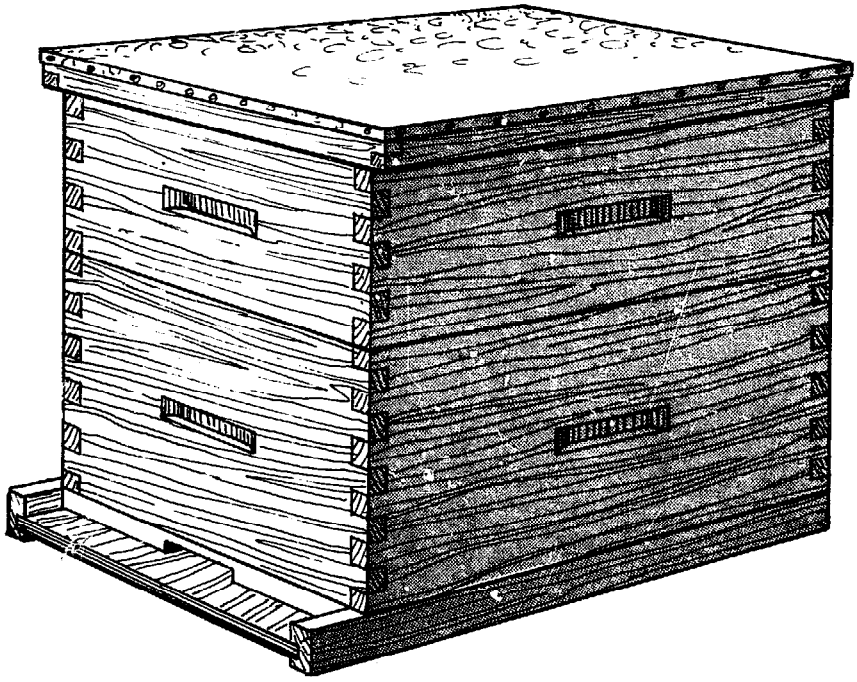
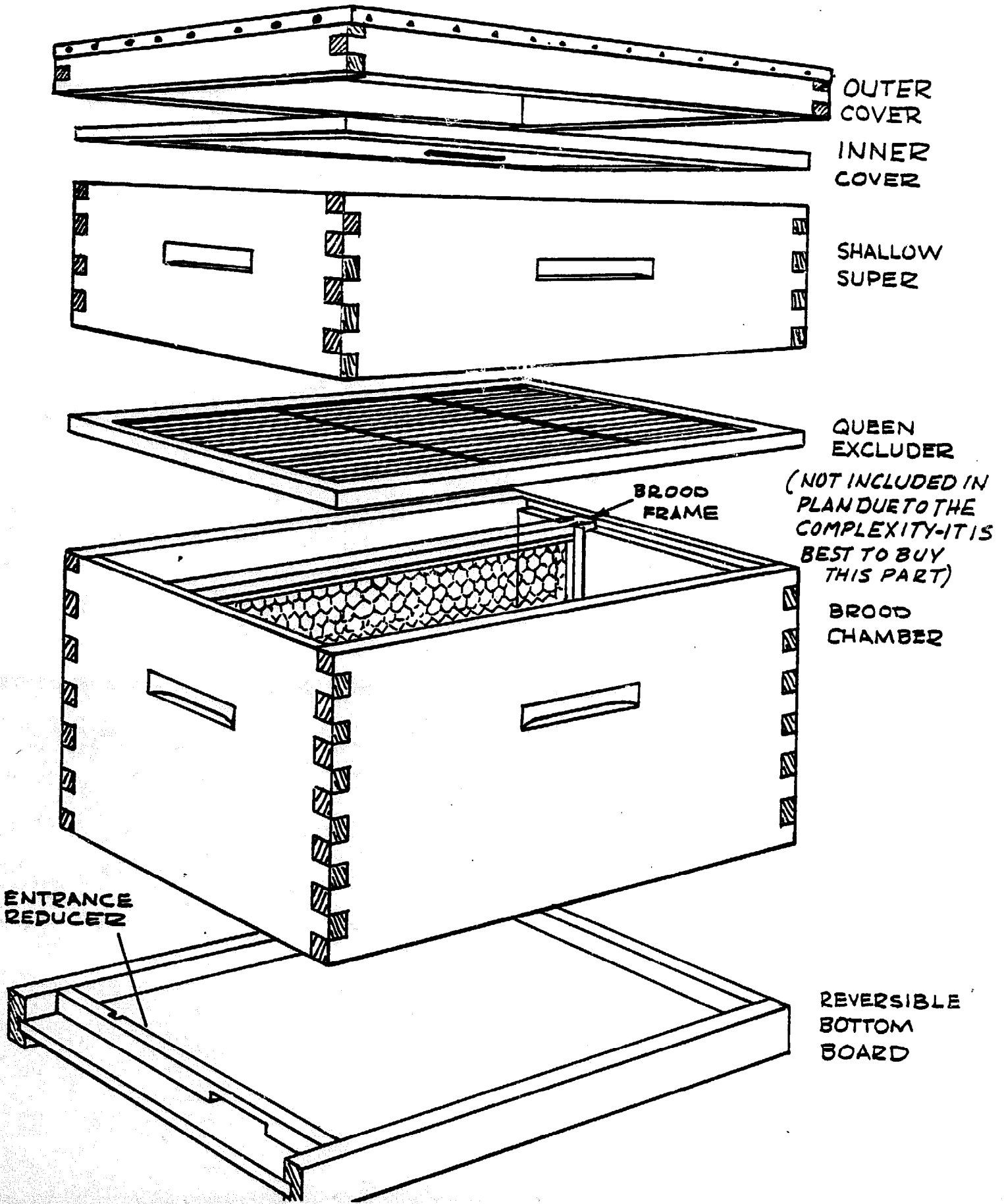
PLANS FOR A

COMPLETE BEEKEEPING SYSTEM



CHARLOTTE, VT. 05445

COMPONENTS OF A BEE HIVE.



BEE HIVE CONSTRUCTION

Use any 3/4" soft wood such as pine, basswood, or spruce. Three quarter [illegible] exterior grade plywood can be substituted for brood chamber and supers, as [illegible]g as you thoroughly fill and seal all the edges.

NOTE: Dimensions are all quite critical - too little space between frames will keep bees from working efficiently while too much will encourage the bees to fill the space with comb.

