



# *Construction of a Print Viewing Box*

*Drawings and instructions  
by Bud Gardner, FPSA*

## Notes and directions on constructing the print viewing box:

Use carpenters wood glue and either brads or screws to join all wood pieces. It is suggested that all material be cut before starting to assemble. Be sure to mark each piece with its letter or number designation as it is cut from the stock. Some pieces are very close in size to another piece and it would be easy to confuse them.

The 5/8" X 1-5/8" wood used in the back frame is nominally 1" X 2" – this can be obtained at most lumber yards as 1 X 2 X 8' "firing strips." However, these firing strips are low quality lumber and are often very twisted, crooked, and/or knotty. If you wish to use firing strips, pick through the supply very carefully to get the straightest and clearest ones possible. It is recommended that you use grade "B or better" fir or CWP for the framing material of the back frame.

The plywood panels are cut from grade A-B fir indoor plywood.

The plywood panels on the top and bottom boxes are held together with corner brackets attached with wood screws. Place the brackets on the outside of the top box and on the inside of the bottom box. (Otherwise the boxes will not nest together for storage.) Use four (4) brackets along the longer dimensions of the boxes (between the front panel, the back panel and the top/bottom panel). Be sure that the bracket in the back corner will not interfere with the mounting of the back supports. Equally distribute the other two brackets along the remaining distance. Use two (2) brackets on each of the three sides of the ends. These should be placed about 3¼" from the ends of each panel on the long side, and 2" from the ends of each panel on the short sides.

The wood for the shelf and print stop (parts 6 & 7) can be obtained in the "specialty wood" – or "craft wood" – section of a lumberyard. Aspen or poplar is a good wood to use. If not at a lumberyard, then a like wood (basswood) can be obtained in most hobby shops.

Sand all wood surfaces – starting with a coarse (80) grit paper, then to a medium (100) grit paper, and finishing with a fine (120) grit paper. Paint the inside of the boxes with flat white acrylic paint. Paint all other surfaces with 18% reflectance gray acrylic paint. It is recommended that you take a gray card to the store where you buy your paint to get as close a match as possible. Give all surfaces at least two coats of paint – sanding lightly between coats.

The parts list calls for six porcelain light sockets. Only four of these are wired – the remaining two are for storage of the light bulbs used in the upper box. These two sockets are not wired and are mounted in the bottom box between the sockets that are used for light. When disassembling the judging box and nesting the upper and lower boxes for storage, remove the upper light bulbs from the upper box and place them into the unwired lower sockets. If you do not do this and try to nest the boxes, you will break light bulbs. In wiring the fixtures, ground them with the ground wire in the electric cable.

And make sure the ground wire is connected to the plug.

Drill a hole in the back panel of both the top and bottom boxes near the top corner of the top box and bottom corner of the bottom box. Be sure that you put the holes on the same end of each box. These holes are to pass the electric wire through the panel to the outside where it can be attached to an extension cord. Make the holes large enough to pass the plug through.

Use ¼" stove bolts to attach the back supports to the boxes. Drill holes through the back supports that are large enough so the square shoulder under the cap will pass through in order to get the cap down against the steel strap of the back support. Use a flat washer under the nut on the inside.

