

Building a Wooden Canteen for your Uniform Kit

Rick Laws, Chief Warrant Officer, USA (Ret), Aug 2022

Tennessee SAR, Joseph Greer Chapter

I initially started my search of how to make a wooden soldier's canteen of the revolutionary war period, as most folks do now days, with a Google search. You will get everything that you probably don't want and little on the subject except for the sutlers who advertise and sell "Colonial or Reenactment Clothing". A Wooden 18th Century styled canteen range from kits costing about \$35.00 to finished wooden canteens costing \$110.00. After that, you venture into antiques and out of period (not Revolutionary War) gear. These retail canteens and kits are mostly pine lumber, where actually antiques show oak wood. This also means that wooden canteens were "coopered" in the same manner as a large barrel, using the metal hoops/rings to press the staves firmly against one another to prevent leaking. At the beginning of the 18th Century, and for some years after, the soldier's canteen was a wooden, drum-shaped affair, provided with a spout.



Figure 1- Wooden Canteen - Jas. Townsends

Google has some nice pictures but a set of plans or instruction for building a canteen is not to be found, in the direct sense anyway. My internet searching identified a drawing of a "Lewis and Clark (L&C)" canteen (Figure #3). The diagram provides the rough dimensions and accoutrements of a barrel shaped wooden canteen. I will continue to call it the "L&C diagram" but have seen other places where it's referred to as the uniform and kit of the [42nd Highland Regiment](#), an Australian Napoleonic re-enactment society. The actual author or artist is not known, but the drawings are very informative.

Most of us do not have the equipment or skills to forge iron/metal hoops to build our 18th Century vessel, so in keeping with the canteens and kits mentioned above, the Figure #3 information, you have enough information to make your simplified version of a reproduction. Now with the size and shape imaged in a sketch, The angular measurements for the side pieces, or the staves is the next thing to determine. I do not have one of the kits to compare the dimensions and have only seen pictures as shown above.

Staved or segmented construction figures in a lot of projects, from ornamental bowl turnings, to musical drums, porch pillars and whiskey barrels. [Coopering](#) is an art for in itself, barrel making or cooper is a skilled trade that dates back over 4,000 years. Herodotus (b. 485 BC) described palm wooden casks in shipping Armenian wine to Babylon. Around 350 BC, Celts were using watertight barrels that bulged at the middle to withstand stress and could be rolled as well as stacked. The wooden canteen can only be surmised to be a manufacturing technique similar to its big barrel brother.

Coppers were skilled technicians, fashioning barrels from raw wood through many processes. They were in great demand in Colonial America. I can imagine that smaller containers such as canteens and buckets could have been an apprentice skill builder or the smaller cut-off pieces from barrel making were used in smaller containers.

Now back to building our reproduction wooden canteen.

The basic and most popular barrel in demand was an airtight, fifty two gallon (200 liter) barrel made of thirty-one to thirty-three staves with a lid at each end. The preferred wood was oak, for its density, strength, and qualities it released in the aging of spirits. Certain types of barrels were also made with pine, especially yellow pine. The lids or ends were often made of white oak. The staves were held together by wooden hoops (especially the smaller pails and buckets) made of hickory.

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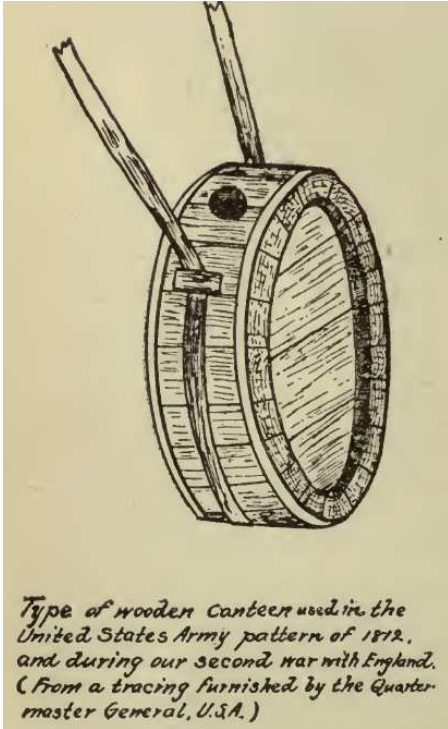
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Staves and Segments

As discussed, a wooden 18th century canteen is more or less a shortened wood barrel with the sides made from staves. Less the cooping tools and techniques, we will pursue a suitable reproduction that you can build in your home workshop. The questions we now ask ourselves is;

- What miter angle (or bevel) do I need for the side staves?
- How long (or wide) should I make the stave pieces?



