

# UNITED STATES PATENT OFFICE.

EMIL F. DIETERICH, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN PROCESSES OF TREATING LEATHER TO MAKE IT WATER-REPELLENT.

Specification forming part of Letters Patent No. **170,940**, dated December 14, 1875; application filed May 11, 1875.

## CASE B.

*To all whom it may concern:*

Be it known that I, EMIL F. DIETERICH, of Philadelphia, Pennsylvania, have invented a Process of Treating Leather to Make it Water-Repellent, of which the following is a specification:

Neat's-foot oil, fish-oils, lard-oil, olive-oil, or any other fat or fatty oils containing the oleic, margaric, or other fatty acids, are treated with any of the alkalies to a combination as nearly neutral as possible, and this combination is then dissolved in "alumina oil" in the proportion of from five (5) to ten (10) ounces of the combination to every gallon of the oil employed.

In the preparation of alumina oil I employ neat's-foot oil, fish-oils, lard-oil, olive-oil, or any other fat or fatty oils containing the oleic, margaric, or other fatty acids, and treat them with any of the alkalies to a combination as nearly neutral as possible, and, after diluting the compound with hot water, I precipitate the same with a solution of alum or any of the alumina salts. The resulting pasty mass may be thrown on a filter and washed. Fish-oil or neat's-foot oil is then heated until all the watery and glutinous impurities are expelled, and then any desired amount of the above-described pasty mass, in the proportion of about sixteen (16) ounces of the alumina compound to every gallon of oil, is dissolved therein, heating and stirring being continued until all watery scum has disappeared, and a uniform oily mixture is obtained.

Skins, previously tanned by the ordinary methods, are scoured and pressed or prepared as usual for stuffing, and are then triturated in a stuffing-wheel, mill, or other contrivance, with the above-described oleaginous compound, in the proportion of from five (5) to eight (8) gallons to every twenty (20) to twenty-five (25) skins, more or less, according to their size and weight, and until they are thoroughly imbued with said compound. They are then semi-dried, and again triturated for from twenty (20) to thirty (30) minutes, or until uniformly acted on, with from three (3) to four (4) gallons of any of the alumina solutions (using, preferably, the acetate) of a strength of from about one (1) pound of alum to three or four gallons of water. Any adhering acidity may now be washed off with warm water; and, if a greater degree of water-repellent quality is desired, the skins may be subjected to a repetition of the process above described.

After the described process has been finished, a surface-stuffing with tallow and oil, to increase weight and face, may be applied, as usual.

I claim—

As an improvement in the art of waterproofing leather, the application of the compounds described, substantially as set forth.

E. F. DIETERICH.

Witnesses:

J. E. SHAW,  
S. A. STEVENS.