BROOD CHAMBER: Finger joints are recommended for strength, although a dado and rabbet joint can be substituted, as well as a simple lap joint, (pg. 5). To make a finger joint, set 3/4" wide dado saw to 3/4" high. Make a cut near the end of a 3/4" board about 3" x 16". Insert a 3/4" x 3/4" x 1½" guide block in this cut (pg. 4) and nail in place. Move board along the face of the miter gauge so the next cut is exactly 3/4" from the guide block. Check for accuracy, and clamp in place on the face plate of the miter gauge. Make the second cut 3/4" x 3/4". This jig is then used to make finger joints. First, stand side on edge touching inside face of guide block (the face nearest the dado blade). Make first cut, then hook this slot over guide block, make next cut and so on. In cutting the opposite end, make sure the notches match. Cut the notches in the side pieces following the same procedure, but make sure that the first cut is made so that when the side and end are assembled, the bottom edge is even. Assemble the frame and mark the top edge of each end in which the 7/16" x 3/4 deep rabbet is to be cut. Note the top "finger" edge of each side runs past the ends to contain the rabbet. Separate, cut rabbets in ends and rip to 9½" width removing stock from bottom edge of brood chamber. Shallow supers are of the same length and width as brood frame, but are only 6" high. Follow same procedure as above for finger joints. NOTE: Since no metal strips are used along rabbet on shallow supers, rabbet is only 5/8" deep. Rip to final width of 5 11/16" removing stock from bottom edge. (Shallow supers are becoming more or less standard, as a deep super full of honey and bees can weigh fifty to sixty pounds. Since these are not too easy to handle, most hobby beekeepers are going to shallow supers. If you want to build deep supers, they are constructed the same way as brood chambers.)

Cut finger grips ½" deep as shown on all four sides. Use aluminum strips or narrow galvanized steel strips in rabbet. These strips allow frames to be removed from the brood chamber far easier.

Nail brood chambers and supers together with galvanized nails.

BOTTOM BOARD: Solid wood can be substituted for plywood. It is important that the 7/8" and 3/8" dimensions be maintained so if a thickness other than 3/8" is used, add the difference to the total width of the sides and end pieces. Nail with galvanized nails, and glue with waterproof glue.

TOP COVER: Finger joints may be cut the same way as the brood chamber, or simple overlapping joints may be substituted. You'll need one piece of pine, 21 3/4" x 5 to 6" wide and one piece 18" x 5½ to 6" wide. (If you decide on a simple overlap joint, the length of the end is only 16½" long.) After finger joints are cut, rip to 2 1/8" width. After the top cover is assembled with glue and nails,

cover with aluminum or galvanized steel, lapping down over the side at least 5/8" to 3/4" to provide a watertight cover.

INNER COVER: Masonite or plywood can be used. The critical dimensions here are the outside dimensions and the 5/16" thickness of the edge strips. Cut hole to accept bee escape. Glue edge strips in place using waterproof glue.

FRAME ENDS: The frame ends must be 1 3/8" wide clear lumber (not a standard thickness.) Dress or have lumber yard dress 2" x 10" lumber, (actual dimension 1½" x 9½") to 1 3/8" thick. Method 1: Cut blocks to lengths shown (9 1/8" or 5 3/8" depending whether you are making brood frames or shallow frames.) (1) Cut 3/4" slots in each end. Make several support blocks from some of the 1 3/8" stock. Width and length are not critical, but the 3/4" x 3/8" tongue should be centered exactly on the 1 3/8" dimension. (2) Secure blocks and clamp assembly in vise or secure to bench top by tacking cleats around the assembly. (3) Remove stock with router as shown in 2. Alternate method: With support block in one end make multiple cuts over dado head to remove the stock. Slice blocks to 5/16" thick and drill 1/8" holes for support wires, and then cut or sand shoulder as shown on full-size patterns. Also smooth any rough areas.

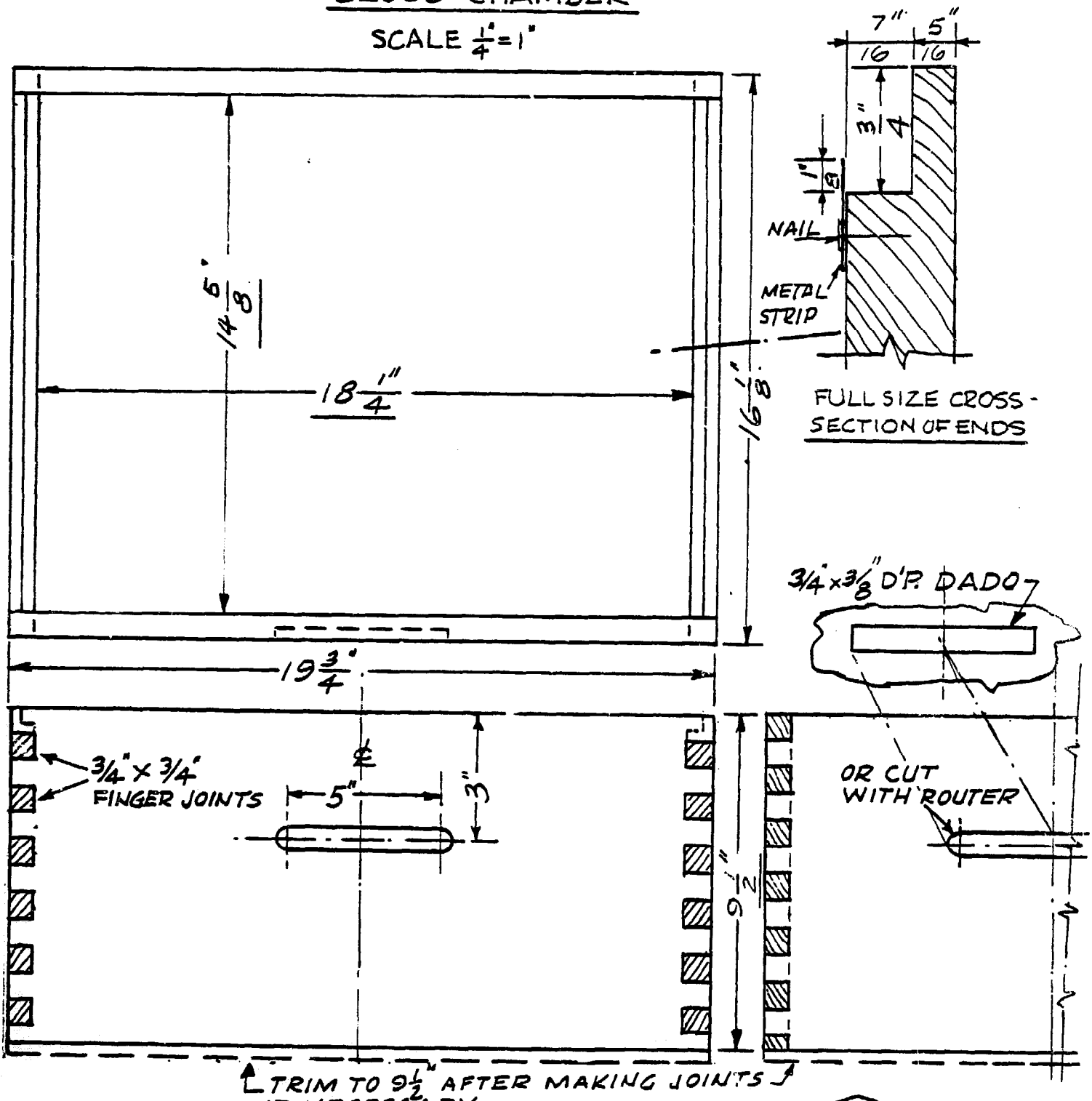
Method 2: Rip 5/16" x 1 3/8" strips and cut to lengths required (either 9 1/8" or 5 3/8"). Stack pieces and clamp together. Cut 3/4" x 3/8" deep slots centered at each end. Using support blocks at each end, follow instructions in step 3 above to reduce the 1 3/8" to the 1 1/8" wide area. Another alternative would be to cut each strip individually on a band saw using a master template.

