

UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN THE MANUFACTURE OF LEATHER.

Specification forming part of Letters Patent No. 158,608, dated January 12, 1875; application filed September 10, 1874.

To all whom it may concern:

Be it known that I, CHARLES J. TINNERHOLM, of Keokuk, in the county of Lee and State of Iowa, have invented certain Improvements in the Art of Tanning, of which the following is a specification:

My invention consists of certain chemical compounds which, are employed in the several processes of liming, bating, tanning, and whitening, the component parts of which, and the method of using the same, will be more fully described hereafter.

The compounds used in the various processes are in the order named, and as follows:

First. In the liming process the ingredients are, first, lime, (10) ten pounds; second, brimstone, (4) four ounces; third, ammoniæ muriæ, or sal-ammoniac, (5) five ounces; fourth, potassi ferrocyanuretum, or prussiate potash, (2) two ounces; fifth, water, (20) twenty gallons. This solution is placed in a vat with the skins, where they are allowed to remain two days.

Second. In the bating process the ingredients used are, first, iron filings, (10) ten ounces; second, brimstone, (4) four ounces; third, water, (1) one quart. This is allowed to stand one day before using, and then mixed with twenty gallons of water, and placed in a vat with the hides, and allowed to remain two hours.

Third. In the tanning process the ingredients used are, first, terra-japonica, (1) one pound; second, sumach, (1) one pound; third, pure alum, (8) eight ounces; fourth, acid tartar, crys., (2) two ounces, which are pre-

pared for use by boiling until dissolved, and then mixed with twenty gallons of water, and placed in a vat with the hides, and allowed to remain three days and twenty hours.

Fourth. In the whitening process the ingredients used are, first, acid tartar, crys., (2) two ounces; second, acid muriatic, crys., (2) two ounces; third, cream-tartar, (2) two ounces; fourth, sulphur, (2) two ounces; fifth, water, (20) twenty gallons, which are mixed and placed in a vat with the hides, and allowed to remain two hours.

The time required for making leather by the several successive processes herein named—viz., liming, bating, tanning, and whitening—is six days.

The quantity of these various compounds is intended for use with one hundred pounds of hides. The same relative proportions should be used when the weight of hides is greater or less than one hundred pounds.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The compounds herein described for the several successive processes of liming, bating, tanning, and whitening, as and for the purpose described.

2. As an improvement in the art of manufacturing leather, the treatment of hides or skins with the compounds named in the several successive steps described, substantially as and for the purpose set forth.

CHARLES J. TINNERHOLM.

Witnesses:

GEORGE B. REID,
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