

LATCHBOX (Latch and Door Board)



This activity involves the performance of common tasks such as opening doors and starting a car. This box has fasteners attached to six plywood doors. Residents can sit or stand in front of this box while opening and closing the doors. Each door has a picture of a leisure activity under it. This item is useful for individuals of all functioning levels and seems to distract them from disruptive behaviors and provides cognitive stimulation.

Cues for this action: “Lets look under the door and see what is inside.” (The doors do not have to be opened in order). *Demonstrate* -Show the resident how to open one of the doors. *Now cue* -“Now you try to open the door.” After the resident opens the door, you can talk with them about the picture that is underneath.

Promotes:

1. Sense of achievement.
2. Focus and concentration.
3. Eye-hand skills.
4. Reach, grasp, and release skills.
5. Reminiscence.

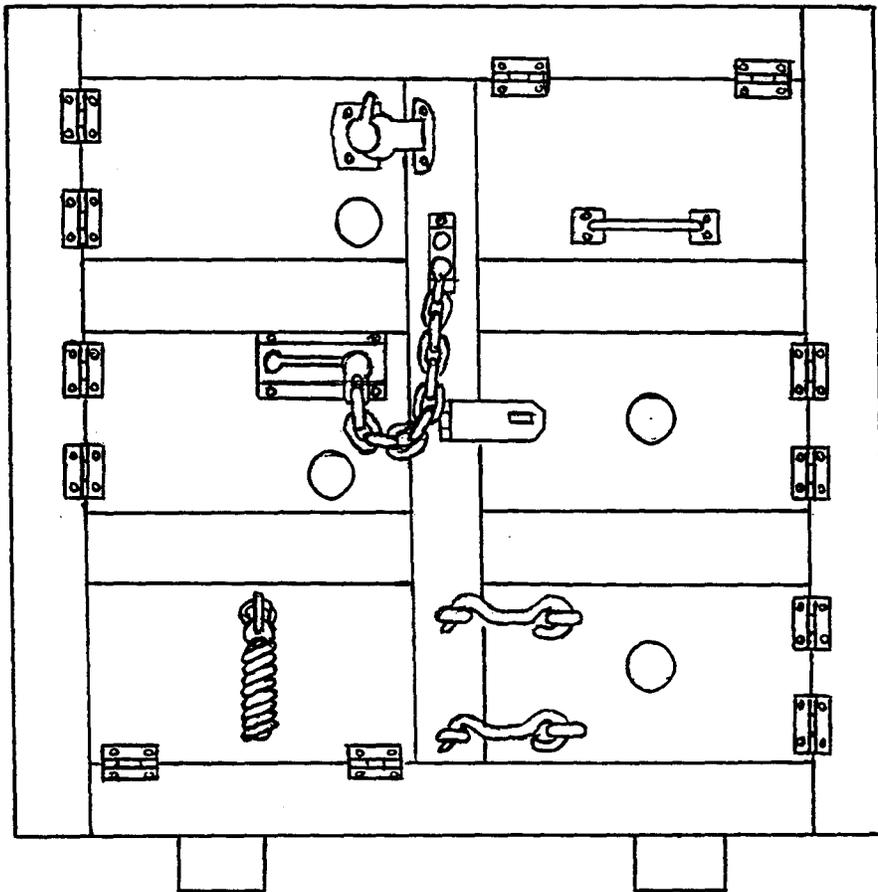
Discussion ideas:

Did you drive?

