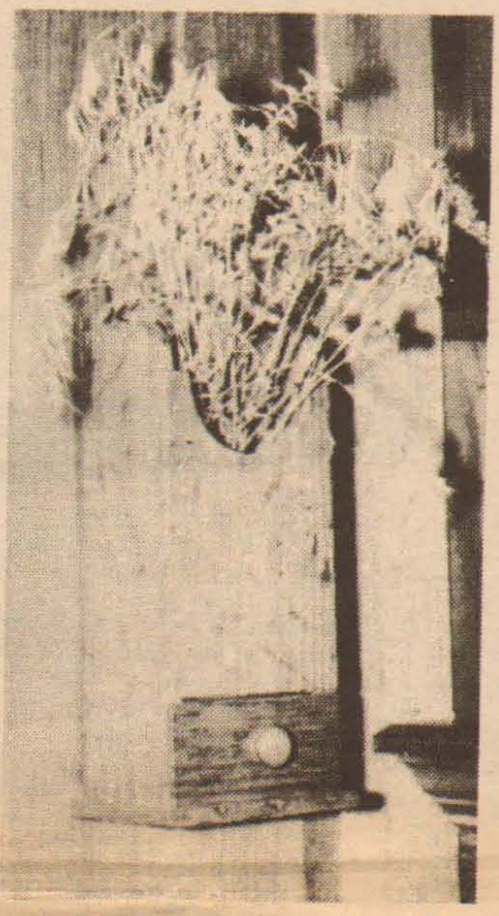
Pipe boxes sell now at gift shops for about $20., and have always been a popular item. Freshly cut flowers can be placed in a tall glass resting on the inner shelf, or as in the photograph, the box can be filled with a dried arrangement.

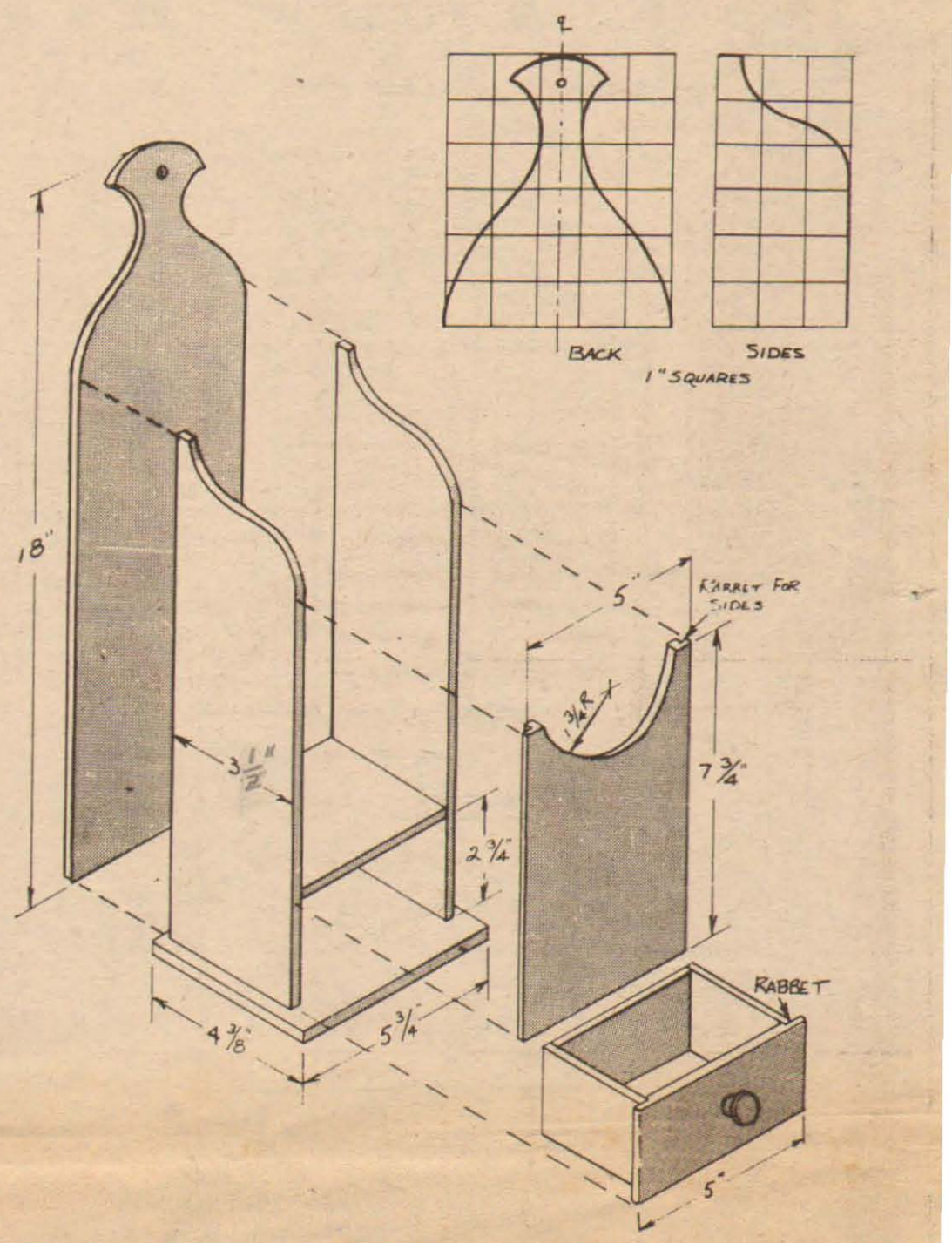
Soft pine is the wood to use, and all parts of the box are of ½ inch stock. Parts should be well sanded before assembly. Start by cutting a piece 5 x 18 inches long for the back, and two pieces 3½ x 12¾ inches for sides. Take care to cut all pieces exactly square. Enlarge patterns for curves on cardboard and transfer to wood. Cut curves with coping or saber saw. The sides should be clamped together and cut simultaneously.

