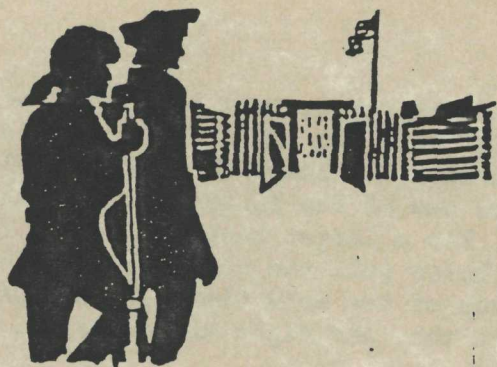


# TALLOW CANDLES



*"this evening we exhausted the last of our candles, but fortunately had taken the precaution to bring with us moulds and wick, by means of which and some Elk's tallow in our possession we do not yet consider ourselves destitute of this necessary article..."*

Capt. Lewis, Jan 13, 1806  
Fort Clatsop

Tallow candles are made in the Fort Clatsop living history programs by National Park Service rangers. During the winter at Fort Clatsop, members of the Lewis and Clark Expedition rendered elk and deer fat into tallow for their candles. Today, the candles are made from beef tallow, which is cut with 1/3 paraffin to make them more firm.

## CAUTION:

We strongly suggest that the rendering be done outside. There are two major reasons for this. Most important is the extremely high potential for fire. Second, the boiling fat will leave a greasy coating which is difficult to remove.

Care should be taken to not overfill the pot and to keep the tallow away from high flames and flying embers. If a pot of tallow flames up, it is best to put a lid over it to cut off the oxygen to the fire. Do not try to put out a tallow fire with cold water.

## HOW TO RENDER TALLOW:

Fill a big pot 3/4 full of chopped beef fat (chunks should be no larger than 1/2"-1" in size). Cover the fat with water. Bring to a rolling boil and maintain until the water has evaporated and the fat rendered. As long as there is a lot of water in the pot, only a little tallow will be produced. It is only when most of the water is gone, and the fat is sitting in a shallow layer of liquid that most of the tallow is extracted from the fat.

When most of the water has boiled away, several changes will rapidly occur. You will need to watch the pot closely. The bubbles of the mixture will become smaller and less violent. The color of the liquid changes from a light, muddy-brown color, to a dark, clear liquid. The fat is rendered when it turns into brown crisps which have the appearance of bacon. Also, a scent of bacon becomes very strong. It may take about three hours to reach this point.

If the tallow is left on the fire after the water has completely evaporated, it could reach the flash point and burst into flames. You will know when this is about to happen if a light, white smoke is given off. At this point the tallow should be taken off the fire. Use extreme caution when removing the pot from the heat. Spilled tallow can cause an explosive, highly dangerous fire.

Let it cool about ten minutes then strain the impurities from the tallow. Add 33% paraffin to the tallow, so the candles will hold their shape. The elk, deer, and buffalo tallow used by the Lewis and Clark Expedition was firmer and didn't need the added paraffin.

The tallow is ready to pour into your wicked molds.

### HOW TO WICK YOUR MOLDS:

Cut 100% cotton wicking or twine (8-12 ply) into approximately 18-20 inch sections. Tie a knot about two inches from one end of each string. On the same end, rub a bit of tallow and twist to a point (this helps the string go through the small hole). With the knotted end first, lower each string into one of the larger holes of the mold and down through the smaller hole in the bottom. Tie a larger knot outside of (and next to) the bottom hole. The inner single knot helps pull the candles out. The outside knot seals the bottom hole. Across the top of the mold tie each pair of strings to a small, pencil-sized stick. Make sure they are tight and centered.

### HOW TO MAKE YOUR OWN CANDLES:

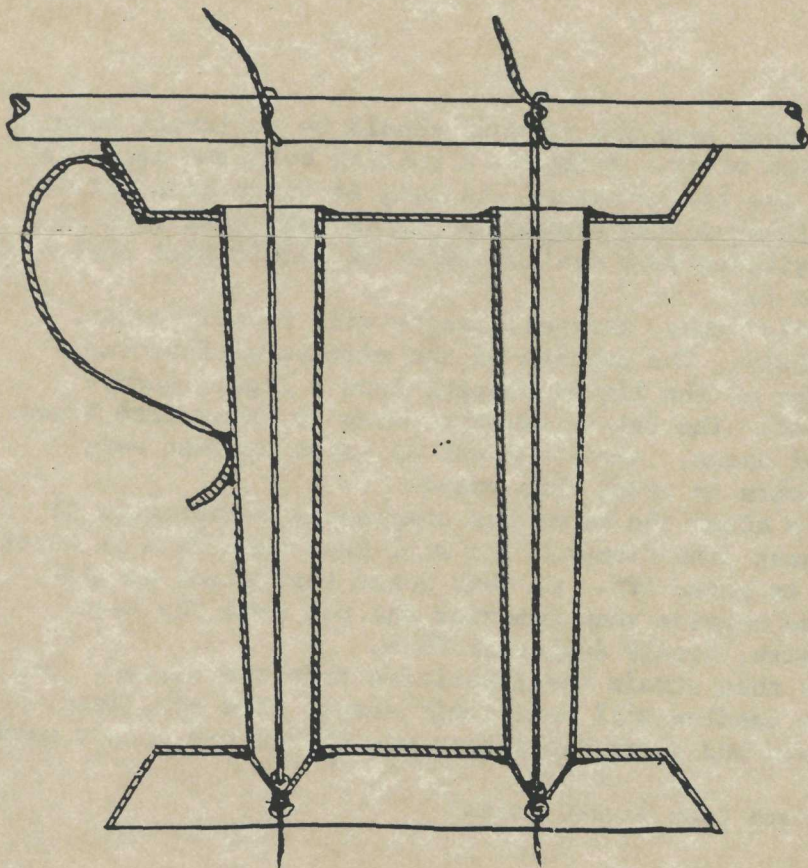
Before pouring tallow, remove it from the fire and place it away from all heat sources. It's best to let the mixture cool a little.

Carefully pour the warm tallow into the wicked molds. Fill the molds, and partially fill the flat reservoir on the top. This is necessary because the wicking absorbs some tallow and the tallow shrinks as it cools. Make sure the wicks are still centered in the candles.

Let filled molds set for approximately one hour. Cracks throughout the tallow in the reservoir is one indication the candles are ready to remove from the molds.

To remove the candles from the molds, you must first cut the knots off the bottom of the molds. Be careful not to cut into the molds. Remove the tallow from the reservoir. Use the sticks as handles to pull the candles from the molds. Cut the sticks off the candles. Cut the knot off the tip of the candle if it is exposed. Your candles are now ready for use.

Placing your candles in the freezer for 24 hours before using will make them burn longer. We have found that a good quality candle will usually last about 5-6 hours.



The molds sold by the Fort Clatsop Historical Association are tin. If a seam needs to be sealed or repairs need to be made, use tin solder.

If using candle wax, beeswax, or straight paraffin instead of tallow, spray the inside of the mold with a release agent, such as "Pam."

For more information,  
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