

Feb. 16, 1926.

1,573,528

M. M. SORENSEN

FOOTWEAR

Filed June 30, 1923

Fig. 1.

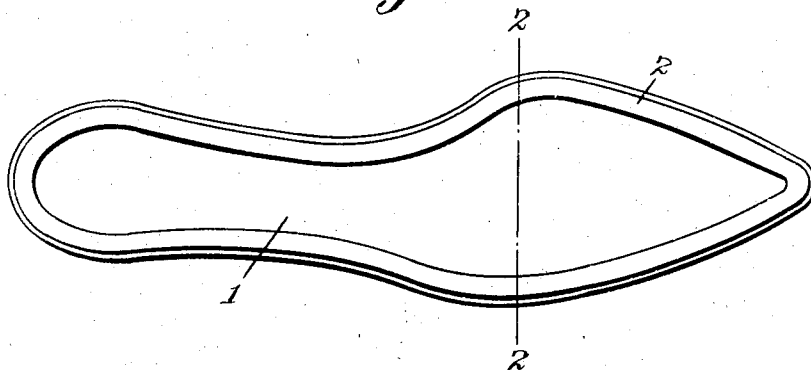


Fig. 2.

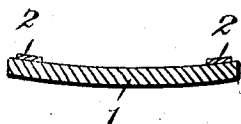


Fig. 3.

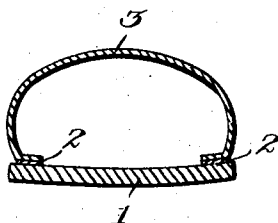


Fig. 4.

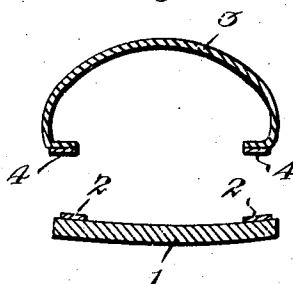
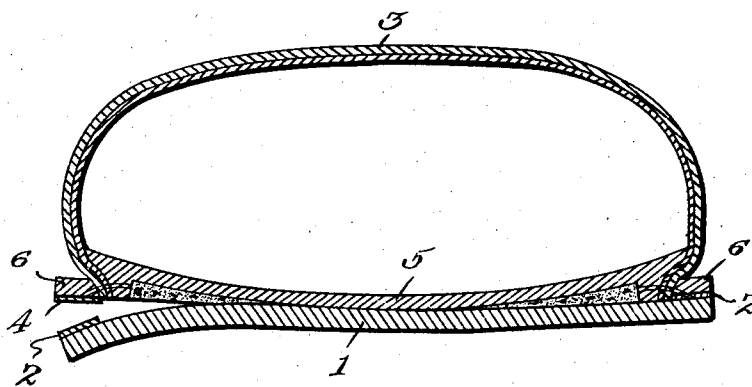


Fig. 5.



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UNITED STATES PATENT OFFICE.

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FOOTWEAR.

Application filed June 30, 1923. Serial No. 648,669.

To all whom it may concern:

Be it known that I, MARIUS M. SORENSEN, a subject of the King of Denmark, residing at Vallerod, Denmark, have invented new and useful Improvements in Footwear, of which the following is a specification.

The present invention relates to improvements in footwear and particularly to means for connecting the several parts or members of a boot, shoe or similar article.

According to the methods commonly employed in manufacturing articles of footwear, the several parts have been united by sewing, or the use of pegs, screws or similar fastenings inserted in the connected members.

These methods are not entirely satisfactory, as they necessarily involve forming holes in the members that prevent providing waterproof joints, and, further, when the joints are produced by sewing it is generally necessary, in order to protect the seams, to provide channels in one of the members which necessarily weakens the article.

By the present invention the objections incident to the methods of connecting members of an article of footwear are avoided and a firm, waterproof, durable joint is provided.