Join back and two sides with glue and nails, taking care to remove all glue drippings with a damp sponge. The bottom edges of all three pieces should be exactly flush. Cut inner shelf to fit and nail in place through sides. Next, cut bottom to size and glue and nail in place, flush with the back. The front panel is rabbetted ⅜ inch so the sides fit snugly into the rabbet and the front panel is, in effect, recessed between the sides. Cut half-round shape on top edge, and after sanding, join front panel to sides with glue and small brads.

The drawer front overlaps ½ inch on each side. Cut a ⅜ inch rabbet in each edge of drawer front and nail and glue sides in rabbets. The drawer back is cut to fit and butt-joined with glue and nails. The drawer bottom is then cut to fit flush and nailed in place.

All edges should be well rounded with a rasp, and sanded carefully before staining. After stain dries, seal with thinned shellac. Sand lightly before applying final finish of low-luster varnish.

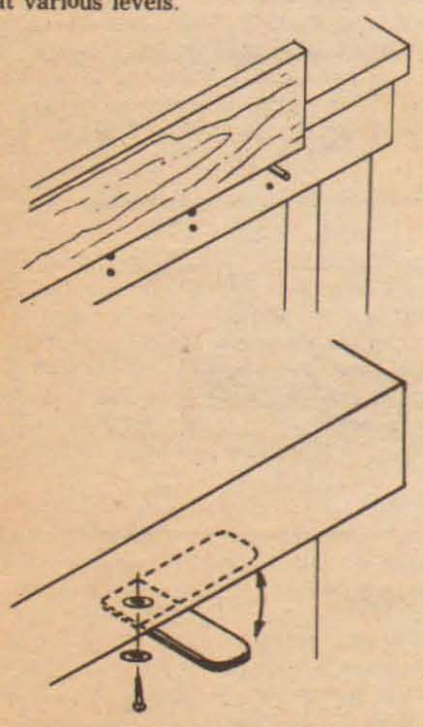




Shop-Tips

When planing the edges of long boards, one end is clamped in the workbench vise but some means of supporting the opposite end is needed. If your bench has but a slight top overhang ... drill a series of ⅜ inch holes along the bench front for a removable dowel pin. One row of holes should be level with the vise screw. A row or two of holes lower than the first will handle wider stock. Drill a storage hole for the pin in a place where it will be out of your way.

