

UNITED STATES PATENT OFFICE.

CARLES J. TINNERHOLM, OF QUINCY, ILLINOIS, ASSIGNOR OF THREE-FOURTHS HIS RIGHT TO JOHN R. ROSE, HENRY PETTERSON, AND ALFORD GUSTOFSON, OF SAME PLACE.

IMPROVEMENT IN TANNING PROCESSES.

Specification forming part of Letters Patent No. **153,636**, dated July 28, 1874; application filed April 18, 1874.

To all whom it may concern:

Be it known that I, CARLES J. TINNERHOLM, of Quincy, in the county of Adams and State of Illinois, have invented a new and valuable Improvement in the Process of Tanning Leather; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to a process in the manufacture of leather; and it consists in treating hides with the following formula in successive steps, as will be hereinafter described.

For the treatment of one hundred calf-skins to the liming process, I take lime, ten pounds; water, fifteen gallons; chloride of ammonium, five ounces; sulphuric acid and four ounces of lime mixed, five ounces; salts of tin, five ounces. The skins are treated with this compound about half a day. They are then subjected to the bating process.

I take of bone-flour, four ounces; muriatic acid, two ounces; salts of tin, five ounces. The skins are treated with this compound for about six hours, when they are ready for the tanning process.

I take of terra japonica, three pounds; sumach, ten pounds; salts of tin, five pounds. The skins are subjected to this compound for about four days, and are then treated to the whitening process.

I take flowers of sulphur, one pound; nitric acid, four ounces; spiritus mindereri, four

ounces; salts of tin, five ounces. This whitening process is conducted about six hours.

To the compounds used in each treatment about fifteen gallons of water are added.

By my new method of treating the skins I can tan the same in less than eight days, and I find the leather produced is better, stronger, and cheaper than is produced by any other process with which I am acquainted.

What I claim as new, and desire to secure by Letters Patent, is—

1. In the tanning process, the liming compound, consisting of the several ingredients in about the proportions substantially as set forth.

2. In the tanning process, the bating compound, consisting of the several ingredients in about the proportions set forth.

3. In the tanning process, the tanning compound, consisting of the several ingredients in about the proportions substantially as set forth.

4. In the tanning process, the whitening compound, consisting of the several ingredients in about the proportions substantially as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

CARLES JOHN TINNERHOLM.

Witnesses:

H. C. NICHOS,
JOHN J. GRUHN.