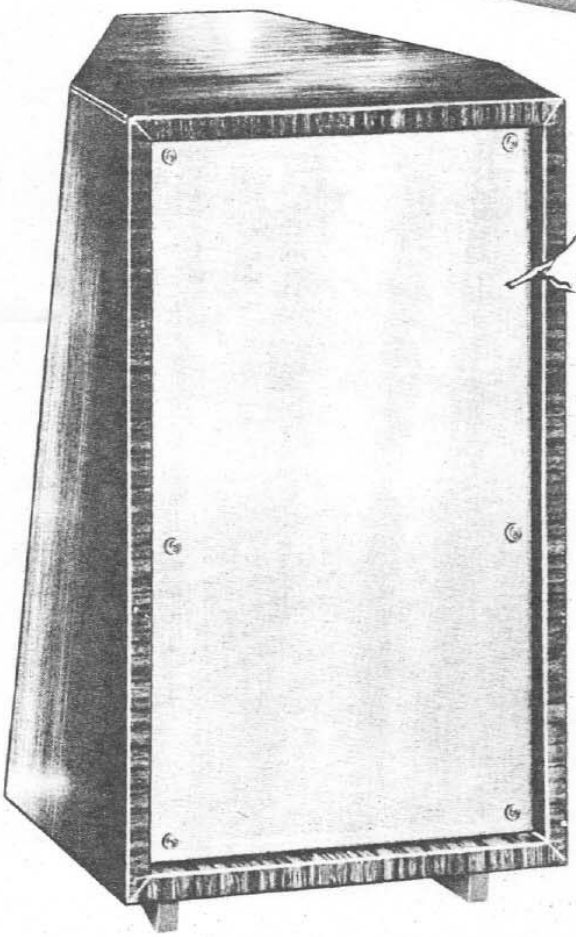
Do It Yourself!

MODEL No. 187
PRICE 75¢

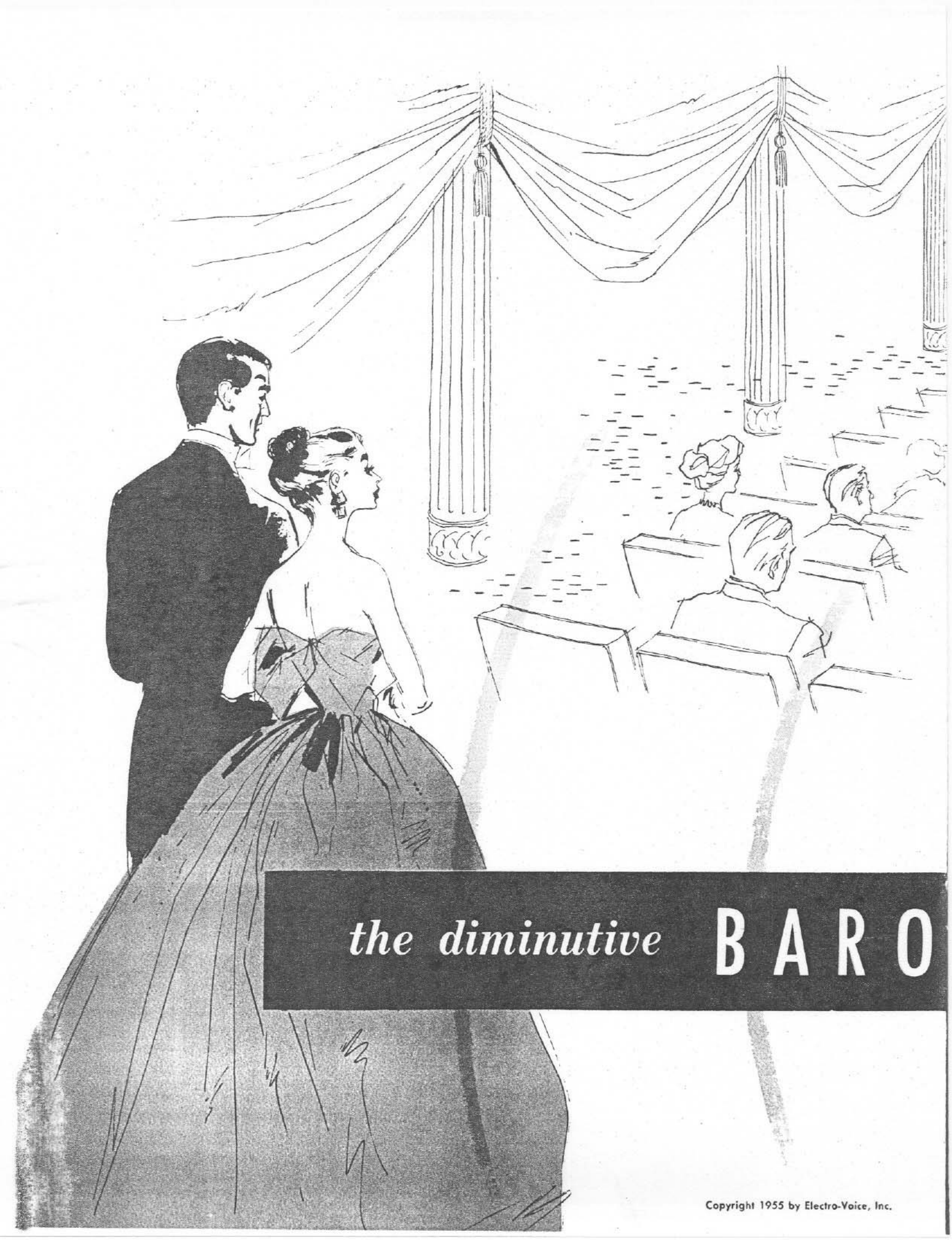
build the

BARONET SPEAKER ENCLOSURE

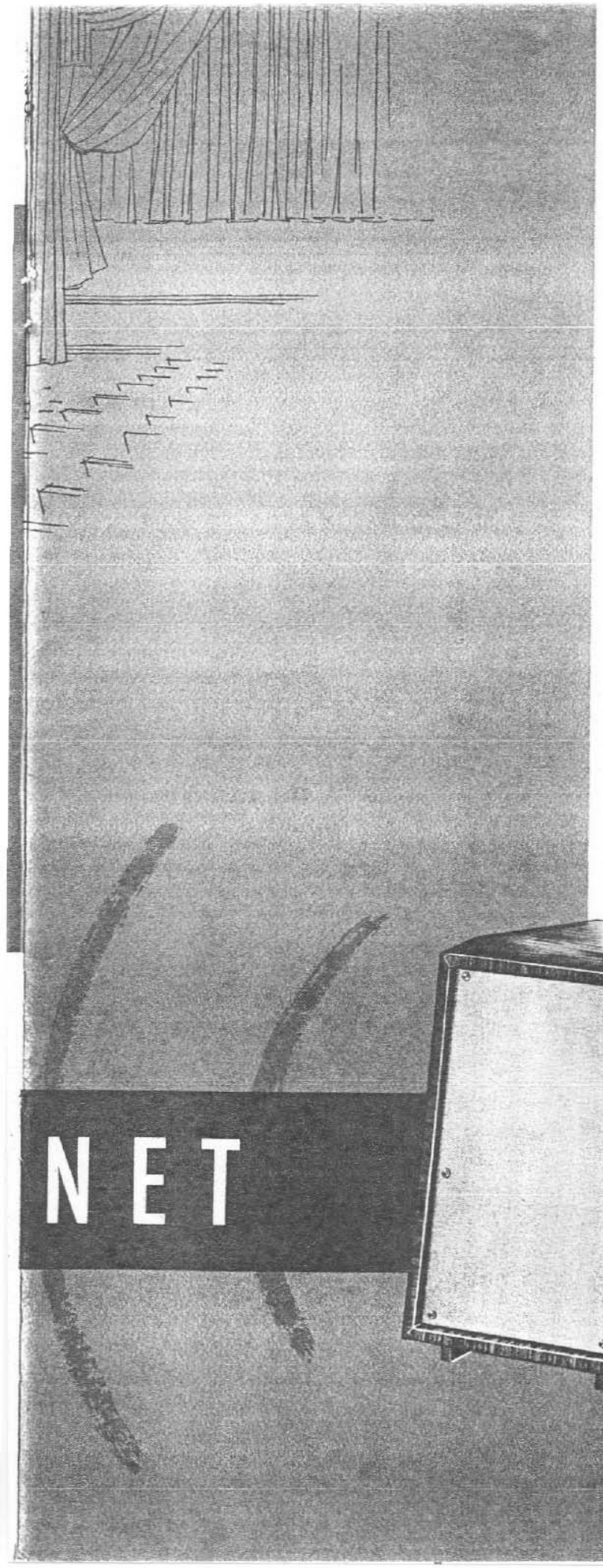


Electro-Voice®

do-it-yourself project KD7



the diminutive BARO



A high-fidelity loudspeaker enclosure is ordinarily visualized as having generous proportions. There is an outstanding exception, however, the Electro-Voice Baronet. Probably as the aftermath of working with gigantic theater installations, several Electro-Voice engineers started joking about a "midget loudspeaker enclosure" that could be carried under the arm. Just as many a word of truth is oft spoken in jest, a way was found to fulfill this rather contradictory dream, and the result was a small box capable of reproducing tones of up to 16 feet in wavelength!

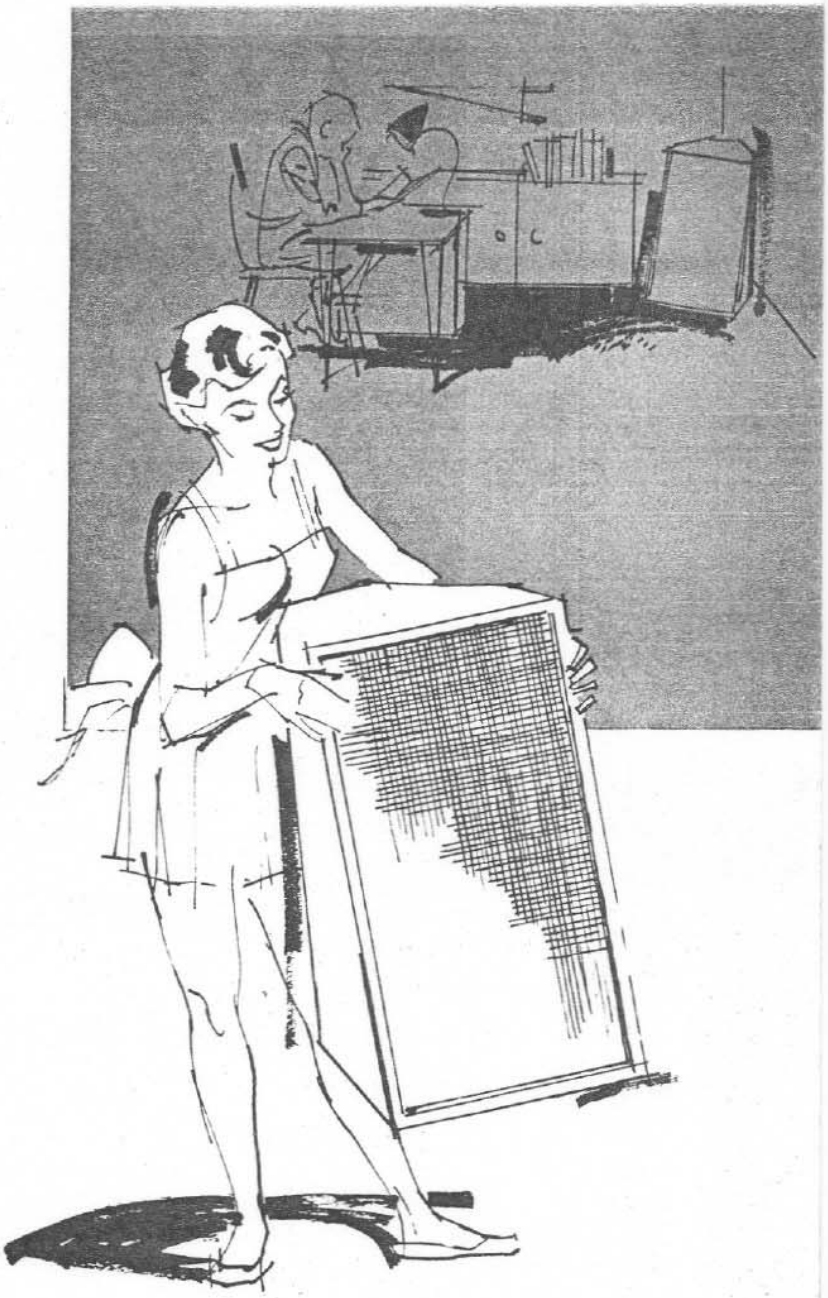
The physical basis that permitted this seeming incongruity – employing the principle of rear horn loading – was the ability of an air column to be coupled to a corner of a room to form an extension of the speaker horn flare. The loudspeaker rear cone air column in the Baronet started off in a technically correct manner, but like a sawed-off shotgun, it ended abruptly. Just as a charge of buckshot can be given surprising accuracy by slipping a length of pipe over the shotgun barrel, directing the miniature air column issuing from the rear of the Baronet into a corner achieved the same effect. Thus, the walls of the room become a continuation of the abbreviated horn, providing an excellent "folded corner horn" design.

