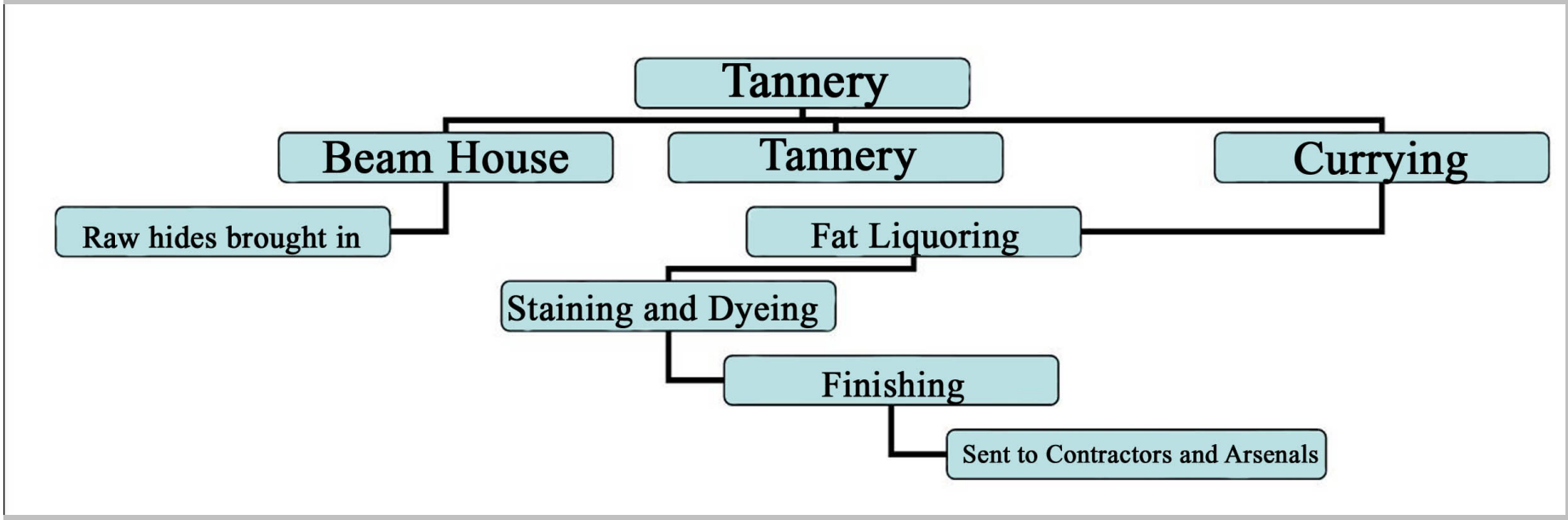
R U S S E T L E A T H E R T E R M S

This edited selection from an article written by David Jarnagin and Ken Knopp about russet leather. It was published in North/South Trader.

Defining 19th century russet leather is a difficult and confusing undertaking. A basic understanding vegetable tanning operation is needed. Tanning is the process of converting raw animal hides to finished leather. Nineteenth century tan yards had three distinct departments, each designed to transform the raw hide as it passes on its way to becoming useable leather. (Insert "Diagram" here)



The final part in processing raw hides to finished leather was called "currying". There were two important steps: The leather coming in from the tannery was called a "crust" because it was a semi-hard sheet of leather that must be re-wetted before "scouring" begins. *"After tanning, the sides for harness leather are half dried to enable them to be worked easily. They are skived. The sides are then scoured, slicked and stoned on the grain side, and ...on the flesh side, to remove superfluous moisture, glutinous substance and to stretch them. After these operations have been performed the leather*

is half dried, stretched and set by the vigorous use of the slicker upon the scouring table, with the grain side down. It is stuffed with a mixture of neat's-foot oil and tallow, applied with a stiff hair brush to the flesh side, and hung up for a week to dry. 2. This process was known as "fat liquoring". Currier did this to tailor the leather and fit the customer demands of flexibility, strength, water resistance, etc. The second and final part currying was to give the leather color and finish. (Insert Drawing #3)

Drawing #3: currier "fat liquoring" and finishing the leather.

