

# UNITED STATES PATENT OFFICE.

JAMES DAVIS AND JOHN ARMSTRONG, OF PITSTON, PENNSYLVANIA.

## IMPROVEMENT IN PROCESSES FOR TANNING.

Specification forming part of Letters Patent No. **138,138**, dated April 22, 1873; application filed April 4, 1873.

*To all whom it may concern:*

Be it known that we, JAMES DAVIS and JOHN ARMSTRONG, of Pittston, in the county of Luzerne and in the State of Pennsylvania, have invented certain new and useful Improvements in Process for Preparing Hides and Skins for Tanning; and do hereby declare that the following is a full, clear, and exact description thereof.

The nature of our invention consists in preparing hides and skins for tanning by immersing them in certain liquid compounds, as will be hereinafter more fully set forth.

After hides have been limed and bated, and before the application of the tanning-extracts, we place one hundred sides—or, say, about three thousand pounds of green salted hides or skins—in a vat containing twenty barrels of water mixed with thirty pounds of sulphuric acid, and let the hides remain in the same for about half an hour. After the hides have remained in this vat for about the specified time they are transferred to another vat containing twenty barrels of water, seventy-two pounds of salt, and six pounds of alum, and the hides are allowed to remain in the same for about twenty-four hours, when they are to be removed, and may be put into the tanning-liquor, and treated in the usual manner for tanning leather.

In place of using two separate vats, each with a different compound, we may place the hides in one vat only, containing twenty barrels of water, thirty pounds sulphuric acid, seventy-two pounds of salt, and six pounds of alum, making a combined solution in which the hides or skins are to remain twenty-four hours, and then taken out and tanned in the usual manner. This latter bath is kept renewed and fit

for a second or any subsequent charge by adding water to make up for loss of quantity, and also adding fifty pounds of salt, twenty pounds sulphuric acid, and four pounds of alum; and by thus replenishing it may run on indefinitely.

By preparing the hides or skins in this manner before tanning they are made perfectly clean and bleached, and rendered soft and pliable without any brittleness. Strong tanning-liquors may be used without injury to the leather, and thereby considerable time saved. Tanning-liquor made from hemlock bark will, after having prepared the hides by our process, make the leather equally as good as if liquor of oak bark had been employed.

We do not confine ourselves to the precise proportions of the ingredients herein mentioned, as they may perhaps be varied according to circumstances.

We are fully aware that the ingredients herein described are well known, and have long been used in tanning; hence we disclaim such as our invention.

What we claim, is—

The described process of tanning, consisting in the application of the compound described to the hides and skins after liming and bating, and before the introduction of tanning-extracts, as described, and for the purposes set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 24th day of March, 1873.

JAMES DAVIS.  
JOHN ARMSTRONG.

Witnesses:

JOHN VALREY,  
L. B. ENSIGN.