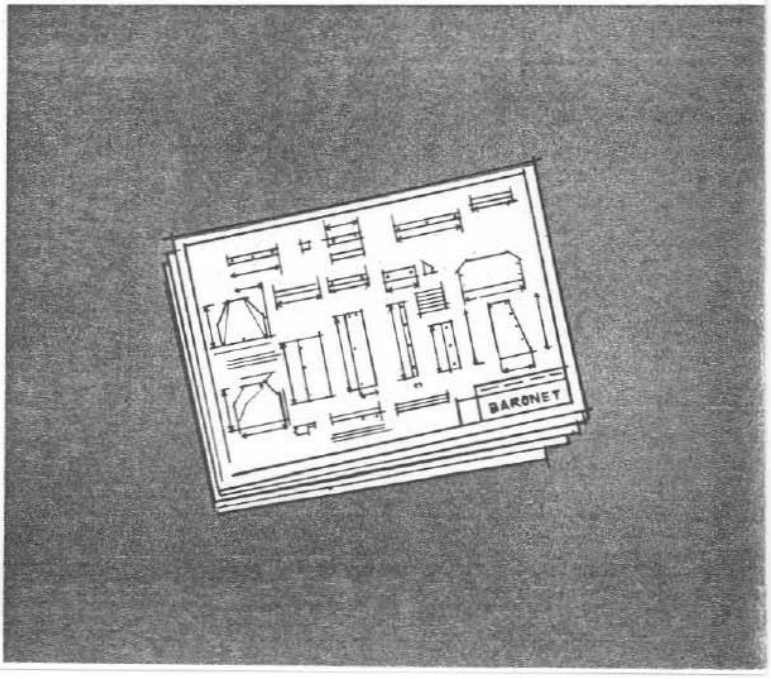
NET

As the name Baronet implies, the enclosure is a high-fidelity loudspeaker for the small apartment, for a child's music study room, for the summer cottage, or wherever good music is desired, but massive bulk is unwelcome. The Baronet will not produce the volume of a larger enclosure, but fidelity and range of reproduction will be unimpaired. The Baronet will respond to tones as low as 35 cycles and reproduce in the realm where sounds become super-audible. This encompasses the range of kettle drums, cricket chirps, thunder, army bugles, basso profundos and coloraturas. Here you have the full extended range of the long-playing record; high fidelity at its best, in a conservative package.

Unlike the Patrician KD kit which comes in a box 3 by 4 feet by 8 inches and weighs 105 pounds, the Baronet can be carried home under the arm. Yet, the Baronet is not a toy. It is small, compact and cute; a conversation piece which surprises the most skeptical by superb quality of reproduction.

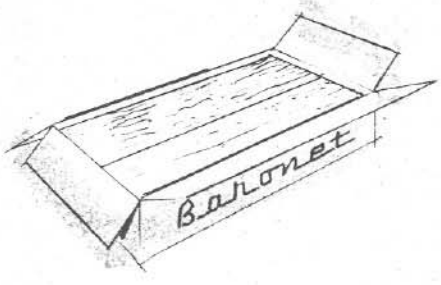
The Baronet was designed for use with the Electro-Voice SP8B RADAX coaxial loudspeaker. In addition, a T35B Super-Sonax very-high-frequency driver unit and accompanying X36 crossover network and AT37 level control can be added, providing a three-way system with ample volume for a small room and full range frequency response. It is ideal for the listener who prefers not to disturb the neighbors, for students, or for a small group. Missing is the flambouyant punch and window rattling volume which, unfortunately, identifies many large high-fidelity systems. The Baronet has already learned culture and provides high fidelity in a quiet, soothing and most dignified manner.

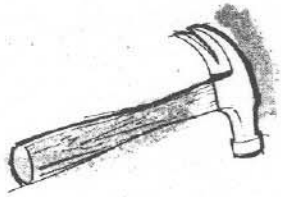


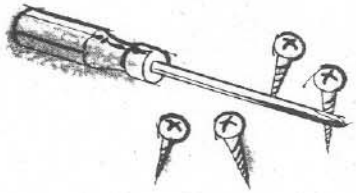


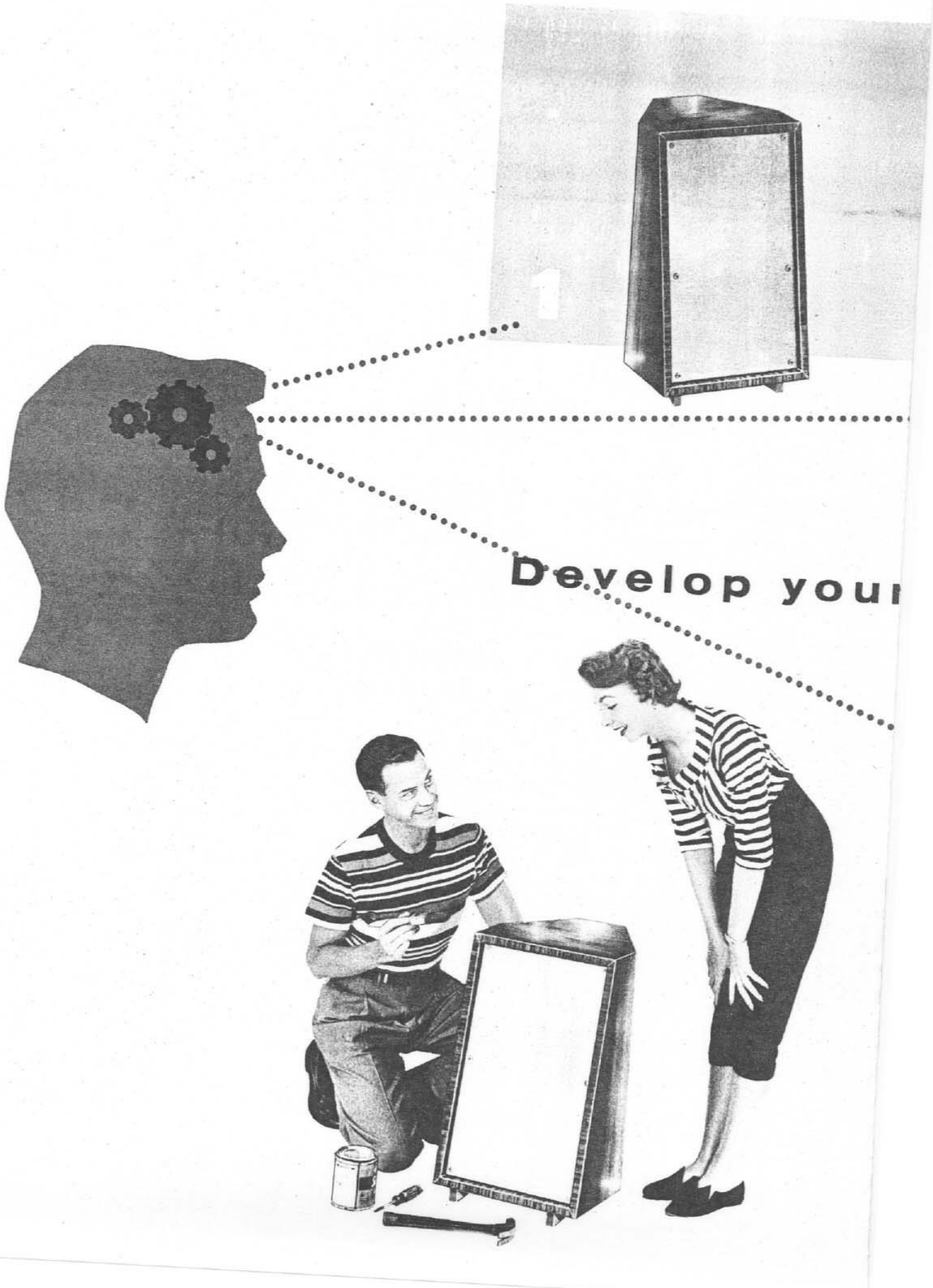
A Do-It-Yourself PROJECT

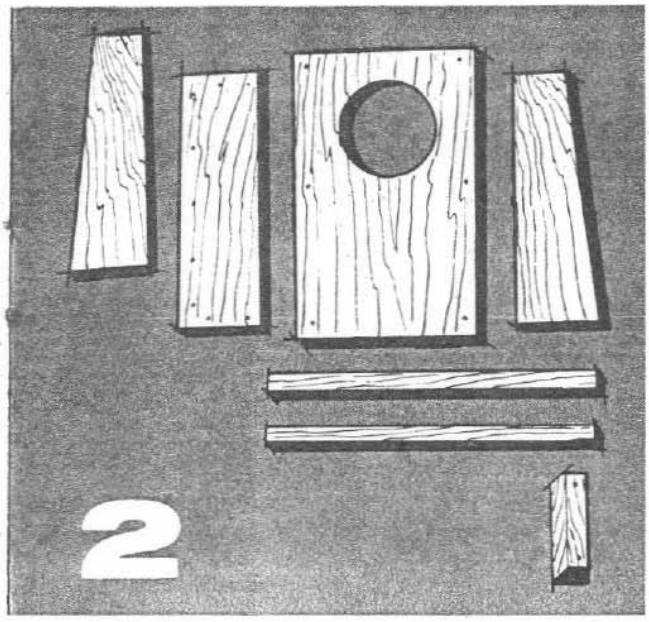
Building the Baronet from raw lumber and the plans provided in this book is a project of short duration, but sufficient complexity to offer a challenge. Because the cabinet is small, the resourceful individual can usually find enough pieces of lumber to complete the project. A splendid source of quality pine in small pieces is the Washington apple crate. This wood is quite similar to that used in many stringed musical instruments, and the majority of parts of the Baronet can be cut from apple crate wood. This comes under the heading of fun, as home workshop projects should, but it is, of course, quite possible to purchase high grade cabinet material from lumber supply houses. Those who do not have time to "find" suitable material will do well to construct the KD kit.



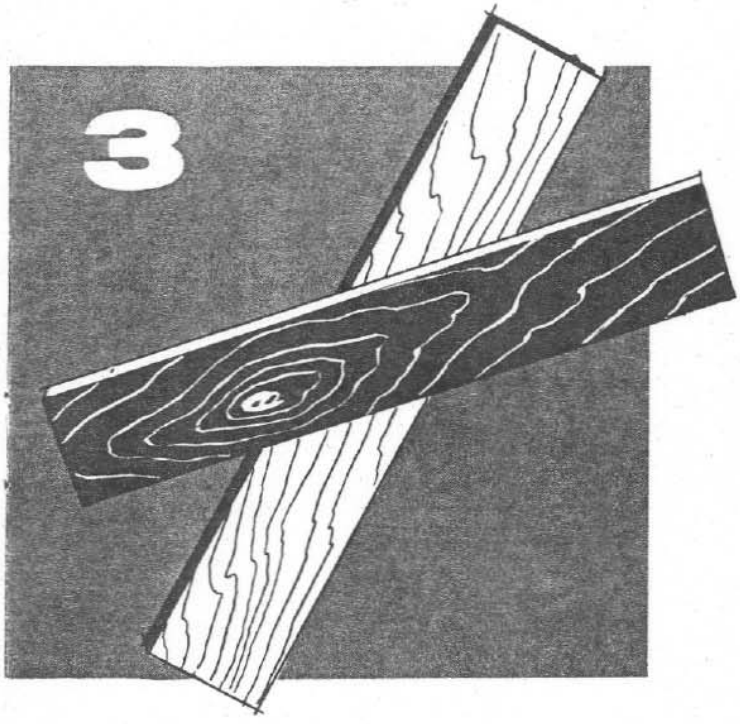





Develop your

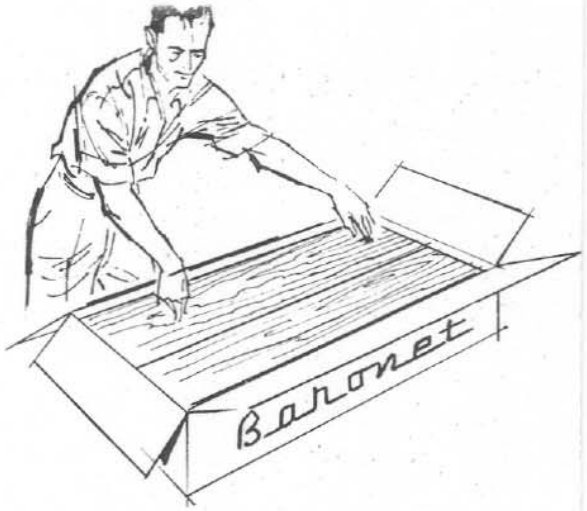


skill and ability



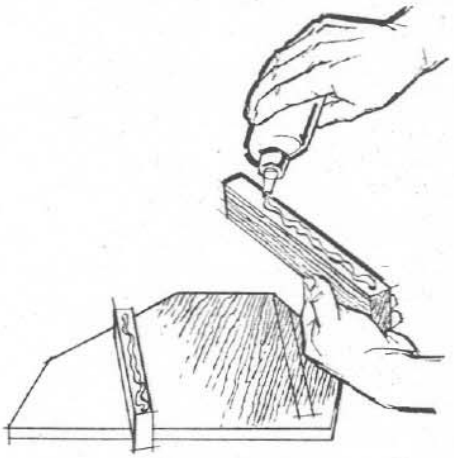
For those who have tired of push buttons and canned recreation, and feel the urge to do something creative with their hands, the Baronet is available three ways. It is possible to buy a Baronet ready to play. It is also possible to buy the parts cut out, ready to construct with glue and screws, and it is also quite possible and practical to start with bare hands and raw lumber. The component parts of the Baronet are all small and fairly simple. In the following pages ample instructions are given for assembling the unit. But, because a man is entitled to figure out a few things for himself, the details will tell only how long, how wide and how thick each piece must be. Do the work on the kitchen table, the back porch, or anywhere a little sawdust and shavings won't hurt. A good craftsman can do the job with only a sharp handsaw and a combination square, but if you have more tools, use them. If you own a power saw, then this *IS* a project to delight the inner man.

