

# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN PROCESSES FOR TANNING HIDES.

Specification forming part of Letters Patent No. **162,140**, dated April 20, 1875; application filed February 1, 1875.

*To all whom it may concern:*

Be it known that we, GEORGE A. BARTENBACH and CHARLES RICHTER, of Detroit, in the county of Wayne and State of Michigan, have invented an Improved Process for Tanning Hides, of which the following is a specification:

This invention relates to that class of processes employed in tanning hides of every description, a soft leather being produced thereby in a short time without the use of any kind of bark, the following ingredients being used instead of bark: sulphur, gum-arabic, wheat-bran, sulphuric acid, common salt, and terra-japonica, or Japan earth.

The application of these ingredients by our process is as follows: For making lace and whip leather the hides are cleaned after soaking, the hair being removed. Then put them in the following solution, enough being used to fairly submerge them: To twenty-five gallons of warm water add two pounds of alum, fifteen pounds of salt, one pound sulphuric acid, two pounds of wheat-bran, two ounces of dissolved sulphur. The hides are left in this solution from twenty to twenty-five minutes, after which one ounce of vitriol, four pounds of salt, and two ounces of alum, dissolved in one-half a gallon of water, are mixed with the solution, and the hides are left to remain in it twenty minutes longer. The hides are then taken out and well wrung, and hung up to dry in a dark, airy place. Those intended for whip-leather, when dry, are moistened with a little water, and stretched upon a stretching-iron. Those intended for lacing-leather, after being well dried, are rubbed with a mixture of one pound of fish-oil, one pound of tallow, four ounces of linseed-oil, and two ounces of soap-soda in a gallon of hot water.

In making leather for boots the hair may be left on for lining, and the same process used as in making whip and lacing leather, except that there should be added to the solution or mixture two pounds of terra-japonica and four ounces of mucilage, and, after the hides are dry, rub them with a mixture of fish-oil, glue, and gum-arabic in about equal parts, putting in enough lamp-black to thicken it like paste.

In preparing hides for buffalo-ropes, clean the hides well, put them in a solution of alum and water twenty degrees strong, per hydrometer, and leave them fifteen minutes; then hang up the hides till the fluid has passed off; dump them again in a solution of three pounds sulphuric acid, four ounces of sulphur, four pounds of wheat-bran, and twenty pounds of salt in twenty-five gallons of warm water, enough of the solution being used to fairly immerse them. Leave them for forty minutes, and then hang them up to dry. These are finished in the same manner as whip leather, and the hair is combed smooth.

In the manufacture, by our process, of white leather for whips and other purposes, the use of terra-japonica, or Japan earth, is omitted.

Our process of tanning hides has the advantage of producing a soft leather in a very short space of time, the same having a stronger consistency than heretofore gained by tanning with bark, the hides being exposed to water or wet substances less than an hour. Leather is also produced with the hair remaining, for the manufacture of boots and shoes adapted for warm coverings, dispensing with linings, and produced at a cost much less than by the old method of tanning. It is also better adapted for tanning robes, the manufacture of belting for machinery, for the production of a cheap white leather, and a soft and warm covering for the foot.

We claim—

1. In the manufacture of leather from hides or skins, the solutions composed of the ingredients named, in about the proportions specified.

2. The manufacture of leather from hides or skins by the application of the solutions named, substantially in the manner shown and described.

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CHARLES RICHTER.

Witnesses:

EMIL LANDSBERG,  
AD. WITZLEBEN.