Type of wooden canteen used in the United States Army pattern of 1812, and during our second war with England. (From a tracing furnished by the Quartermaster General, U.S.A.)

Figure 2- 1874 Model of US Army Canteen, From History of the Military Canteen (Nov-1900)

Finding those answers is relatively easy, and there is an interesting how to article in wood magazine, that demonstrates the mathematical formulas for calculating the angles/miters. Since we know we are making a canteen for our Uniform Kit, I have provided the measurements for a large and small version of the reproduction canteen.

First, let's get our terminology straight. Staved cylinders (what we are trying for) and segmented rings may seem alike to woodworkers, but they're two different approaches in making rounded structured wood objects. In general, the grain in rings constructed from segments runs horizontally and the individual pieces are glued end to end. On the other hand, the grain in staves runs vertically, and glue the individual pieces edge to edge. In our case, "Bevel-to-bevel". For our canteen project, we will be using staves where the grain runs over the long direction of the stave/piece.

So, things can become confusing when we start talking about the distance between the angles. On a stave that distance is the width, but on a segment, it's the length. For our canteen project, we'll refer always to length. As shown in the L&C diagram [Figure #3] we know the canteen stave is 4 inches long. So, for bigger canteen is to make a wider stave, in other words make a larger diameter ring. I made my first prototype of a larger canteen as later shown in diagrams and tables. However, for your "Uniform Kit" I would recommend the smaller version.

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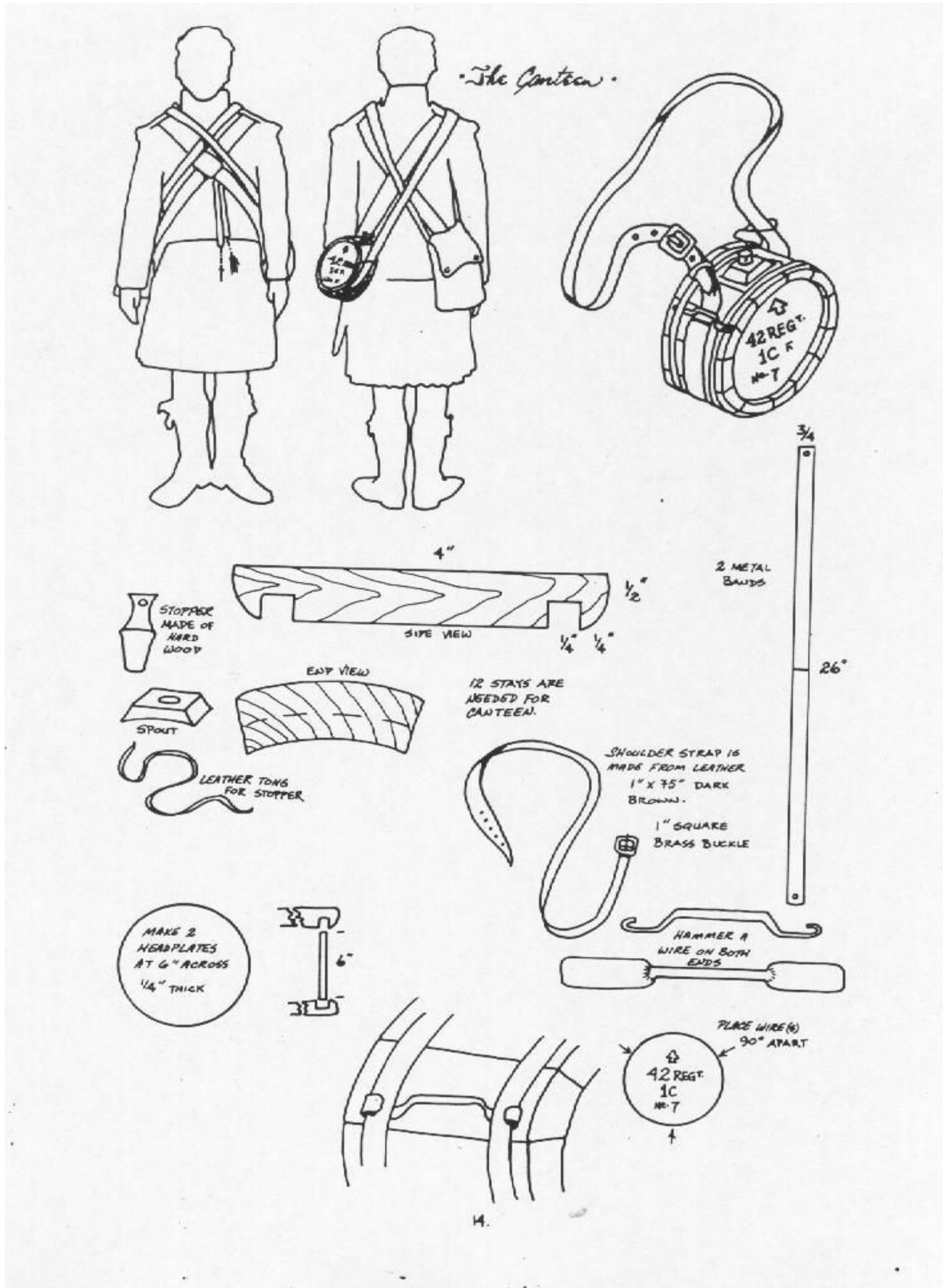