There are two schools of thought on cabinet construction. One cuts out all the parts first, then fits them together; the other makes one part, then cuts the next to fit it. Both methods work well enough, although the second takes longer. After all, what is time when the objective is to have fun and the end product is something which will be a joy forever?

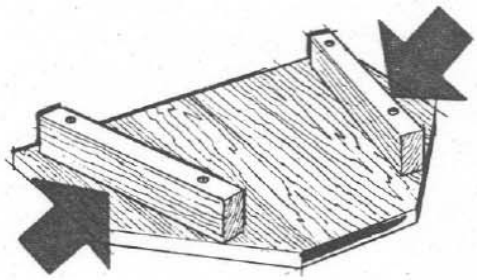


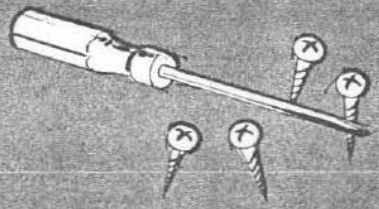
lay out the

There is always excitement when the time comes to open a kit. It is the excitement of expectancy, for as each piece is unpacked, one wonders just how it will fit into the scheme of things. The assembly tools needed are a hammer, screwdriver, and a bottle of glue. The glue is a special polymer furnished in the kit. If you own additional tools, they can be used, but the chances are good you won't find any place to employ them until the time comes to finish and polish the cabinet. Even then, you can use an Electro-Voice FK finishing kit, which includes instructions, sandpaper, stain, a brush and rubbing compound.

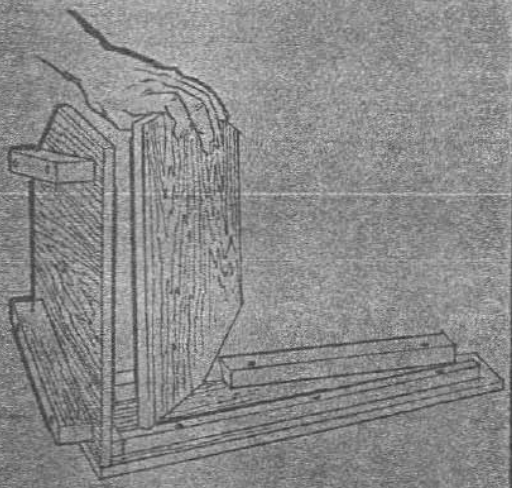


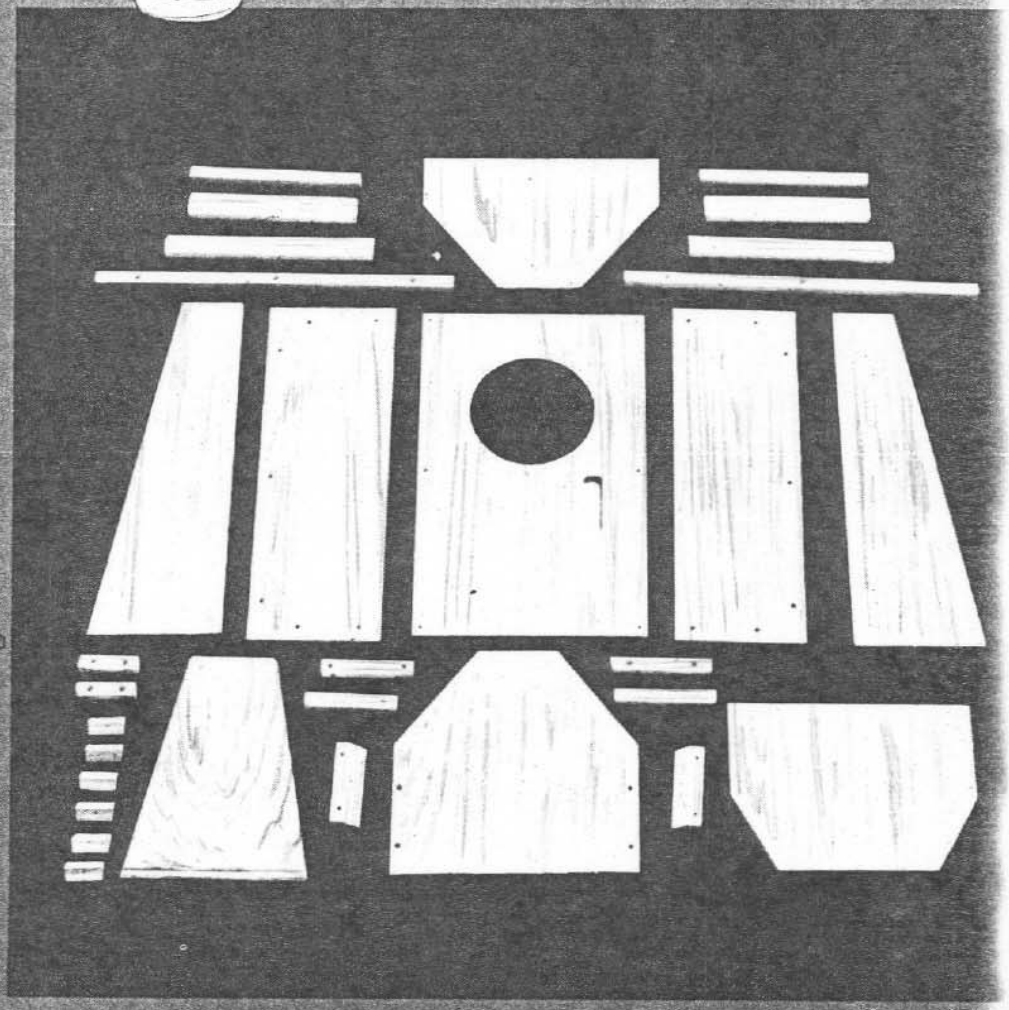
Pay special attention to the glue because it is this material that will hold the Baronet together. Nails and screws simply keep the parts in position until the glue sets. Modern plastic adhesive is a marvel of science for it has tremendous adhesive qualities. Apply it cold, like tooth paste. Squeeze the bottle, spread the glue and press the mating parts together. Be certain to use enough glue so that the excess will squish out of the joint. This will assure a solidly bonded job. At the end of thirty minutes the joint is stuck and will stay stuck. The overflow glue will dry clear and may be sanded off when the cabinet is finished, or it may be removed with a damp cloth as the gluing proceeds.