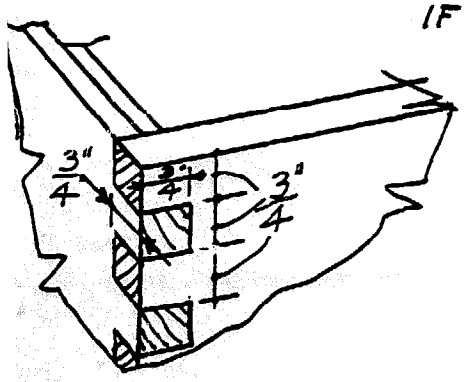
FRAME TOP: Rip stock to 7/8" x 1" dimensions. Cut to 19" length. (1) Cut ½" deep notch 1" from each end. Remove ½" x 1" block either with a wood chisel or by sawing. (2) Cut 5/16" notches for end frames, checking with frame ends for proper fit. (3) Using a saw blade with a thin kerf make two length wise cuts to remove strip as shown in cross section. Save strip to use later for fastening foundation in place.

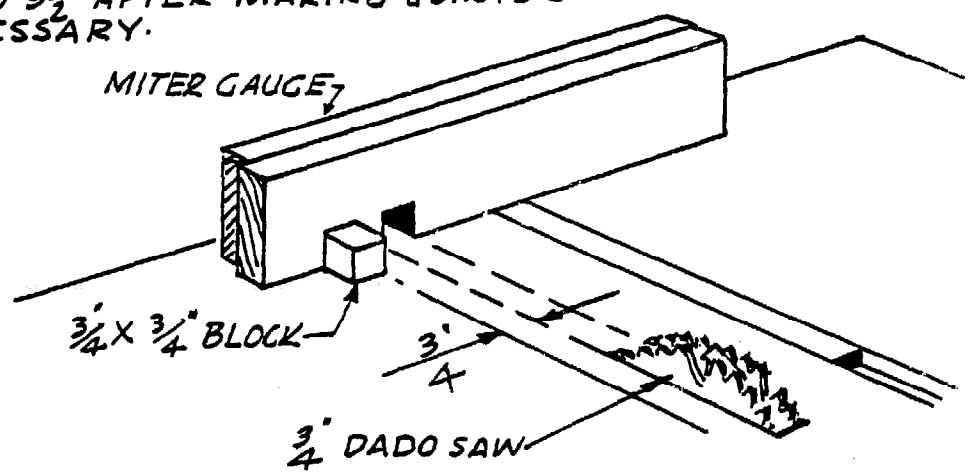
FRAME BOTTOM: Cut strips 17 5/8" x 3/4" as shown. Make a saw cut in center leaving as thin a web as possible. Nail frame ends in place first by driving 1" x 17 or 18 ga. wire nails down through the frame tops in two places at each end. Nail the frame bottoms to the ends with 1" nails. After bottom is nailed in place, thin web is removed with razor blade or sharp knife, or separate two pieces and trim off web before nailing. Foundation is slipped in through the bottom and nailed in place with ½" nails through the piece of stock saved in the FRAME TOP paragraph above.