Figure 3 - The L&C Diagram of Canteen Construction

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So, what is the Angle for the Staves?

A full circle contains 360 degrees. So, to make our canteen from a number of straight pieces, all of the angles of the corners should add up to 360 degrees. In the table (Figure #3) six equal-length sides, the six 60-degree corners add up to 360 degrees.

But, 60 degrees is not the angle you need to cut on the ends of each piece. Because two sides come together to make the angle, each side must be miter-cut to exactly half the total corner angle, or 30 degrees. So, half of 60 is 30.

Here's the rule for finding the angle: To determine the corner angle for a figure with any number of equal-length sides, divide 360 degrees by the number of sides. To find the miter angle, divide the corner angle by two.

Corner and Miter Angles for various numbers of sides		
No of Sides	Corner	Miter
6	60	30
8	45	22 1/2
10	36	18
12	30	15
16	22 1/2	11 1/4

To achieve a round canteen with minimal cutting, the more staves in the circle the more round the appearance, and less finishing will be needed, to get a round canteen. A canteen with 6 or 8 sides could be made, but the round hoop work for coopering (a real canteen) would not work effectively. 10 seems like a good number, but I have been doing 12 staves, as it appears more rounded. 16 is a bit awkward for the smaller canteens since the pieces would be so narrow. So, now we have an understanding of the dimensions of the staves we will work with 12 sides/staves. The examples for the large and small canteens are both designed with 12 staves

So, how big will it be?

I found an article in Wood Magazine¹ about working with staves and segments. The article details the mathematics of calculating of how big it will be? Great, if you are designing a porch post or even a canteen. But I have done all of that for you. No math calculating needed. My prototype canteen was about 8.5 inches in diameter. It turned out pretty big, and by mathematics, it holds about ¾ of a gallon. Enough for a long march, but I think every day use a smaller 1 quart would probably suffice for SAR uniform kit. With this in mind I am providing a table for the dimensions for both the larger 3.25-quart sized canteen and the smaller 1.8-quart canteen in the following tables.



