

# UNITED STATES PATENT OFFICE.

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## GLOVE-LEATHER AND PROCESS OF PREPARING IT.

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Specification of Letters Patent.

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No Drawing.

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*To all whom it may concern:*

Be it known that I, EDMUND SIMON, a subject of the German Emperor, and resident of Dresden, in the Kingdom of Saxony and Empire of Germany, have invented certain new and useful Improvements in Glove-Leather and Processes of Preparing It, of which the following is a specification.

10 The object of my invention is to prepare leather, particularly for kid gloves, in an improved manner, both as regards the treatment itself and with respect to the resulting product.

15 In the customary manufacture of kid leather, an alum treatment is employed, and by the joint use of wheat flour and the yolk of eggs during tawing the leather is given an elasticity and pliability similar to those of the natural skin. This well-known treatment is objectionable partly on account of its involving the use of offensive substances, such as dung and partly on account of the ease with which the yolk of eggs and the

20 wheat flour will become decomposed. In consequence thereof, the kid leather and articles made therefrom will become moldy when exposed to moist warm air, thus compelling the use of especial precautions when

25 kid leather is to be shipped to hot countries. I am aware it has been proposed to add salicylic acid to the liquor used for the last dressing or steeping in the production of white leather. This will do for leather

30 tanned with bark, sumac, or chrome, but is not applicable in the manufacture of kid leather, because it would impair the flexibility and elasticity of the leather to such an extent as to cause the leather to become

35 hard and brittle, particularly in thin places and when stored for a long time. Furthermore, salicylic acid has a corrosive and destructive action upon organic substances, and gloves made of leather treated with

40 such acid will crack and become unsightly at the finger tips; while the wearer's skin will assume an unpleasant white color at these places, where perspiration is most abundant. Traces of the offensive substances employed in the customary process

45 of tawing glove leather, will always adhere to the leather and are liable to cause skin eruptions or to carry disease germs, all the more in view of the fact that the wheat

50 flour and the yolk of eggs used in preparing

the leather form a favorable medium for the development of harmful bacteria. All these defects are overcome by my invention, according to which a perfectly sterilized leather is obtained which actually possesses antiseptic and curative properties, and which moreover is of increased durability, particularly as regards its power of resisting the action of perspiration. For this purpose, I treat the leather with one of the esters of salicylic acid and with one of the esters of benzoic acid, or with two or more of such esters, either simultaneously or successively. The preferred manner of carrying out my invention is the addition of such esters, either singly or mixed, to the liquor used for the last dressing or steeping of the leather, before dyeing. As an example of such liquor (with the added preservative) the following is given: 1½ liters of yolk of eggs, 150 grams of methylic ester of salicylic acid, 100 grams of ethylic ester of benzoic acid, 500 grams of common salt, 120 liters of water. This will be sufficient for treating 100 hides of average size.

80 The usual operations for tawing glove leather are as follows: First, dressing or steeping the hides in water; second, in the case of thick or fat hides, breaking or scraping on the flesh side; third, unhairing; fourth, liming; fifth, steeping in manure bath (dung of dogs); sixth, working on the beam; and seventh, treatment with alum, salt, wheat flour and yolk of eggs. The leather having been tawed by these (six or seven operations, it is customary to wash it with moderately warm water (generally in a drum) to remove any excess of alum, salt or wheat flour, as well as any sulfate of potash. Then follows another dressing or steeping operation, termed the last dressing or steeping, which is usually carried out with water, but according to my invention esters of salicylic and of benzoic acid are added to the liquor used for the last steeping or dressing of the leather, as in the example given above. In the said example, I use methylic ester of salicylic acid and ethylic ester of benzoic acid. The use of esters of both acids has been adopted by me on account of the advantages to be explained presently. I have found that I may use either the amylic or ethylic or methylic esters of said two acids, and that the beneficial results of my invention are secured

whether I employ only of ester of each acid (as in the axample) or two or more of these esters, but in every case esters of both acids should be used. The appended claims are  
5 to be read as covering these equivalents, that is to say, the use of one or more esters of salicylic acid in conjunction with one or more esters of benzoic acid.

The reason for using esters of both acids  
10 is as follows: Esters of salicylic acid are rather volatile, and would therefore be liable to evaporate from the leather after a relatively short time. Inasmuch as it is desirable to preserve the salicylic acid ester  
15 efficiently as a permanent constituent of the treated leather, or at least for a long time, the presence of a "fixing" agent is advantageous. Another danger to be guarded  
20 against is the formation of free salicylic acid, which substance, as is well-known, is highly injurious to kid leather; I therefore found it desirable to add an agent which would neutralize and prevent this deleterious action of any free salicylic acid evolved.  
25 The use of one or more esters of benzoic acid, in conjunction with one or more esters of salicylic acid, overcomes this difficulty, the benzoic acid ester or esters acting in the double capacity of a "fixing" agent to pre-  
30 vent or retard evaporation of the salicylic acid ester or esters, and also of a protective or neutralizing agent against the injurious effects of any free salicylic acid evolved.

The mixture of esters of both acids is  
35 worked into the leather by a fulling process, until the liquid has been almost entirely absorbed by the leather. This treatment (which follows the tawing process, and other usual treatments as indicated above)  
40 precedes the dyeing and serves (besides the purposes indicated) for softening the tawed

leather and enabling it to take the substances used in the subsequent dyeing process. The esters thus employed become (at least to a certain extent) permanent constituents of  
45 the leather. That is to say, the leather retains a certain amount of the esters. This retained amount acts as a preservative for the leather, destroying or rendering inactive  
50 any bacteria which may adhere to the leather from its previous treatment and increasing the resistance of the leather to the action of perspiration. The esters with which the leather has become associated or  
55 impregnated also exert a beneficial action upon the wearer's skin, by decreasing perspiration and curing conditions such as chapped hands, the gloves giving off the esters in proportions which are minute yet sufficient  
60 to restore the skin to a normal condition. The result is therefore similar to that obtained by the use of salves, vaseline, cold cream and like emollients applied to the skin direct.

I claim as my invention:

1. Leather containing salicylic acid ester and benzoic acid ester.
2. The improvement in the manufacture of leather, which consists in treating it with salicylic acid ester and benzoic acid ester.
3. The improvement in the manufacture of leather, which consists in tawing it and giving it its last dressing in a liquor containing salicylic acid ester and benzoic acid ester.

In testimony whereof I hereunto affix my signature in the presence of witnesses.

EDMUND SIMON.

Witnesses:

PAUL ARRAS,  
CLÁRE SIMON.