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PATENTED OCT. 2, 1906.

S. SCHWARZSCHILD.
PROCESS OF MANUFACTURING OVERSHOES.

APPLICATION FILED JUNE 4, 1906.

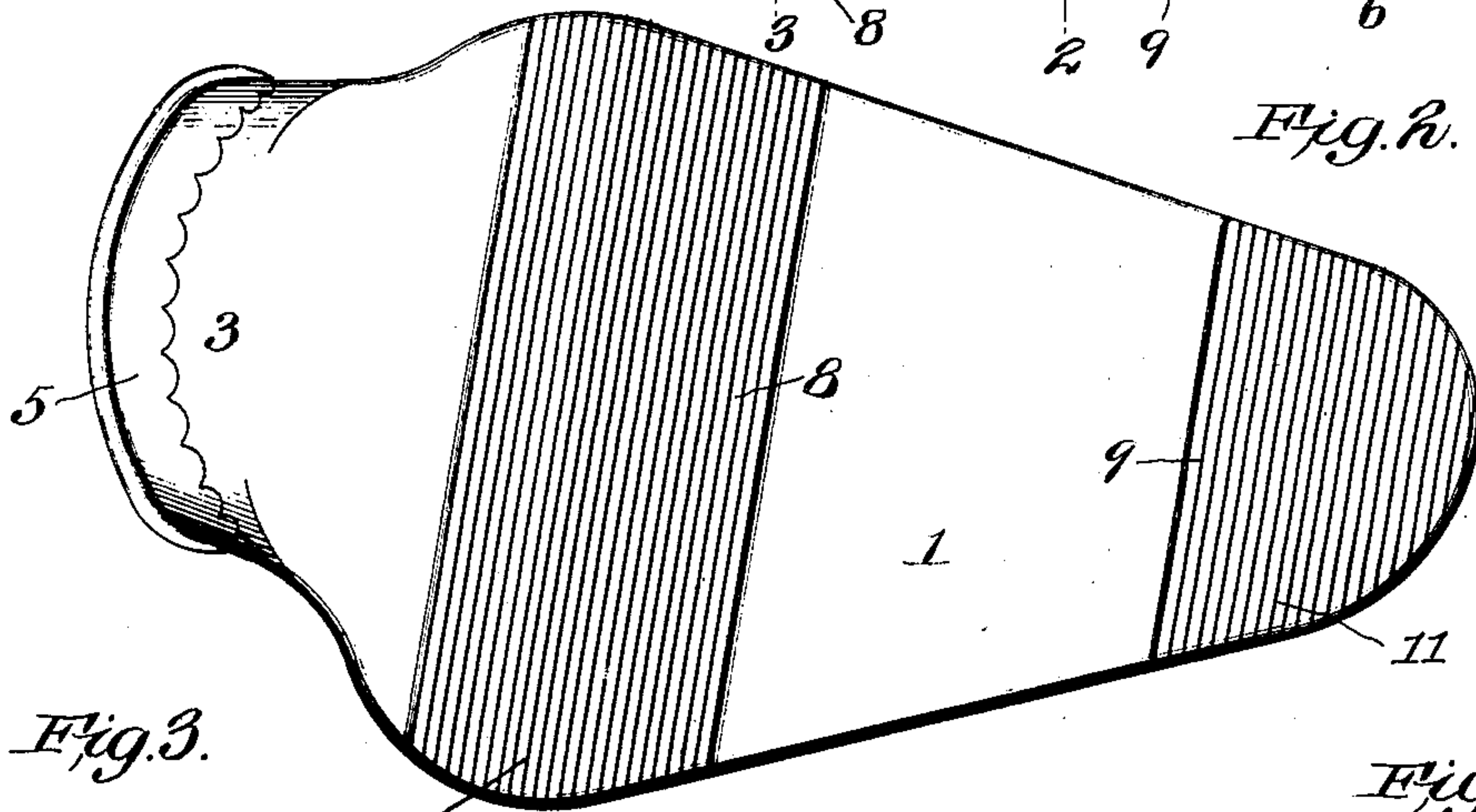
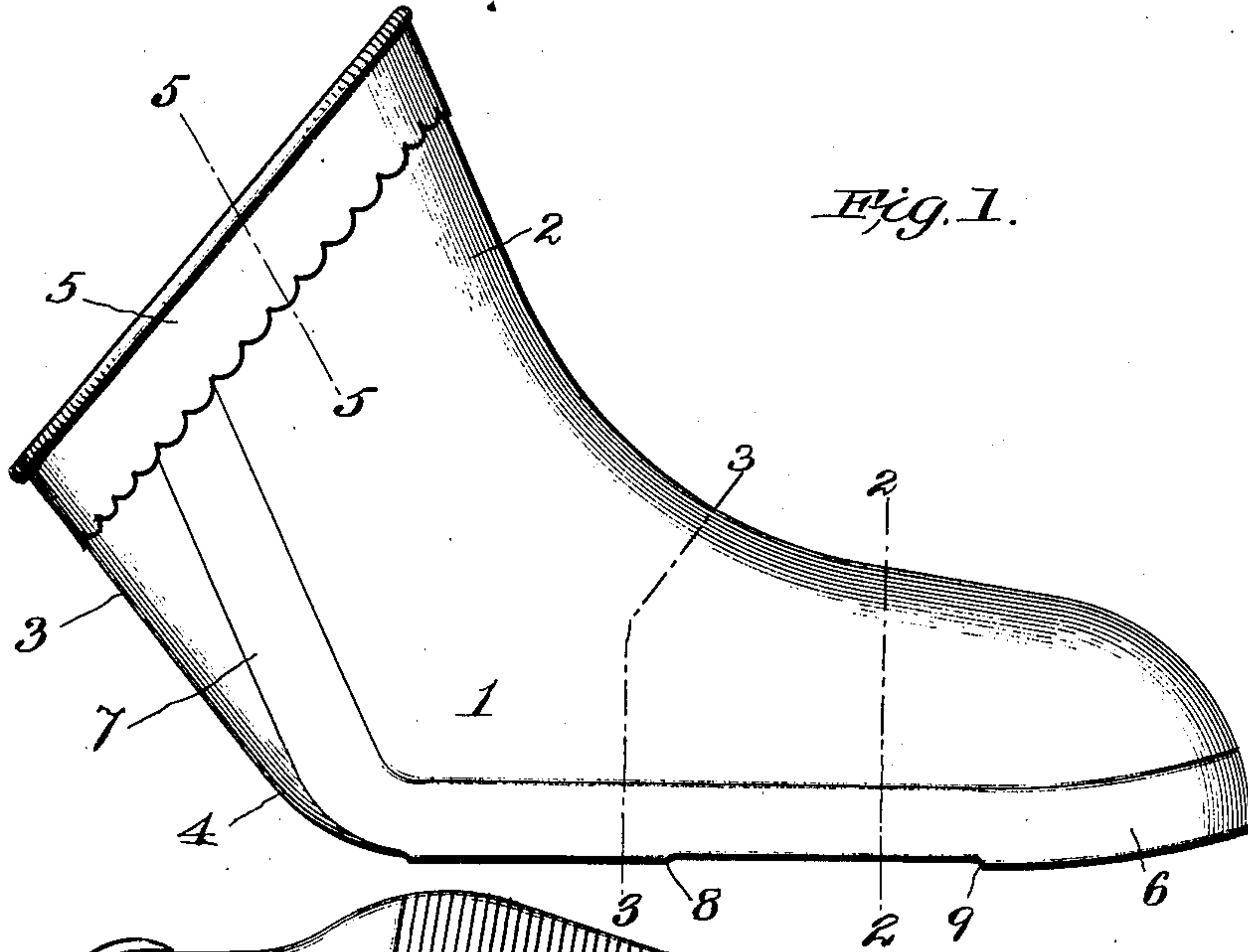


Fig. 3.