BROOD CHAMBER

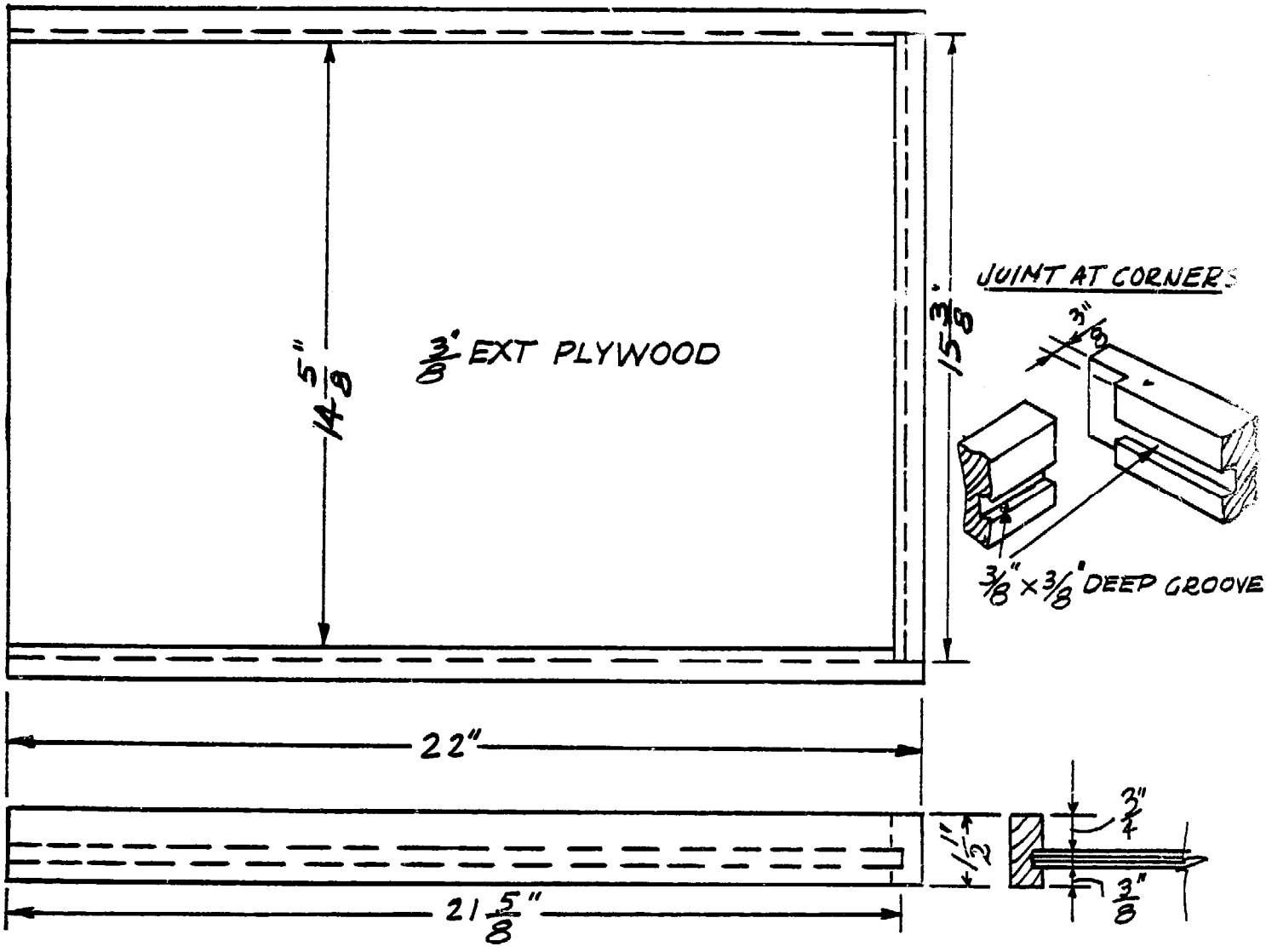
SCALE $\frac{1}{4}$" = 1"