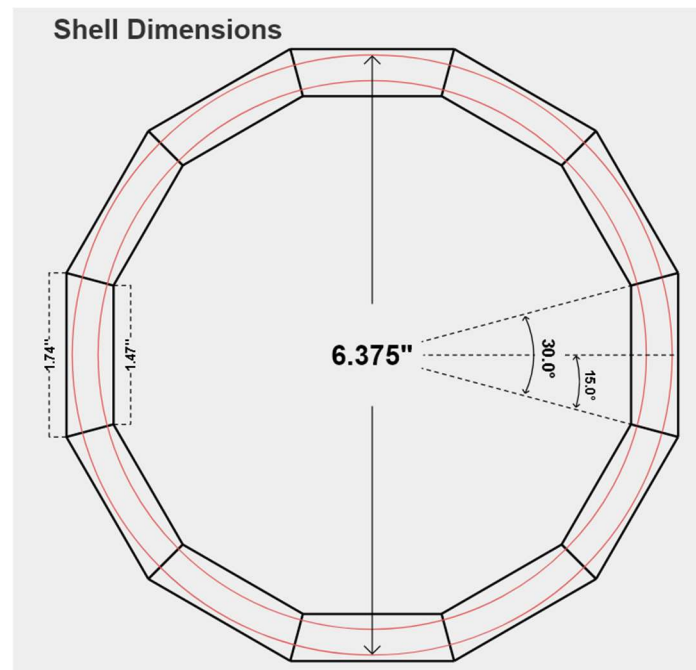
Figure 4 - Completed Small and Larger Wooden Canteens

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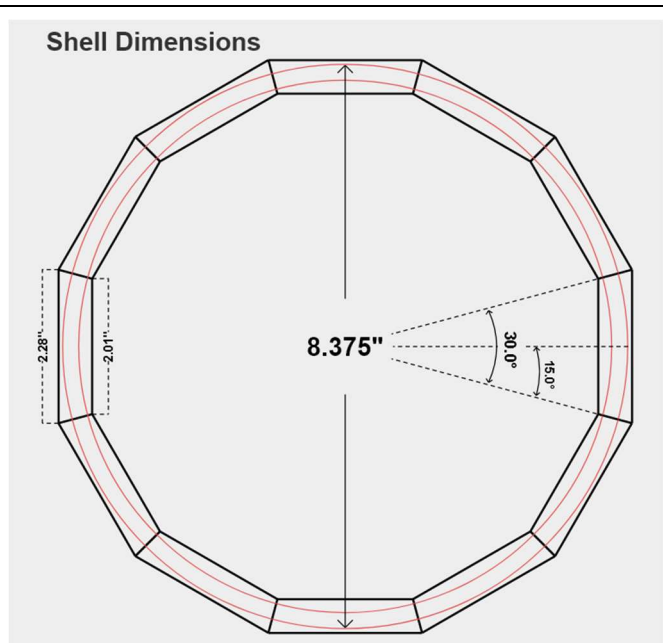
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Canteen Dimensions and Cylinder Staves



Small 1.8 Quart Canteen	Decimal Inches	Fraction Inches	Centimeters
Rough Diameter	6.5000"	6 1/2"	16.51cm
Finished Diameter	6.3750"	6 3/8"	16.19cm
Number of Staves	12		
Joint Angle	30.00°		
Bevel Angle	15.00°		
Stave Outer Width	1.742"	1 3/4"	4.42cm
Stave Inner Width	1.474"	1 15/32"	3.74cm
Stave Thickness	0.500"	1/2"	1.27cm
Rounded Thickness	0.274"	9/32"	0.70cm
Board Length Required	0.469"	15/32"	1.19cm
Staves Length	4"		

Large 3.25 Quart Canteen	Decimal Inches	Fraction Inches	Centimeters
Rough Diameter	8.5000"	8 1/2"	21.59cm
Finished Diameter	8.3750"	8 3/8"	21.27cm
Number of Staves	12		
Joint Angle	30.00°		
Bevel Angle	15.00°		
Stave Outer Width	2.278"	2 9/32"	5.79cm
Stave Inner Width	2.010"	2"	5.11cm
Stave Thickness	0.500"	1/2"	1.27cm
Rounded Thickness	0.238"	1/4"	0.60cm
Board Length Required	0.469"	15/32"	1.19cm
Staves Length	4"		



Not much changed between the two examples provided. We know the stave is 4 inches long, on the outside width of the stave changes. Without having to write about mathematics, the diagrams and information tables were generated using the online tool listed in Reference 2.

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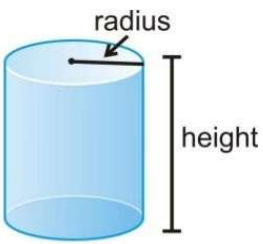
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Volume of Example Canteens

The cylinder is a three-dimensional shape having a circular base. A cylinder can be seen as a set of circular disks that are stacked on one another. Now, think of a scenario where we need to calculate the amount of water that can be accommodated in a cylindrical box or a stave barrel canteen.

