

SCHOOL OF INSTRUCTION

Hard Cracker Box

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With a little pencil work and some shopping around this design for a bread box was arrived at, and it worked out quite well.

This design is for a box with *exterior* dimensions of: 18-1/2" x 26" x 10-3/4". It is made out of pine that can be purchased at most lumber yards and home centers, and requires no special tools. The dimensions have been adjusted to work with standard lumber sizes, to make cutting extremely simple, and to produce little waste material. For those without a saw, it can easily be cut by the lumber yard (provided they offer this service).

Although not a completely authentic box pattern, it is however close and functional (Federal Regulations called for a box size approximately 17 x 26 x 11"). With a little more work you can make yours more like the real thing. Some notes on doing that are included at the bottom of this page.

Materials List

For each box purchase:

- 2 eight foot lengths of 10" x 1" lumber (*Actual lumber size is 9-1/4" x 3/4"*).
- 1 four foot length of 1" x 4" (*Actual lumber size is 3/4" x 3-1/2"*).

Cut nails - you can find them online. I recommend you use two different lengths of nails. Use nails close to 1 1/2" in length to secure the reinforcing ribs inside the box tops. You can use 2" for most of the other joints.

Optional: Sapling bands wrapped around closed boxes - These would be discarded once box was opened.

Cutting the 10 x 1 boards

Cut each of the two eight foot boards as follows:

26" (Bottom -1/2)	26" (Bottom -1/2)	26" (Side)	17" (End)
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26" (Top -1/2)	26" (Top -1/2)	26" (Side)	17" (End)
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This yields the following:

Side panels, (2 pieces) 9-1/4" x 26" X 3/4"

End panels (2 pieces) 9-1/4" wide, x 17" long, X 3/4" deep

Top & Bottom, (two boards joined to make each) 18 1/2" x 26" x 3/4"

The exterior depth of 10-3/4" is achieved by adding the two 3/4" thicknesses of the top and bottom of the box to the height of the side and end panels (9-1/4").

Likewise, adding the two 3/4" thicknesses of the sides to the 17" long end pieces makes an exterior box width of 18 1/2".

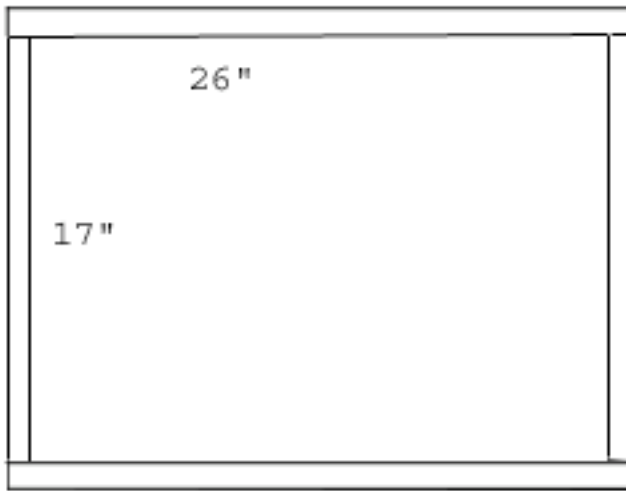
The width of 18 1/2" of the top and bottom is achieved by butt-joining two pieces of 9-1/4" X 26" along their length.

Cut two 17" pieces off of the four-foot length of 1x4 to create the two reinforcing slats used on the top.

Assembly

Form a box from two of the 26" pieces and two of the 17" pieces, overlapping the 26" lengths on the ends of the 17" pieces. Use some wood glue and nail the pieces in place, using only a few nails on each joint. Using a metal square, align the edges (and clamp if available). You may need to adjust some of the joints as you proceed to get a good square box.

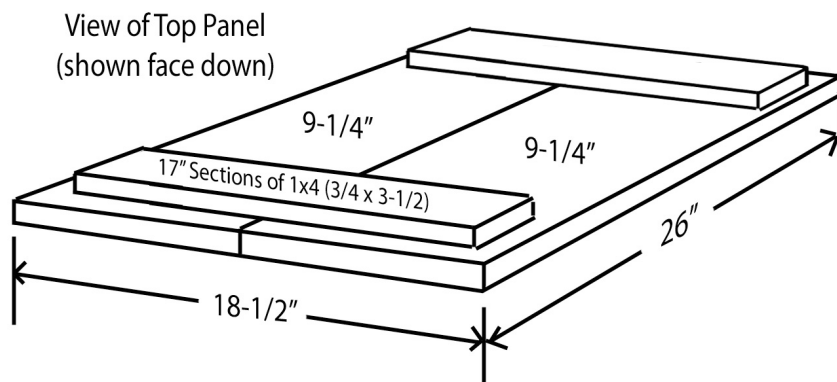
Note: In final trim, the nails should be spaced about 3 inches apart along the joined edges of the box.



Join two (of the remaining four) 26" lengths of board along the long edge to create a lid, and repeat to create the bottom panel. Glue along their length and clamp. This creates two 26" x 18-1/2" panels

To create the lid, nail the two 17" length reinforcing slats to one of the 26" x 18-1/2" panels, locating them 3/4" in from the corner end of the panel, and 3/4" in from each side.

Note: Since the slats face downwards towards the inside of the box when the lid is in place, I found that adding the slats to the lid before attaching the bottom works best. This way you can look through the box and make sure the slats are in the correct position. Simply set the box on the lid panel, center on the lid, and working through the "bottom" of the box glue and nail the slats in place.



Nail the bottom panel (no slats) to the bottom of the box.

Stencil the top of the lid (available from some sutlers or online).

