

UNITED STATES PATENT OFFICE.

CHARLES H. STONE, OF MELROSE, MASSACHUSETTS.

PROCESS OF MAKING WATERPROOF LEATHER.

SPECIFICATION forming part of Letters Patent No. 606,882, dated July 5, 1898.

Application filed May 6, 1897. Serial No. 635,403. (No specimens.)

To all whom it may concern:

Be it known that I, CHARLES H. STONE, of Melrose, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Processes of Making Waterproof Leather and Compound Therefor, of which the following description is a specification.

Heretofore the processes of tanning or currying leather by bark, grease, or chemical processes have been insufficient to make it waterproof or to permanently close the pores of the hide without doing the latter damage. Consequently the leather when submitted to dampness is penetrated by the water, becoming soft and non-waterproof.

The object of my invention is to render hides or leathers waterproof, filling up all the pores in the skin, so as to render its waterproof qualities permanent and perfect without any injury to the leather, the latter, in fact, being greatly improved, toughened, and strengthened by the process.

I first subject the leather, particularly if it is heavy leather, such as sole-leather, to a dampening process—i. e., I dampen or wet the leather with water and allow it to dry, and when it is almost dry the leather is put under pressure and rolled to harden it, and it is then allowed thoroughly to dry. This preliminary step in the process is used with heavy leather in order to toughen it and render it in a condition to be receptive to the compound when heated. The leather is then warmed to about 80° Fahrenheit. In the case of fine leathers—such as are used in the uppers of boots and shoes, for instance—this heating of the leather is attained by placing it upon a heated slab, so that it is raised to a temperature of from 70° to 90° Fahrenheit, and it being remembered that the waterproofing compound is used at a temperature itself of from 70° to 90° Fahrenheit. I work in the latter either by rolling or rubbing, or in some

cases by immersion, continuing the working in of the compound until it has penetrated through every pore, the length of time depending upon the quality and weight of the leather being operated upon. By this means the leather is made absolutely waterproof. In order to complete the treatment, the leather thus impregnated with the compound is placed in an oven or other covered receptacle and submitted to heat of 80° to 100° Fahrenheit, so that the compound will find its way into every portion of the leather, and thereby prevent any dry spot therein which the rolling and working process may have chanced to miss.

Particularly in fine leathers the compound is worked into the hide from the flesh side by the rolling or rubbing process and is then subjected to heat in a covered receptacle, as above explained.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

The process of rendering leather waterproof, consisting of dampening the leather and when the latter is partially dried, subjecting it to pressure, then allowing it to dry, heating the leather to approximately 80°, applying a waterproof dressing thereto, while the leather is at said temperature, the dressing also being at substantially the same temperature, causing said dressing to thoroughly penetrate the leather, then baking or warming said leather in a chamber at a temperature from 80° to 100° more or less, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES H. STONE.

Witnesses:

GEO. W. GREGORY,
FREDERICK L. EMERY.