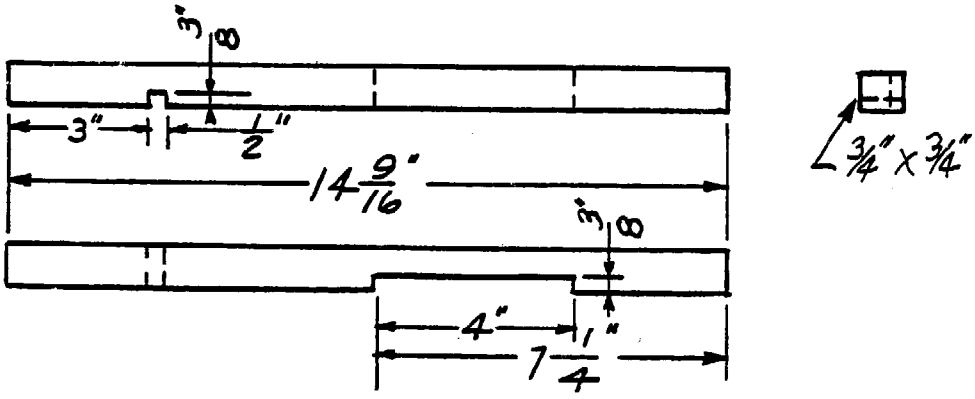




BOTTOM BOARD

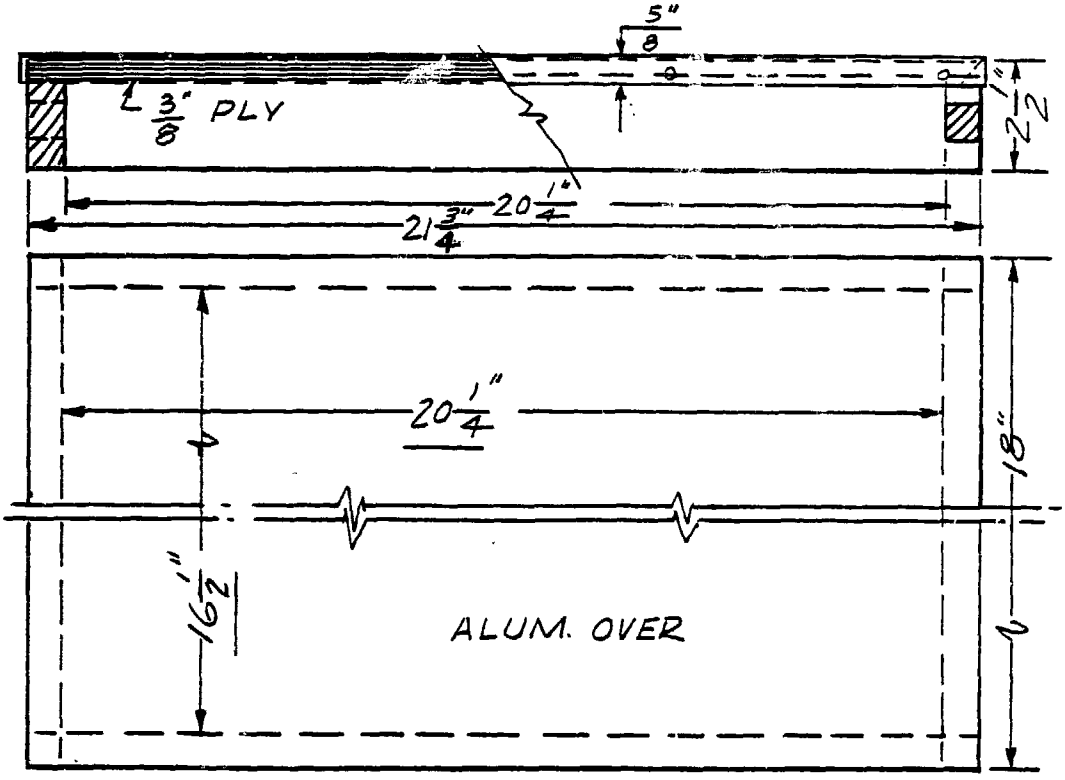


JOINT AT CORNERS

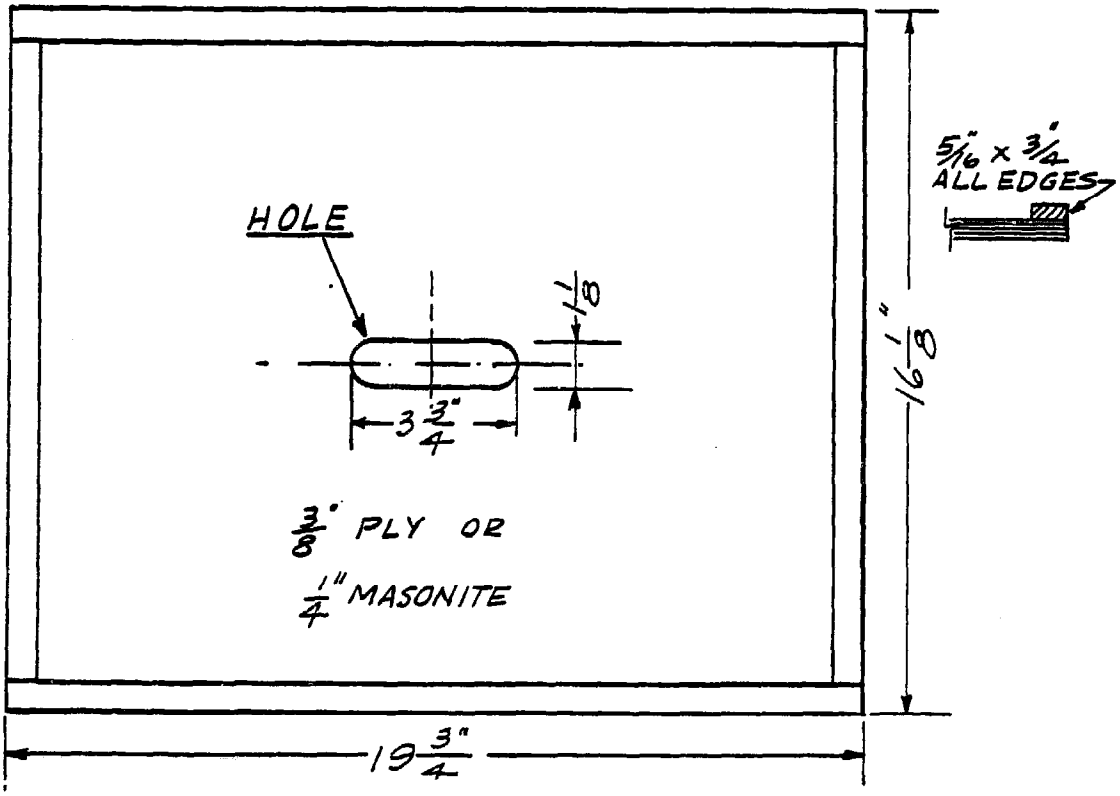


ENTRANCE REDUCER

OUTER COVER

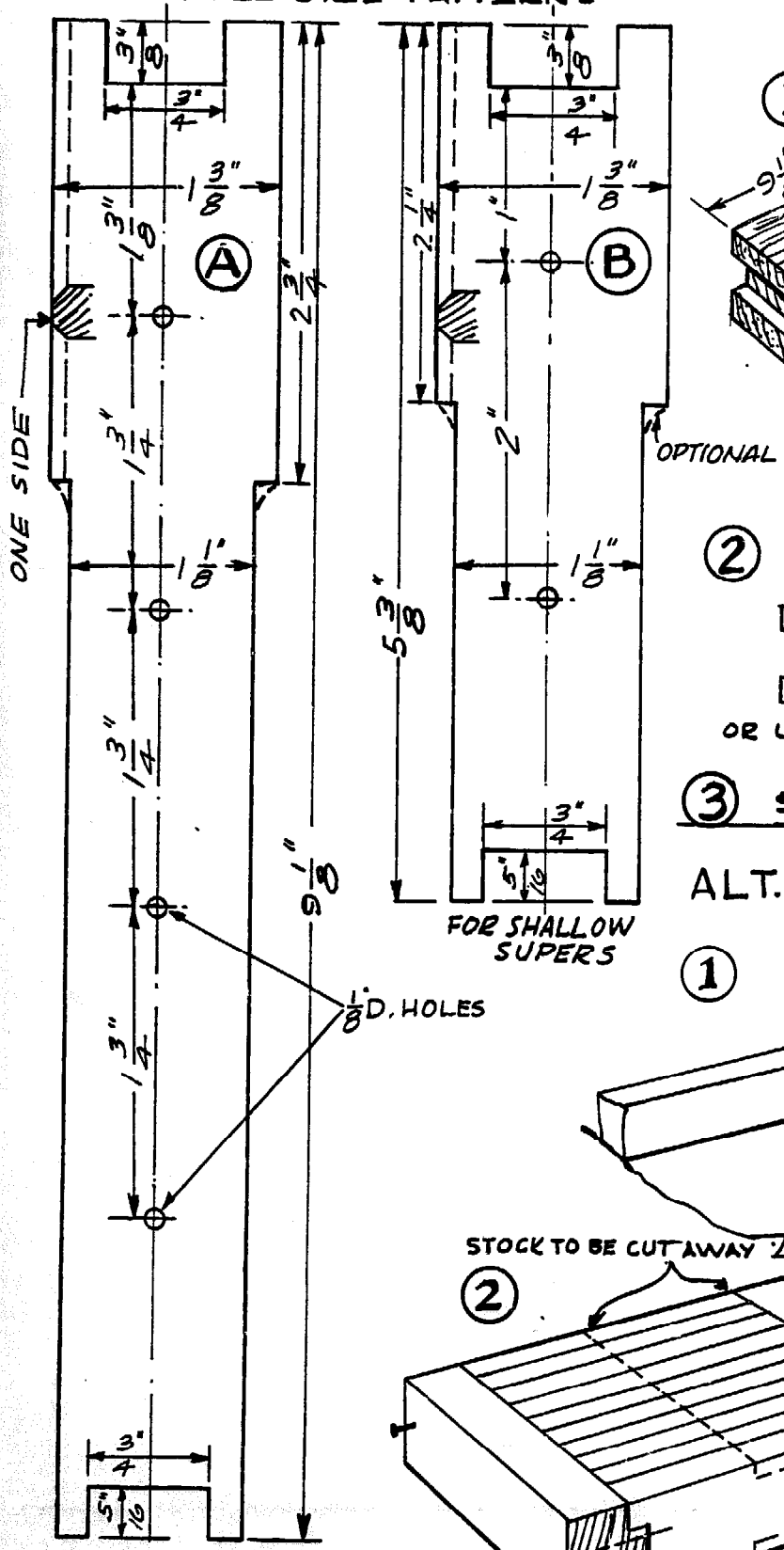


