

# UNITED STATES PATENT OFFICE.

WILLIAM ZAHN, OF NEWARK, NEW JERSEY.

## ART OF TAWING HIDES OR SKINS.

SPECIFICATION forming part of Letters Patent No. 511,007, dated December 19, 1893.

Application filed May 27, 1893. Serial No. 475,684. (No specimens.)

*To all whom it may concern:*

Be it known that I, WILLIAM ZAHN, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in the Art of Tawing Hides or Skins; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention has reference more particularly to a new and improved process of tawing skins or hides for the purpose of making kid leather, the present process being an improvement over my former process of tawing hides, described in my application for Letters Patent of the United States filed October 13, 1892, Serial No. 448,759.

This invention relates more especially to a novel process for tawing skins or hides, and consists in subjecting the skins or hides to the action of certain metallic compounds, which are offered to the skins in two different baths, and whereby, by exposing the skins or hides to the action of the chemical compositions, the leather is rendered, not only water-proof, soft and flexible, but a leather of higher superiority in quality is the result, than leather made by other similar processes.

In order that a clear understanding may be had of my present invention and the manner in which the same is to be put into practice, I will now give a description of the same.

For preparing the skins or hides and producing a strong, flexible and water-proof leather in a much shorter time than heretofore, I subject the skins or hides, after the raw hide has been prepared in the ordinary manner for tanning, to two baths. The first bath consists of a weak, preferably a one-half per cent. solution of chromic acid or its equivalent. The previously prepared hides or skins are placed in this solution, and after they have been left therein from one to three hours or more, according to the thickness of

the skins so as to be thoroughly impregnated by the solution, they are removed therefrom and drained and the surplus water is pressed out. The skins or hides are then transferred to the second bath, which consists essentially of a chromic oxide salt and a sulphide of an alkali or a suitable sulphide of an earth alkali. For the chromic oxide salt I prefer to use chrome alum and for the sulphide I may use sulphide of sodium or sulphide of potassium. The hides or skins are left in this bath from ten to fifteen hours according to their thickness, and are then removed, washed, and finished in the ordinary manner.

The liquor in which the skins are placed may be analyzed after their removal and brought to the proper concentration required, when the baths can be used for the treatment of the second batch of skins or hides, as will be evident.

The leather produced in this manner is very soft, elastic, strong and water-proof.

Of course I am aware that some of the substances named herein above have been used before, but never before, to my knowledge, in the combination herein above described, and the sulphide of an alkali or earth alkali has not been used before for the purposes herein set forth.

Having thus described my invention, what I claim is—

1. In the art of tawing skins or hides, the herein described composition consisting of chrome alum, sulphide of sodium and sulphide of potassium, substantially as set forth.

2. In the art of tawing skins or hides, the herein above mentioned composition consisting of chrome alum, and a sulphide of an alkali or earth alkali, substantially as set forth.

In testimony that I claim the invention set forth above I have hereunto set my hand this 22d day of May, 1893.

WILLIAM ZAHN.

Witnesses:

WM. H. CAMFIELD, Jr.,

FREDK. C. FRAENTZEL.