## PARTS LIST

| Part                                 | Name  | Size   | Quantity   |
|--------------------------------------|---|--|------------|
| <b>Top Box</b> (1/4" A-B plywood)    |   |  |            |
| A.                                   | Top   | 16 <sup>3</sup> / <sub>4</sub> " X 30"                             | 1          |
| B.                                   | Front   | 8 <sup>1</sup> / <sub>2</sub> " X 30"                              | 1          |
| C.                                   | Back  | 8 <sup>1</sup> / <sub>2</sub> " X 30"                              | 1          |
| D.                                   | Ends  | 8 <sup>1</sup> / <sub>2</sub> " X 16 <sup>1</sup> / <sub>4</sub> " | 2          |
| <b>Bottom Box</b> (1/4" A-B plywood) |   |  |            |
| E.                                   | Front   | 7 <sup>3</sup> / <sub>4</sub> " X 29 <sup>1</sup> / <sub>4</sub> " | 1          |
| F.                                   | Back  | 7 <sup>3</sup> / <sub>4</sub> " X 29 <sup>1</sup> / <sub>4</sub> " | 1          |
| G.                                   | Bottom  | 16" X 29 <sup>1</sup> / <sub>4</sub> "                             | 1          |
| H.                                   | Ends  | 7 <sup>3</sup> / <sub>4</sub> " X 15 <sup>1</sup> / <sub>2</sub> " | 2          |
| <b>Back Frame</b> (see notes)        |   |  |            |
| 1.                                   | End   | 5/8" X 1-5/8" X 29 <sup>1</sup> / <sub>4</sub> "                   | 2          |
| 2.                                   | Sides   | 5/8" X 1-5/8" X 19 <sup>3</sup> / <sub>4</sub> "                   | 4          |
| 3.                                   | End   | 5/8" X 1-5/8" X 28"  | 2          |
| 4.                                   | Brace   | 5/8" X 1-5/8" X 5"   | 4          |
| 5.                                   | Strap Hinge                                     |  | 2          |
| J.                                   | Lower Back Pane                                 | 12-3/8" X 29 <sup>1</sup> / <sub>4</sub> " X 1/4" ply              | 1          |
| K.                                   | Upper Back Panel                                | 11-5/8 X 29 <sup>1</sup> / <sub>4</sub> " X 1/4" ply               | 1          |
| 6.                                   | Shelf   | 1/2" X 1" X 28"  | 1*         |
| 7.                                   | Print stop                                      | 1/4" X 3/4" X 28"  | 1*         |
| 8.                                   | Corner Brackets                                 | 1 1/2" X 1 1/2"  | 36         |
| 9.                                   | Back Supports                                   | 2" X 7" X 1/16" strap steel  | 4          |
| 10.                                  | Porcelain light sockets                         |  | 6          |
| 11.                                  | 40 W. Incandescent light bulbs                  |  | 4          |
| 12.                                  | 15 W. Fluorescent light fixtures w/ bulbs       |  | 2          |
| 13.                                  | Handle  |  | 1          |
|                                      | 1/4" X 1/2" stove bolts                         |  | 8          |
|                                      | 16 gauge 2-conductor electric wire w/ ground    |  | Approx 16' |
|                                      | 3-prong (grounded) plugs                        |  | 2          |
|                                      | Wood screws                                     |  |            |
|                                      | Wood glue                                       |  |            |
|                                      | Paint, flat white acrylic                       |  |            |
|                                      | Paint, flat gray acrylic (18% reflectance gray) |  |            |

\* -- See notes on construction

# Cutting the Plywood

The sides and ends of the upper and lower boxes are cut from  $\frac{1}{4}$ " Plywood. Use A-B grade indoor plywood. All the pieces can be cut from a single 4 X 8 foot sheet of plywood.

Suggested cuts are as follows:

First cut  $33\frac{3}{4}$ " from end of sheet (this is the line between panels C & E. Cut clear across the sheet).

The next series of cuts is from the smaller of the two remaining pieces.

Cut 30" from the end of the smaller sheet (this is the line at the bottom of panels A, B, and C). Cut apart panels A, B, and C. (A =  $16\frac{3}{4}$ " X 30" -- B & C each =  $8\frac{1}{2}$ " X 30")