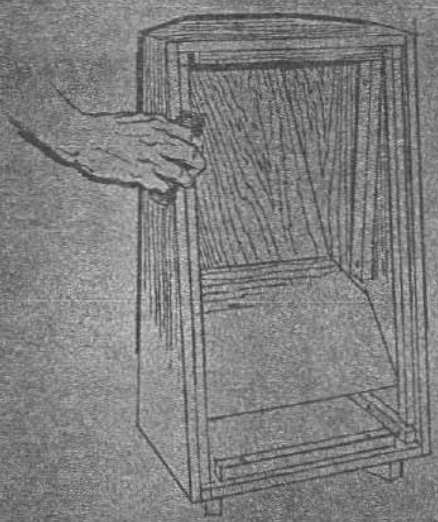


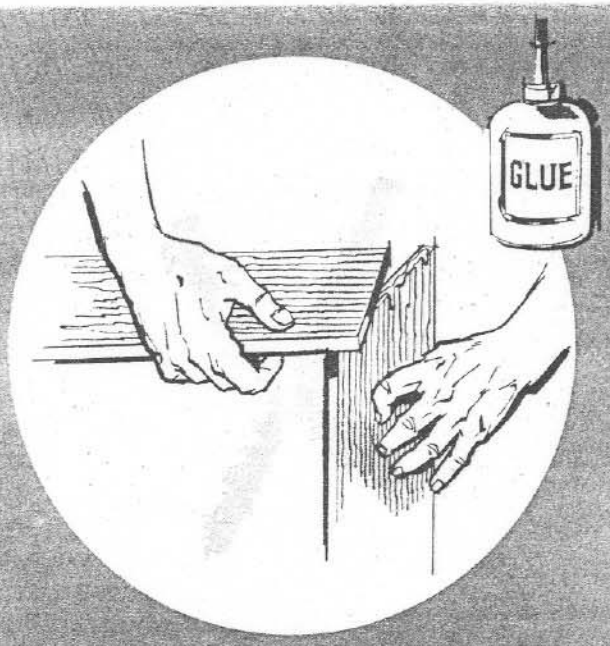


lumber

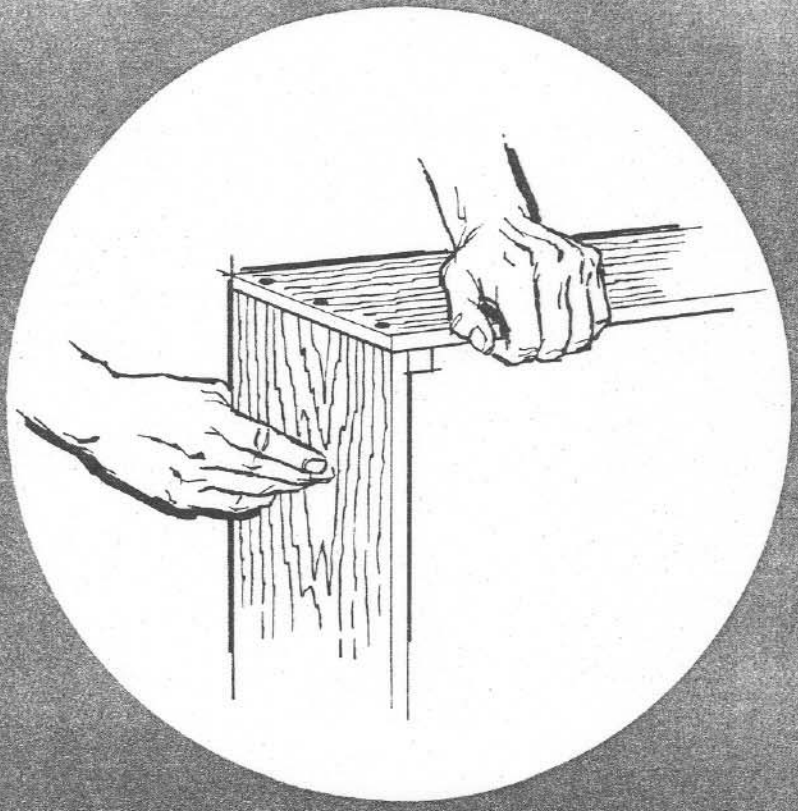




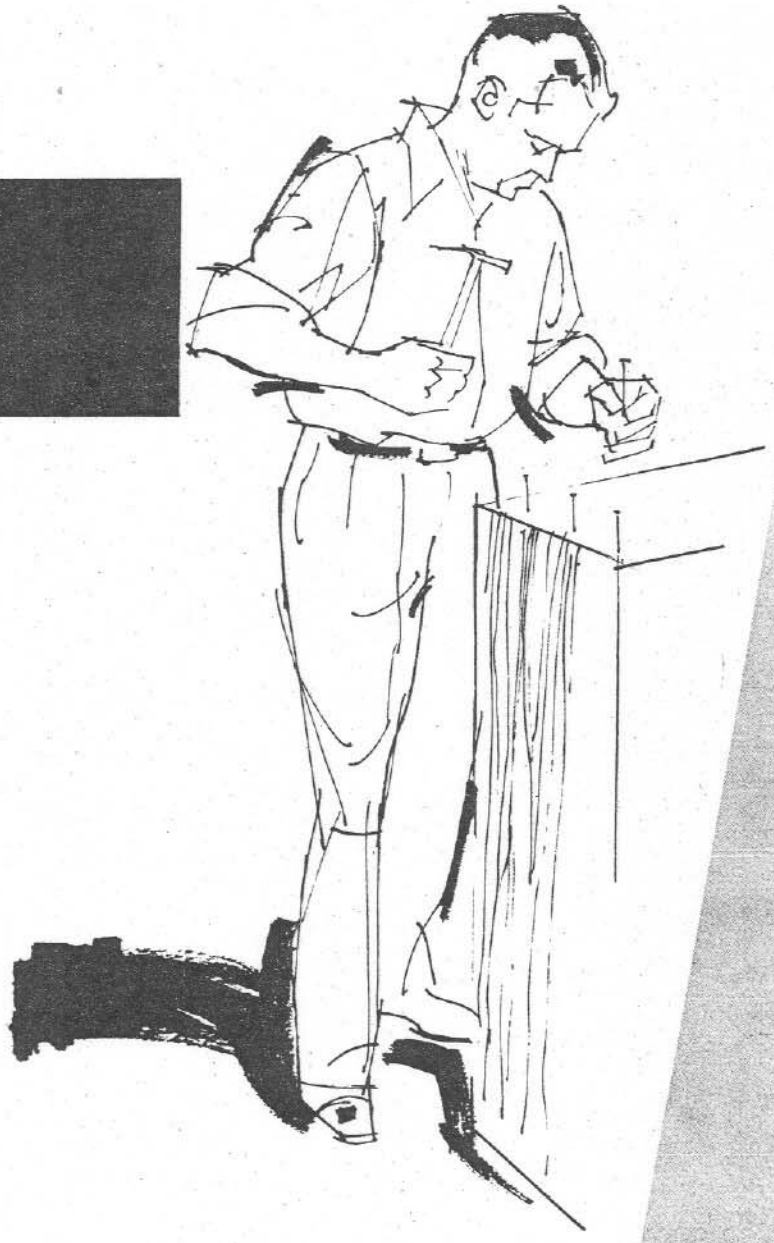




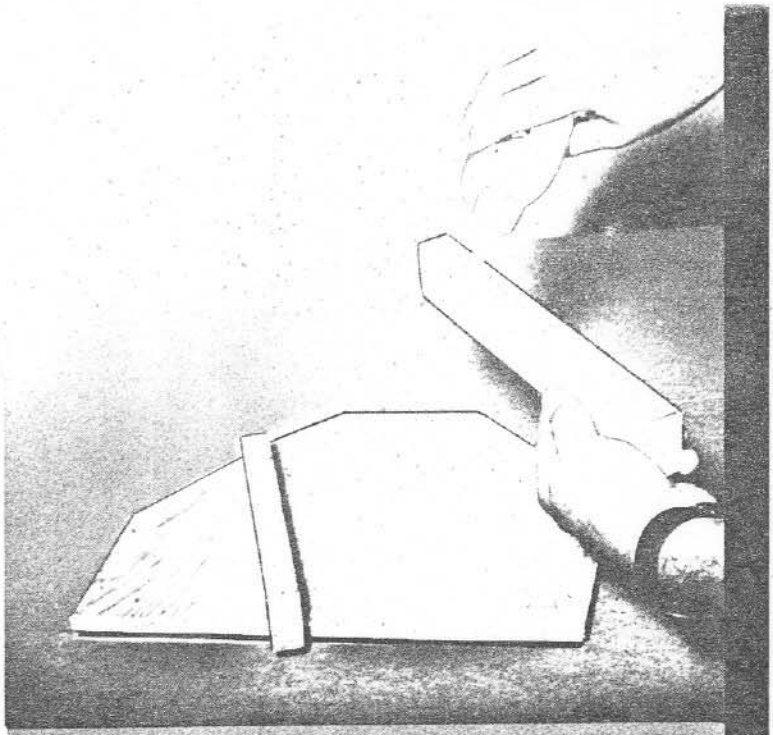
now *you can nail*

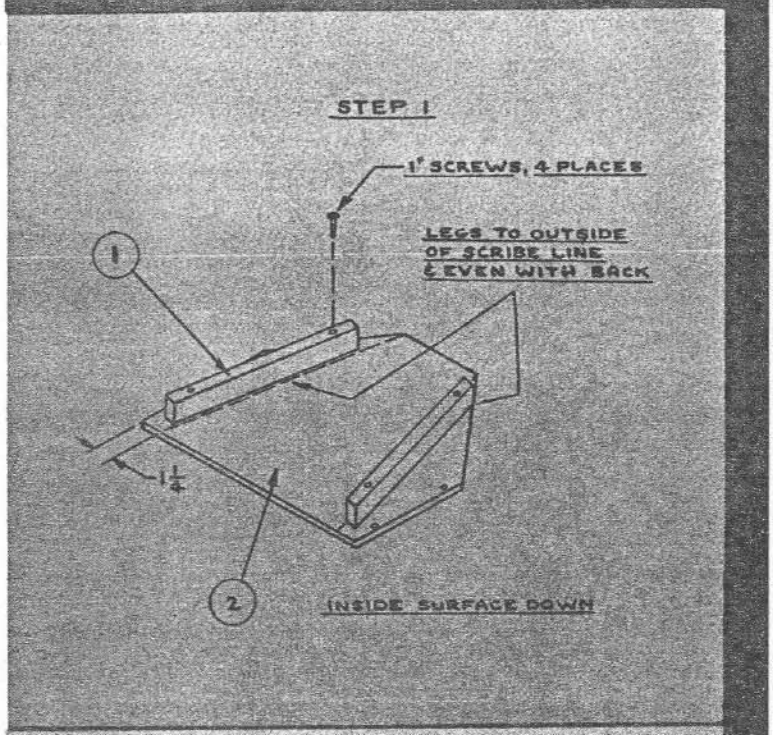


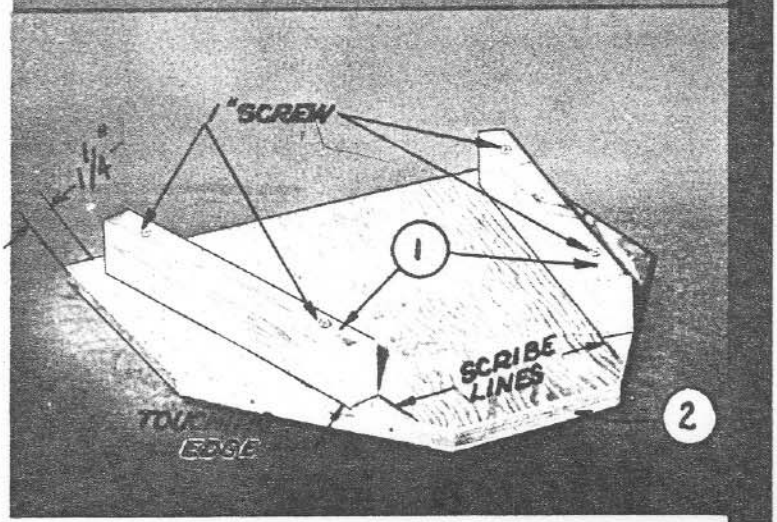
it

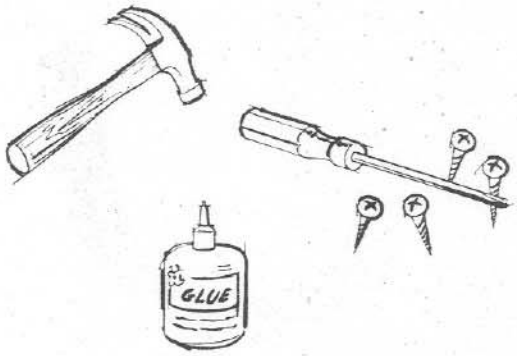


Lining up mating parts smeared with thick glue is a thankless task; the parts will skid and slip long before the screws take hold. To forestall this, insert two or more nails in the piece so the points just protrude. Line up the part, tap the nails gently to drive the point into the mating part and then install the screws. The nails can then be withdrawn or driven home. In several instances, later on nails will do all the holding, no screws being needed because of the butt construction of the joint.





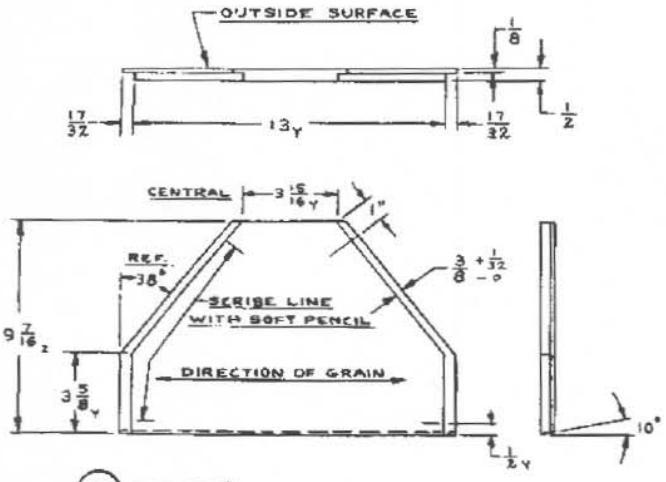




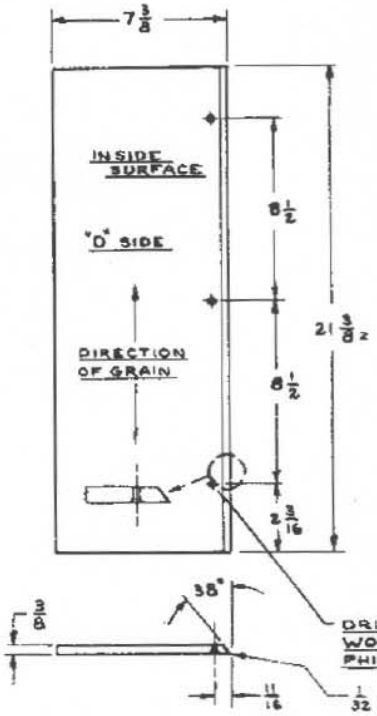
Assembling th

step 1

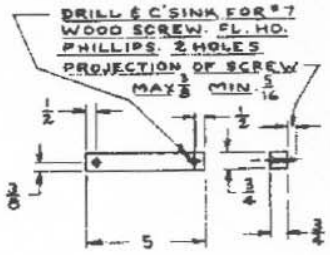
Line up the two legs, piece 1, on the *OUTSIDE* of the scribe lines on the bottom, piece 2. The legs are glued and screwed in place. Simply line up the leg so that the back corner just touches the edge of the bottom. The screws can probably be driven with no trouble, but in case the leg persists in skidding, clinch it down with nails. Remember that the legs will sit on the floor and nailheads are not desirable in contact with rugs or varnish!



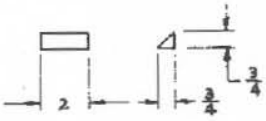
(10) ONE REQ'D BIRCH CABINET GRADE PLYWOOD



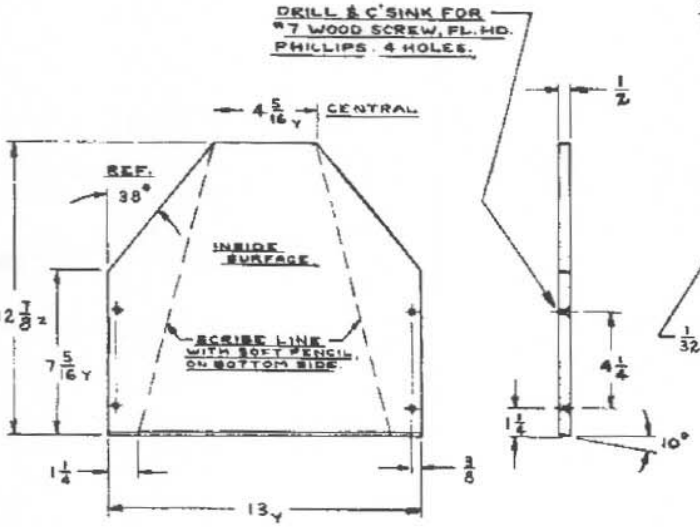
(12) 2 REQ'D FIR PLYWOOD B-D OR BETTER



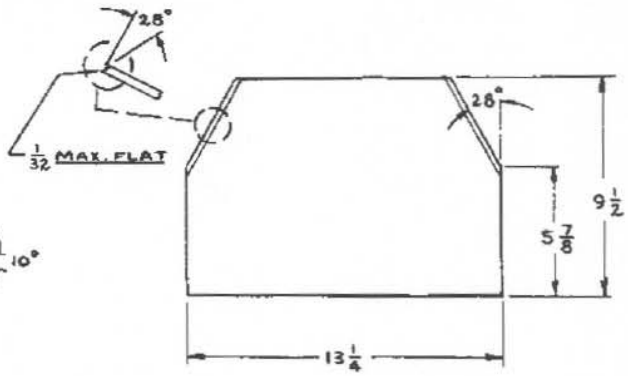
(9) 2 REQ'D POPLAR, SOLID



(15) 6 REQ'D, POPLAR, SOLID



(2) ONE REQ'D, FIR PLYWOOD B-D OR BETTER



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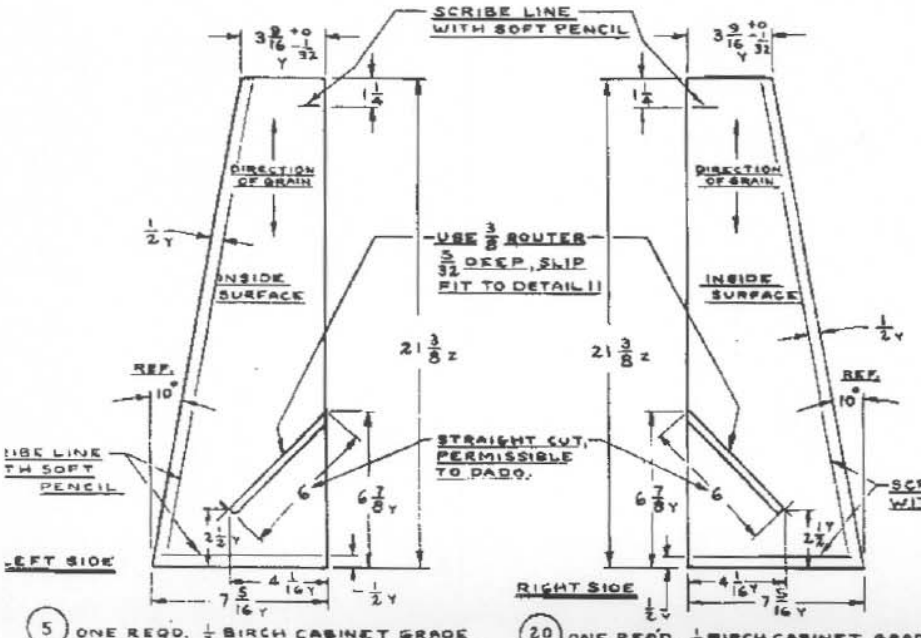
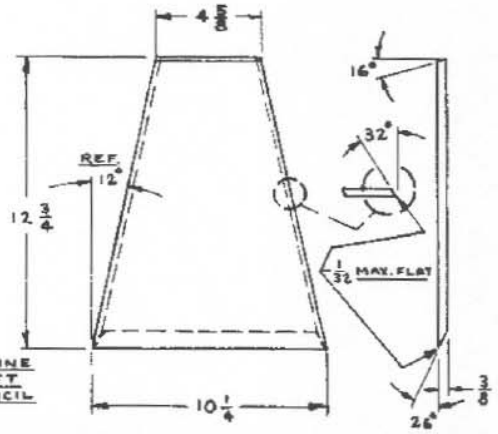
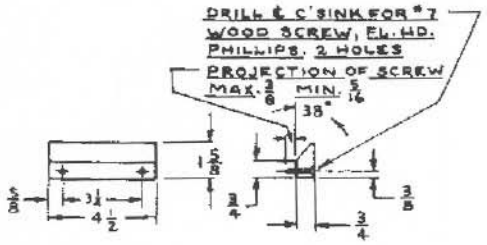