In all vegetable leather tanning color is nothing more than the natural color of the leather after the tanning process, meaning whatever color the bark gives to the leather. Various barks were used but the two most common in the 19th century were oak and hemlock tree bark. Each bark strikes a unique color and imparts certain qualities to the leather. *"Almost every tanning material stamps its own peculiar quality on the leather subjected to its action. The physical characteristics usually affected are the color, scent, toughness, or the power of resisting moisture or decay. Oak bark imparts firmness and solidity to the leather, while other barks give a greater or lessor degree of softness. This (oak) bark gives a lighter color and it is generally assumed better leather than hemlock. Chestnut oak is called "yellow oak" by*

tanners on account of the yellow color it imparts to the leather. The most desirable kinds of oak are procured from "rock oak" or "chestnut oak"3. This type of bright yellow color resulted in what was called "fair" leather, this color comes only from oak bark tanning.

Hemlock bark (which is more acidic than oak), strikes a different color, "*is rich in tanning and is little, if any inferior to oak for tanning purposes*....[distinguished by] *the dark reddish color* [darker, browner, skin-toned color] *it imparts to leather."* 4. The physical qualities needed in the finished leather product is what determines which bark the tanner uses in the tanning process but, the color that a bark strikes is what gives it the finished term "russet". (Insert Photo #1)

Photo #1:

Oak tanned "fair" leather cap pouch made by G. H. Wyman of Augusta Ga. Note the yellow tinge to its color. During the war both sides often left high quality leather as "fair"-free from both stains and blemishes.

Courtesy of Atlanta History Center

Now, if fair leather comes from oak bark tanning and red-browns from hemlock tanning, why are there several colors of russet? What about the dark browns and chocolate browns that show up in original items? The answers to these questions are explained through the second step of the currying or finishing process. At this point, the currier decides which leather is left fair and which is stained or dyed black, then finished and polished. The very best hides were left "fair" and would have brought a higher price. Lesser quality hides that would not have passed for fair leather because of discolorations or blemishes were stained on the grain side with a solution of logwood and sal soda applied with a hair brush. 5. Staining widely varied the shades of brown found in bark tanned leather and was done for two reasons: first, to even and enhance the color appearance; second, to increase the weight. Finished leather was sold by weight until the 1880's. Thus, any and all methods were used to increase weight and profits. (Photo #2)

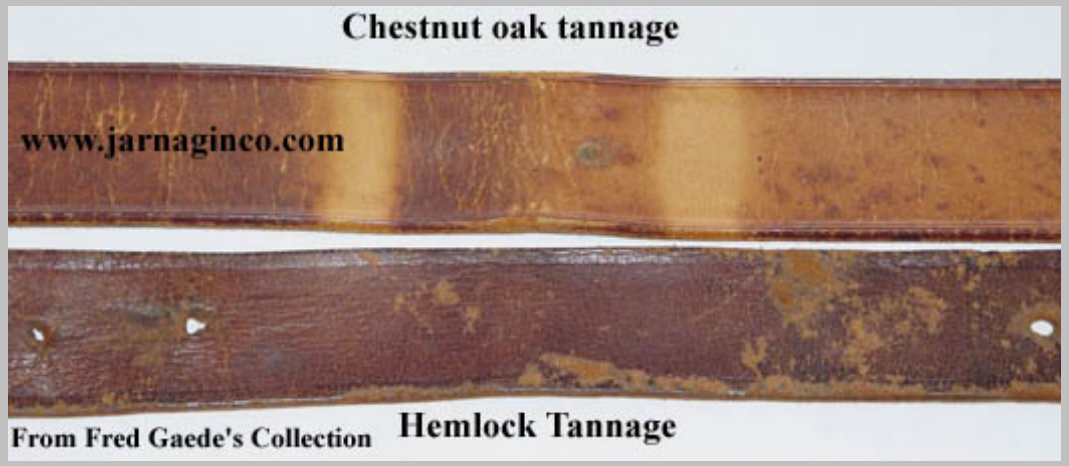


Photo #2

The picture of the top musket sling is a "fair" leather sling that is chestnut oak tanned, but the bottom is a stained hemlock sling. The best place to see the original "fair" color of the top sling is where the loops covered the surface of the sling and protected the surface from both light and dirt. The darker areas is what happens over time when the leather is exposed to light and this slowly darkens the leather and it begins to look like the "English Color". Note the bright yellow color of the "fair" leather vs. the reddish brown of the stained hemlock sling.