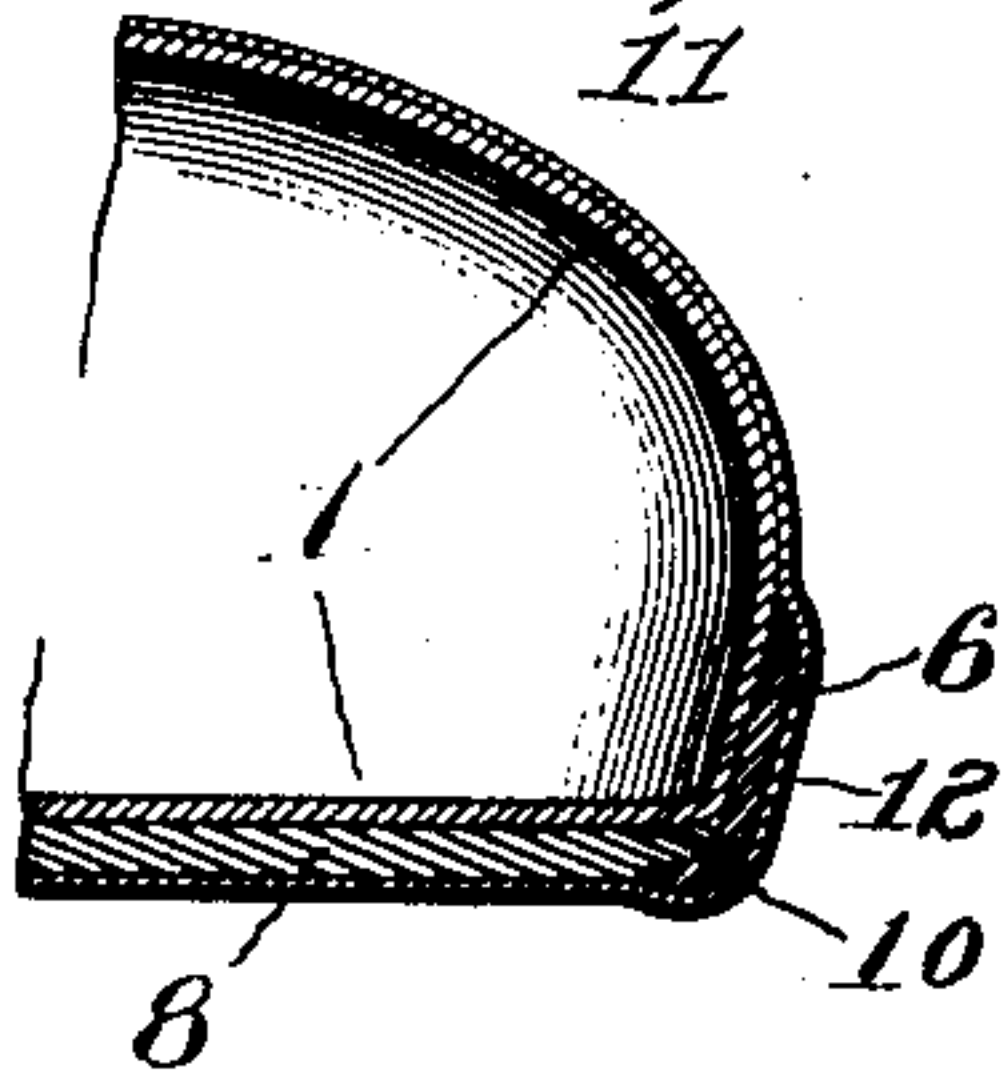


Fig. 5.