In other words, we mean to calculate the capacity or volume of this box. The capacity of a cylindrical box is basically equal to the volume of the cylinder involved. Thus, the volume of a three-dimensional shape is equal to the amount of space occupied by that shape. Not wanting to do an algebra class you can adjust your numbers to calculate the cylinder volume using a calculator from at: <https://www.omnicalculator.com/math/cylinder-volume>

After the canteen is completely assembled it is estimated that the volume will be as follows.

<p style="text-align: center;">Cylinder</p> <ul style="list-style-type: none"> • Cylinder: has 2 parallel congruent circular bases connected by a height • Formula for volume of a cylinder: $V = Bh$ <p style="text-align: center;">V=(area of the base) x (height)</p> $V = (\pi r^2) \cdot h$			Estimated After Assembly Inside Dimensions	Small Canteen	Large Canteen
		Height		3.50	3.50
		Radius		3.10	4.15
		Inside Diameter after Build		6.20	8.30
		Estimated Volume		1.83 Quarts	3.25 Quarts

Tools Needed

- Table Saw
- Router w/ ¼ rabbeting bit
- Band Saw or Jig Saw
- Sander or sanding block
- Power Drill
- Drill Bits
- Step drill bit or small rasp
- General hand tools

Materials

- ½ thick lumber – 48 inches long (4 inches x 12 pieces)
- ¼ inch thick plywood – 10 inches x 20 inches
- 1 each, 2-inch-wide cotton/linen carrying strap
- 1 each, 2 Inch strap buckle (optional f/ carrying strap) -
- 2 each, 3-1/2 inches long x ½ inch wide leather pieces or steel strap
- ½ leather banding or steel strap (for the hoops) -
- Tacks for strap
- 120 Grit Sand Paper for rouging and shaping
- 220 Grit Sand Paper for finishing
- Quality wood glue
- Double sided tape
- Paraffin Wax or Bees Wax
- Wood Stain
- Linseed Oil for final finish
- Tapered Cork
- 2 Inch Brass Buckle (optional)

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Building Your Canteen

Cutting Your Staves

Ripping the Primary Miters

Cut your staves from a ½ inch thick piece of square lumber. If the piece is long enough you may only have to do this once and create all the staves from one piece of lumber. Or you may substitute shorter pieces and repeated the cut. Set your table saw blade to cut at a 15-degree angle, rip down one side, creating you first bevel. Adjust the table saw fence to the “Stave Outside Width” of the stave you selected (3.25 quart or 1.8 quart). Flip the board where the bevel is facing down and is against the fence of the table saw. Rip the second bevel in the long piece of lumber. Now you should have a long piece with a 15-degree bevel on each long side in sort of a “V”. The ends of the lumber are still at 90 degrees.

We will now cut the individual (12) staves. The stave wood grain goes along the length of the stave.

Warning - Do Not Crosscut with The Rip Fence – Instead, use a miter gauge or a crosscut sled.

You have to make your staves with crosscuts into several pieces of identical length. **DO NOT** use the rip fence as a supporting barrier for crosscutting. You can clamp a stop block to the fence for accurate measurement of length and use the miter gauge to guide your stock through the blade. This way, you eliminate the risk of your workpiece getting squeezed between the fence and the blade.

Set your table saw fence block to be 4 inches from the blade, and use the miter gauge on the table saw to hold the lumber perpendicular to the blade. Cut a small piece from the end of the lumber piece to balance the cut, and rid it of any roughness or splits. Check for squareness of this end cut. Then make the 12 staves with a crosscut.



Figure 5- Stave segments cut at 15 degrees

Cutting the Top and Bottom Stave Channels

You can make the channel for holding the canteen top/bottom with a router or your table saw. After you have to cut each stave to 4 inches in length, then return to the table saw or router and cut a ¼ inch channel on the “Stave Inner Width” ends (Bottom of the mitered “V”). The channel is ¼ inch from the end and is ¼ inch deep. The stave length must have the grain running on the long edge. You can use several methods to cut the channel;

1. You can make several passes of the stave on the table saw to cut the channels. Set where you want the cut on the table saw, bet the blade height to ¼ inch, cut a pass on each piece on each end. Make successive cuts until you get a channel (rabit) ¼ inch wide and a ¼ inch deep.
2. Use a Table saw with a da-do blade, ¼ inch stack set to ¼ in height. If you have this, you probably know how to use it as well.
3. Use a router – assuming you have one you probably know how to use it for this project and I won't detail it here.