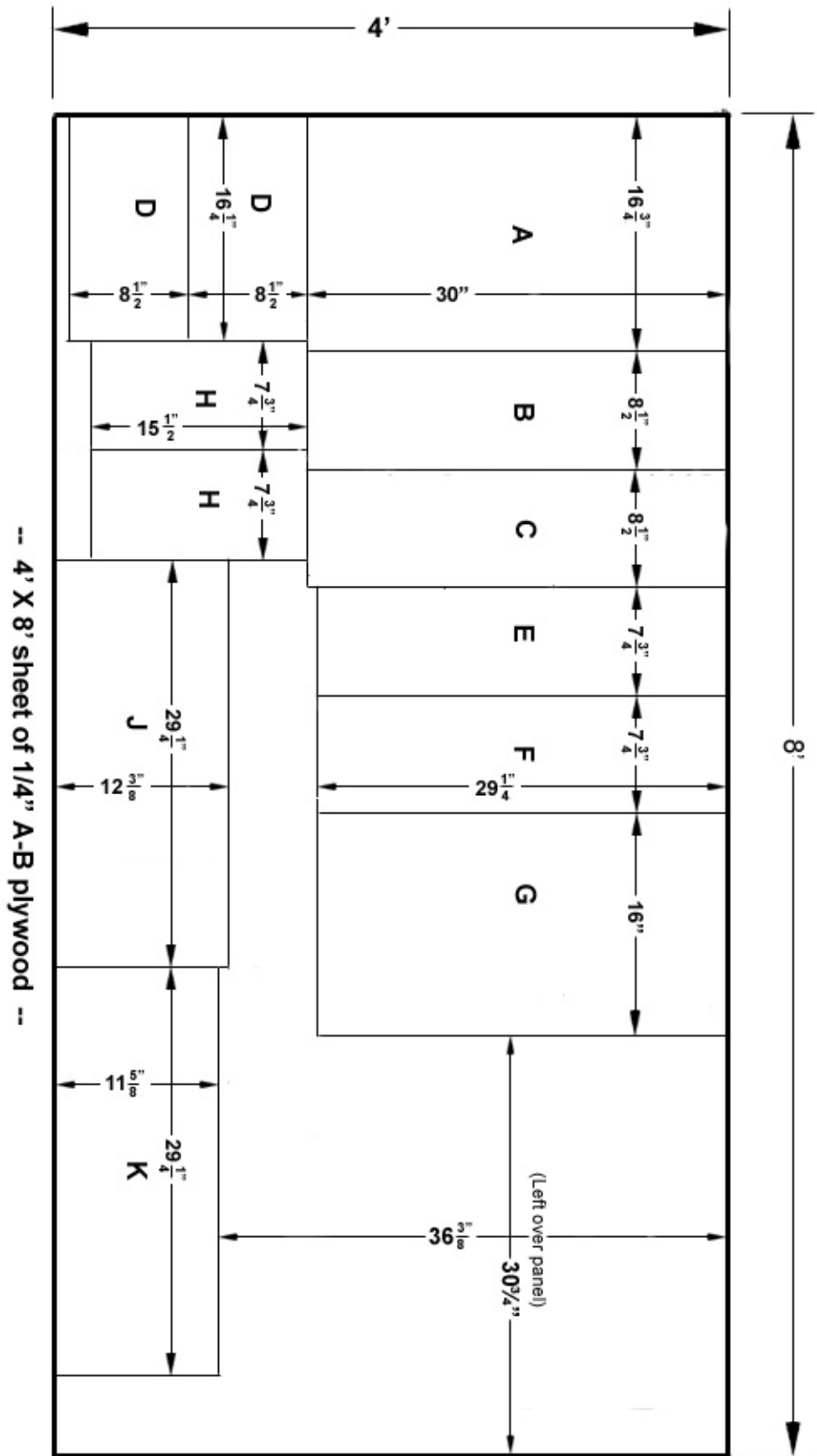
Then cut  $16\frac{1}{4}$ " from one end of the remaining 18" X  $33\frac{3}{4}$ " sheet. This will be the two D panels. Trim 1" off of the 18" dimension and cut apart the two D panels. ( $16\frac{1}{4}$ " X  $8\frac{1}{2}$ " )

The piece remaining after cutting off the D panels are for the H panels and will be 18" X  $17\frac{1}{2}$ "  
Cut  $2\frac{1}{2}$ " off the 18" length and 2" off the  $17\frac{1}{2}$ " length. Then cut the two H panels apart.  
(The two H panels will be  $7\frac{3}{4}$ " X  $15\frac{1}{2}$ " )