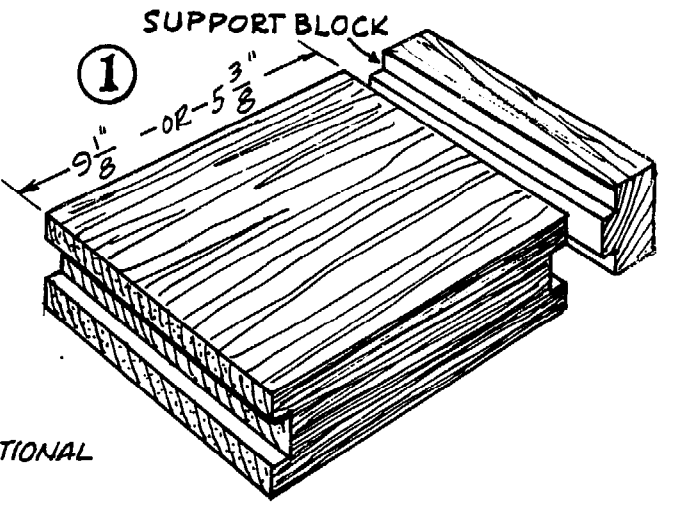
INNER COVER

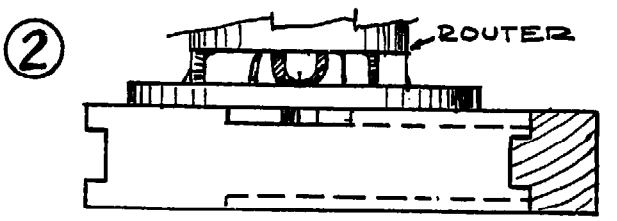


FRAME ENDS.

FULL SIZE PATTERNS



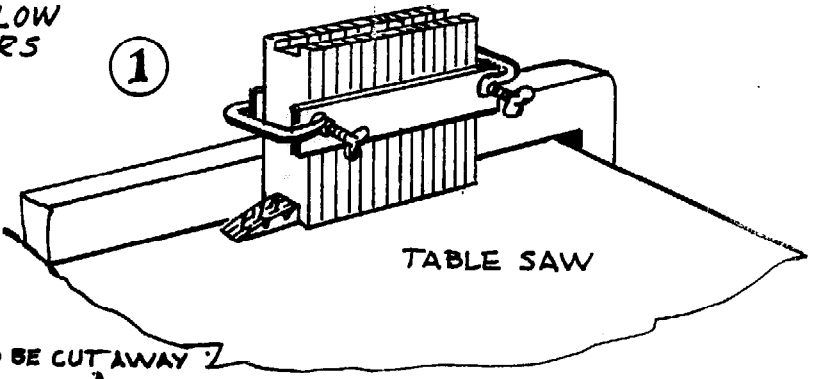


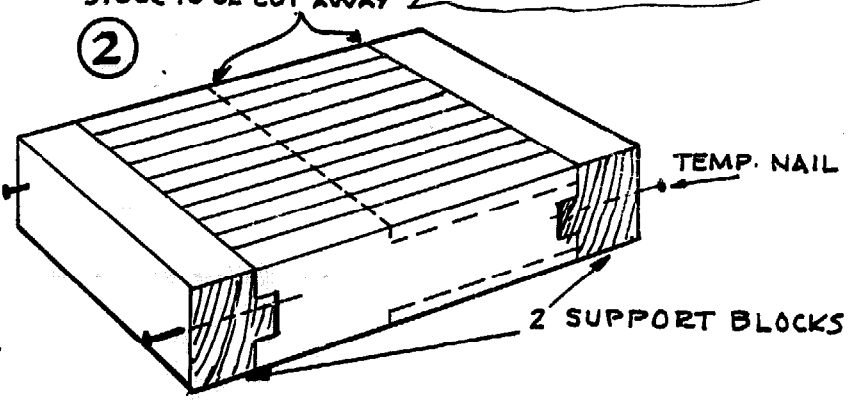


OR USE DADO SAW.