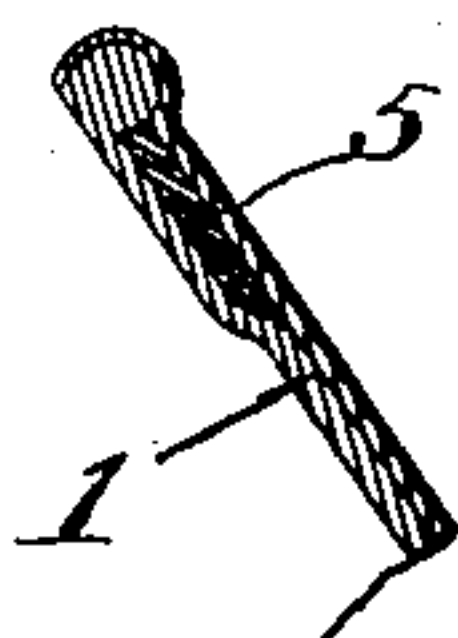


Fig. 4.

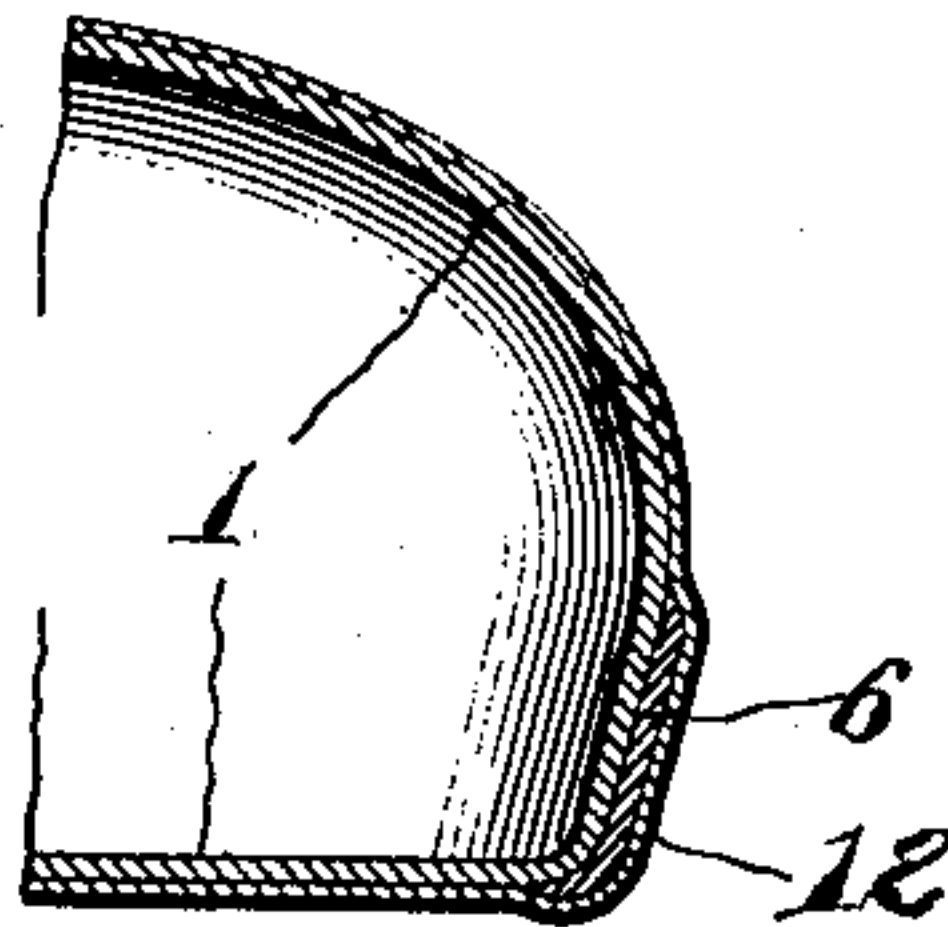
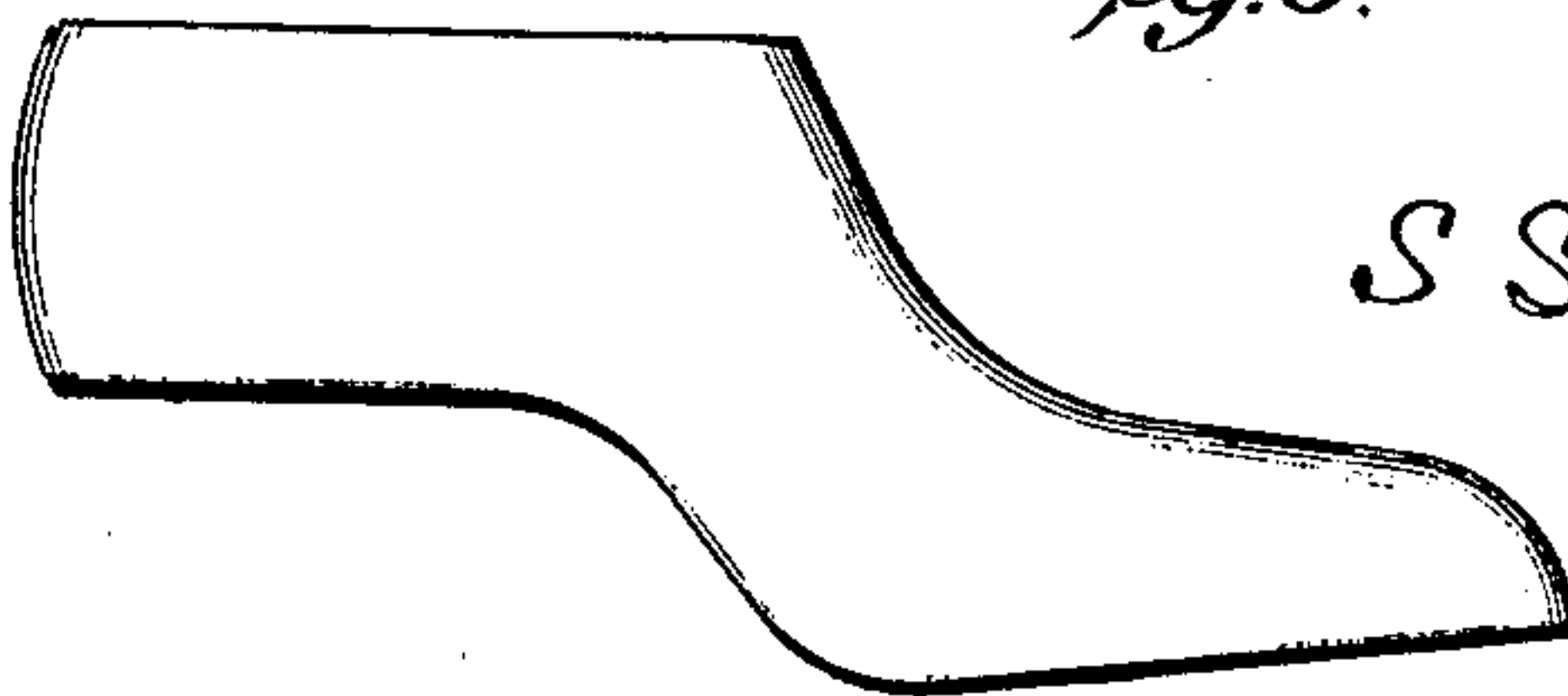