(5) ONE REQ'D, 1/2 BIRCH CABINET GRADE PLYWOOD

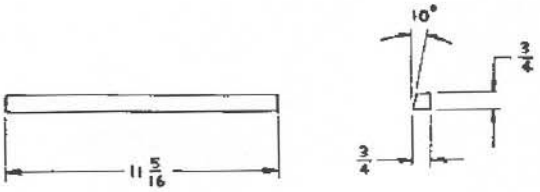
(20) ONE REQ'D, 1/2 BIRCH CABINET GRADE PLYWOOD



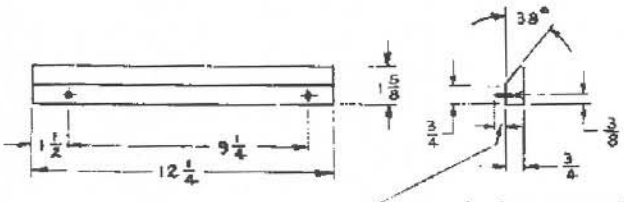
(14) ONE REQ'D, FIR PLYWOOD B-D OR BETTER



(7) 2 REQ'D, POPLAR, SOLID

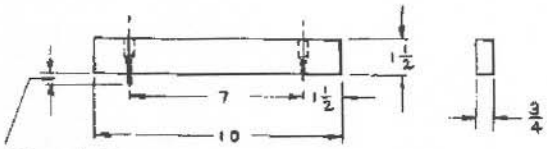


(13) 2 REQ'D, POPLAR, SOLID



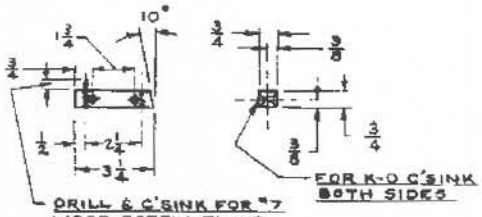
(6) 2 REQ'D, POPLAR, SOLID

DRILL & C'SINK FOR #7 WOOD SCREW, FL. HD. PHILLIPS. 2 HOLES
PROJECTION OF SCREW MAX. 3/8 MIN. 5/16



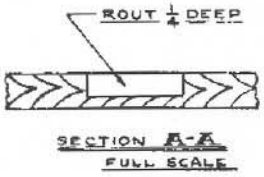
DRILL & C'SINK FOR #7 WOOD SCREW, FL. HD. PHIL. PROJECTION OF SCREW MAX. 1/2 MIN. 3/8

(1) 2 REQ'D, POPLAR, SOLID

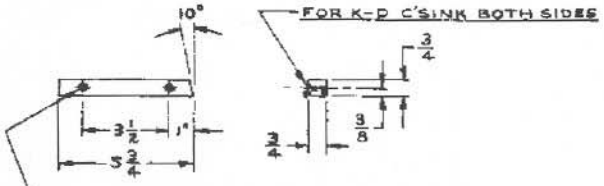


DRILL & C'SINK FOR #7 WOOD SCREW, FL. HD. PHILLIPS. 4 HOLES.
PROJECTION OF SCREW MAX. 3/8 MIN. 5/16

(8) 2 REQ'D, POPLAR, SOLID

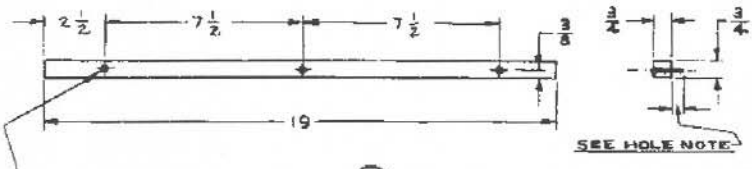


SECTION A-A
FULL SCALE



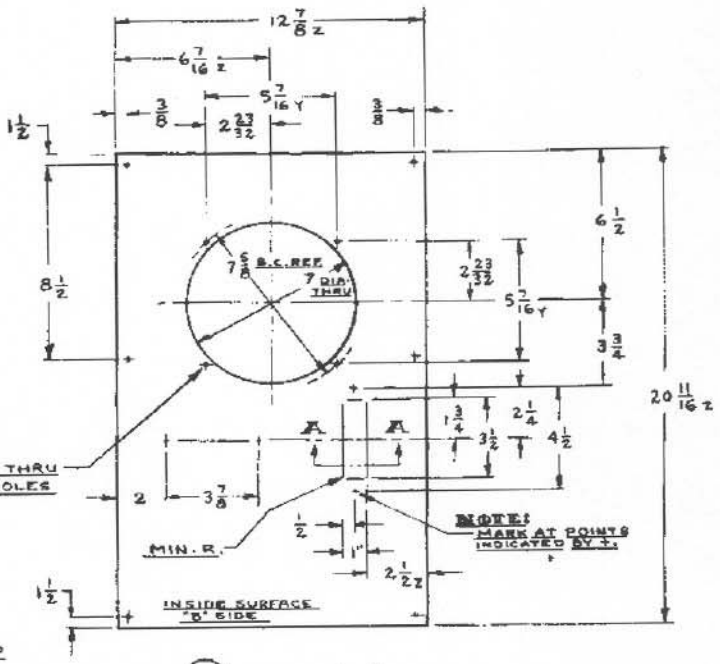
DRILL & C'SINK FOR #7 WOOD SCREW, FL. HD. PHILLIPS. 2 HOLES.
PROJECTION OF SCREW MAX. 3/8 MIN. 5/16

(3) 2 REQ'D, POPLAR, SOLID

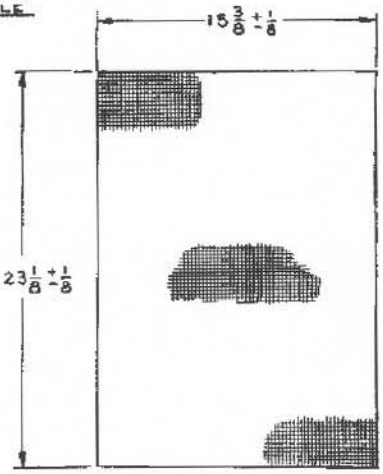


DRILL & C'SINK FOR #7 WOOD SCREW, FL. HD. PHILLIPS. 3 HOLES.
PROJECTION OF SCREW MAX. 3/8 MIN. 5/16

(4) 2 REQ'D, POPLAR, SOLID

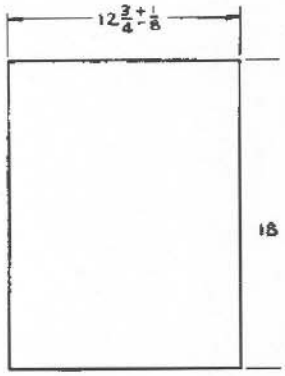


(17) ONE REQ'D. 3/8 FIR PLYWOOD B-D OR BETTER. BACK VIEW



(18) ONE REQ'D, GRILLE CLOTH K-D NOTED, HOME CONSTRUCTION TO SUIT.

SCALE-1/4



(16) ONE REQ'D, INSULATION

Electro-Voice
Baronet KD7
HOME BUILDING PLANS

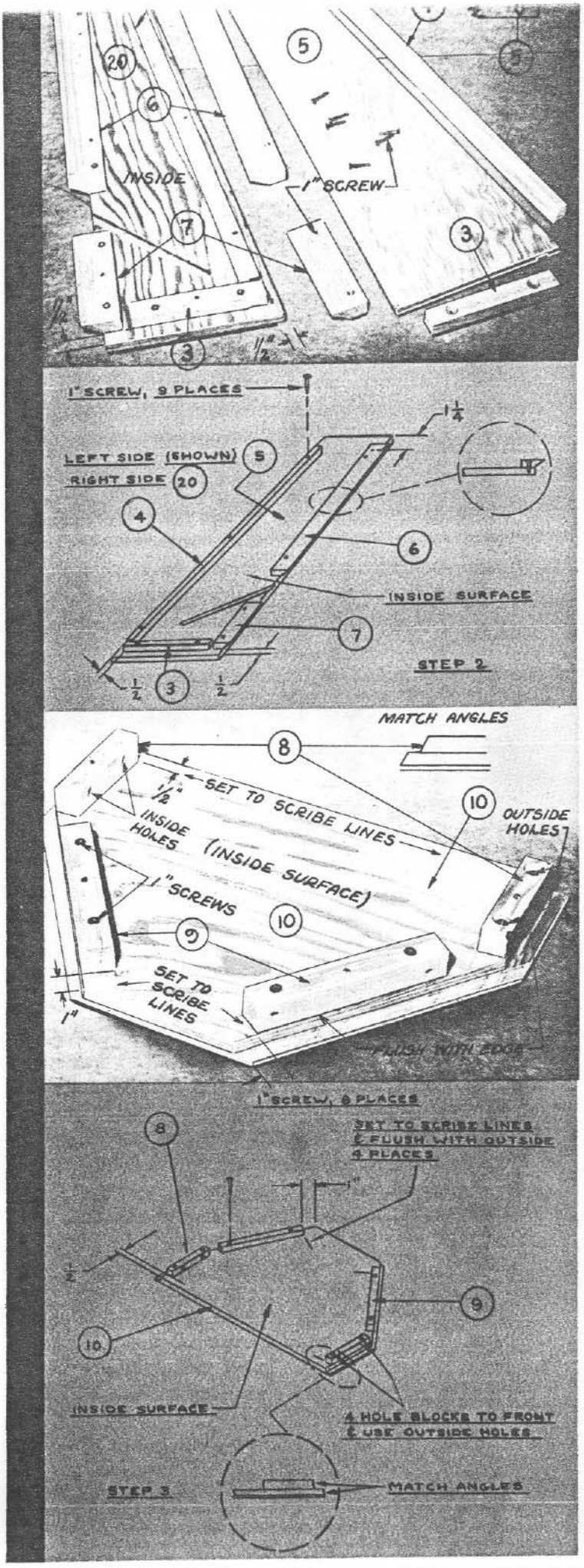
step 2

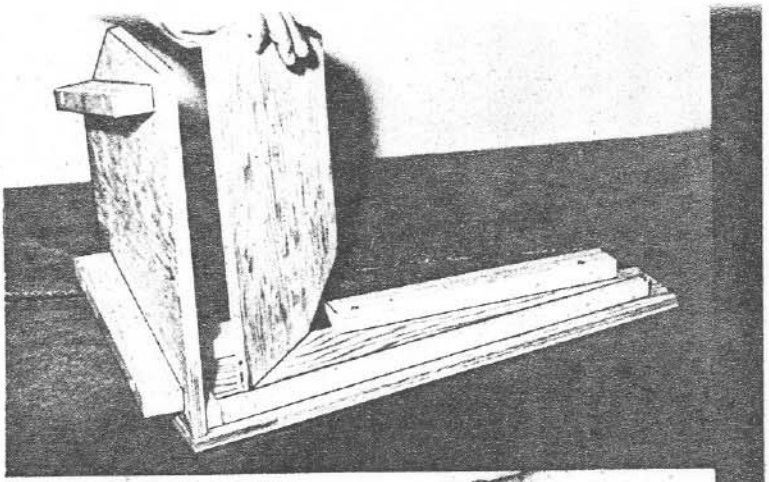
Because an error here can throw the entire cabinet assembly out of line, this is a most exacting step. Position pieces 3, 4, 6 and 7 on 5 dry to check the assembly. Note that part 20 is a mirror image of 5, that is, the parts are right and left-handed. Make certain the slot is on the UPPER face when assembling. The junction of 5 and 6 must fit so there is no break or step in the angle. When satisfied with the dry test assembly, glue and screw each piece in position, tacking with nails if required. These parts are the actual framework arch of the enclosure, for all pieces in future steps will fasten to 5 and 20, either directly or indirectly. Before gluing, dry fit and check each joint; it is better to play safe for a glued joint cannot be opened.