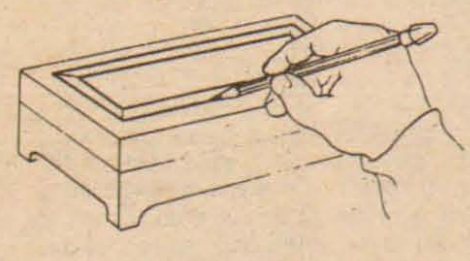
If your bench top has a wide overhang try screwing a short length of flat steel stock to the underside so it can be pivoted out for use and stored out of the way whennot needed. Round off exposed corners to prevent snagging of clothing. Spacer blocks can be used to set supports at various levels.



When using clamps to draw a glued joint together, don't apply too much clamp pressure ONCE THE JOINT HAS CLOSED. Squeezing the joint too tightly will only force too much glue out, resulting in a glue-starved joint that stands a good chance of failing when the wood shrinks a bit. Easy does it with clamps, especially the large pipe or bar clamps.

Old-time carpenters drilled a ⅜ inch hole about an inch and a half deep in the ends of their wooden hammer handles. This provided a receptacle for bees-wax used to libricate nails and screws before driving into hardwood.

A decorative inlaid effect can be easily achieved on a small chest or trinket box by cementing a strip of contrasting veneer tape around the lid. Outline this strip on both sides with a soft lead pencil, bearing down so that the lead grooves the wood slightly. Beneath a clear finish, this treatment looks like real inlay work.

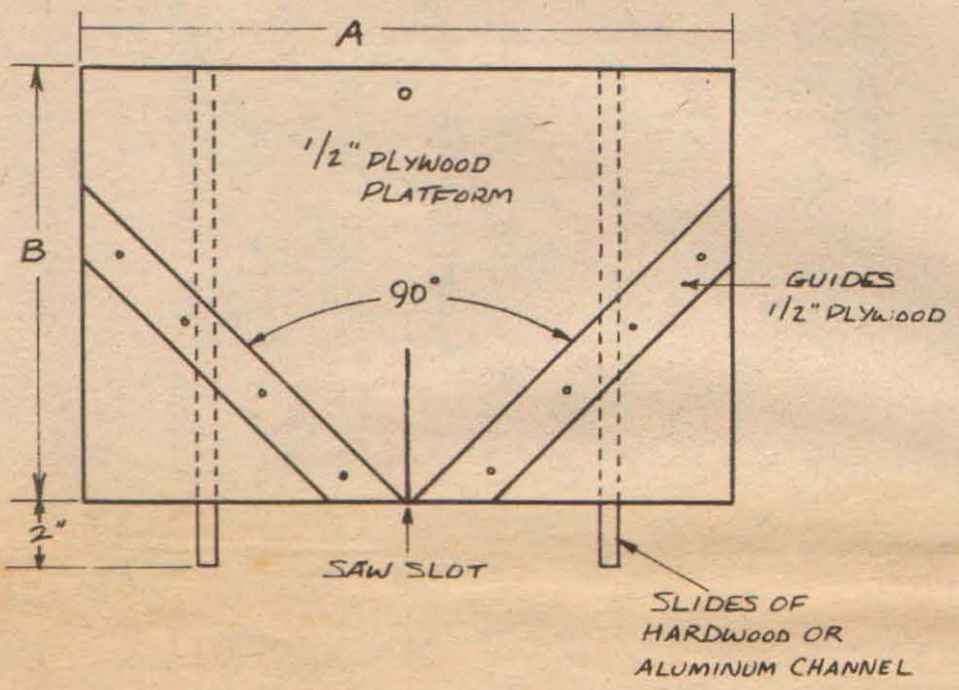


Clip the head off a finishing nail of proper size and chuck it in your drill. This will drill pilot holes in both soft and hard woods, if you don't apply too much muscle. Comes in handy when you can't find the proper small drill bit.