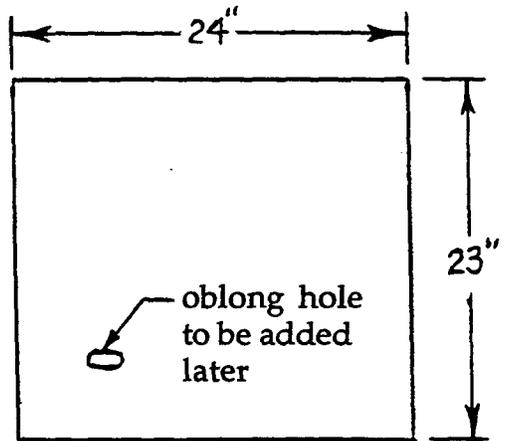
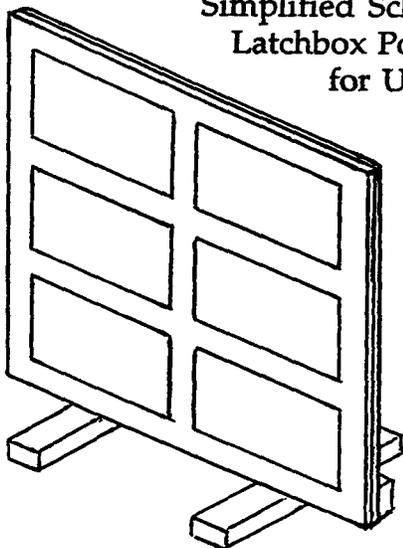
Did you own a car?

Which door did you have the most difficulty opening?

Also, can ask questions relating to the pictures underneath the doors.

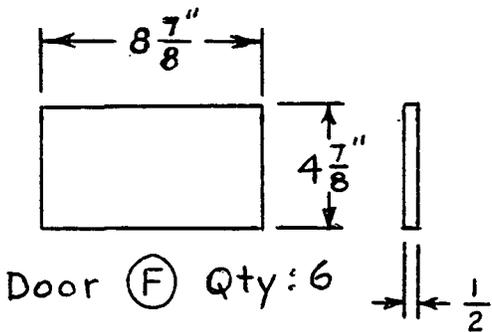
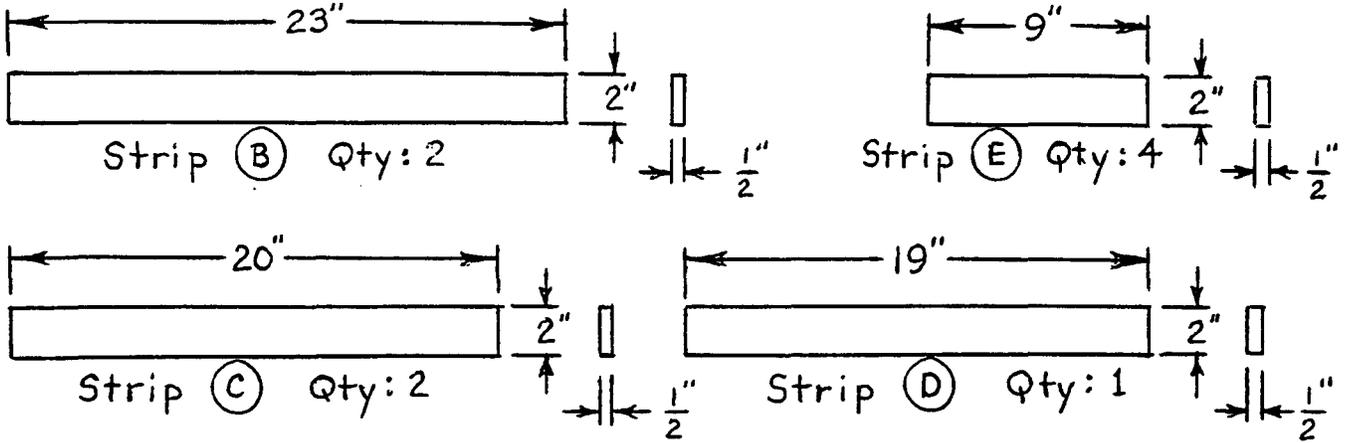


Simplified Schematic of Latchbox Positioned for Use

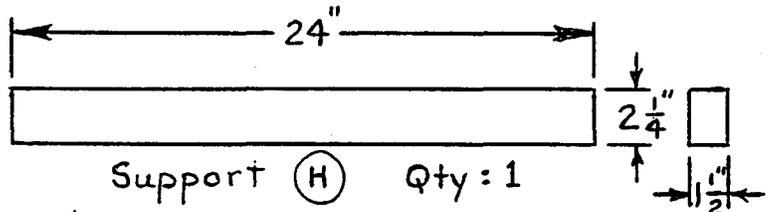
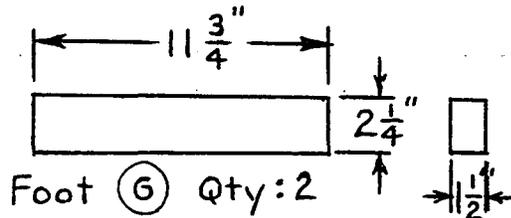