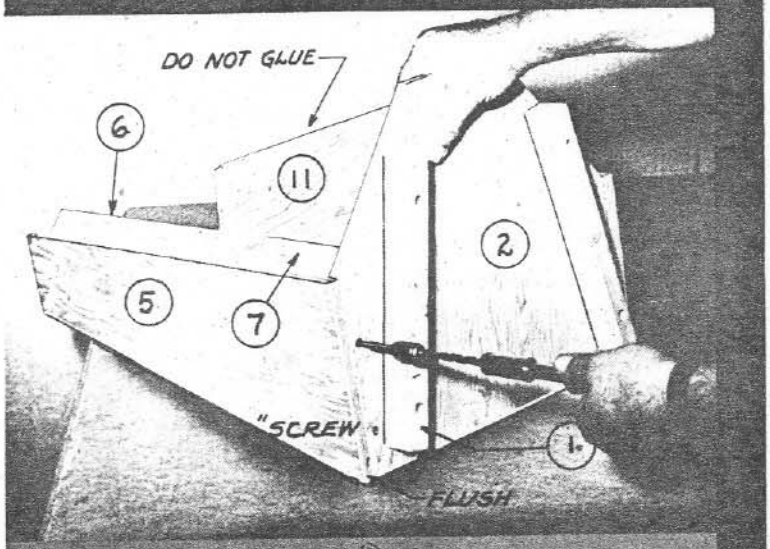
Baronet Kit

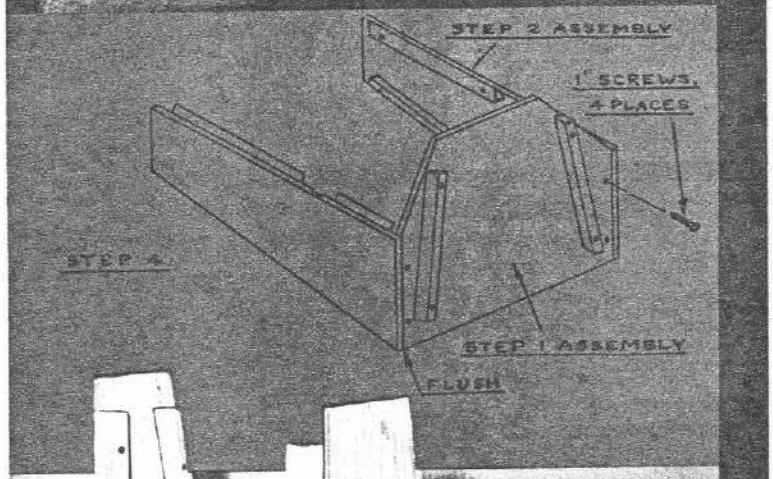
step 3

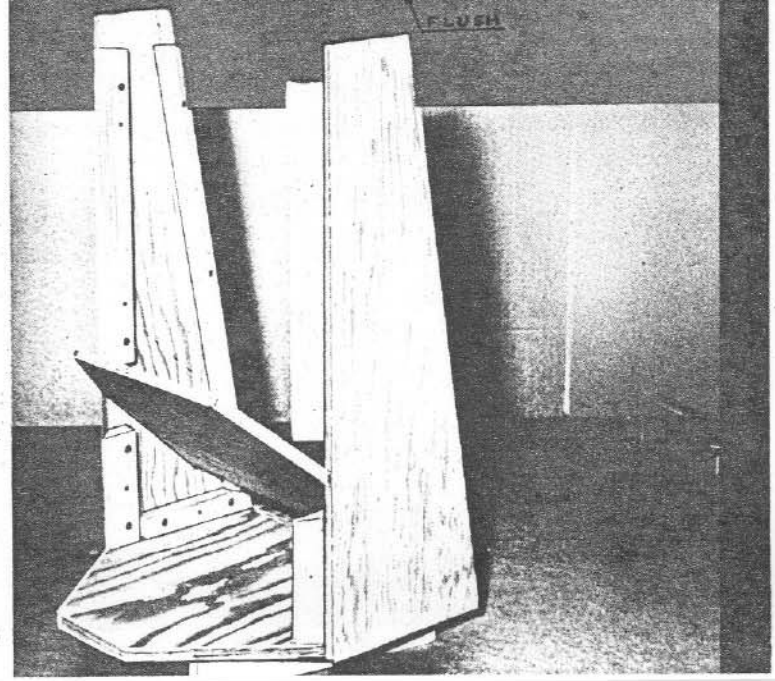
The top 10 is now pre-assembled, then set aside to dry. It will later be placed as a unit on top of 5 and 20. The elements of the assembly, cleats 8 and 9, must be positioned with care on 10. Have the outer edges flush with the apron of the shoulder in order that panels 5 and 20, and panel 12 will butt flush into the shoulder and also butt flush to each other. To confirm the instructions, lay out the parts and position them dry. Notice that pieces 8 and 9 are secured with a single nail driven home. This is sufficient to hold the parts provided a bit of guiding is done while driving the screws. Because the upper face of 10 is the top of the cabinet, do not lay it on a rough surface. It would be prudent to place 10 on a folded towel while driving the nails.











step 4

The lower baffle 11 is not glued in place. It is used as a free floating guide to position other parts; yet, they in turn position 11 for the final assembly. To start the procedure, 11 is placed in the slot in part 5 and dry-positioned with part 2 for an initial lineup. Then the mirror image piece 20 is laid on top of the assembly. Time spent in dry lineup is seldom wasted. especially if you are a neophyte in the art of cabinet making. The function of 11 as a guide will become evident as 2 is drawn into position against the cabinet sides.

Assembling th

In joining the bottom with the sides, line up the members so the front edge of the sides 5 and 20 and the front edge of the bottom piece 2 are flush. Test for alignment by running your finger from one piece to the other; neither a dip or a bump should be felt. Accuracy is important for this edge will become the face of the cabinet and will be finished by sanding smooth and lacquering. As soon as the assembly is glued and screwed together, it should be left undisturbed until the glue has thoroughly polymerized, preferably over night.

step 5

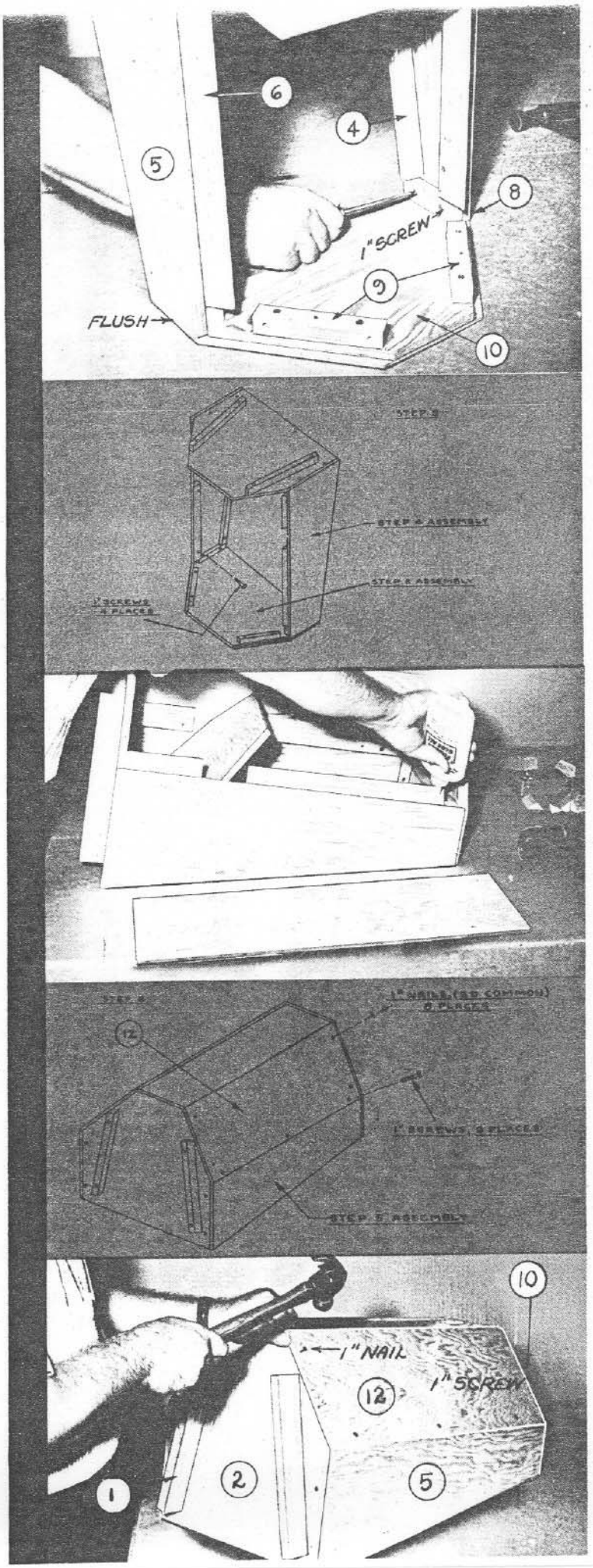
Instead of putting the top 10 on the assembly, just completed in Step Four, 10 is laid upside down on a flat, smooth surface, and the bottom-side assembly lowered down on it. The front edges of 10 and the side panels are made flush, just as in Step Four. Line up the parts dry and check for fit, then glue and screw them together. Both sides must be glued at the same time for there will be no opportunity to spring the joint for impromptu gluing after the job is started. Baffle 11 remains in place during this step, and if the assembly is correct, the baffle will still be free sliding. As the four one-inch screws are tightened, the top and side assemblies will be drawn into positive contact. Glue that squishes out on the exterior surface can be wiped away with a damp cloth.

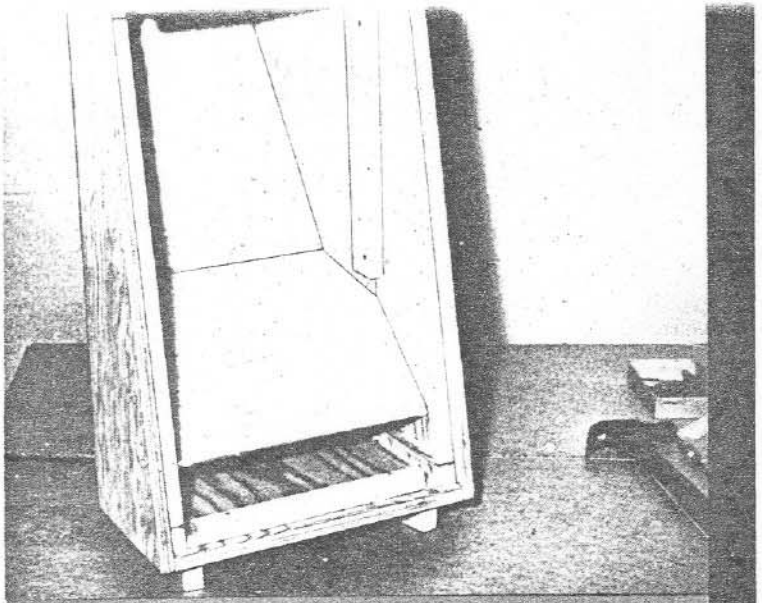
Baronet Kit

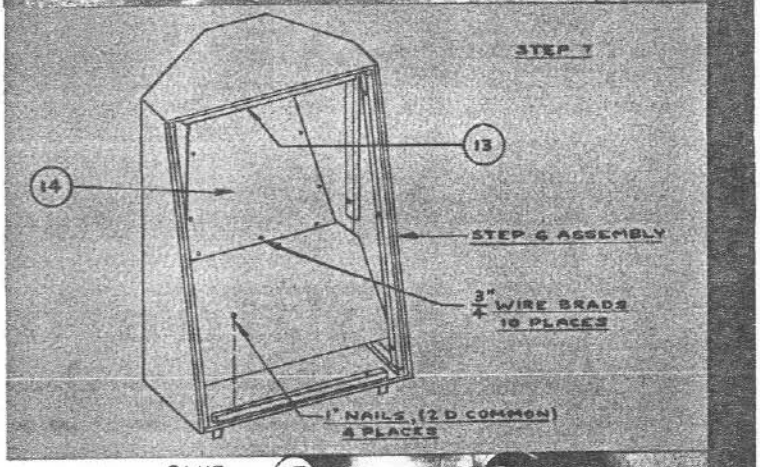
step 6

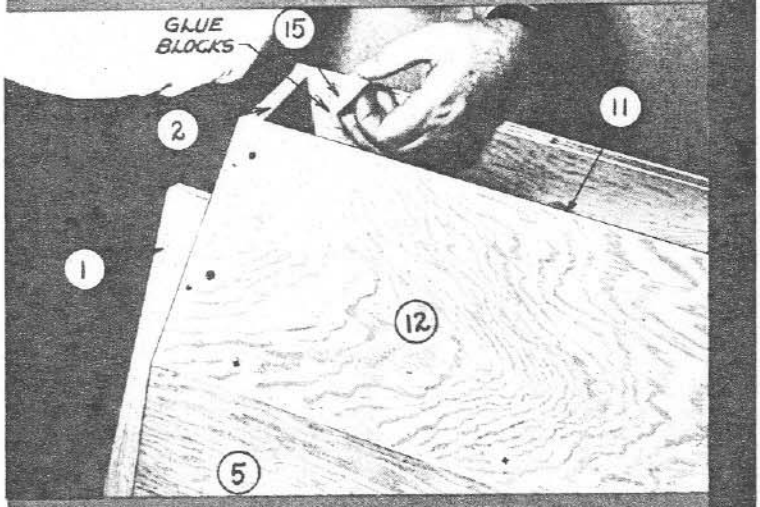
Panel 12 is a part which brings delight to the old-time cabinetmaker; it is the culmination of all the cabinet fitting done until now. Gluing 12 in place should be done carefully, for one side of the panel must be nailed, the other must be screwed. Start by working panel 12 into place so it butts tight against 5 and 10. Hold it in position and insert the three screws which will enter cleats 6 and 7, pulling the panel down snug and flush against 5. Glue should squish freely and evenly the entire length of the joint.