Figure 6- Stave channels being fitted to the Top and Bottom Panels

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Cutting the Top and Bottom Panels`

The top/bottom panels have to be built but if you can rely on the schematic image the panel may not fit, as this is the overall diameter, not allowing for the channels to hold the top/bottom in place. It is best to dry assemble your canteen with blue painters' tape, and measure the inside channel across the to the opposing channel to ensure a tight fit.

Everyone has their way of cutting a circle using various templates, jigs, compass drawings and so forth. Use a band saw or jig saw to cut the circle as accurately as you can. Take two pieces of ¼ inch Plywood about 9 x 9 inches square. Use some double-sided tape to adhere the two pieces together. This allows you to cut both top/bottom panels at once. Sand the edges smooth and sand the surfaces before assembly and finishing.

Test the fit of the round panels with the dry fit you did earlier with blue painter's tape.

Building a Spout and Stopper

The Spout



Figure 8 - Spout w/ Stopper

I have a wood lathe so I can get creative in making a spout for the canteen. In L&C Figure #3, the spout is square and not very detailed. To keep it simple, a block is angularly cut, and affixed to the top stave of the canteen with a snug fit and some glue. The hole is about ¾ inch in diameter. After the spout is affixed to the stave, a tapered hole can be made with a step drill, or an angled rasp after the hole is drilled.



Figure 7 - Step Drill Bits and Tapered Rasp for Rotary Drill

The Stopper

A wine bottle cork could work, but it is not tapered and runs the risk of falling into the canteen. You do not have to have a wooden end on your stopper, but it adds some security in keeping it with the canteen. I made a fancy walnut knob to attach my stopper to the canteen with a leather lanyard. My knob has a hole drilled through horizontally, to tie the lanyard. You can use most any shape of wood to your liking and drill a 3/8-inch hole for affixing a piece of wood dowel rod. Glue the dowel rod into the knob. Drill a 3/8-inch hole into your tapered cork but do not go all the way through. Leave about ¼ inch in the base. Measure the cork hole depth, cut the dowel to the length and glue the cork to the dowel. You may have to adjust the canteen spout hole to accommodate the cork depth of fit. I bought a package (4ea) of tapered corks at Hobby Lobby, and cut about 1/8th inch from the wide end so the assembly would look better in the spout. Use a piece of leather lacing to secure the stopper to the spout.



Figure 8 - Cork Stopper with Walnut Wood Handle

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Assembling the Canteen

NOTE: If you plan to carry water in your canteen, that is its purpose, you may want to do some waterproofing. After all, this is a reproduction, not a “barrel-pressed” hoop staved container. If waterproofing is wanted, see the section below.

Use a board to align you staves against. Roll out blue painters’ tape, and place the outside of the stave onto the blue tape. When all the staves are in place, apply glue to the stave mitered joints and to the channels. Place the top and bottom panels near the center of the row of staves. You can then roll the painters tape stave “chain” up and around the top/bottom panels. Secure with tape, bands or straps until the glue is completely set.



Shaping the Mitered Outside Corners

After assembling the canteen and all the glue is dried completely, you can begin shaping the 12 sides into a rounder appearance. If you have a belt sander or even a powered sander this can be done very quickly on soft woods such as pine. If you do not have powered gear, a wood block and fresh sandpaper will also work. You probably will do finer details with a sanding block as well. Do not forget to sand the end grain of the staves smooth. Begin with the 120-grit sand paper and progress to 220-grit, and finer grits if desired. Judge by eye and touch for roundness, and sand down the bumps and ridges that are noticed.

Waterproofing your Creation

I have found three similar methods for waterproofing the inside of the canteen. Brewer’s Pitch, Bees Wax, and Paraffin. All three are applied in similar fashion by melting and pouring inside the canteen. You will have an easier time applying the hot pitch, wax or paraffin to the inside for waterproofing after the canteen is assembled and sanded to the round cylindrical shape. It is my theory, that any polyurethan, epoxy, paint or other coating may not bond entirely, or peel off the wood when in long/continuous contact with a liquid. [Bees wax](#) could also be used instead but it imparts a bit of flavor to the contents. If you are drinking mead, this may be desirable. For my canteen, I used melted [paraffin](#) as it is tasteless and the least expensive. Keep in mind that alcohol beverages can also damage some wood finishes.