Back (A) - 1/4" plywood

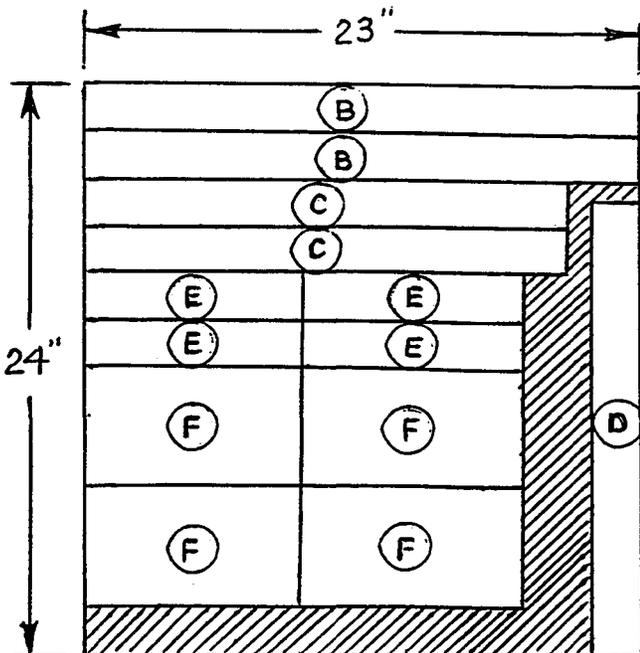
1/2" Birch Veneer Plywood Pieces



1 1/2" x 2 1/4" Pine Pieces (from 2" x 4" x 4')



Suggested Plywood Layout



Tools Needed

- Phillips head screwdrivers:
 - small and medium size
- carpenter's glue
- small electric drill
- an awl
- a few small wood clamps

Hardware and Additional Materials Needed

Qty	Item	Qty	Item
12	1 1/2" butt hinges- brass	48	#4 x 1/2" flat head wood screws: brass w/ Phillips head
4	1 3/8"- 1 1/2" dia. round knobs: asst. (porcelain, brass, chrome, wood)	18	#6 x 1/2" flat head wood screws: brass w/ Phillips head
1	4" door pull/sash lift handle	1	Door guard safety chain
1	Window sash lock	1	2 1/2" safety hasp
1	Cam door & drawer lock w/ key	1	Suitcase-style handle: plastic
2	1 1/2" hook and eye screws	4	#8 x 2" flat head wood screws
1	Elastic coil key holder	8	Round, wooden toothpicks
2	#12 x 3 1/2" flat head wood screws		some 1/2" small brads
	Some fine/medium sandpaper		

Cutout and Assembly Instructions

Step 1: Cut out all the pieces according to the preceding drawings. Lightly sand all cut surfaces being careful not to round any edges. All of the 1/2" birch veneer plywood strips are to be glued to the 1/4" plywood **back A** according to the procedures described below. Sufficient small brads (1/2" long) can be used to hold the strips in place until the glue dries thoroughly. Nailing through the back into each strip will result in a nail free front surface. Following the sequence described below should assure a tight fit of all the strips.

Step 2: Position **back A** face up on your work area so that the 24" dimension is horizontal and the 23" dimension is vertical. Test fit all pieces according to Figure 1 before gluing takes place. The doors should have a clearance of 1/16" on all sides. Any necessary adjustments can be made by sanding the appropriate pieces. The position of each strip or door can be noted by its letter designation in Figure 1.