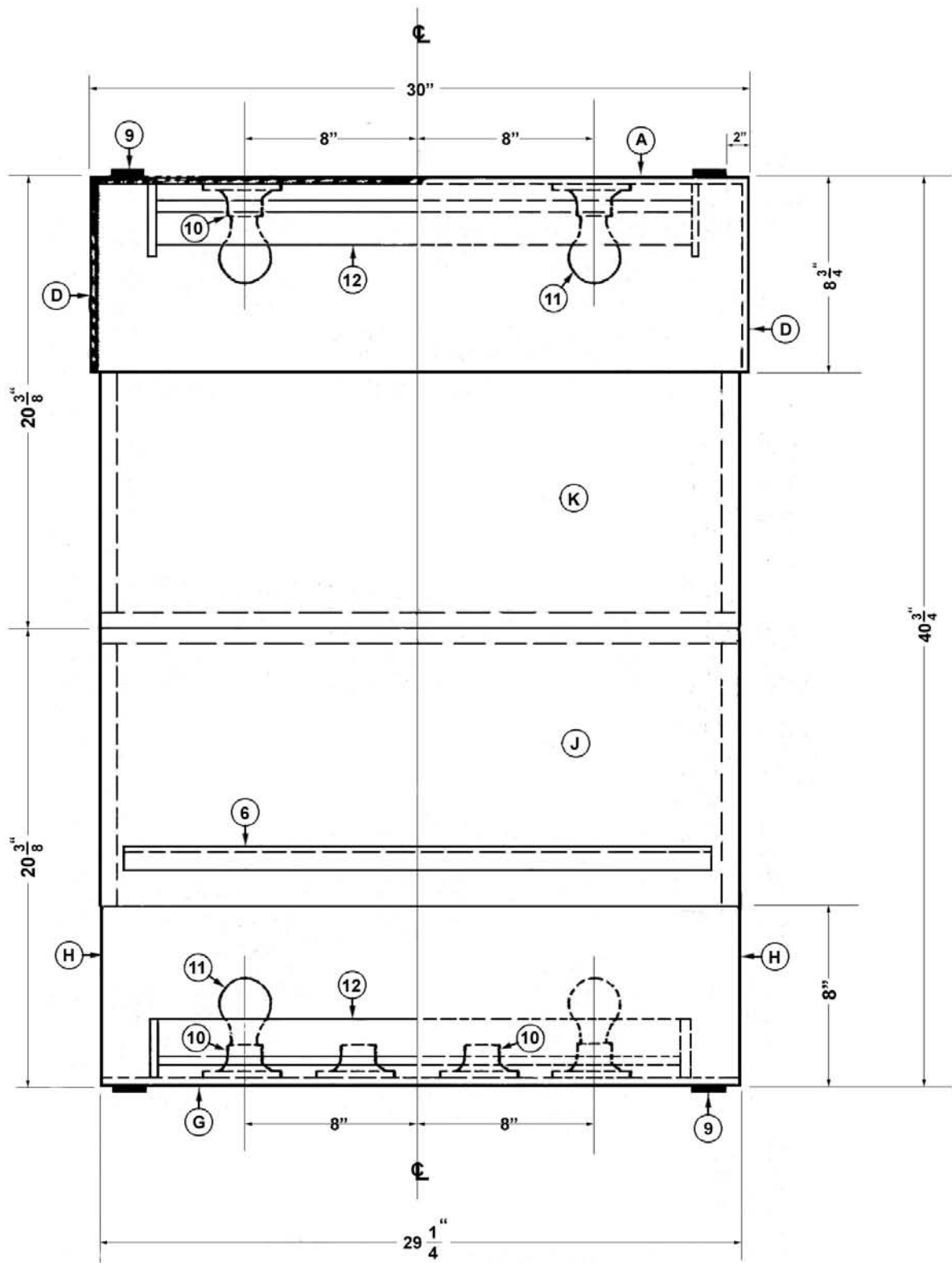
From the larger piece remaining after making the first cut, cut off a strip along the long side that is  $12\text{-}3/8$ ". Then from this strip, cut off two pieces that are  $29\frac{1}{4}$ " long – one is panel J ( $29\frac{1}{4}$ " X  $12\text{-}3/8$ " ) the other is panel K. From the long side of panel K, cut off a strip that is  $\frac{3}{4}$ " wide.  
(K =  $29\frac{1}{4}$ " X  $11\text{-}5/8$ " )

From the large piece remaining, cut off  $31\frac{1}{2}$ " then from the end of this piece, cut off  $6\text{-}3/8$ ". Then cut apart panels E, F, and G. (E & F each =  $29\frac{1}{4}$ " X  $7\frac{3}{4}$ " – G =  $29\frac{1}{4}$ " X 16")