Courtesy of Fred Gaede

The currying process also included dyeing quality leather to black using iron mordants and mild acids. Oak tanned leather could be dyed a permanent deep, rich black; however, dyeing hemlock tanned leather created unique problems. Due to the acidic nature of hemlock tanned leather, could not permanently accept black dye solutions. Despite tanners routinely cheating the process with special paints or dyes, hemlock tanned leather always (often quickly) faded to a chocolate brown color seen now in surviving artifacts (insert Photo #3). This was a big problem for the Federal Ordnance Bureau as the hemlock bark tree was very prominent in several of the north's largest leather production states.

Photo #3:

Both of these Federal cartridge boxes were made at Watertown Arsenal. The box at the left was oak tanned, dyed black. It retained its black color. The one on the right was hemlock tanned and also dyed black but faded to a chocolate brown a very common occurrence among Federal equipments during the war and one often seen today among surviving artifacts.

Authors collection

To further complicate the russet issue, another dark brown russet color similar to faded hemlock and quite often seen in Confederate equipment came from imported English leather (sometimes called “London” leather). This is not a black faded to brown leather but a unique, rich brown color tanned overseas from English oak bark and stained using a staining formula different but likely similar to that used in America (Photos #5 , #6, #7) The Confederacy certainly imported large amounts of British leather for making equipment. Some of the leather may have been dyed black here or abroad; but, most would likely have been this London color. 8.

Photo #5:

Specification for some British equipment called for the leather to be in the "English hides" color. The rich "London" color can best be seen in this British navy Pistol Box. Confederate imported English leather was likely left russet but some may have dyed black.

Courtesy of Walter Anderson

Photo #6:

Cap pouch made by Confederate contractor Wellborn, Nichols & Oliver of Dalton Ga. form imported "London" leather. Compare the texture and color of the leather to the domestic made leather cap pouch box in photos #1 and #8.

Courtesy of the Atlanta History Center

Photo #7:

Note the difference in color. on the left is a rare (possibly a prototype) Allegheny Arsenal Pattern of 1857 cartridge box made of (English Color) leather. On the right is a Confederate copy of the Pattern of 1857 cartridge box, but it was made from hemlock leather that has faded to chocolate brown.

Courtesy of Paul Johnson

How the different colors were picked was by looking at the leather after it came out of the currying process. Those with no discoloration or blemishes were picked to be fair. The next set with small discoloration or blemishes were picked to be stained. Lastly those with the worst stains were made into black. In tanning vegetable leather anytime iron comes in contact with the wet leather it leaves a blue black stain that might show up at the moment of contact but later after it dried out. For this reason

most tannery tools were either copper or glass in order to help prevent this staining. The black color could hide all these stains.

Drop us a note and tell us what you think

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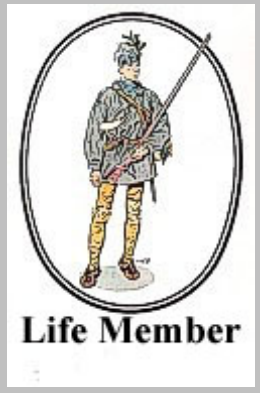

For More information on 19th century leather please follow this link.

For a list of other article on leather and equipment please follow this link

The currying process being done is called Setting out.

Remember that no matter how bad the day is there is always one bright spot and he is Christ

2 Corinthian 12:9&10

And He said unto me, My grace is sufficient for thee: for my strength is made perfect in weakness. Most gladly therefore will I rather glory in my infirmities, that the power of Christ may rest upon me. Therefore I take pleasure in infirmities, in reproaches, in necessities, in persecutions, in distresses for Christ's sake: for when I am weak, then am I strong.