

UNITED STATES PATENT OFFICE.

GEORGE W. HATCH, OF PRINCETON, ILLINOIS.

IMPROVEMENT IN THE PREPARATION OF HIDES FOR TANNING.

Specification forming part of Letters Patent No. **15,736**, dated September 16, 1856.

To all whom it may concern:

Be it known that I, GEORGE W. HATCH, of Princeton, Bureau county, Illinois, have invented a new and Improved Mode of Preparing Hides for Rapid Tanning into Leather; and I do hereby declare that the following is a full and exact description thereof.

This process of preparing hides and of turning them into leather is performed by the use of smoke of wood or equivalent combustibles, applied and described in the following manner:

The nature of my invention consists in smoking hides after being unhaired and bated or previous to putting them into tan, which changes the nature of the gelatine into an admirable condition for the rapid reception of tannin, and at the same time preserving the full texture and strength of the fiber, thus enabling me to tan calf-skin into leather in from two to twelve days, upper and collar leather in from eight to twenty days, and other leather in a proportionate time, according to the thickness. Having become satisfied from the general expression and personal experience of the inefficiency of any late-patented system of tanning of general application, and still feeling the great want of that desideratum so long sought for of obtaining a system of quick tanning with good results by cheap and simple means of general application, I have used every exertion in trying, if possible, to obtain that method. In 1834 I had no less than twelve different courses in operation at once. I discovered three favorable out of the twelve, selected the best out of the three, perfected in tanning by it for about one year, and liked it better than any patented yet; but I found it like its predecessors—too uncertain for general use. I have become well satisfied that any chemical mixtures or compounds tend more or less to destroy tanning or injure the leather, because the hide, in the first place, must be prepared to receive the great shock of so powerful and rapid tanning. In the latter part of October, 1855, I made the discovery that by smoking the hides and then handling them in sumac, bran, and water for half a day, and then putting them into alum, tan, and sumac, the tan struck through heavy upper in three days. I am gratified to say that on a thorough test with that and other tannings

it has responded to my fullest desires. I have also realized the fact that hides prepared in this way preserve the gelatine in such condition as to keep longer even in poor, weak liquor void of tan. I have used smoke from various kinds of combustibles, all producing the desired effect.

Some of the great beneficial results in this kind of tanning are these:

First. I can with a small capital compete with any other tanner under any other system yet discovered, either in the country, where plenty of bark can be had, or in the great prairies of the great West.

Secondly. I can turn my capital five times every once that any one else can under any system yet invented, having good results in general.

Thirdly. I defy the world to produce better or more durable leather than is produced by this system of tanning. By this system of smoke in connection with tanning it enables me to use terra-japonica tannin, with or without other aids in the tanning, with perfect good results.

Fourthly. To tan in these vast prairies where there is no tan-bark in much less time successfully in competition with manufactories in tan-bark districts.

Fifthly. That this principle of smoke, the great desideratum, is applicable in bark-tanning the world over, and in terra-japonica or other tanning.

Sixthly. By it I have been able to bring eight pounds of prepared hide through in thirty-six hours; cowhide, upper-leather, and collar-leather in eight days, making good leather, yet I prefer from four to twelve days time for tanning the same.

The leather which I have tanned by this new system has been well tested and given good satisfaction. The calf-skin I sent you was tanned through in moderate tanning in ten days; but was left in the tan four days longer to fill up perfectly, then finished.

To enable others skilled in the art to use my invention, I will proceed to describe the mode and operation, which is convenient, simple, and sure in the desired effect, and applicable to all general species of tanning, therefore admirably

adapted and convenient for universal and general use, even by tanners of ordinary skill.

I bate my hides in the usual way, either in hen-bate or wheat-bran, (I prefer bran, as it leaves the hide more plump,) until the lime is thoroughly worked out. After working off the last time, I rinse in clean water to plump up and open the hide fully wet, in order while smoking the grain may not become too dry, as well to rinse off all uncleanness. Then hang up in a tight smoke-room sufficiently large to hang up by butt and neck, grain-side out. Then make a smoke in such a manner that the hides may not become heated from the fire. Smoke upper and collar leather hides six hours—other hides time according to thickness. Then take them out and soak them in clean water one hour, to assure the hides a fully-wet condition before coming in contact with tan. Then put them into tan-ooze of moderate strength, stir and handle often until the grain is colored even and struck through. Then increase

the strength of the ooze by tannin from day to day till the hides are tanned.

To get a light color in the terra-japonica or hemlock ooze, I add a little sumac in the first handler in such proportion as half a pound per side for upper-leather; for heavy leather—such as harness and sole leather—after being prepared in the usual way, should be smoked six hours, then soaked in clear water one hour, then smoked again six hours, and soaked and put into tan, as above stated.

Now, I wish it distinctly understood that I do not claim the use of pyroligneous acid as such, but confine my claim to the use of smoke from wood or other equivalent combustibles in the preparation of hides for rapid tanning, as above set forth.

GEO. W. HATCH.

Attest:

MARTIN BALLOU,
JUSTUS BURR.