In the accompanying drawing:—

Fig. 1 is a plan view of a shoe sole provided with means for connecting it to an upper in accordance with the present invention;

Fig. 2 is a transverse sectional view of such sole;

Fig. 3 is a cross sectional view of a shoe having the sole and upper thereof connected according to the invention;

Fig. 4 is a similar view, showing the sole and upper slightly separated and illustrating a slightly different embodiment of the invention from that shown in Figures 1 to 3, inclusive;

Fig. 5 is a view, similar to Figure 3, but on an enlarged scale, showing the invention applied to a different style of shoe from that illustrated in Figures 3 and 4.

Referring to the drawing, in the several views of which like reference characters designate corresponding parts, 1 designates a shoe sole which, as shown, is provided on its upper or inner face with a marginal band or strip 2 of caoutchouc. The term "caoutchouc" as employed in this specification, is

intended to mean unvulcanized caoutchouc (crude or crêpe rubber).

As shown in Figure 1, the strip or band 2 extends continuously around the sole 1 and, by the application of suitable pressure, serves to firmly secure the sole to the upper 3. By employing a binding or securing strip of the material described the necessity of employing heat which might injure the shoe body is avoided. The parts 1 and 3 are caused to firmly adhere to the connecting strip 2 without vulcanization by merely being subjected to suitable pressure. If desired to increase the engagement between the binding strip and the sole or upper, the contacting surfaces of the shoe members may be roughened slightly.

The strip or band 2 of caoutchouc constitutes the only means of uniting the shoe and upper and provides an entirely waterproof connection between such parts which will be as effective and durable as the fastenings heretofore employed.

To insure the strongest possible connection of the parts a coating of a suitable rubber solution may be applied to the surfaces of the sole or upper member with which the securing strip or band 2 contacts. This solution serves to soften the surface of the securing strip and hasten its adhesion to the upper and sole.

With some classes of footwear, it is found preferable to employ an additional adhesive connecting strip or band 4 initially applied to the upper 3, the lower surface of which will contact with the upper face of the strip or band 2 when the upper and shoe are brought together.

As the inherent elasticity of the caoutchouc is not destroyed, the joint constructed in accordance with the present invention is more yielding or flexible than joints produced by sewing, or the use of pegs or screws besides being completely impervious to water.

It will be understood that the invention is applicable to connecting the several parts of an upper or sole as well as securing soles to uppers and that the parts connected may be of leather, canvas or any of the materials commonly used in the manufacture of footwear.

In Figure 5 there is illustrated a slight modification in which the shoe is provided

with an inner sole 5 and the upper is held in place by welt strips 6. The securing strip or band 4 in this embodiment is secured directly against the lower face or surface 5 of the welt strips 6.

By the term "strip" or "band" as used in the specification and claims is meant any crude rubber in sheet form as distinguished from a fluid. Obviously the strip need not 10 be of the width shown in the drawings, but might cover a smaller or greater portion of the sole or the lasted edge of the upper. Moreover, when it is stated in the specification and claims that the sole and upper are 15 of material other than crude rubber, I intend to cover leather or such leather substitutes as may include a certain percentage of rubber.

Having thus described the invention, 20 what is claimed and desired to be secured by Letters Patent is:—

1. In an article of footwear, the combination of two members and an interposed strip of crude rubber in sheet form united to the 25 members by pressure, without vulcanization and constituting the sole connecting means between the members, said members being of material other than crude rubber.

2. An article of footwear comprising in combination an upper, a sole, and a strip of 30 crude rubber in sheet form united to both the upper and sole by pressure, without vulcanization, and constituting the only connection between the upper and sole, said sole and upper being of material other than 35 crude rubber.

3. An article of footwear comprising in combination an upper, a sole and an interposed strip of crude rubber in sheet form arranged adjacent the margins of said sole 40 and upper and united to both by pressure, without vulcanization, and constituting the sole connecting means between the members, said sole and upper being of material other 45 than crude rubber.

4. In the art of manufacturing footwear, the method of uniting a plurality of members of material other than crude rubber which comprises the interpositioning between two such members to be united, of a 50 strip of crude rubber in sheet form, and then applying pressure to produce adhesion to the strip of both members.

In testimony whereof I have affixed my signature:

MARIUS M. SORENSEN.