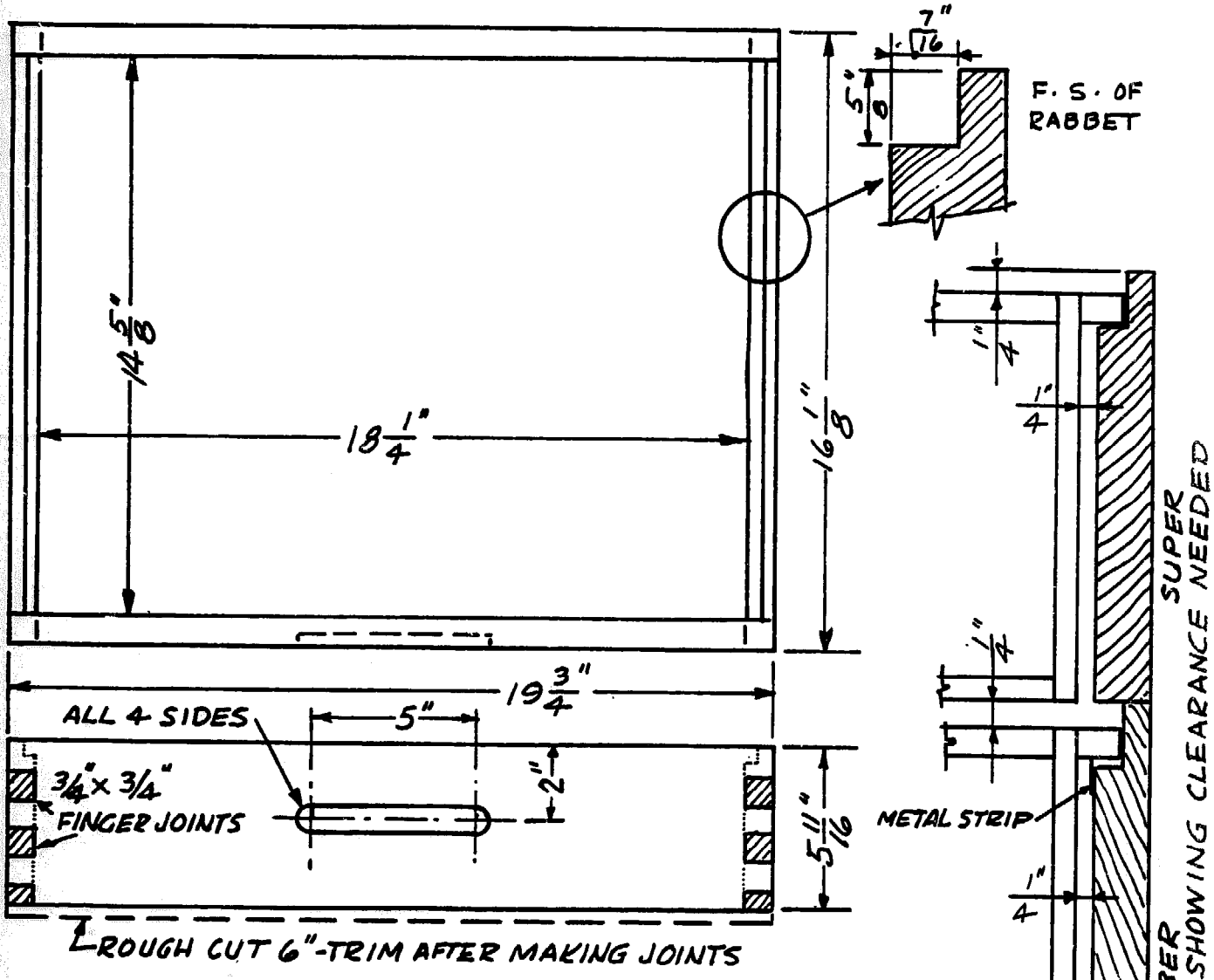
3 SLICE TO 5/16" THICK

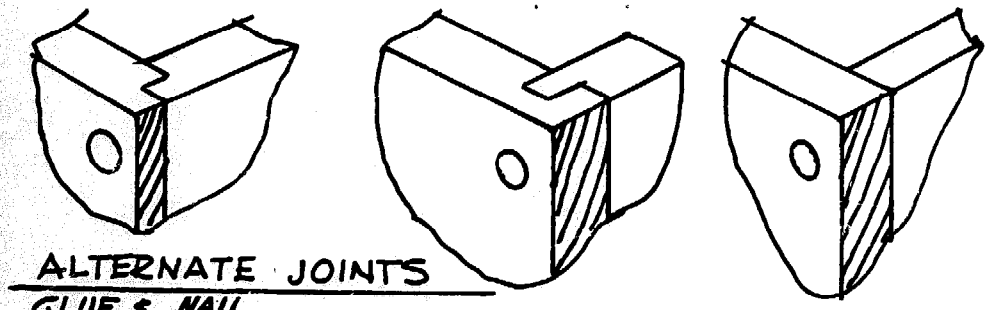
ALT. RIP TO 5/16" THICK. CUT TO LENGTH.