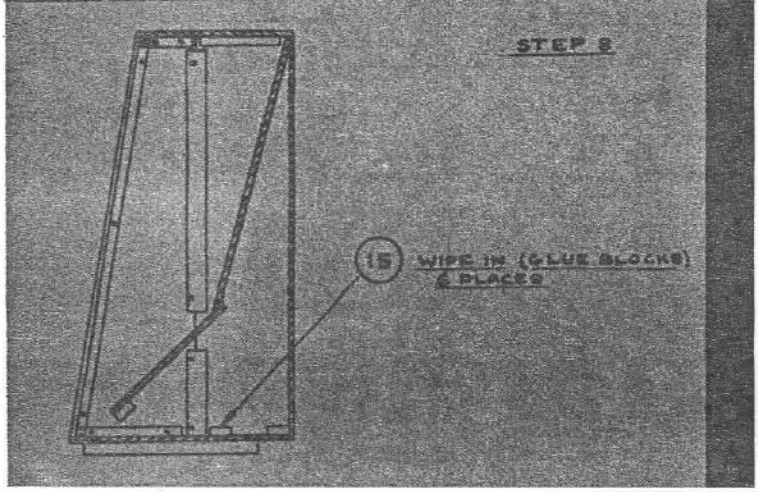
Driving screws into the end grain of a plywood panel is always tempting fate, so NAIL to both 2 and 10, and rely upon wipe blocks, as discussed in Step Eight, for the additional surface area needed to provide a positive union.











step 7

The front panel cleats 13 could have been installed long ago, but were not for them, they would have interfered with driving screws into 10. Glue and nail them in place; since they support no great weight, screws are purely optional.

Baffle 14 is the deadly looking piece shaped like a guillotine blade. Fourteen drops in place against 11 and 12, and when dry fitted, is edge glued and secured by ¾-inch wire brads driven around the edge. When the baffle is set in place, additional glue is flowed freely around the BACK to complete the joint. The baffle serves to continue the exponential flare of the horn and in this respect is much like the back-board of a violin.

Assembling th

step 8

Wipe blocks are as standard to the furniture industry as riveting is to a boilermaker. The wipe block is coated with glue on two faces, pressed firmly into position and left alone until dry. The Baronet construction uses six of these items, four at the junction of 2 and 12, and two at the junction of 11 and 12. You will find that by now 11 is so firmly in place that it cannot be moved. The blocks will serve as further stiffeners so the baffle will not vibrate during a sustained deep note.

The method of installing a wipe block, or glue block, as it is frequently called, is by wiping it in place. The block is given a generous application of glue, pushed into place until the glue squishes out of the joint, then slid back and forth until the glue suddenly grabs. Then, give one more firm push and let go.

step 8 *(continued)*

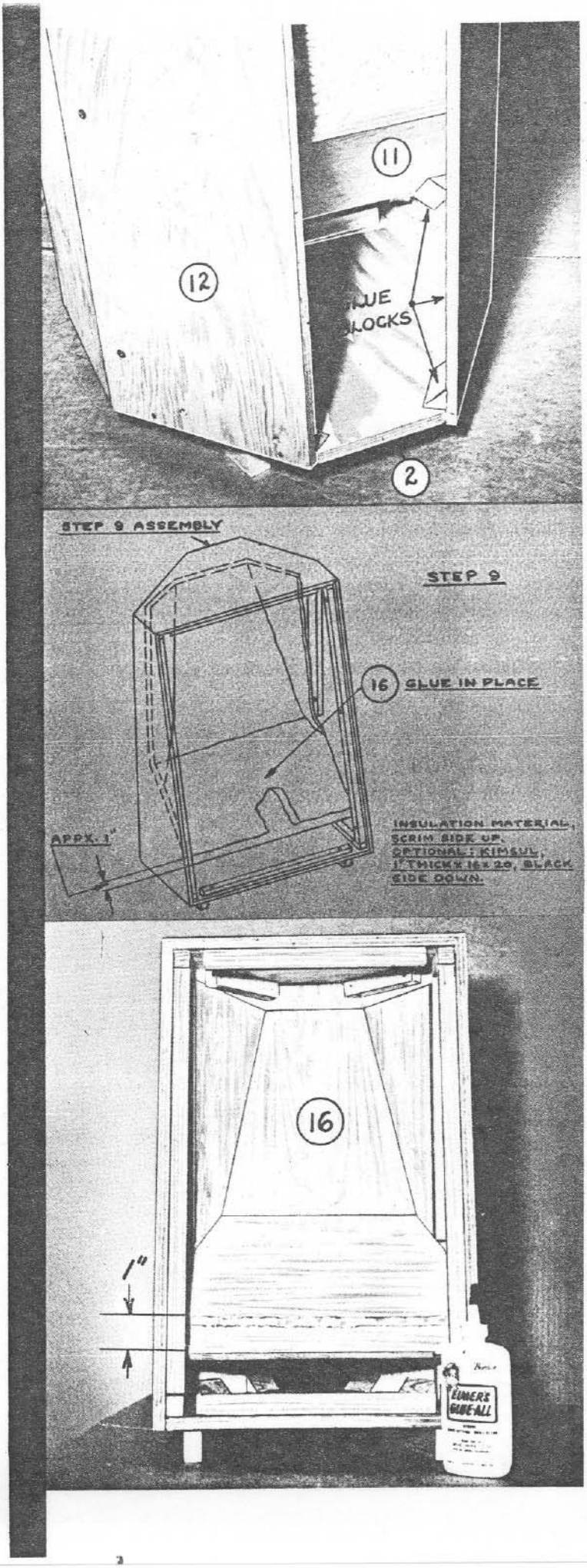
After this procedure, the glue block is in place to stay. Mastering this one unusual technique will place you head and shoulders above the usual home craftsman. Used correctly, this technique will provide an easy, foolproof solution for many gluing problems you will meet later.

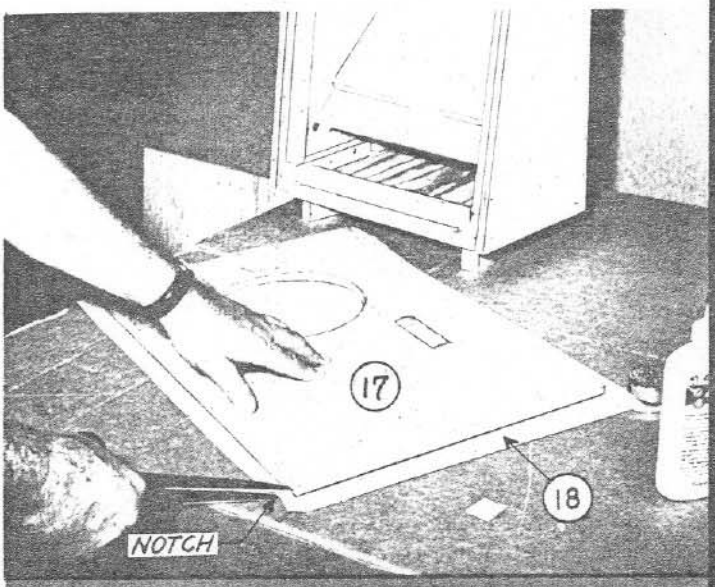
Baronet Kit

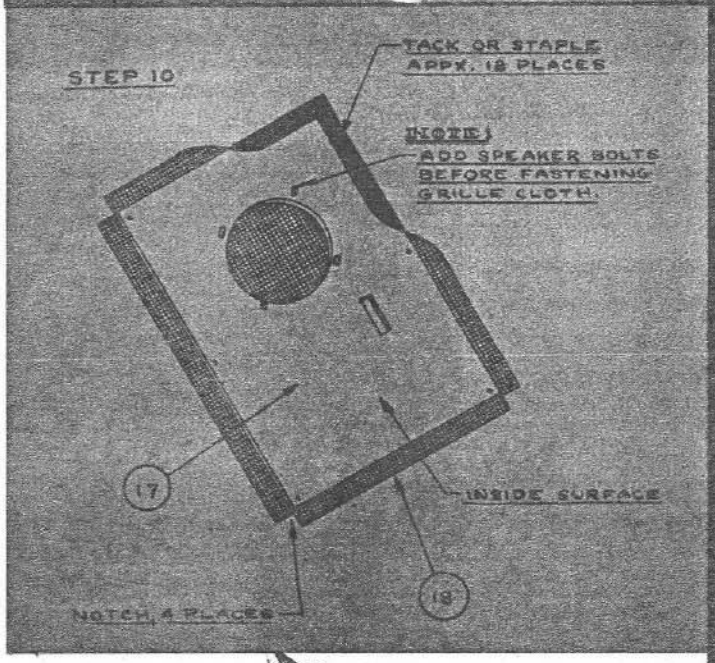
step 9

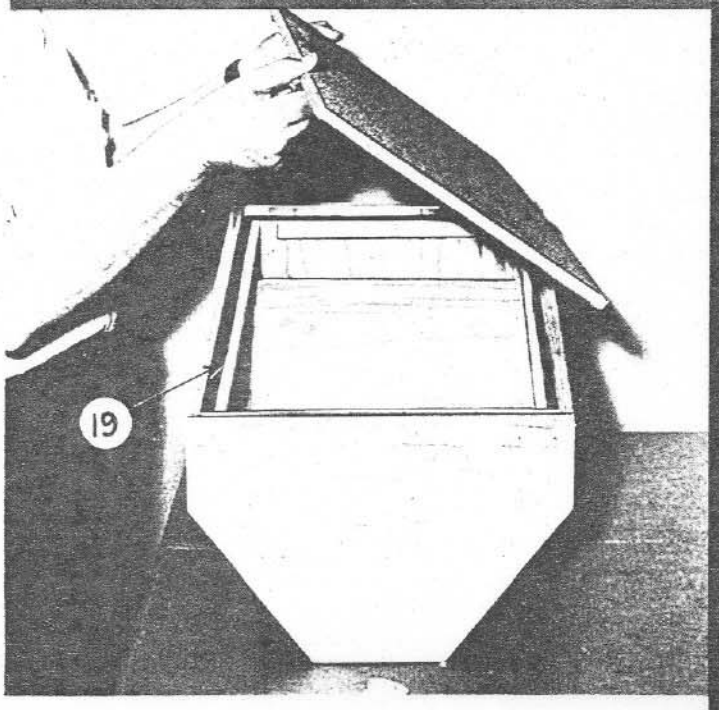
Now a pad of sound deadening material 16 is glued to panels 11, 12, and 14. The purpose of this material is to stop reflections from the back of the loudspeaker cavity. If these reflections are allowed to exist, the sound reproduction above 200 cycles may have ragged dips and peaks.

The job does not have to be neat, in fact, the padding seems to work better if slightly mussed up. Apply the pad with the scrim or cheesecloth side out. Apply glue on the back side, smear it around a bit, and then press the pad against 14, wrapping the fold-over onto 12 and 11. Smooth and pat gently to assist the glue in holding.









step 10

Before fastening the grille cloth permanently, install the mounting bolts for the loudspeaker. Cut out the plug in the VHF driver opening, if a tweeter is to be used. Paint the mounting board flat black, or contrasting color if this is desired.

Now, lay the cloth on a smooth surface with panel 17 on top of it. Notch the corners and then wrap them. Be sure the face side of the cloth is down. A stapling gun is ideal for this work, but if it is not available, ordinary window screen staples, small tacks or fasteners may be used.

Assembling the

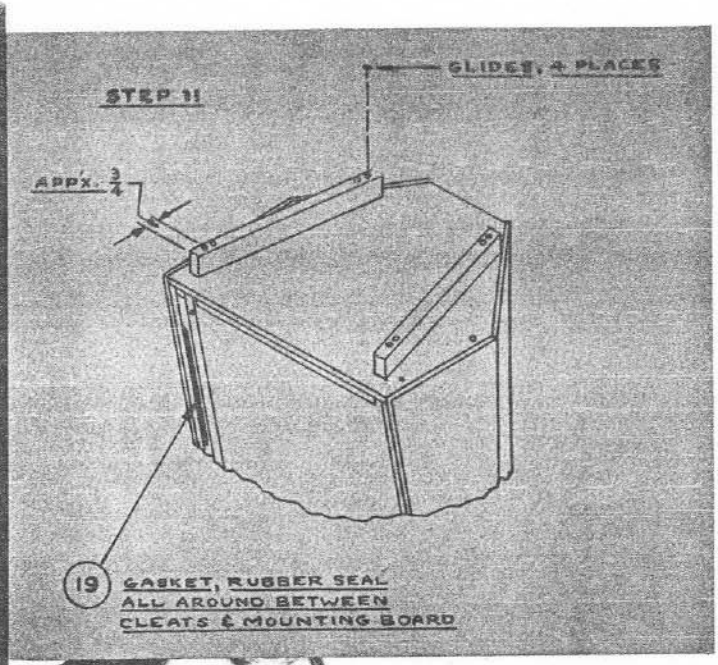
The speaker panel 17 and grille cloth 18 form the front of the Baronet. Because the grille cloth catches the eye, it should be neat. To keep the cloth presentable, it is wrapped around and stapled or tacked to 17 so there are no sags, or ripples.