Fortunately, I have an old Crock-Pot, that I have used on other projects needing melted wax. If you don’t have a Crock-Pot, use a double boiler to melt the wax evenly. Both paraffin and bees wax have low melting points and are also flammable and the double boiler technique will mitigate the risk of a flare up, and melt the wax evenly. A double boiler can be a normal household cooking pot with boiling water, and a scrap tin/metal can to hold the wax. Use a funnel in the canteen spout of the canteen to pour the melted wax inside. When applied or poured, the wax will remain liquid a bit, but don’t wait too long. You are only wanting a coating on the sides. Insert the stopper, and roll the canteen about to evenly coat the insides, and pour out the remaining melted wax, back into the metal can. It doesn’t take long, as the wax will begin to solidify as soon as it touches the surfaces inside. I recommend finishing the outside completely before coating the inside, so if you happen to spill a bit of paraffin on the outside, your stain/finish will still adhere properly. In my resource notes near the end of this paper, I have listed two manufacturers who use different methods to waterproof their versions of a staved barrel canteen.

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Sanitation and Hygiene as Applied to Canteens

The use of polluted water is a factor dangerous to health and accounts for the prevalence of disease in localities where other sanitary conditions are beyond reproach. It is the part of wisdom to remove the danger of possible contamination by the use of a canteen which can be completely emptied, drained and even sterilized.

There can may be enough places for germs and micro-organisms to make the use of the canteen. Recommend sanitary conditions be observed to sterilize your canteen in a way as not to damage the wood or melt the inner paraffin coating with excessive heat.

Do not store the canteen with water inside. Empty and air dry when not in use.

Applying the Outside Wood Finish

There are a wide variety of ways to finish the outside of your canteen. Depending upon how well the plywood top/bottom pieces match the wood staves, this could be a design enhancement or detractor. If you use soft pine wood for the staves, the color variation of the staves compared to the top/bottom panels could detract from your design. Linseed Oil is used on tool handles such as axes, adze, shovels ect. For a reason. It allows inspection of the wood for splitting, where such defects my not be detectable under a coat of paint. Linseed Oil is inexpensive and makes a long-lasting finish. It imparts a soft yellow hue to the wood, and can be applied with a folded cloth. If you want a darker color to help in color matching the wood, you should stain the wood first, prior to applying the Linseed Oil or your chosen final finish.

Attaching Hoop and Strap Guides Ornamentation

We know we are not blacksmithing hoops for our vessel, and a reproduction quality or solution is needed. As shown in Figure #1, the “hoops” could be fashioned from ½-inch steel strapping often used for shipping heavy crates. Measured and cut to length it would make an attractive replacement for hoops. Steel strapping is available at Amazon and other retailers, but short lengths are quite expensive. Most retailers and transporters use plastic/nylon strapping. The steel strapping is hard to find by dumpster diving and most stores who handle pallets get plastic strap material. Nevertheless, you may find a business or friend who has access to some.

Period canteens were also “hooped” with wood bark strips and leather reinforcement. Or, you may find a suitable banding material that could be attached to your canteen, that could be painted to appear as metal or perhaps covered with a metalized tape. For my canteen I used half-inch leather straps and neatly spaced upholstery tacks. You have to see what is available to you and what works for your Uniform Kit.

The strap guides could be of metal as shown in Figure #1, or leather affixed to each side. The L&C diagrams, Figure #3, shows the blacksmith/forged guide piece as fitted under the hoops and bent to be held in place. I am sure there are many variations. For our purposes, upholstery tacks can be used to attach the guides to the canteen. Just make sure the tack will not split the wood or pierce the canteen staves creating a leak.



Figure 9 - Continental Army wooden canteen marked “U States.”, Courtesy of the Museum of the American Revolution.

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Attaching Carrying Strap

I bought 2-inch-wide Thick Heavy Cotton Webbing at Amazon (See Resource Notes). You could easily make a strap from white cloth of the same width, or leather. Mimic the strap you use on your haversack and it will create a more balance look for your uniform.