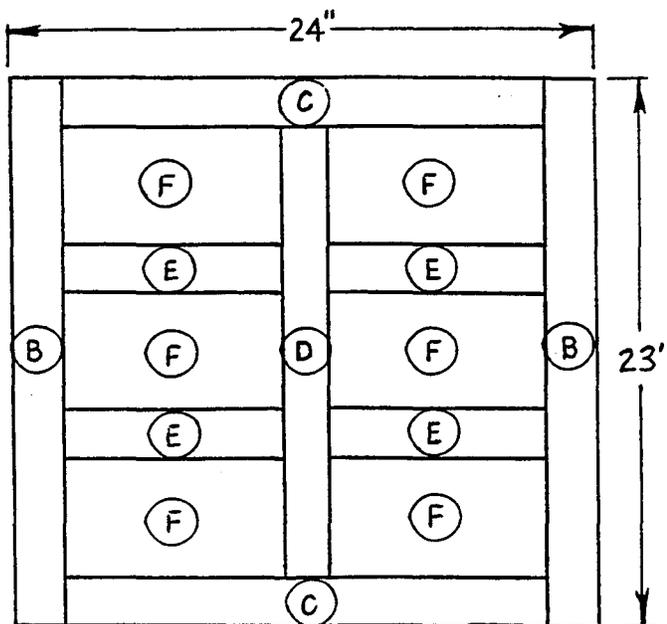


Figure 1.

Step 3: Set the pieces aside in an order that will assure proper assembly. Begin by gluing and temporarily clamping **strip B** to the left side of **back A**. Turn **back A** over and nail sufficient brads into **strip B** so the clamps can be removed. Next, glue and clamp **strip C** along the bottom of **back A**. Turn **back A** over, nail sufficient brads into **strip C** and remove the clamps.

Step 4: Position **door F** in the corner formed by **strips B** and **C** as a spacer for positioning **strip E** directly above it as shown in Figure 2. You will need to use some shim material to provide the 1/8" space between **door F** and **strip E**. A round, wooden toothpick is about the right size. Two can be used to provide the needed space. Glue, clamp and nail **strip E** in place being careful not to lose positions of the pieces when turning **back A** over.

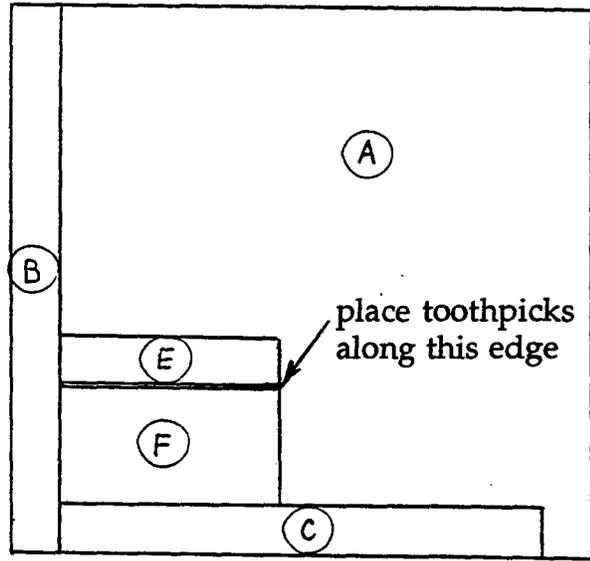


Figure 2.

Step 5: Remove the toothpicks and set the door aside until a later time. Select the next **door F** and, using the same procedure as Step 4, position **strip E** according to Figure 3.

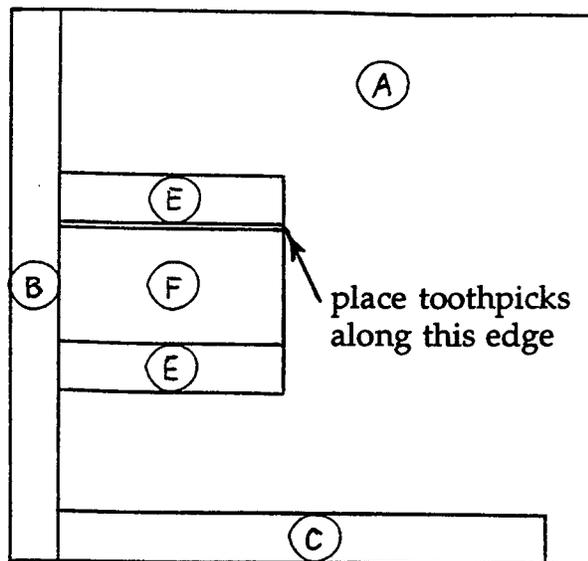


Figure 3.

