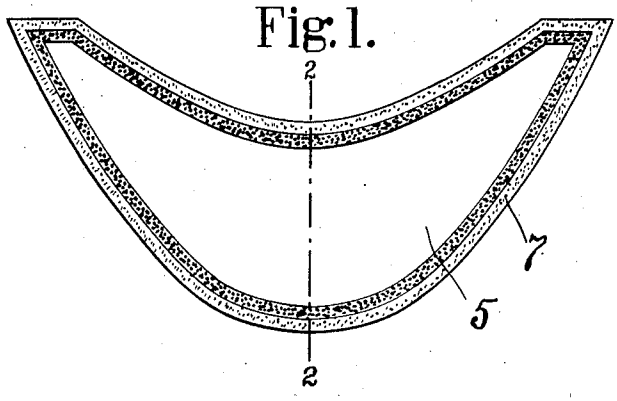
Aug. 21, 1928. 1,681,257

F. RICKS

SHOE STIFFENER AND METHOD OF MAKING IT

Filed Nov. 6, 1922

Fig. 1.



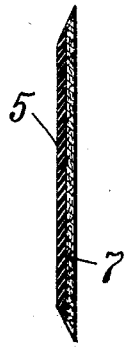
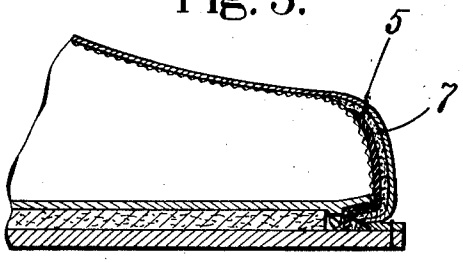


Fig. 2.

Fig. 3.



INVENTOR.

Fred Ricks

By his Attorney,

Nelson M. Howard

Patented Aug. 21, 1928. 1,681,257

UNITED STATES PATENT OFFICE.

FRED RICKS, OF LEICESTER, ENGLAND, ASSIGNOR TO UNITED SHOE MACHINERY CORPORATION, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

SHOE STIFFENER AND METHOD OF MAKING IT.

Application filed November 6, 1922, Serial No. 599,413, and in Great Britain December 6, 1921.

This invention relates to stiffeners for use in the manufacture of boots and shoes and to a method of making them; and is herein set forth in connection with a stiffener containng a substance which is normally stiff but may be rendered temporarily soft and pliable by the application of a suitable agent.

A stiffener of this general type is shown and described in the patent to Beckwith No. 1,124,835, the patented stiffener comprising a substance which is normally stiff but may be rendered temporarily soft and pliable by the application of heat, the purpose of softening the stiffener being to permit it to be pulled over and lasted with the upper.

In order to promote brevity, the present invention will be explained with reference to a box toe and a particular type of shoe. In the manufacture of so-called "soft-toed shoes," which have no toe cap or tip, it is particularly desirable to secure a gradual blending, in point of resiliency or pliability, between the stiffened toe portion and the upper adjacent the toe portion so that no sharply defined ridge shall be visible in the finished shoe or become evident after the shoe has been worn. To this end box toes have been thinned down along what may be termed their rear margins, but nevertheless, when a box toe like that of the Beckwith patent is used, the desired result is not attained, it being probable that the hardness of the stiffening substance is such that, even with the most careful formation of the box toe blank, too sudden a change in pliability is preesnt in the shoe at the locality in which the stiffener terminates.

According to the present invention, a stiffener is provided having a body portion which contains a readily softened stiffening substance and a thinner margin which contains substantially no stiffening substance. Such a stiffener may be made, for example, by preparing a composite blank one member of which is normally stiff but may be softened and the other of which is normally flexible, and removing the margin of the first-named member so as to produce a finished stiffener the margin of which is thinner than the body portion thereof.

Referring now to the accompanying drawings,

Fig. 1 is a plan view of a box toe particularly adapted for incorporation in soft-toed shoes;

Fig. 2 is a section on the line 2—2 of Fig. 1, and

Fig. 3 is a section through the toe portion of a shoe showing the box toe incorporated therein.

The illustrative box toe consists of a layer of sheet material 5 impregnated with a stiffening substance such as the mixture of Montan wax and asphalt described in the patent, superposed upon and attached to a layer of sheet material 7 which contains substantially no stiffening substance and is normally flexible, the box toe being skived at least along its rear, concavely curved margin in such manner that the extreme beveled margin of the box toe consists of material which is normally flexible. The illustrated box toe is shown as having its entire margin beveled, this being desirable in order to facilitate the pulling-over and lasting operations and to reduce the bulk of material which lies underneath the margin of the insole of the shoe.

