

## UNITED STATES PATENT OFFICE.

FRIEDERICH STOFFER, OF HAMBURG, GERMANY.

## PROCESS OF RENDERING LEATHER DURABLE AND WATERPROOF.

SPECIFICATION forming part of Letters Patent No. 757,361, dated April 12, 1904.

Application filed October 15, 1902. Serial No. 127,411. (No specimens.)

*To all whom it may concern:*

Be it known that I, FRIEDERICH STOFFER, a subject of the Emperor of Germany, residing at Steindamm 98, Hamburg, Germany, have  
5 invented certain new and useful Improvements in Processes of Rendering Leather Durable and Waterproof, of which the following is a specification.

To meet the requirements of the public for  
10 a light, pliable, and yet waterproof upper-leather for shoes, boots, &c., leather made from the skin of young goats, &c., has been used, made waterproof by applying a solution of gutta-percha or india-rubber and fat in chloroform to the upper surface of the leather; but  
15 the use of this material was of little value, as the chloroform evaporated on the surface of the leather and the gutta-percha was liable to be easily removed therefrom by the shoe-brush,  
20 because the solution did not impregnate the leather sufficiently, acting only on its surface. The application of a solution of india-rubber and fat in benzol had a similar effect. I have  
25 found by various experiments that a fat-free solution of india-rubber in benzol applied to the under side of the leather penetrates much deeper into the pores and impregnates the leather much better in view of the fact that the structure of the flesh side is so much more porous than the structure of the upper side. Another  
30 advantage of applying the india-rubber solution free of fat to the inner side of the leather is to be found in the fact that the lining generally used for shoes completely covers and  
35 protects the rubber coating, so that it cannot be so readily removed by mechanical influences. The india-rubber solution makes the leather

more durable and flexible, which is of great importance in using soft and poor leather; but such leather impregnated on its under  
40 side by an india-rubber solution is objectionable, inasmuch as it is not smooth enough, and consequently it shows a tendency to crease and to wrinkle. To prevent this, the under surface is submitted to another important step of  
45 my process, which consists in well rubbing the leather with powdered talc as soon as the solution of india-rubber has become dry, the talc forming a mechanical combination with  
50 the layer of india-rubber and presenting a smooth surface and a durable waterproof leather. The leather thus prepared can absorb moisture on its upper surface; but the same cannot penetrate the leather toward the  
55 foot, and as its evaporation is apt to abstract heat from the foot it is desirable to grease the upper surface of the shoe in the usual manner, thus excluding the moisture as much as possible.

I claim—

60 Process of making the upper for shoes durable and waterproof, which consists in first applying a solution of caoutchouc or india-rubber to its inner or flesh side, and then in rubbing in talcum powder till a smooth surface  
65 is formed substantially as described and for the purpose set forth.

In witness whereof I have hereunto set my hand in presence of two witnesses.

FRIEDERICH STOFFER.

Witnesses:

GEORG BRUMM,  
O. W. HELLMRICH.