

## UNITED STATES PATENT OFFICE.

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## TANNING PROCESS.

SPECIFICATION forming part of Letters Patent No. 777,072, dated December 13, 1904.

Application filed May 28, 1904. Serial No. 210,272. (No specimens.)

*To all whom it may concern:*

Be it known that we, JOSEPH M. BROWN and LEWIS C. SMITH, citizens of the United States, residing at Westplains, in the county of Howell and State of Missouri, have invented certain new and useful Improvements in Tanning Processes; and we 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.

Our invention relates to a tanning process for hides, skins, &c., for producing a high quality of leather, furs, and the like; and our invention consists of certain novel features of combination of elements which experience, research, and experiment have demonstrated to us as being all that is desirable to produce a piece of leather of the desired quality or preparing skins for use either with the fur or hair remaining thereon or denuded of such natural covering.

The object of our invention, therefore, is to provide for the tanned leather or skin all of the desirable qualities, such as a proper degree of flexibility, great strength, and capacity to resist wear.

Our process of treating skins, pelts, hides, &c., will be found of very simple though reliably efficient character, and a skin, hide, or the like treated by our process or method of tanning will produce a most useful article of leather, as will be hereinafter made fully apparent.

In carrying out our tanning process and applying our compound to the hides, skins, &c., the process differs slightly when the fur or hair is to be left upon the skin or if it is to be taken off. If the hair or fur is to be left on the skin, they are first softened by standing in clear water a proper length of time, when all surplus flesh is removed therefrom, as by scraping. We then dissolve one-quarter pound of borax in two gallons of water and wash the hides therewith to thoroughly remove the grease, oils, &c. If, however, the skins are to be denuded of their natural covering of hair, fur, &c., the hides are first softened in clear water by standing therein a proper time, when all flesh, &c., is removed,

as by scraping. The skins are then placed in lime-water, the lime-water being in quantities sufficient to cover the skins. By remaining in this lime-water a proper amount of time the hair or fur will readily come off of the same. The skins are then placed in clear water, so that the surplus lime-water may be entirely removed. The skins thus denuded of the hair, fur, &c., are then placed in a compound the constituent proportions of which are as follows: one pound extract of oak, one-half ounce extract of sumac or one pound gum-gambier, to which for treating the skins to be tanned with the hair or fur remaining thereon may be added one-half ounce oil of cedar and one-half pound pulverized alum.

It will be understood that the foregoing formula is intended for tender skins—as calf-skin, sheep-hides, &c.—and it is therefore obvious that for the tanning of heavier and coarser hides the proportions or quantities of the ingredients named shall be increased so as to produce the best results.

It will be understood that the skins are to remain in the compound or ooze from eight to twelve days, more or less, according to the strength of the compound and the thickness of the skins being treated.

In order that the ingredients may be properly mixed, we first dissolve the extract of oak or gum-gambier in hot water, preferably in a new brass vessel. After this is cool add other ingredients. Then dip the hides therein a number of times until thoroughly colored. Then let the hide remain in the ooze the required time, as above set forth, and after such treatment the hides will be thoroughly tanned and may be taken out and washed in clear water, both sides of the skin to then be oiled, preferably with fish-oil, and hung in the shade until dry.

It is thought that from the foregoing our process of tanning will be made clearly apparent, together with the ingredients and proportions thereof employed by us in producing the desired result, and,

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A process of tanning, comprising the washing of the hides in clear water and the removal therefrom of all flesh and the placing of the hides in a compound made of borax and  
5 water in which the skins are to be washed, and then applying to the skins a compound of extract of oak, extract of sumac, gum-gambier, oil of cedar, substantially in the proportions specified and for the purpose set forth.
- 10 2. A process of tanning comprising the washing of the hides in clear water and the removal therefrom of all flesh and the placing of the hides in a compound made of borax and water in which the skins are to be washed,

and then applying to the skins a compound of 15  
extract of oak, extract of sumac, gum-gambier, oil of cedar, and pulverized alum, substantially in the proportions specified and for the purpose set forth.

In testimony whereof we have signed our 20  
names to this specification in the presence of two subscribing witnesses.

JOSEPH M. <sup>his</sup> × BROWN.  
LEWIS C. SMITH. <sup>mark</sup>

Witnesses:

C. W. OLIVIR,  
O. P. A. HEINRICH.