Building Ammunition Packing Boxes

We as Civil War Reenactors are always striving for new and/or inventive ways to conceal the modern necessities that we bring with us to events. This includes, but is certainly not limited to things like ice chests, canned food, heaters, extra clothes, stools or chairs, books, sleeping bags, etc. Also, there are those of us who try to make packing in and packing out as quick and painless as possible. Collecting up all your gear before an event and then storing the gear after an event can be a hassle and if you don’t store just right, you wind up leaving things behind you had last time that you really needed this time.

Along that line of thought, I decided to follow a practice that the modern Army uses on a regular basis: Ready Boxes. Ready Boxes are containers that are packed long in advance of a deployment with everything for every possible contingency included. Like items go in like boxes for organizational reasons. Much thought goes into the Ready Boxes well in advance so that when the time comes, one need only to grab the boxes and go. On return from the field the equipment is repaired, cleaned or replenished whatever the case may be. In many cases these boxes serve secondary purposes once you are on location. This is not to say that you as a Reenactor should bring everything and the kitchen sink but I think you can get the drift here.
Many of you are doing the Ready Box concept and you may not even realize it. There are plenty of Rubbermaid containers that come into our camp at every event. Maybe they stay in camp or maybe you leave them in the vehicle after you’ve unpacked. What I propose to do here is kill multiple birds with one stone and maybe help you to save some steps in the process.

Now that I’m married and am maintaining 2 camps as some of us do, I decided it was time to get better organized. I’m also a stickler to keeping non-period items out of sight for obvious reasons. There are easier ways to conceal certain items than what is the focal point of this article like, canvas or burlap over the water cans, quilts draped over Rubbermaid containers and so on but . . . think about it, does this really look natural for an 1860’s military camp? Johnny Reb is not going to cover up what is obviously a box with his quilt now is he? He’s not going to be carrying a carpet bag in addition to his knapsack and haversack either. What are containers that would be commonplace in a military camp? Feed sacks for the horses, barrels, cracker or hard tack boxes and certainly AMMUNITION BOXES.

Here is what I’ve done to organize myself and my place in military camp. I have 3 ammunition boxes that can contain nearly everything I might need or want during the course of a weekend. You may be able to do with less or may require more but follow along as I lay out what I do now. I have a box that contains all of my tentage, both shelter halves, 2 gum blankets, stakes, hatchet, candle lantern, pillow, poncho, and can even hold a Coleman heater and 2 cylinders. This box is made to resemble two .69 Caliber Round Ball Ammunition Boxes stacked on top of each other. I chose them not so much because I use a .69 but for their size. They are much larger than the .58 caliber boxes as you will see later. Once at an event this box is practically empty save for the heater in the winter time or a 6 pack ice chest in the summer months. It’s also the perfect height to sit on comfortably thus eliminating the need for a stool or chair. Being a period style container it can be left out of the tent in plain view freeing up space in your tiny dog tent. All the above items are left in this box between events so I don’t leave the stakes behind or some fool thing like that.

My second box is a mock-up of two .58 Caliber Boxes stacked. They’re even painted different colors to add to the illusion. In this I can carry a lot of food items, Cokes, a couple more propane cylinders and other miscellaneous items that may vary between events. I can even get some of my accoutrements inside. Again it is partially empty on site and can be left outside the tiny tent and oh by the way, adds to the impression of the military camp by showing the spectators that ammunition is plentiful in this campaign. Jim Starbird has a similar box and he even has a tray on top to separate smaller items. I’ve done this before and am considering doing again. I’ll revisit this a little later.

My last box is another .69 Caliber Buck and Ball box with differs from the Round Ball Box only in dimension and it is not a false double box. This box is used for everything else from candles to Hardee’s manuals to musket cleaning items, ammo, spare suspenders and so on. Again this box is never unpacked so nothing gets left behind.

All that being said, the only items I use that won’t fit in the three boxes are my sleeping bag and greatcoat, only in the winter, uniform that I’m going to wear, musket, tent poles and knapsack.
Now then, I’ve been asked to provide my insight on the construction of these boxes. Jim Starbird has a handout that outlines the process pretty good but there are some scathing errors in both the writing and the illustrations that are attached. I’ll try to rectify that and condense the article if possible.