A Picture Framing Primer

Producing custom picture frames in your home shop is a pleasant way to earn a substantial extra income. It's also a great convenience to be able to make your own frames as needed. Moldings made especially for frames can be purchased at frame shops or by mail from firms specializing in framing equipment. Better still ... use standard lumberyard moldings if you can, and the total cost for frames will be very low. Be sure to choose straight, unwarped moldings without sap streaks.

There are a few general rules that will help you choose a suitable molding for the picture you wish to frame. Always keep in mind that the frame should compliment the picture rather than dominate it. Large ornate frames look best with large, dark oil paintings. Landscapes depicting rugged scenes such as seascapes or mountains look well when framed in natural oak, wormy chestnut or driftwood.



DIMENSION A = WIDTH OF SAW TABLE

DIMENSION B = DISTANCE FROM FRONT EDGE OF SAW TABLE TO FRONT EDGE OF BLADE SET AT MAX. HGT.

FIGURE 1

Paintings or prints in an abstract style look best with relatively flat moldings in solid colors or finished natural. Space does not permit us to cover all the many ways that frames can be finished. In the future, we hope to give further attention to techniques such as antiqueing, gilding, striating and many other attractive ways frames may be decorated to suit a picture.

If a colored frame is desired, or a combination of colored and naturally finished moldings, look for an accent color in the picture; this is one which is rich and deep and generally used sparingly in the composition. Mats and/or glass are rarely used with oil paintings, while prints and watercolors almost always look better with the addition of a mat; while glass is needed for protection from dust, smoke and insects. The outside dimensions of the mat will determine the outside dimensions of the rabbet cut in the back of the frame, and the size of glass needed.

Most home craftsmen are familiar with the technique necessary to produce clean miter cuts for picture frames. A simple miter box used with a back saw will be adequate if locked firmly in the workbench vise. A very handy jig for cutting perfect 45 degree angles with a table saw is detailed in Figure 1. This jig can also be used for halving discs. Cut jig platform as shown taking dimensions from your particular table saw. Set jig slides in table saw slots, making sure they rest against the outboard sides of slots, and then clamp slides to the platform. Turn platform over and secure slides with screws before releasing clamps. Run platform into saw blade to form center slot. It's best to use a hollow-ground satin cut blade for glass smooth cuts. Lay out position of plywood guides using saw slot as centerline. When screwing guides in place, use framing square to maintain perfect 90 degree angle. All shop jigs should be carefully sealed to prevent moisture from destroying accuracy.

Mitered frame sections should be sanded and finished before joining. Size end grain cuts with a thin film of glue and drill undersized pilot holes for proper size finishing nails. Put a dab of glue on mating pieces, lock one piece in the vise and join together, holding firmly while tapping the finishing nail in. Remove assembled joint from vise and set nail head and fill with matching filler. Frames can also be conveniently joined using the simple wedging jig shown in Figure 2. If you do much frame work, several of these jigs can be secured permanently to the bench top.

Mat board comes in a wide variety of colors and textures and you'll have to use your judgment to select the best