Add optional rope handles (inauthentic): Add 1/2 " Hemp or other natural rope handles using 16" lengths of rope, passed trough two 5/8" holes on each side, and tied from the inside. I placed the holes 3-1/2" from the top and 6-1/2" in from the sides.

Sapling Banding (Optional)

Sapling banding: A cheap and common way of securing packages, it is the forerunner of metal and plastic banding today. Sapling strapping was made by splitting green saplings down the middle to create two flexible strips. The bands are made from hardwood saplings and cut using a draw knife. The saplings are then wrapped around both ends of the box and either tacked down or glued in place.

Some observations on "Authentic" boxes

The dimensions for hardtack boxes according to U.S. Army Regulations of 1861 (rev. 1863), pages 301-302 in the subsistence section under the heading "MISCELLANEOUS ITEMS." An "average box" for hard bread was to be 26 x 17 x 11 inches, exterior in measure. "The ends of a box of this size should be of inch, and the remainder of five-eighths, stuff, the package well strapped with green hickory or other suitable wood."

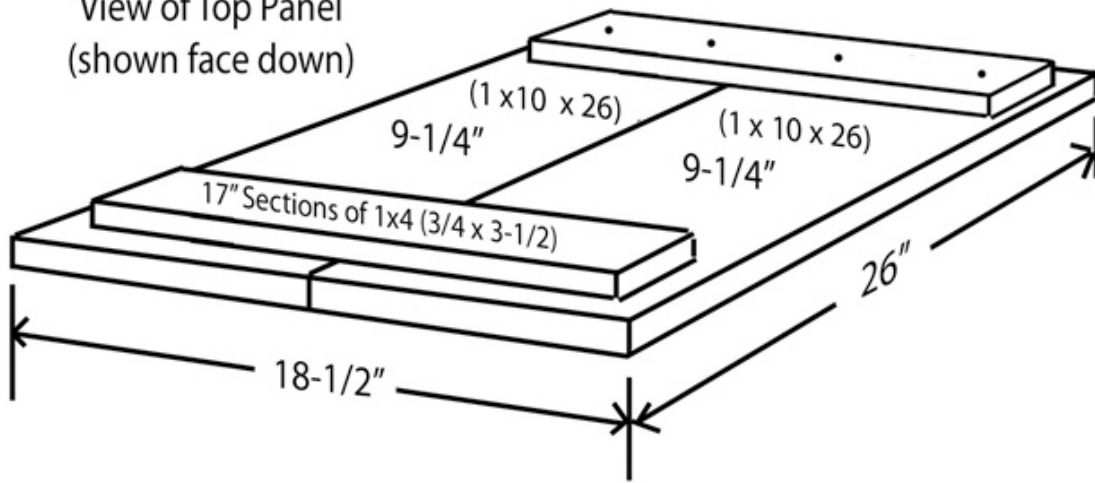
Original boxes were constructed to serve one purpose; to package and preserve hardtack biscuits until they would be used by a huge, mobile Army. The contractors made these as efficiently (read inexpensively) as possible, but had to meet minimum requirements. The box was to serve as the shipping container for 50 pounds of biscuits, and then serve as the storage container for those biscuits indoors or out.

Edges of some of the repro boxes I have seen seem to have been planed off, that is the sharp edges of the corners. If this is in keeping with the originals, then this could actually be due to wear and tear. I don't know why the box is made better by adding that touch.

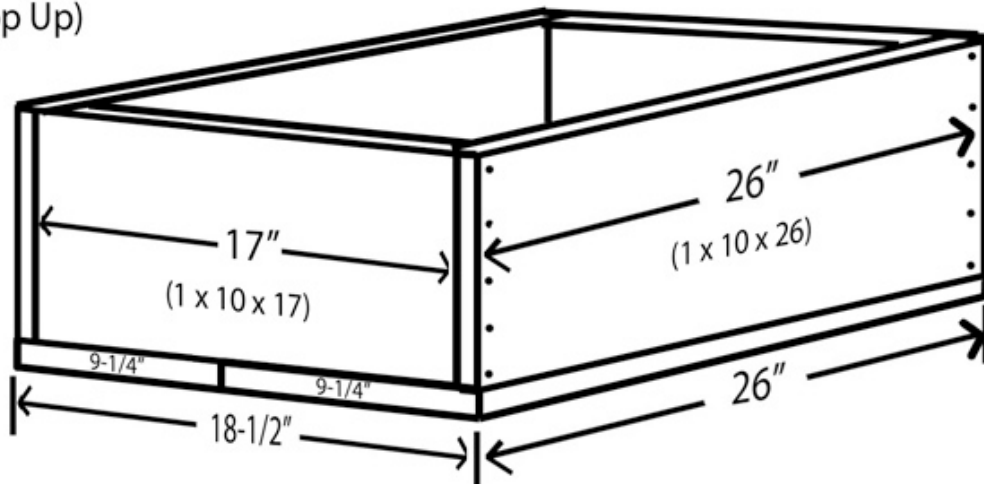
The joinery of the originals was quite good in some cases, probably not so good in others. I have seen reproductions that have very nice joined edges that are almost invisible. The tongue and groove top and bottom of the repro box are made from wood panels with mirrored grain, etc. My guess is that this reflects the pride of the cabinetmaker, rather than the actual processes used in war time to mass produce such an item. Some surviving original examples appear to be well made, with smooth edges and nice joins. This could just as easily be a process of selection rather than the general rule for boxes.

Hard Tack Box Diagram

View of Top Panel
(shown face down)



View of sides and bottom
(Top Up)



Remember, a 1x10 board is actually 3/4" x 9-1/4"