

## Waterproofing

By Gene Hickman

Whether you make or purchase a haversack and knapsack, you may want to waterproof them. One easy method is to impregnate it with beeswax. This works well for light cotton canvas or linen bags. You will need:

- Beeswax
- Old paint brush
- Empty disposable butter tub
- Newspapers
- Old iron

Spread your haversack on several layers of newspapers to absorb spilled wax. Place beeswax in butter tub and heat in microwave oven until melted. "Paint" the melted wax on the haversack with the paintbrush. You can reheat wax anytime as it starts to harden again. Try to get wax to soak in the seams. It will look really ugly, but don't give up. Now take the old iron and start to iron the wax into the material. You can use a new iron, but you don't have to clean an old one. Good idea to ask wife first. The hot iron will smooth out the wax and the fabric will start to absorb it. Continue until you have covered the entire bag. It will darken the bag and give it a good old time look. As you use it you will get lighter colored creases, which makes it only look better. You can also mix some bear grease with the wax. On white canvas the wax will give the material a yellow look, so if you add some artists acrylic colors (burnt umber, brown, etc.) It will darken the look.

Another method, which is used on packs, haversacks and to waterproof tarps or tents, is to put a pound of beeswax in a quart of turpentine and paint it on. Then you wait for all of the turpentine to evaporate.

Donald Jackson's book "Letters of the Lewis and Clark Expedition and Related Documents," contains an invoice from Mr. Richd. Wevill, dated June 15, 1803 in which he bills the government for:

- 107 yds of brown Linen
- 46 1/2 yds of (Russia) Flanders sheeting
- 10 yds of 7/8 Country Linen
- Oiling all of the linen and sheeting and making the brown linen into 8 tents and the Russia Sheeting into 45 bags.

If you want to paint a haversack, pack or tarp, the most common "period paint" was called Spanish Brown. "Spanish Brown," which is red iron oxide paint, was the most common color of oilcloth in the 18th and 19th century frontier. This was linseed oil with iron oxide in it. It was commonly used to waterproof tarps, military packs and to paint wood. Use boiled linseed oil and iron oxide powder. Iron oxide comes in two forms, a yellow and a rust brown. Both are used in making pottery glazes, and can be had in bulk at pottery making shops. The iron oxide acts as the filler, fills the pores in the fabric, and is important in the process.

To make it simply mix iron oxide in linseed oil. It can be mixed at about 1 – 1 ½ cups iron oxide per quart of linseed oil. Other formulas call for 3 cups iron oxide per 2 quarts of linseed oil and 4 cups per 3 quarts. It can take several weeks for the linseed oil to dry out on

wood and a week on fabric. The higher the humidity and the lower the temperature the longer the drying time. If you lay the item flat as described below you'll have to paint a side and let it dry before painting the other side. However, if you hang the item to dry you may paint a side flip it and then paint the other side. The drying process can be speeded up, by adding some "Japan Dryer".

Linseed oil is highly flammable and rags or papers saturated with linseed oil can spontaneously ignite. Do this project outside and dry out all rags etc. before throwing them away.

There is also a kind of paint on the market called "American Pride Brand" barn paint in flat red, it may be obtained at a farm co-op or a well stocked paint store. The only ingredients are boiled linseed oil, red iron oxide, and calcium carbonate[lime]. Spread out your canvas and paint the one side and allow to cure. Flip it over and paint the other side allows to cure. Flip it back over and apply a second coat to the first side. This process takes about a week, mostly allowing for the coats to dry.

Iron oxide can also be purchased at art supply stores and some paint or hardware stores. The Archie Bray Clay Business, <http://www.archiebray.org/business.html>, in Helena, MT carries it by the pound. You can e-mail, call or go by the Archie Bray foundation to get some. It runs about \$1.50 a pound. The iron oxide will be from a deep yellow to a reddish brown, depending on the purity and its origin. All are ok.