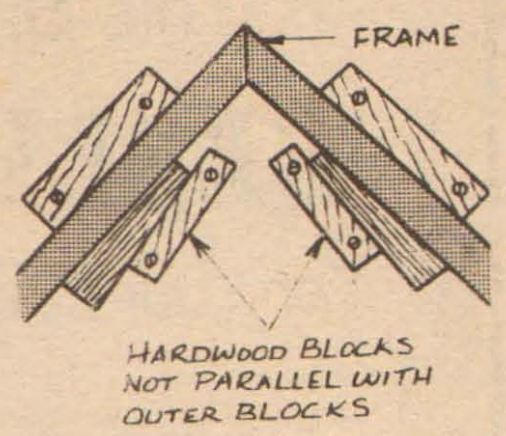


FIGURE 2

combination for your picture. The window opening in the mat must be cut carefully for a clean, neat effect. Keep in mind that the bottom border width should be about 15 per cent wider than the top and side borders; a typical mat having a 3½ inch bottom border and 3 inch borders at top and sides. The cut should be made with a slight bevel showing, using a sharp utility knife and a steel straight edge. If you've never framed your own pictures before, chances are you'll be so pleased with the results that you'll want to invest in a mat cutter. These are not too expensive and are available at artists supplies stores.

After cutting mat to size and cutting out opening, remove any slight ragged edges of matboard with fine sandpaper. The beveled edge may be tinted with a watercolor wash of the pictures' accent color and a neat border line of black, gold, or accent color can be drawn ½ to ¼ inches from the window edge using a ruling pen or a fine felt-tip pen.

Figure 3 shows how the components are fitted into the frame. Picture glass should not be a tight fit in the frame rabbet. When all is adjusted to your satisfaction, and well centered, drive 2 or 3 retaining brads into each side of the rabbets. Work carefully with a tack hammer to avoid cracking glass. Better yet, push brads in with long-nose pliers. When everything has been secured within the frame, run a thin film of white glue around back of frame. While glue is getting tacky, cut a sheet of brown paper roughly one inch bigger than frame all around, and sponge one side with enough water to dampen without soaking. Place paper dry side down on glued frame and smooth it down, working from the center outwards. As the paper dries, it will shrink drum-tight and provide a neat, professional looking backing for your picture. Trim excess paper from frame by rubbing fine sandpaper along edges. This does a much better job than trying to trim it with a razor.

The picture in the illustration is a Currier and Ives print framed in a standard crown molding purchased at the lumberyard. This was just thick enough to allow a rabbet to be cut deep enough to contain glass, print, and thin cardboard backing. If the inner edge of molding used is too thin to provide a ¼ inch rabbet, it will be necessary to construct a sub-frame of pine. This can be cut ¼ inch less in width than the molding and glued to it as shown in Figure 4.

