

UNITED STATES PATENT OFFICE.

JOHN HENRY RADEY, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN PROCESSES OF FINISHING LEATHER.

Specification forming part of Letters Patent No. **160,841**, dated March 16, 1875; application filed January 19, 1875.

To all whom it may concern:

Be it known that I, JOHN H. RADEY, of the city and county of Philadelphia, Pennsylvania, have invented a new and Improved Process of Finishing Upper Leather; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention consists in the combination of waterproofing, dubbing, and whitening, in the manner and for the purpose as hereinafter described. The object of the invention is to give the leather a satin finish.

In order to enable others to use and practice my invention, I will proceed to describe the operation.

A rough-tanned skin is first soaked and shaved, and then scoured, and then retanned, and then scoured and dubbed with oil and tallow, and then whitened, after which it is waterproofed by the following process—which is the first point of the combination where my invention or discovery commences—

For the first part I use a chemical compound which consists of, say, one part of dry gelatine, (isinglass or other,) dissolved in four parts of oil, including a small quantity of sulphuric or other acid, and, when these are combined by means of heat, five parts or thereabout of an alkaline solution are added, at a specific gravity of about 26° Baumé, the whole being stirred while yet warm, and the result is a chemical combination which I designate the preparatory compound.

For the second part of the process I use a chemical compound, which is to designate the "perfecting compound," and which is prepared as follows, namely: In one vessel is prepared a strong solution of one of the alums, (for instance, of the sulphate of alumina,) with potassa, or with ammonia, or with soda. In another vessel is prepared a solution of the sulphate of zinc, and in a third vessel a solution of the acetate of lead. These solutions are each to be of the same density. When prepared, the two sulphate solutions are mixed in the proportions of about five parts of the

first-named to one and a half parts of the latter-named, and to these are added about five and a half parts of the acetate-of-lead solution. By the chemical action that ensues sulphate of lead is formed, and when this has subsided the clear liquid is drawn off, and is reduced to the proper density, which is from 1° to 2° Baumé.

The manner of treating the material to be waterproofed is as follows: A bath is prepared with, say, half an ounce of the preparatory compound dissolved in two gallons of hot water—that is, in about these proportions. This is used when cold. To treat leather, I steep it in this bath till indued with its properties, and then drain it; or the preparatory compound may be dissolved to about the consistency of cream, and then applied by hand before the "fulling" or stuffing.

Boots, shoes, and harness are treated before the final finish.

The second part of the process is conducted as follows: When the goods have been removed from the preparatory bath, and are well drained, I steep them in a bath of the perfecting compound, where they remain from eight to twelve hours, and, when well drained, they are gradually dried, which completes the waterproofing.

After the waterproofing the skin is dubbed with tallow and oil, after which it is whitened, and then finished.

The final combination of dubbing, whitening, waterproofing dubbing and whitening gives the leather a finish superior to anything heretofore known.

What I claim, and desire to secure by Letters Patent, is—

The process for finishing leather, consisting in dubbing, whitening, waterproofing, dubbing and whitening leather, in the order, manner, and for the purpose as specified.

JOHN HENRY RADEY.

Witnesses:

WM. P. HIBBERD,
THOMAS SHAW.