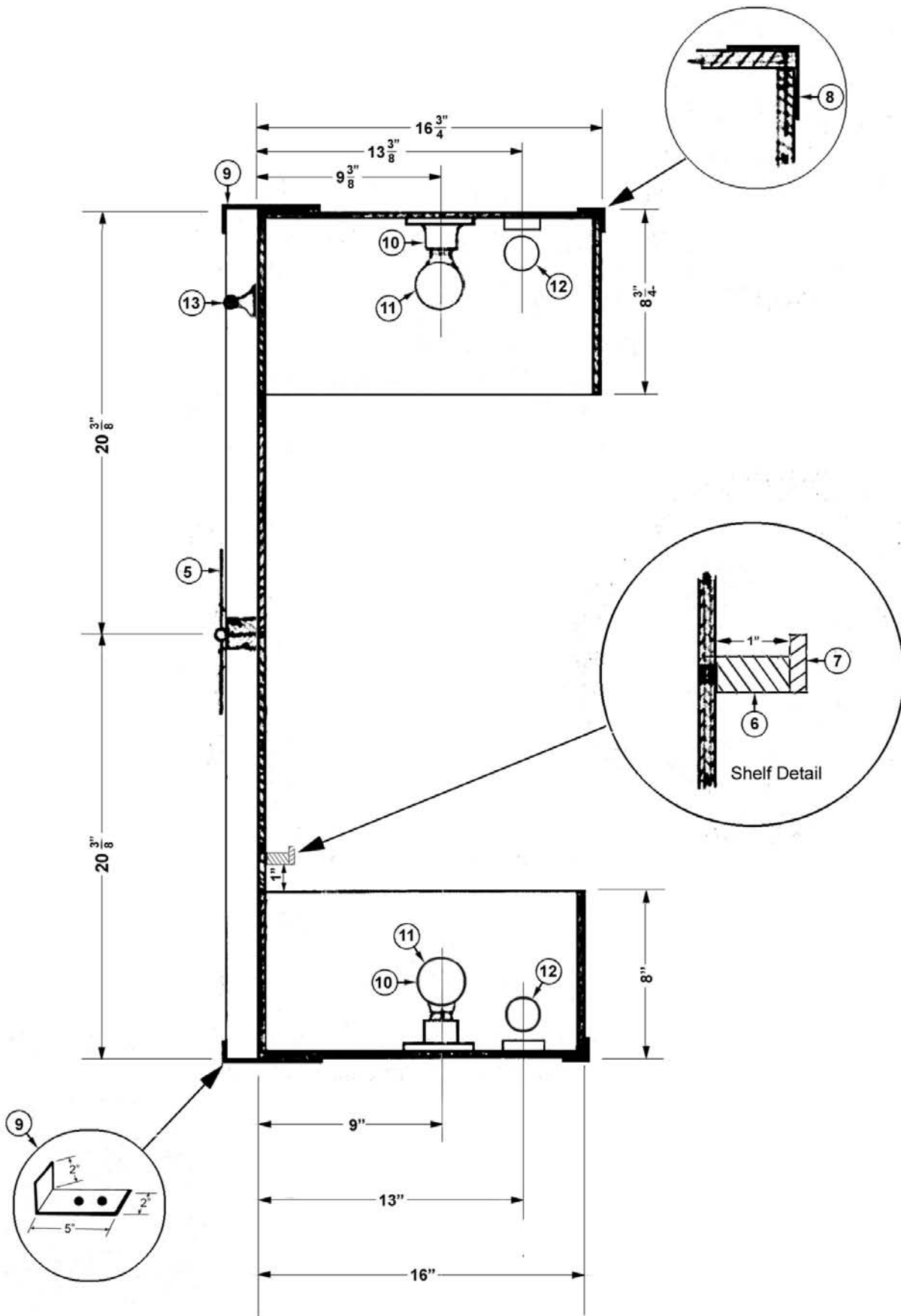
You will have a piece  $35\text{-}5/8$ " X  $30\frac{3}{4}$ " (plus some small scraps) left over.