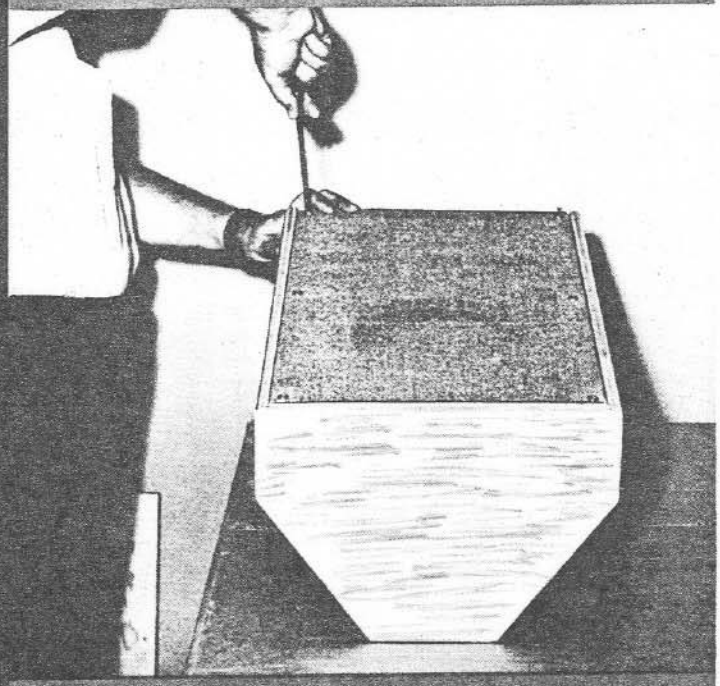
step 11

The rubber gasket 19 serves as a seal for the speaker mounting panel. It should be laid carefully along the shoulder as shown in the illustration; the back of the tape is sufficiently adhesive to secure it. To apply

step 11 *(continued)*

the gasket, peel off the masking strip and lay the sticky side down on the shoulder. Trim the gasket to length AFTER it is in place. The gasket has a reasonable degree of elasticity and can be stretched to exact dimensions. When this has been completed, install the furniture glides on the cabinet legs.

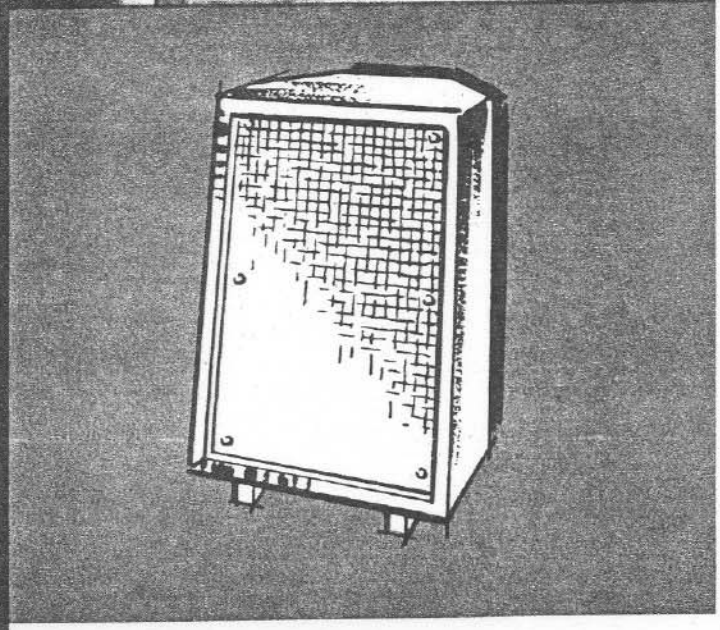


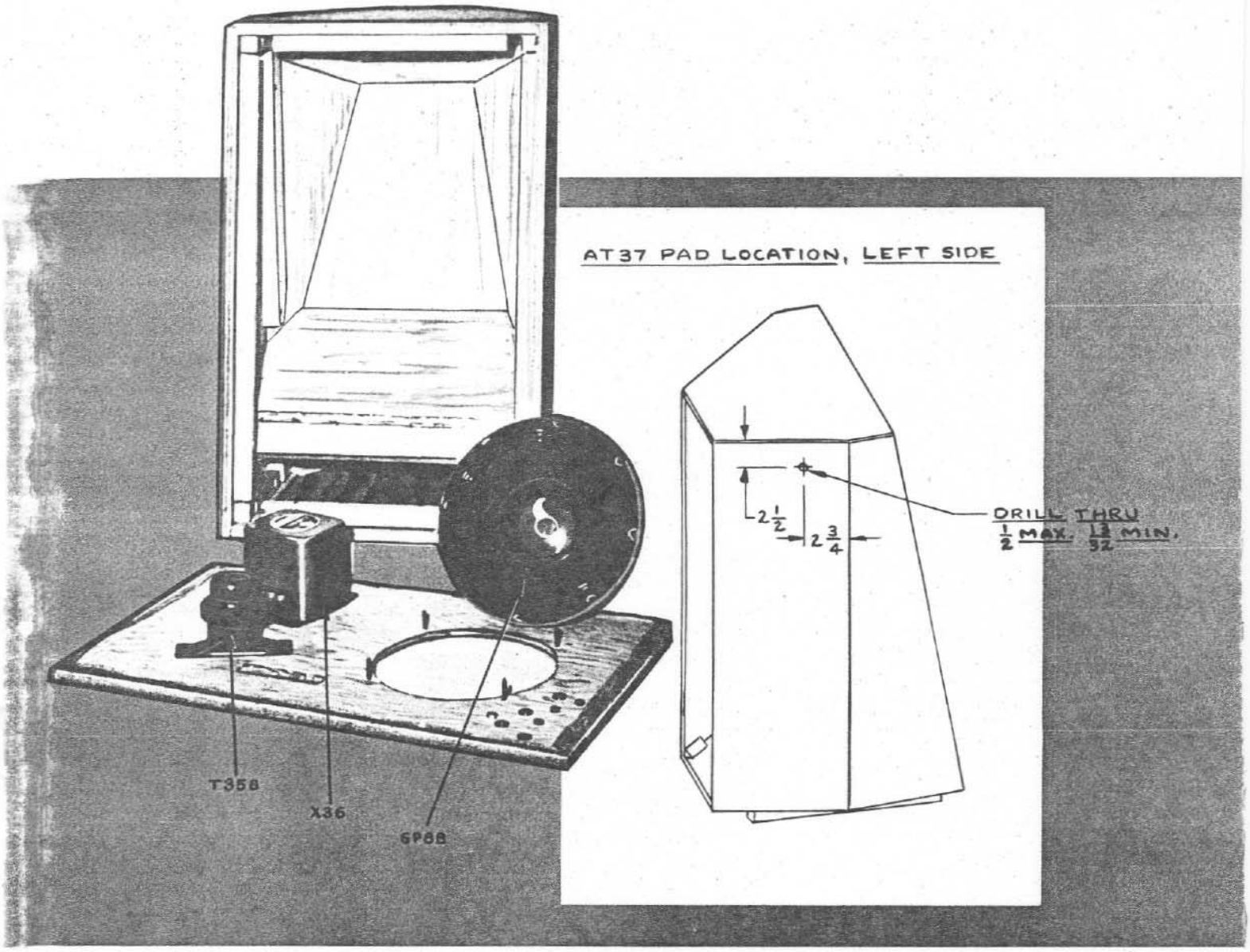


Baronet Kit

step 12

The speaker panel is held in place by brass mounting screws and finishing rings. Use care when installing the board to seat it evenly on the gasket; do not apply sufficient pressure to disfigure the grille cloth, though. The final installation should not be done until the speakers are installed and the cabinet painted or lacquered.





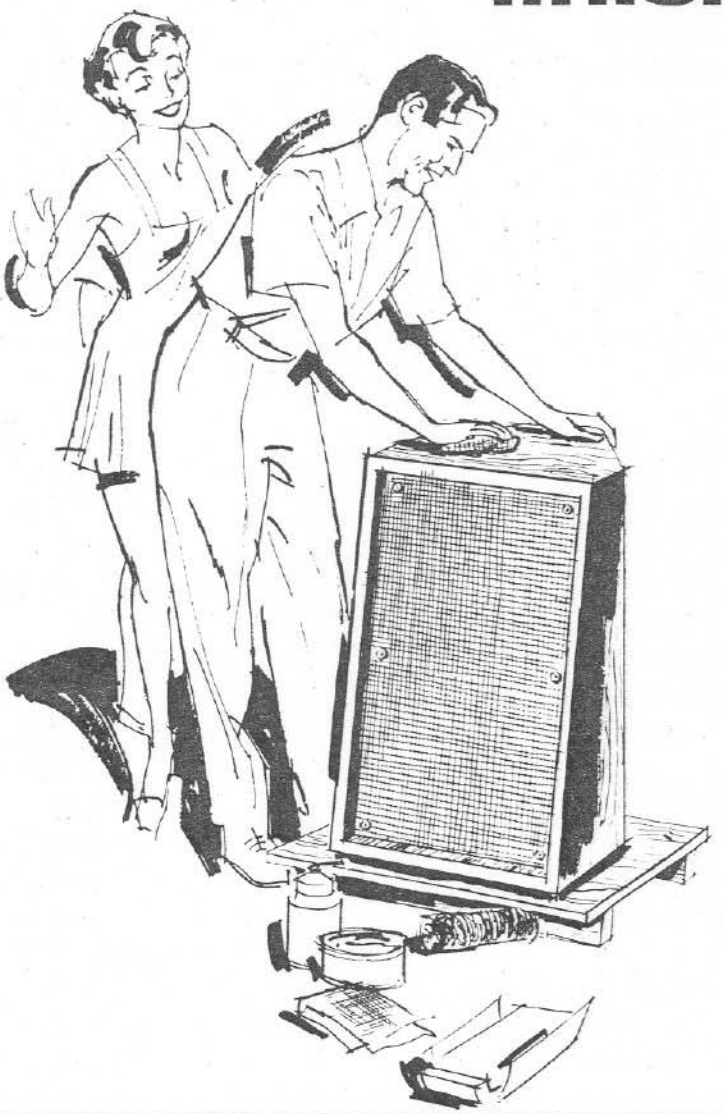
components

Perhaps you have had your eye on an Electro-Voice matched system made to order for the Baronet, or you may already own an adequate speaker which has long needed a suitable enclosure. Electro-Voice loudspeakers, drivers and crossover networks include full installation instructions, specifications and mounting hardware. All that need be done is to follow instructions. The SP8B RADAX coaxial loudspeaker and the Baronet, of course, were designed for each other.

This combination automatically insures excellent results. Addition of E-V's Model T35B Super-Sonax very-high-frequency driver and Model X36 crossover, however, will extend the very high range to beyond audibility.

The use of a level control requires drilling of an additional hole in the left-hand panel 12. The exact placement of the hole is shown in the drawing. Remember, the panel with equipment mounted is quite heavy and it is easier and safer to lay the cabinet on its back for loading.

finishing



The logical approach to finishing your Baronet is the purchase of an Electro-Voice FK finishing kit. The FK kit will save time, trouble and the instructions assure a professional appearance in the widest selection of harmonizing decorator colors.

The simplest of all finishes is the wipe-on wax and stain mix. Once over briskly and your cabinet is both stained and waxed. The most involved of finishes is the piano rub, requiring many thin coats of varnish or lacquer, each rubbed down to mirror gloss before the next is applied. To some this is pleasant recreation, but it looks like hard work to others. A happy medium is the Electro-Voice finishing kit, where all ingredients have been selected for a common denominator—the best job for the least effort.

Electro-Voice

finishing kits are available as:

FK-1	Walnut	FK-4	Honey Maple
FK-2	Mahogany	FK-5	Golden Oak
FK-3	Red Mahogany	FK-6	Jet Black

Net Price $5.00 each

want more information

about other Electro-Voice products?

We will be happy to supply additional information about any of the following Electro-Voice product lines upon request:

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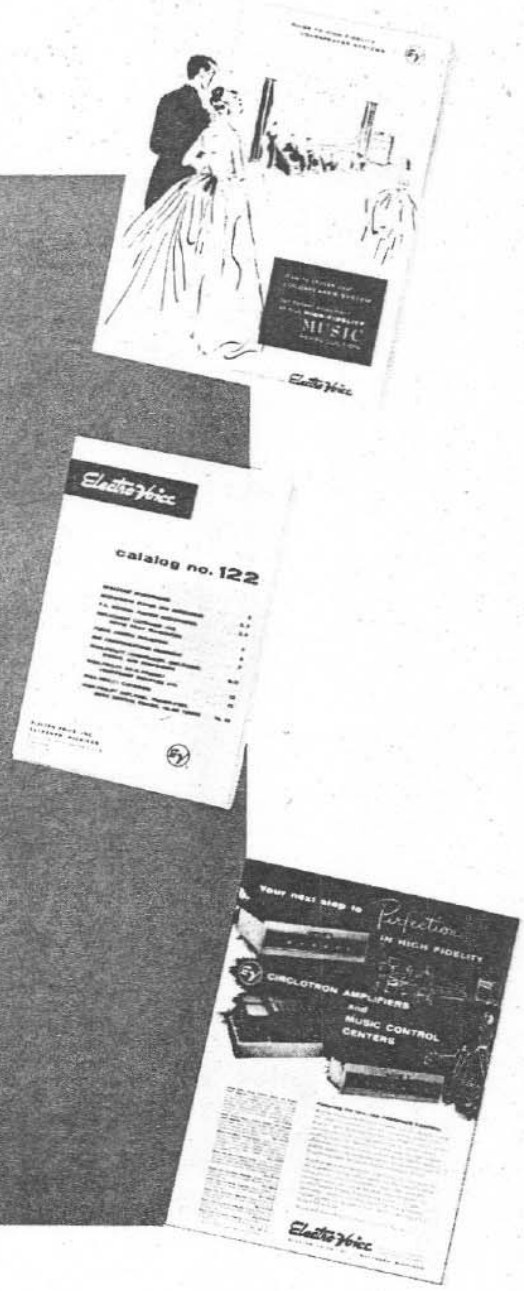
- Public address loudspeakers
- Phonograph cartridges
- Microphones for public address, broadcast and general purpose
- Microphone accessories
- RME communications equipment and specialized electronic products



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