Step 6: Remove the toothpicks and set **door F** aside. Glue, clamp and nail **strip D** into position as shown in Figure 4. Fit **strip D** snugly against both of the **strips E** already in position.

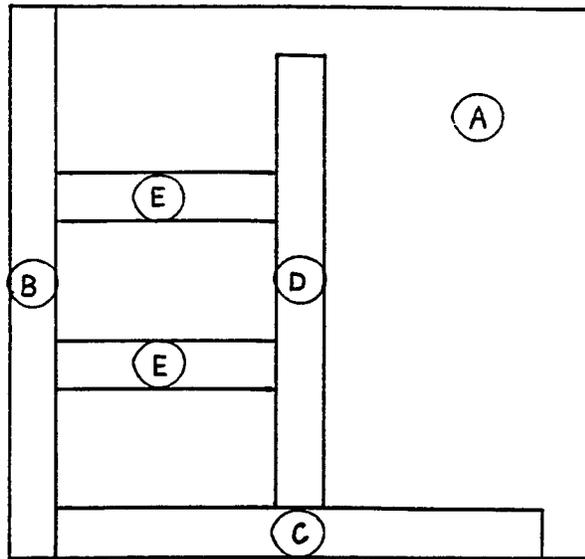


Figure 4.

Step 7: Following the procedures outlined in Steps 4 &5, progressively position the other two **strips E** into their proper places according to Figure 5.

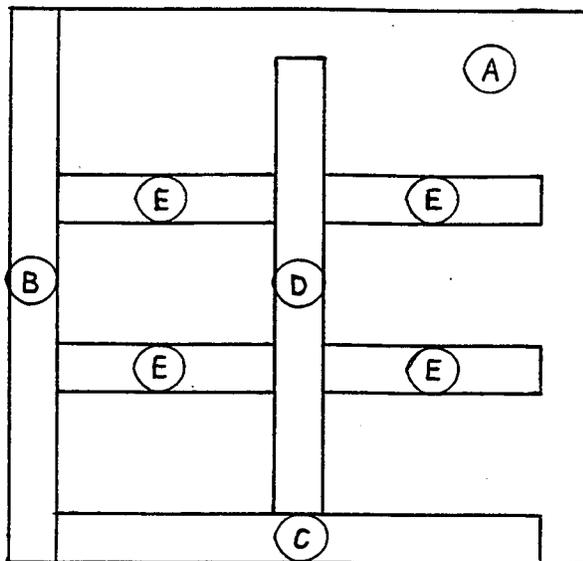


Figure 5.

Step 8: Complete the assembly of the strips to **back A** by gluing, clamping and nailing **strip C** along the top first and then **strip B** along the right side last. Two coats of polyurethane finish should be applied to the completed board and the unassembled doors before adding the hardware.

Adding Hardware and Assembling the Doors

Refer to the picture on the front cover for the suggested, general layout of hinges, knobs, handle, latches, etc. Specific dimensions for positioning the hinges and other hardware pieces are not provided but left to the discretion of the assembler.

While the doors can be assembled in about any order, starting with the cam door & drawer lock (lower left corner) is strongly suggested since an oblong hole must be cut through **back A**. Follow the directions provided with the piece of hardware.

A short, elastic coil key holder with one end permanently fastened to the door will prevent loss of the key needed to operate the lock. The spare key should be set-aside in a safe storage location.

Use only 1/2" long #4 or #6 flat head wood screws - brass w/ Phillips head to attach the hardware to prevent the screw points from penetrating through the doors. An awl can be used to locate and form a pilot hole for each small screw.

Drill appropriate size holes through the doors to accommodate the machine screws that come with the round drawer knobs. The machine screws may need to be shortened to fit the 1/2" thick doors. Proceed with mounting each door until all hardware has been assembled.

Adding the Rotating Feet and Feet Support

Support H can now be added along the bottom and on the back side of **back A**. Pre-drill four holes in **support H**, as shown approximately in Figure 6, to accommodate the #8 x 2" flat head wood screws. Glue, clamp and screw **support H** in place, tightening the screws so that the flat head penetrates and is flush with the wood surface.