I’ll start with the basic .58 Caliber Ammo Box which also serves as the pattern for the .577 Caliber box. The .69 Caliber boxes differ only in dimensions and not construction. The following are the items needed to construct one .58/577 Caliber box:

- 6 foot – 1x6 inch pine board
- 3 foot – 1x12 inch pine board
- 2 foot – 1x2 inch pine board
- 20 – 1 ¼ inch brass flat head flat slotted wood screws
- 1 ¼ inch finishing nails
- Elmer’s wood or white glue

Select the straightest grain boards you can get as it will definitely make a difference. Also, double check your measurements before cutting.

These are the bare essentials for one box. I’m sure you won’t find 2 or 3 foot boards at the store. Six foot is probably the shortest you’ll find but that’s OK since you’ll probably want more anyway. The tools you will want or need are a hammer, saw, chisel and tape measure. A circular saw or better yet a table saw will be an advantage.

The 1861 Ordnance Manual states the proper size for the .58 Caliber Musket and the .58 Caliber Cadet Musket for 1,000 Cartridges should be:

- Length: 14.75 Inches
- Width: 10.75 Inches
- Depth: 6.38 Inches

Start by cutting the four sides of the box from the 1x6: 2 pieces 14 ¾ inches long and 2 pieces 10 ¼ inches long. As a side note here, modern lumber measurements will result in a box slightly deeper than the 6.38 inches given in the Ordnance Manual but that can’t be helped unless you want to rip the 1x6 lengthwise to compensate.

Match up the 4 pieces so that you will have the best fit of the 4 sides and then number or otherwise mark the corners of each piece so that you can align them again later. Next you’ll want to mark and cut out the dovetails. Refer to Figure 1 for the correct dovetail measurements.
Before cutting, you’ll want to double check the marks to ensure they match up properly so stand the pieces up next to each other to match the lines. The measurement for the dovetail cut is depicted in **Figure 1** as ¾ inches but this is actually the board thickness. For best fit, measure the board thickness and cut the dovetail to that measurement. For ease of construction, stick to the ¾ inch cut.

The easiest method for cutting these dovetails is using a table saw and dado blade but barring that, you can do it the old fashioned way by cutting the area to be removed with a saber saw, back saw or coping saw leaving a comb like area and then using a chisel to remove the comb.
Once the cuts are finished, fit the pieces together. Filing may be necessary on some joints. Once satisfied that the dovetails are perfect, apply Elmer’s wood glue or even white glue to the insides of the dove tails, put the pieces together and then nail the pieces together with the finishing nails placed as depicted in Figure 2. Immediately after nailing, ensure that the box is squared up before the glue sets. Check the box corners for 90 degree angles and then let dry.

After the box sides have set, it’s time for the lid and bottom. Lay the box form on top of the 1x12 and trace around the outside of the box. Do this for both top and bottom and match them with numbers to the top and bottom of the box sides as you did for the side pieces. The piece
you cut for the top may not fit on the bottom. You may even want to leave about a 1/16 inch outside the lines so you can sand that off later for a more perfect fit.

Once cut, place the bottom piece into its marked position on the box frame and attach it with 6 brass screws as depicted in Figure 3. Do the same for the lid except do not attach it to the box, merely run the screws in flush and then saw off the excess on the inside of the box lid with a hacksaw. Back the screws out a bit and apply some glue in the counter-sink and then screw them flush again. Remove any glue that oozes out from under the screw heads.

Figure 3
Now to fix the lid so it just doesn’t slide off the top of the box. Using some scrap lumber, cut two 1 – 1 ½ inch wide strips that are approximately but a little less than 9 ¼ inches long. Attach them the underside of the box lid at each end using glue or screws or nails what ever is available. If using screws or nails, make sure they won’t be long enough to penetrate the outside of the lid. Refer to Figure 3 for their placement. Check for proper fit. The lid may jiggle a bit but will not slide off. It must not be so tight though that if moisture swells the wood that you can’t get the lid off. There are other techniques to attach the lid but this is what I do. See Jim Starbird for an alternative method. See photo in Figure 4 of the underside of the lid in case you don’t understand the drawing.