I also found a 2-inch-wide brass slide buckle at Hobby Lobby that is affixed to the strap as an adjuster. My wife helped sew on the buckle and stitched the ends from fraying. The strap is placed under the round bottom edge of the canteen, with the strap threaded through the guides on each side. If using a strap without a buckle or adjuster, you can secure the ends of the strap under the guides (left or right) with short tacks.



Figure 10 - Methods of Carrying a Military Canteen - from *The History of the Military Canteen*

Summary

Most of you probably are familiar with woodworking and only needed the diagram tables for making your own canteen for your Uniform Kit. This may also provide you guidance and ideas for dressing up or building your Canteen Kit, if you want to buy one. If you are making only one canteen, the prices for the materials may exceed the price of a "canteen kit" from one of the reenactment suppliers. Nevertheless, I have enjoyed my research, and learned a bit. But I enjoy working on crafts in wood and plan to provide other period items in the future.



The finished canteens....ta-da!

References

1. Wood Magazine; Wood Magazine Staff October 19, 2016, <https://www.woodmagazine.com/woodworking-tips/techniques/intermediate/staves-and-segments>
2. A Stave Drum, <https://uniontownlabs.org/tools/stave/>

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3. History of the Military Canteen, Lieut. -Col. Phillip Reade, Inspector General U. S. V., (Major 4th U. S. Infantry)
Published by authority of The Honorable, The Secretary of War, 1900.
<https://archive.org/details/historyofmilitar01read>
4. Coopers Had the Colonists Over a Barrel: 18th Century Barrel & Cask Production in America, January 21, 2019,
Historical Background, Life & Times, Harry Schenawolf, <https://www.revolutionarywarjournal.com/coopers-had-the-colonists-over-a-barrel-18th-century-barrel-cask-production-in-america/>
5. Fine Woodworking Magazine, Formula for tapered staves (Buckets/planters etc),
<https://www.finewoodworking.com/forum/formula-for-tapered-staves>
6. Fine Woodworking Magazine, The Craft of Coopering, Staves and a hoop make a watertight vessel, By Jonathan Binzen #248–July/Aug 2015 Issue, <https://www.finewoodworking.com/2015/05/27/the-craft-of-coopering>
7. Website, 2nd PA, “The Regiment”, 43rd of Foot, Original American Canteens ,
<http://www.243regiment.com/OriginalCanteens.html>

Resource Notes

1. COTOWIN 2" Wide Thick Heavy Cotton Webbing, 6 Yards (Natural White, Amazon – (\$12.59)
2. Tapered Cork (Stopper) – 1 inch – 4 pieces - Hobby Lobby – (\$2.95)
3. [Paraffin Wax - Hobby Lobby](#), Cheapest I could find and available in various amounts. Used in Candle Making. They have both, bags of pellets and molded blocks.
4. Upholstery Tacks, 100 Pack, Furniture Tacks, Decorative Nail Heads – I used the Bronze colored. Amazon has a wide variety (\$5.85)
5. Genuine Leather Strap Leather Strip 1/2 Inch Wide and 72 Inches Long, Dark Brown – Amazon (\$11.95)
6. Lacing Leather Topgrain Latigo Medium Saddle Brown 12 Feet 2 Pieces – Amazon (\$8.95)
7. Godwin advertises their canteen has iron bands for strength and is pine pitched inside and to not only to keep it watertight, but give it a nice finish as well. It comes with a 1" web strap, not shown. To keep the canteen watertight, we recommend keeping it full of water when stored. Put a tablespoon of baking soda in the water to prevent bacterial growth. When you are ready to use the canteen again, simply rinse out with clean water. This canteen is guaranteed to hold water if properly used. Holds one quart.- https://www.gggodwin.com/Iron-Band-Wooden-Canteen--1-Quart-528_p_462.html
8. Townsends has a version shown in Figure #1 as an example for this article and advertises a bit more information that may be considered - Based on original canteens of the period. Good for late Revolutionary War to War of 1812. Comes with tethered hardwood stopper and cotton webbing strap. Lined with [brewer's pitch for water tightness](#). This canteen is 7" in diameter and holds about 1 quart. Made of pine.
<https://www.townsends.us/products/metal-banded-wooden-canteen-wc769-p-369>