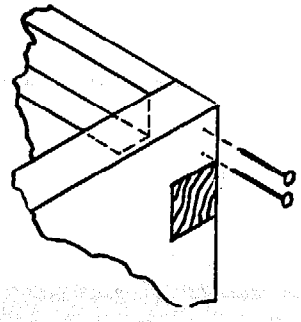


SHALLOW SUPER



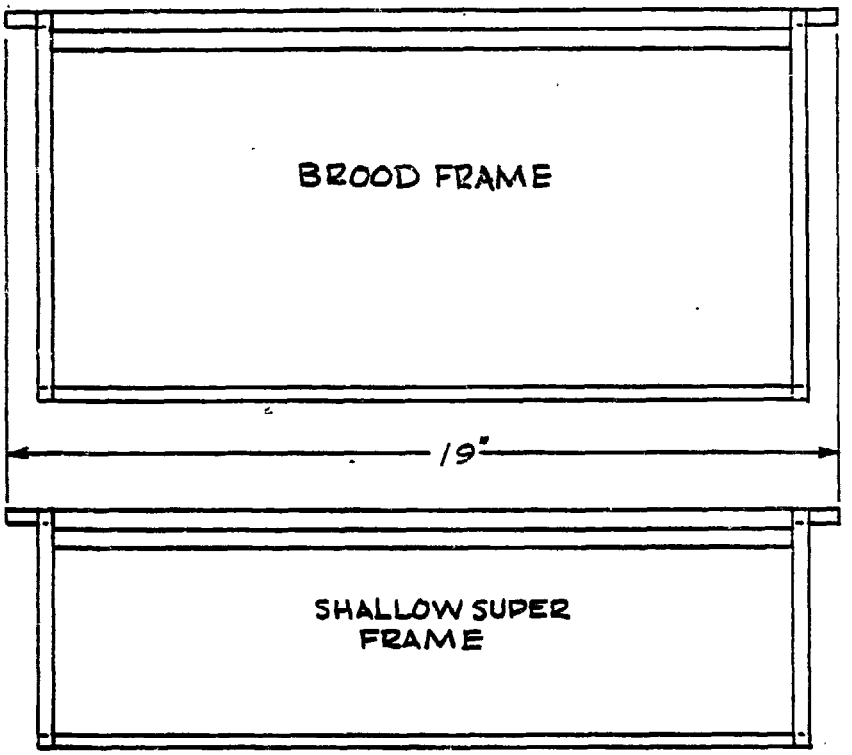


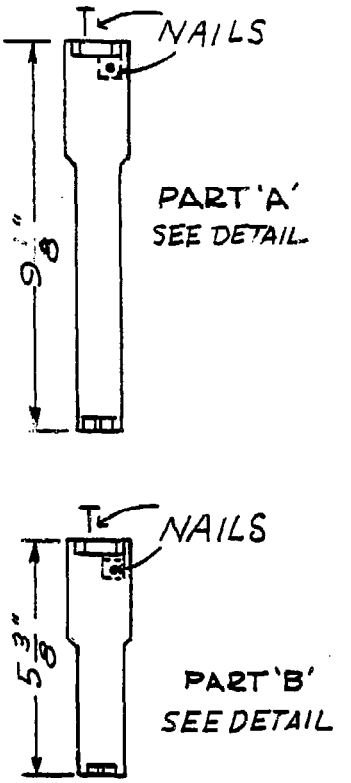
ALTERNATE JOINTS
GLUE & NAIL

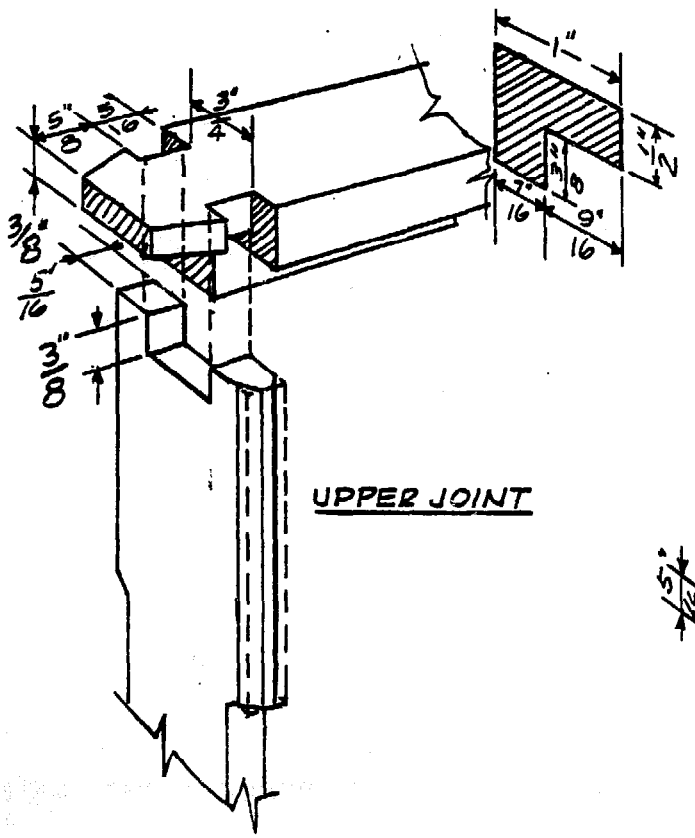


BROOD CHAMBER: When assembling the brood chamber, be sure to nail the rabbeted area as shown in the sketch at right with two very fine 1½" wire nails. The thin section in the rabbeted ends gets a lot of hard usage, and must be reinforced this way to keep it from breaking.

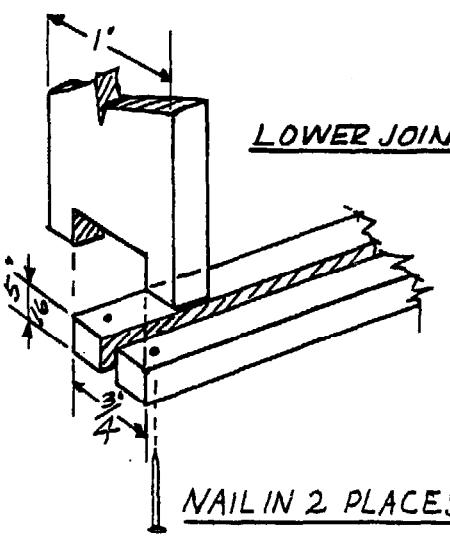
FRAMES







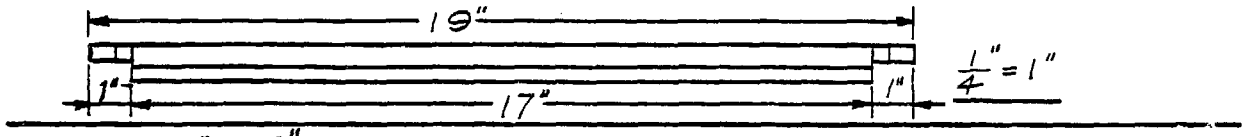
UPPER JOINT

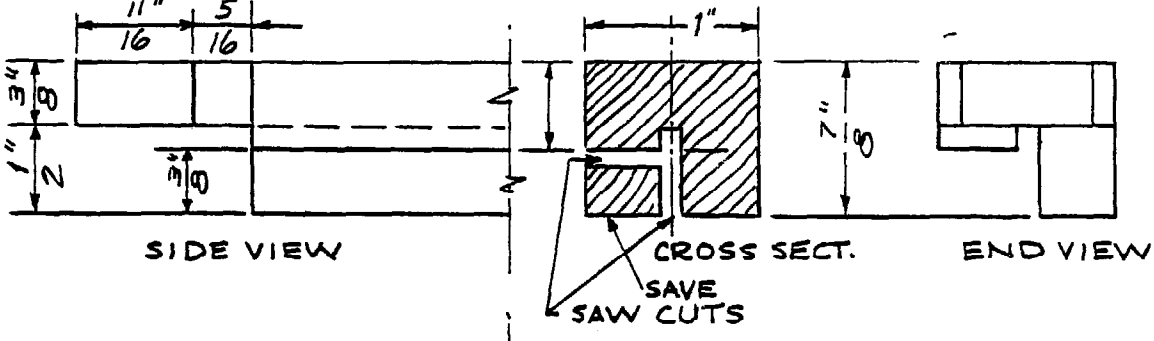


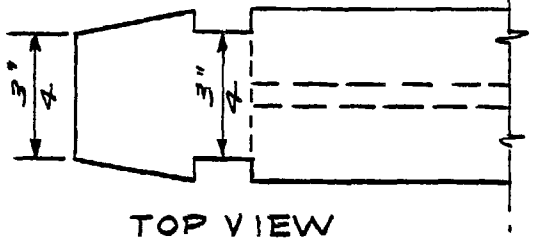
LOWER JOINT

NAIL IN 2 PLACES EACH END

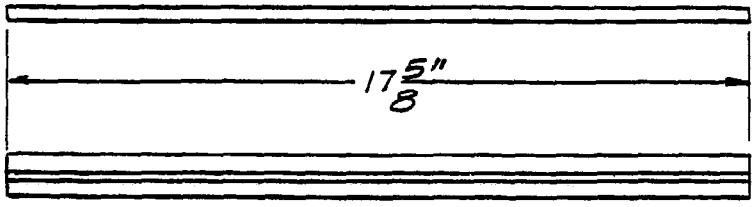
FRAME - TOP & BOTTOM



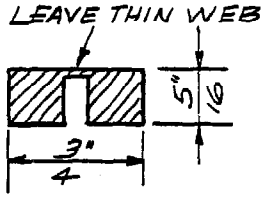




FULL SIZE DETAIL



1/4" = 1"



CROSS SECTION
FULL SIZE