![Inside of the lid](image)

Figure 4

From the 1x2 board, cut 2 pieces each being 10 ¾ inches long. If you have a table saw, arm saw similar saw that you can change the angle of the blade on, you may want to undercut the handles to allow for a better finger hold when carrying. See Figure 5 details on the undercut. Also you will want to bevel the ends of the handles as well so they do tear into your shin in the middle of the night. See Figure 5 for the detailed view and see photo of the finished product in Figure 6.
The Ordnance Manual calls for these handles to be attached by means of wrought iron nails, clenched inside the box. I choose to use the same type screws as the bottom and lid. See the placement in Figure 5 and Figure 6. Box construction is now complete.
Figure 6
Now it’s time for the detailing: Painting and stenciling. The Confederate Army, due to expense eliminated much of the painting done to ammo boxes and simply stenciled them with black paint over the bare wood. However, since the Confederacy assumed control of all the arsenals and depots in the South, and periodically captured ammo from the Federals and visa versa, it is certain that you would see painted and unpainted boxes on both sides of the war.

The Ordnance Manual doesn’t call for primer but there are examples of boxes having been primed in white both inside and out. The Ordnance Manuals of 1861 and 1862 call for the packing boxes to be painted different colors to indicate the kind of cartridges they contained. There is a color code for the various kinds of ammo in service at the time. For the standard .58 Caliber Musket and Rifle, 1855, both Expanding Ball and Blank (yes they had blank cartridges too), the color was Olive. The closest color to the original can be had at Pittsburgh Paints – Dock Piling 7631 or at Fuller O’Brien – Hurricane (UCB) H-120. I have a lot of the Pittsburgh Paint left should anyone be interesting in using it for small fee.

Lettering was done in White paint on the colored boxes and there are a number of different patterns and wordings in example. There very simplest marking is merely ¾ inch Roman Lettering of the amount, caliber and type of cartridge stenciled on both ends of the boxes beneath the handles. See the pictures of my boxes and examples of original boxes at the bottom of the article. I have these stencils should anyone be interested in using them. They are to be used with a short stubby brush and the paint is dabbed on through the stencil. Spray painting is not authentic and should be avoided. Also attached are some more pictures of different lettering.

Macon, Richmond, Selma, Columbus, Baton Rouge, Little Rock and Marshal Arsenals are fine example of Confederate Depots. Frankford, Watervliet, Watertown, Allegheny, Washington, Leavenworth, Kennebec and St. Louis were some outstanding Union Arsenals.

As mentioned earlier, there are various colors and different sizes for different types of ammo. Attached as Figure 7, is the table from the Ordnance Manual of 1861 that gives up all kinds of good information on ammunition to include the colors and sizes of packing boxes.
## Cartridges for Small Arms.

<table>
<thead>
<tr>
<th>KIND OF CARTRIDGE</th>
<th>EXPANDING BALL</th>
<th>BLANK</th>
<th>ROUND BALL</th>
<th>ELONGATED BALL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Musket of 1842</td>
<td>Musket and Rifle, 1855</td>
<td>Cadet Musket, 1855</td>
<td>Musket, 1842</td>
</tr>
<tr>
<td>Calibre (in.)</td>
<td>.69</td>
<td>.58</td>
<td>.58</td>
<td>.69</td>
</tr>
<tr>
<td>Diameter (in.)</td>
<td>.685</td>
<td>.5775</td>
<td>.5775</td>
<td>.685</td>
</tr>
<tr>
<td>Weight (grs)</td>
<td>730</td>
<td>500</td>
<td>450</td>
<td>420</td>
</tr>
<tr>
<td>Charge of powder (grs)</td>
<td>70</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Height (in.)</td>
<td>4.5</td>
<td>4.12</td>
<td>4.12</td>
<td>4.5</td>
</tr>
<tr>
<td>Trapezoid (in.)</td>
<td>4.5</td>
<td>4.0</td>
<td>4.0</td>
<td>4.16</td>
</tr>
<tr>
<td>Short base (in.)</td>
<td>2.7</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>No. of trapezoids in 1 sheet</td>
<td>12</td>
<td>16</td>
<td>16</td>
<td>24</td>
</tr>
<tr>
<td>Length (in.)</td>
<td>10</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Width (in.)</td>
<td>8</td>
<td>6.5</td>
<td>6.5</td>
<td>6.5</td>
</tr>
<tr>
<td>No. in a sheet</td>
<td>4</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Thread for 1,000 (ea.)</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Weight of 10 cartridges (lbs)</td>
<td>19.5</td>
<td>13.5</td>
<td>13.5</td>
<td>13.2</td>
</tr>
<tr>
<td>Length (in.)</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
<td>2.6</td>
</tr>
<tr>
<td>Depth (in.)</td>
<td>1.15</td>
<td>1.15</td>
<td>1.15</td>
<td>1.35</td>
</tr>
<tr>
<td>Size of packing (in.)</td>
<td>14.0</td>
<td>14.75</td>
<td>14.75</td>
<td>15.5</td>
</tr>
<tr>
<td>Bundles of 10 boxes for 1,000 (lbs)</td>
<td>12.0</td>
<td>12.75</td>
<td>12.75</td>
<td>11.75</td>
</tr>
<tr>
<td>Weight of box (lbs)</td>
<td>7.0</td>
<td>6.25</td>
<td>6.25</td>
<td>6.25</td>
</tr>
<tr>
<td>for 1,000 balls (lbs)</td>
<td>5.25</td>
<td>5.0</td>
<td>4.25</td>
<td>5.0</td>
</tr>
</tbody>
</table>