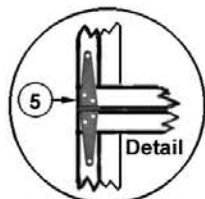
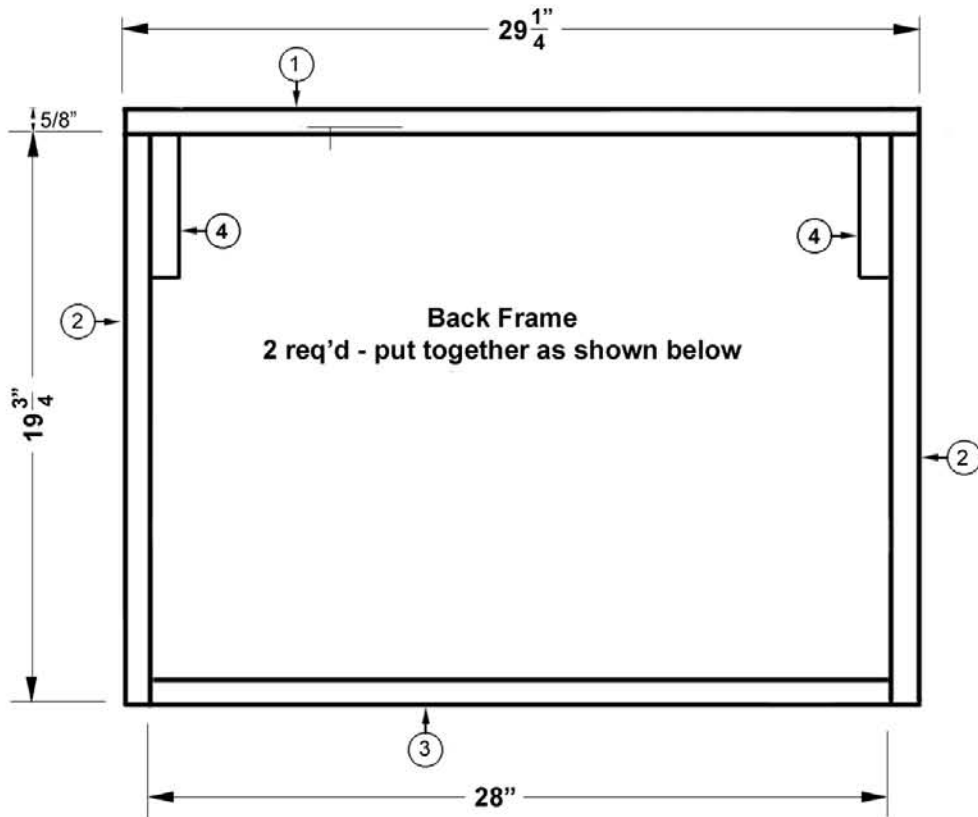
Plywood Cuts



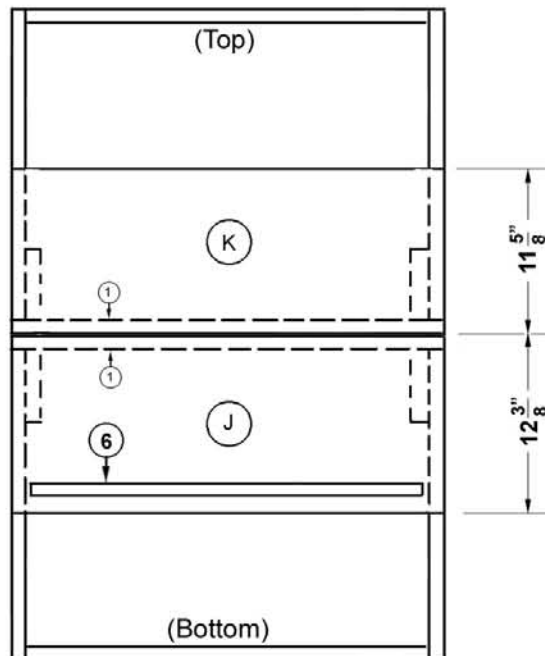
**Front View**



Side View



Attach top and bottom sections together with a strap hinge on back



**Back**