

UNITED STATES PATENT OFFICE.

CHARLES KNEES, OF OSHAWA, CANADA, ASSIGNOR OF ONE-HALF TO DAVID WATSON ALEXANDER, OF TORONTO, CANADA.

PROCESS OF TANNING HIDES.

SPECIFICATION forming part of Letters Patent No. 564,086, dated July 14, 1896.

Application filed November 20, 1895. Serial No. 569,544. (No specimens.)

To all whom it may concern:

Be it known that I, CHARLES KNEES, tanner, of the town of Oshawa, in the county of Ontario, in the Province of Ontario, Canada, have invented a certain new and useful Process of Tanning Hides, of which the following is a specification.

My invention relates to an improved process for tanning hides or skins; and the object of the invention is to provide an extremely simple process in which the leather may be made waterproof, elastic, pliable, heat-proof for hot climates, and frost-proof—that is to say, will not crack in frosty weather—and in which the slipping qualities of the leather will be entirely obviated; and it consists in the steps hereinafter explained.

To carry my invention into effect, the following ingredients are to be used in the proportions named below and suitably mixed together. A composition containing bichromate of potash about five per cent. of the weight of the hide, two and a half per cent. of sulfuric acid, five per cent. of the weight of the hide of neat's-foot oil, and a sufficient quantity of water to float the skins. There is also used a composition of ten per cent. of the weight of the hide of hyposulfite of soda with sulfuric acid seven and one-half per cent., five per cent. of neat's-foot oil, and a sufficient quantity of water to float the skins. These two compositions are each to be thoroughly mixed, but are kept separate. After the hide has gone through the regular process of unhairing and fleshing, I introduce it into either one of these compositions, which is placed in what is technically known as a "pin-wheel" and is there treated in the usual manner, so that the hide is thoroughly permeated with the composition. After this has been accomplished the hide is taken out of this composition and placed into the other composition, where it undergoes the same treatment in a pin-wheel in the usual manner, as hereinbefore stated. After the hide has been so treated it is left to dry.

It is particularly pointed out that the treat-

ment of the hide in one composition first and then following with the treatment in the other composition must be accomplished, and it does not matter which composition is used first in such treatment. The hide, however, must be subjected to the composition in its entirety in each case, as it would not do to use the ingredients of either composition separately, as I find in practice that the result which I have striven to obtain can only be effected from the compositions themselves.

I do not claim, broadly, the use of chromic compounds in general for tanning or tawing hides and skins, and I am well aware that patents have been granted for this purpose; but I am not aware that a tanning or tawing bath has ever been made up of bichromate of potash and sulfuric acid and five per cent. of neat's-foot oil of the weight of skins, these three ingredients being mixed into one liquid forming the first bath, while the second bath consists of hyposulfite of soda and sulfuric acid and five per cent. of neat's-foot oil of the weight of the skins to be tanned.

In using the above-named compounds in connection with neat's-foot oil it causes the chrome-acid to be reduced to chrome-oxid, as the oil becomes oxidized by mixture with the chrome compounds and forms in this way a new insoluble compound that penetrates the fibers of the skins to complete the tawing or tanning effect and makes the leather more pliant and waterproof.

What I claim as my invention is—

A process of tanning skins or hides which consists first in subjecting the previously-prepared skins or hides to the action of a composition comprising bichromate of potash, sulfuric acid, neat's-foot oil and water and secondly subjecting the skins or hides thus treated to a further composition consisting of hyposulfite of soda, sulfuric acid, neat's-foot oil and water as set forth.

CHAS. KNEES.

Witnesses:

B. BOYD,
E. R. CASE.