* For 2,000 cartridges. † Contains 600 cartridges: box made of 75-in. boards. If the balls be packed in tow, add 1 in. to the depth of the box.

Burnside's Cartridges.—Box 14.4 × 11.2 × 6.2. Weight, 87.5 lbs.
So now we have completed our .58 Caliber ammunition packing box. See the finished product in Figure 8. You may quit here now or continue. How does one make the double box? Well essentially, you have to make 2 boxes which means you have to double the recipe for lumber. The major difference is that you’ll have to cut through the lid of one box and the bottom of the other box and then attach them together. I’m sure there are many takes on this theme but here’s mine.
Before attaching the bottom to the first box, I laid the box frame on top of the lid and traced the interior of the box frame to the lid. I then cut this portion out of the lid and then glued this lid “frame” in place on top of the box frame and then attached the bottom as in the instructions above. I took the bottom of the second box and did the same thing gluing it in place after cutting the center out of it and then proceeded to make the lid as stated above. At this point the “individual boxes” are complete save for painting. I painted mine separately because I stated I wanted two different color schemes to show. When the paint was dried and the stenciling complete, I attached the upper and lower boxes together by means of 2 flat brackets seen in Figure 9. That’s all there is to that. See Figure 10 for the finished product.
Figure 10
OK so what about the larger .69 Caliber Boxes? I have to dispute Ordnance Manual measurements for their .69 caliber Ball and Buckshot rounds. There are many different sizes and shapes of the .69 caliber cartridges so they’re probably correct for one type. The Ordnance Manual also doesn’t have measurements for the Buck and Ball packing box. Some examples of Buck and Ball rounds were over 3 inches long per cartridge, and Ball carts at or near 3 inches, are considerably longer than the .58 caliber expanding ball rounds. It logically follows that the larger the cartridge, the larger the packaging, the larger the packing boxes. I have good measurements for the .69 Ball Box taken from an actual example:

Length: 17 ½ inches  
Width: 13 inches  
Depth: 8 ¾ inches  

This size box could also serve as a Buck and Ball box depending on the size of the cartridges to be packed.

Lumber required for the .69 Caliber box is as follows:

12 foot – 1x8 inch pine board or 2 each 6 foot 1x8  
3 foot – 1x2 inch pine board  

One word of caution here, if you do not have a table or arm saw you may not be able to complete the .69 Box project. It’s lid and bottom require some fancy cutting that is not easily duplicated manually. The lid, 13 inches wide, requires two 7 inch wide boards with 1 inch overlapping Rabbet joints. The lengthwise ripping of the 1x8 down to 7 inches and the Rabbet joint are what would be difficult to manage with hand tools. But if you choose to make this box, the only structural differences are in the lid and bottom as depicted in Figure 11. The dovetail placements are identical and the lid and bottom center screw emplacements will be centered on the length of the box.
Of course you may not want to do all this work and choose to buy your ammo boxes. I have a link to Charlie’s Boatworks on our web site that makes a reasonable facsimile for a reasonable price. He doesn’t make double boxes but you could take his or anyone else’s finished boxes and convert it to a double box using the instructions above.
See Charlies Boatworks for more details of Charlie’s boxes. Other Sutlers at large events bring various boxes for sale but if you are up to the challenge and want to create something with your own hands, then try out this project for yourself.