The illustrated box toe may conveniently be made in the following manner:—A sheet of absorbent material such as felt or the like is first impregnated with the molten stiffening substance in the manner described in the patent and is then superposed upon and attached to a backing which may be felt or the like, but contains no stiffening substance. The union may be effected by heat and pressure alone or a suitable cement may be used. In any event, the composite sheet thus formed is cut into box toe blanks having the concavo-convex form illustrated, and the blanks are then skived at least along the concave margin. The scarf is so made that it extends from the face of the impregnated layer outwardly toward the edge of the stiffener so that the marginal portion of the scarf extends across or through the unimpregnated material. The box toe is highly flexible along its rear margin so that the desired gradual blending of the stiffened and unstiffened portions of the shoe may be secured. The box toe may be inserted in the shoe with either the impregnated layer or the unimpregnated layer outermost. In Fig. 3 the latter arrangement is shown, the purpose being to do away with the necessity which might otherwise exist of inserting between the box toe

and the upper an intermediate protective layer to prevent stiffening material exuding from the blank from discoloring or otherwise injuring the upper when the toe portion of the shoe is heated to render it workable.

Although the invention has been set forth with reference to a particular stiffening member and method of manufacturing it, it should be understood that the invention is not limited in the scope of its application to the particular stiffening member or to the particular method except as appears in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:—

1. The method of making a toe stiffener for boots and shoes which consists in preparing a composite blank one member of which is normally stiff but may be rendered flexible by the application of a suitable agent which has no injurious effect upon leather and the other of which is normally flexible, and removing a margin of the first-named member so as to produce a finished stiffener a margin of which is composed of material which is normally flexible and is thinner than the body portion of the stiffener.

2. The method of making a stiffener for boots and shoes which consists in impregnating sheet material with a substance which is stiff at ordinary temperatures but may be rendered flexible by the application of heat, and treating the product so as to obtain a finished stiffener having a beveled margin which is substantially free from the stiffening substance.

3. The method of making a stiffener for boots and shoes which consists in preparing a composite blank one member of which is stiff at ordinary temperatures but may be rendered flexible by the application of heat and the other of which is flexible at ordinary temperatures, and beveling the composite blank by severing and removing a portion of it in such manner that the outer portion of the beveled margin consists of material which is flexible at ordinary temperatures.

4. The method of making a stiffener for boots and shoes which consists in impregnating a sheet of material with a substance which is stiff at ordinary temperatures but may be rendered flexible by the application of heat, uniting to the impregnated sheet a sheet of material which is flexible at ordinary temperatures, cutting from the composite sheet a composite stiffener blank, and skiving the blank.

5. The method of making a stiffener for boots and shoes which consists in impregnating a sheet of material with a substance which is stiff at ordinary temperatures but may be rendered flexible by the application of heat, uniting to the impregnated sheet a sheet of material which is flexible at ordinary temperatures, cutting from the composite sheet a composite stiffener blank, and skiving the blank so as to produce thereon a beveled margin the inner portion of which is stiffened by the substance and the outer portion of which is not stiffened.

6. A box toe stiffener having a margin which is adapted to be lasted under the toe portion of the insole of a shoe, and a margin having an edge which is adapted to extend across the toe of the shoe beneath the upper thereof, the body portion of the stiffener being stiff at ordinary temperatures but capable of being rendered flexible by the application of a degree of heat which is not injurious to leather, and the last-named margin being beveled and having an outer portion which is flexible at ordinary temperatures and remains flexible in the finished shoe.

7. A box toe stiffener having a margin which is adapted to be lasted under the toe portion of the insole of a shoe, and a margin having a concavely curved edge which is adapted to extend across the toe of the shoe beneath the upper thereof, the body portion of the stiffener being stiff at ordinary temperatures but capable of being rendered flexible by the application of heat, and the last-named margin being beveled and having an outer portion which is flexible at ordinary temperatures.

8. A stiffener for boots and shoes comprising a layer of absorbent material impregnated with a substance which is stiff at ordinary temperatures but may be softened by the application of heat superposed upon a layer of unimpregnated material, the former layer having a smaller outline than the latter and being formed with a beveled margin.

In testimony whereof I have signed my name to this specification.

FRED RICKS.