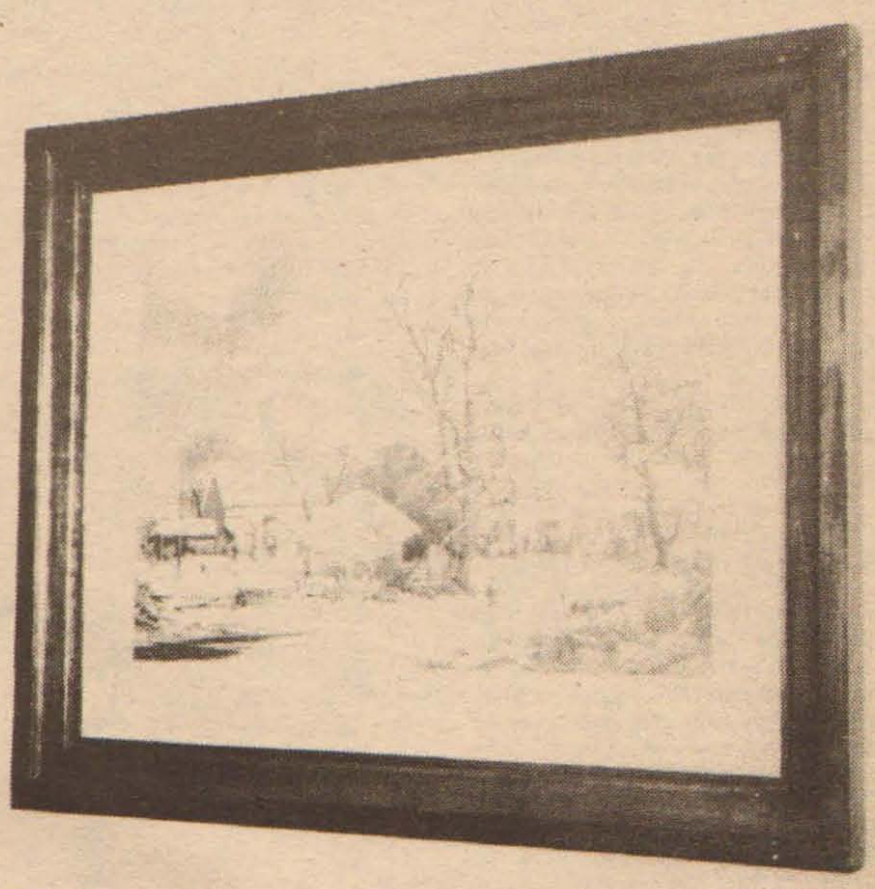
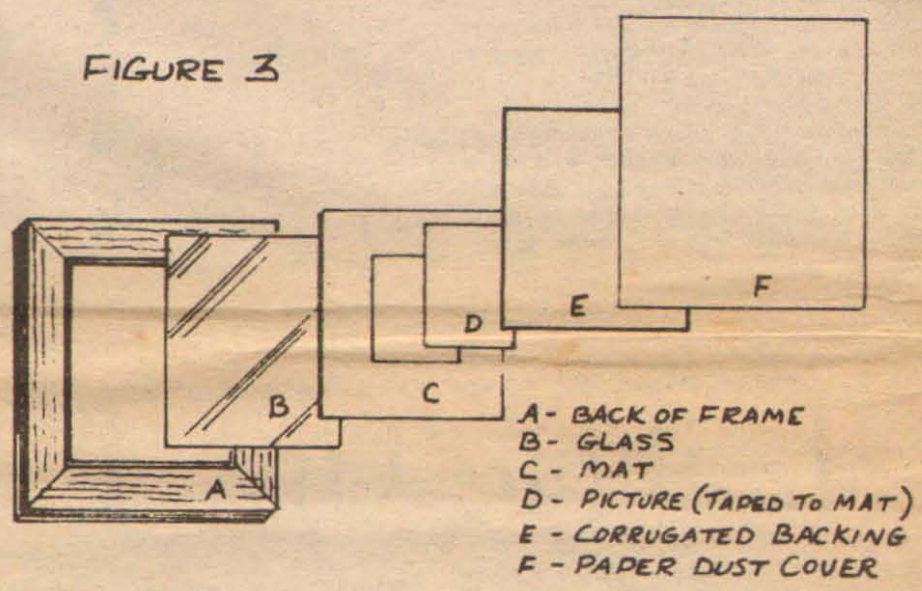


FIGURE 3



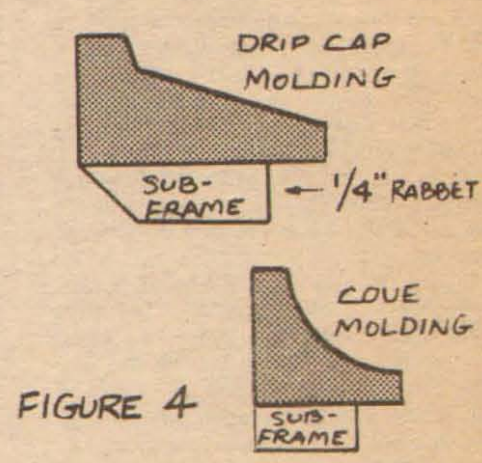


FIGURE 4

Shop-Tips

If you're new to woodworking — start with rustic pieces, and choose a wood such as soft pine or redwood which are easy to work. Early American projects are ideal as the joinery can be a bit on the sloppy side and yet not detract from the overall appearance of the piece, especially if it is antiqued or distressed a bit when finishing.

Glue blocks should be cut to fit with great care. They must fit the angle of the joint they are to re-inforce so that all surfaces have good contact. Spread a thin layer of glue at the joint and on the block itself, then SLIDE the block into place. This will spread the glue in a thin film and insure even distribution over the joint.