UNITED STATES PATENT OFFICE.

WILLIAM H. FULLER, OF BROCKPORT, ASSIGNOR TO HIMSELF AND GILBERT J. KINGSBURY, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN TREATING HIDES AND MANUFACTURING LEATHER.

Specification forming part of Letters Patent No. **110,562**, dated December 27, 1870.

I, WILLIAM H. FULLER, of Brockport, in the county of Monroe and State of New York, have invented a certain Improvement in Treating Hides, of which the following is a specification:

My invention consists in tanning and stuffing hides and skins by means of hydrocarbons and boiled linseed or other heavy oils.

It is well known that the ordinary process of tanning hides, by soaking in solutions of tannic acid, is slow and expensive, while the action of the acid is liable to injure the texture of the skin unless the process is very carefully conducted. By my improved method of treatment I avoid these difficulties, and also produce a better quality of leather.

The hides or skins may be prepared for tanning in the same manner as is usual for the old process of steeping in bark-leaches. Instead, however, of subjecting them to the slow action of the bark infusions, I simply dip them or soak them for a short time in naphtha, gasoline, kerosene, or other hydrocarbon, mixed with boiled linseed or other heavy oil, in about the proportion of eight parts of the former to one of the latter. They are then stretched on suitable frames and dried, after which they are ready for coloring and finishing.

The object of mixing the oils is to tan and stuff the skins at one operation, though the same result may be obtained by using the two oils separately, which, of course, would require two manipulations of the skins instead of one. When used together the heavy oil prevents the too rapid evaporation of the hydrocarbon, and at the same time is carried into the skin by the latter, while it would otherwise have to be rubbed or worked in in a fulling-tun, or by other means.

I have observed that the lighter gravities of hydrocarbons produce the best effect, and also the most expeditiously.

This treatment produces a superior quality of leather, both in strength and appearance; and in the case of sheep-skins they cannot be split apart into strata, or the surface roughened, as is usual when tanned and stuffed by any of the ordinary processes. A sheep-skin treated under my method is equal to the best calf or horse hide as usually prepared for lace-strings for machinery-belting, while its cost is but a mere fraction of these latter.

A soft, pliable, strong leather for all purposes is obtained by this method, pronounced by good judges to be far superior to any other, since the life of the hides is perfectly retained, instead of being destroyed by acids or chemicals, while at the same time it is rendered almost impervious to water, and possesses a smooth, parchment-like appearance, not found in ordinary leather.

Owing to an apparent affinity between hydrocarbons and green skins, their conversion into leather by the application of the former is very rapid, and without any detrimental effect upon the product. In fact, far better results are obtained than by any of the ordinary methods or means of tanning. This treatment is also very valuable for preparing or tanning skins with the hair or wool on, since they may be immersed in the liquid with scarcely any previous preparation, and without the slightest injury to the fur or wool, the effect really being to set the hair permanently and to cleanse it from impurities.

The tanning might be effected by simply applying the liquid to the flesh side of the skins, which would perhaps be desirable for delicate furs, &c.

The usual processes of removing the hair—sandpapering, scraping, coloring, and finishing—may be practiced in connection with this treatment, and the whole will consume but a fraction of the time required for the single operation of tanning by the ordinary methods.

The utility and economy of my invention must appear obvious.

What I claim as my invention is—

The method of tanning and stuffing hides and skins by means of the light and heavy oils herein mentioned, substantially in the manner set forth.

W. H. FULLER.

Witnesses:

F. H. CLEMENT,

GEO. T. PARKER.