Fig. 6.



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PROCESS OF MANUFACTURING OVERSHOES.

No. 832,278.

Specification of Letters Patent.

Patented Oct. 2, 1906.

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To all whom it may concern:

Be it known that I, SOLOMON SCHWARZSCHILD, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Processes of Manufacturing Overshoes, of which the following is a specification.

This invention relates more especially to a process of manufacturing overshoes designed for emergency wear, and for that purpose are so constructed that they may be conveniently carried in the hand, pocket, hand-bag, or otherwise when not being worn in order that they may be available, if needed.

One form of this class of overshoes is shown and described in an application for Letters Patent of the United States filed by me November 21, 1905, and serially numbered 288,442, and a process for making the same forms the subject of an application for United States Letters Patent filed by me March 29, 1906, and serially numbered 308,761.

The primary object of the invention constituting the subject-matter of said application, as well as that of the present invention, is the production of an overshoe which shall be capable of being folded into the smallest possible space without sacrificing strength, durability, and protection against moisture.

The present invention is, however, believed to be an improvement over the one forming the subject of the above-mentioned application principally in that it provides protection to the edges of the reinforcing and sole pieces, preventing thereby any liability of said pieces to peel away from the body of the shoe along their edges.

In order to fully describe my present invention, a form of overshoe will first be described, and then I shall describe the process of manufacture, reference being had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 represents in side elevation one form of overshoe manufactured according to my improved process; Fig. 2, a bottom plan view thereof; Fig. 3, a fragmentary detail section taken along the line 3 3, Fig. 1; Fig. 4, a similar view taken along the line 4 4, Fig. 1; Fig. 5, a similar view taken along the line 5 5, Fig. 1; and Fig. 6 a side elevation of a foot-form used in the present process.

The overshoe herein shown consists, among

other parts, of a one-piece or integral rubber covering 1, preferably of dipped rubber, adapted to envelop the forward portion of the foot, extending under the bottom thereof, as well as over the top, and passing well up on the shank, as at 2, and under the hollow of the foot, as at 3, where it makes an abrupt turn, as at 4, from the sole portion, so as to press firmly against the shoe of the wearer under the hollow of the foot. The foot-entrance is contracted, as shown, and around the outside thereof extends a reinforcing-strip 5, preferably of sheet-rubber. A reinforcing-strip 6, also preferably of sheet-rubber, extends around the edge of the overshoe along a line to register with the edge of the shoe-sole of the wearer and up the shank, as at 7.

Instead of providing the overshoe with a continuous sole, as in the case of the form shown in the patent application hereinbefore referred to, I may provide the overshoe with an interrupted sole, such sole consisting in the form of the overshoe shown in Figs. 1 to 5 of two separate sole-pieces 8 and 9, the edges of which are preferably carried under the strip 6, as shown at 10. These sole-pieces may be provided with corrugations 11 or roughened in any suitable manner to prevent slipping.

The sole-pieces 8 and 9 being placed over points where practically all of the sole-wear comes, all of the unnecessary material which would be included between those points in a shoe having a continuous sole portion is gotten rid of, and this renders possible the employment of much thicker sole protection at the wearing-points without adding to the total amount of material. Moreover, the placing of the sole-pieces as shown in Figs. 1 and 2 does not interfere with the folding of the overshoe, since the "breaks" or folds occur on each side of the piece 8 in the thin material. This feature alone is a great advantage. A variety of other forms of interrupted sole may be used.

In order to protect the edges of the various reinforcing-pieces and prevent them from peeling away from the body of the overshoe, a rubber film 12 may be made to extend over these portions, and by the method of manufacture herein described this film may be made integral with the body 1 of the overshoe and to constitute the outer surface thereof, as

shown in Figs. 3, 4, and 5. This film may, however, be of varnish or other material other than the material of the body of the shoe.

5 The overshoe herein described may be made as follows: A foot-form, of porcelain, polished hard wood, or other material, which may be in the form shown in Fig. 6, is selected, having a shape and size corresponding to the
10 shape and size that the interior of the overshoe is to be. This foot-form is dipped into a rubber solution consisting of rubber dissolved in naphtha or other solvent, to which solution may be added any desired coloring-matter or
15 other ingredients. After the form is dipped in said solution it is withdrawn therefrom and the naphtha allowed to evaporate to the desired extent from the rubber deposited on said form. This dipping and vaporizing is
20 repeated as many times as is required to obtain the requisite thickness to form the piece 1, not including the film 12. After the naphtha has been allowed to vaporize sufficiently from the rubber deposit and after the final
25 dip of the foregoing dipping process, but while the said deposit is still on the form, the sole-pieces 8 and 9 are put on, being preferably cemented to the portion 1. The reinforcing-piece 6 is put on, and after that the
30 reinforcing-piece 5 is put on, the said reinforcing-pieces being preferably cemented to the piece 1. Then the whole is dipped into the rubber solution, and this dipping process repeated in the same manner as that above
35 set forth as many times as desired to form the necessary thickness of film 12. After the required reinforcing and sole pieces are put on and after the material of the outer film has been added to the overshoe the overshoe
40 while still on the foot-form is put through a "curing" process, which in one form consists in placing the foot-form, with the overshoe thereon, in a vulcanizer for about an hour under steam-pressure. When the rubber has
45 been properly "cured," the form, with the overshoe thereon, is withdrawn from the vulcanizer, when the overshoe may be taken off the form.