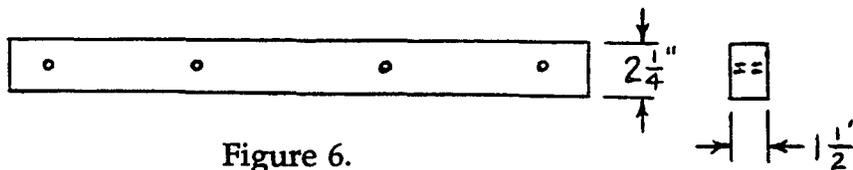


Figure 6.

Pre drill the middle of each foot **G** as shown in Figure 7. Use a drill appropriate for a snug fit of the #12 x 3 1/2" flat head wood screw.

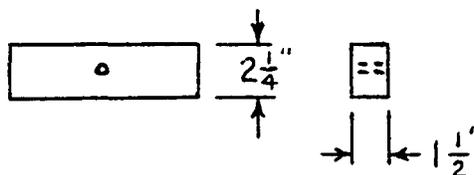


Figure 7.

Support the board upside down and position each foot to match the outer end of the base as shown in Figure 8. This should provide a 1/2" space in the middle between the feet to allow the feet to rotate without hitting each other. Drill a small pilot hole into **support H** through the pre-drilled hole in each foot.

Assemble the feet snugly using #12 x 3 1/2" wood screws. The feet can be turned in-line with the board for transport (Figure 8) or turned at right angles to the board to be free-standing (see schematic on the front cover).

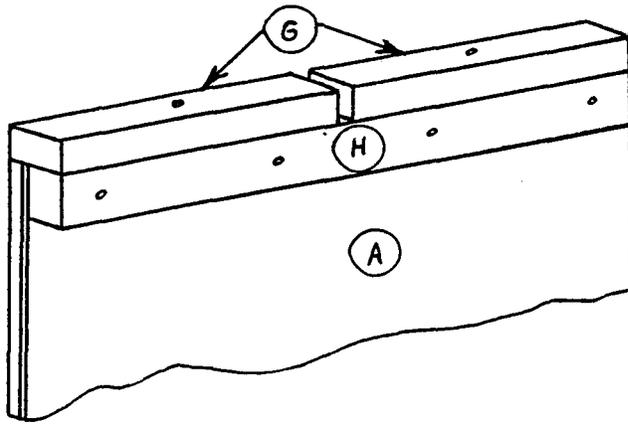


Figure 8.

Add the luggage-style handle to the center, top of **back A** to facilitate moving the Latchbox around. See Figure 9 for general location of the handle.

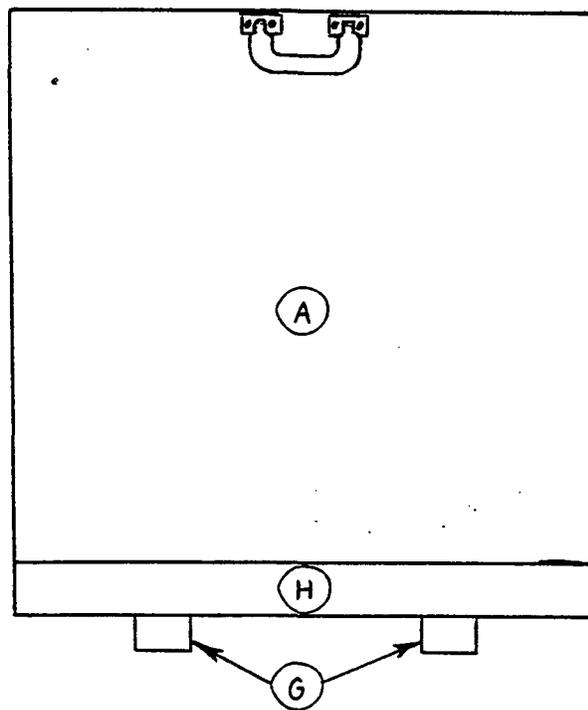


Figure 9.

Decorating Behind the Doors

The 5x9" areas behind each door should be decorated with a variety of pictures. Select a mixture that will appeal to both women and men. Flowers, animals, houses, barns, families, cars and kids are just a few items that seem to work quite well.

Buettner, L. & Greenstein, D. (1997). Simple Pleasures: A multi-level sensorimotor intervention for nursing home residents with dementia. (Training manual and instructions)