Obviously the form of the overshoe will de-
50 pend upon the depth to which the foot-form is immersed in the solution. If the overshoe is to be of the form shown, the foot-form is dipped each time, preferably toe first, to such an extent that the rubber comes well up on
55 the shank. If it is desired to make the overshoe to extend over the heel and back part of the foot as well as the forward portion, a foot-form would be selected of the proper shape and the whole dipped in the solution.

60 If desired, the extra sole-pieces herein described may be omitted, also the piece around the foot-entrance; but I prefer to employ these in some form.

What I claim is—

1. The herein-described process of manu-
facturing overshoes, which consists in de-
positing rubber in liquid form on the exterior
of a foot-form, allowing the said rubber de-
posit to assume a more solid character, plac-
ing a reinforcing-piece of sheet-rubber-con-
70 taining material on the exterior of said material deposited on said form, depositing a film of rubber-containing material over the first deposit and said reinforcing-piece, and then
75 vulcanizing the whole.

2. The herein-described process of manu-
facturing overshoes, which consists in dip-
ping a foot-form into a bath of rubber-con-
taining material, withdrawing said form from
said bath with a coating of said material de-
80 posited on said form, attaching a reinforcing-piece of sheet-rubber to the outside of said material deposited on said foot-form, then dipping the whole into said bath and with-
drawing the same therefrom, and then putting
85 the whole through a curing process.

3. The herein-described process of manu-
facturing overshoes, which consists in dip-
ping a foot-form into a bath of rubber-con-
taining material, withdrawing said form from
90 said bath with a coating of said rubber-containing material on said form, cementing a reinforcing-piece of rubber-containing material to the exterior of the material deposited on
said form, dipping the form with said material
95 thereon again into said bath and withdrawing the same therefrom, and then curing the whole.

4. The herein-described process of manu-
facturing overshoes, which consists in dip-
100 ping a foot-form into a bath of rubber-containing material, withdrawing said form from said bath with a coating of said rubber-containing material on said form, repeating the
foregoing steps a number of times to form a
105 plurality of superposed deposits of said material on said form, cementing a sole-piece and a reinforcing-piece of sheet-rubber-containing material to the exterior of the mate-
110 rial deposited on said form, dipping the foot-form with said parts thereon again into said bath and withdrawing the same therefrom, and then curing the whole.

5. The herein-described process of manu-
facturing overshoes, which consists in dip-
115 ping a foot-form into a bath of rubber-containing material, withdrawing said form from said bath with a coating of said material deposited on said form, attaching a reinforcing-
piece of sheet-rubber-containing material to
120 the exterior of the material deposited on said form, dipping the said parts into said bath and withdrawing them therefrom, then curing the whole.

6. The herein-described process of manu-
125 facturing overshoes, which consists in dip-

ping a foot-form into a bath containing rubber and a volatile ingredient, withdrawing said form from said bath with a deposit of the ingredients thereof on said form, allowing the
5 volatile ingredients of said deposit to evaporate, repeating the foregoing steps a number of times to form a plurality of superposed deposits on said form, cementing a reinforcing-piece of rubber-containing material to the exterior of the material deposited on said form,
10

dipping the said parts into said bath and withdrawing the same, and then vulcanizing the whole in contact with steam under pressure.

In testimony whereof I affix my signature 15
in presence of two witnesses.

SOLOMON SCHWARZSCHILD.

Witnesses:

NELSON G. CORKHILL,

JENNIE SCHWARZSCHILD.