S. W. WINSLOW, Jr.

TURN SOLE.

APPLICATION FILED MAR. 12, 1917.

1,284,014. Patented Nov. 5, 1918.

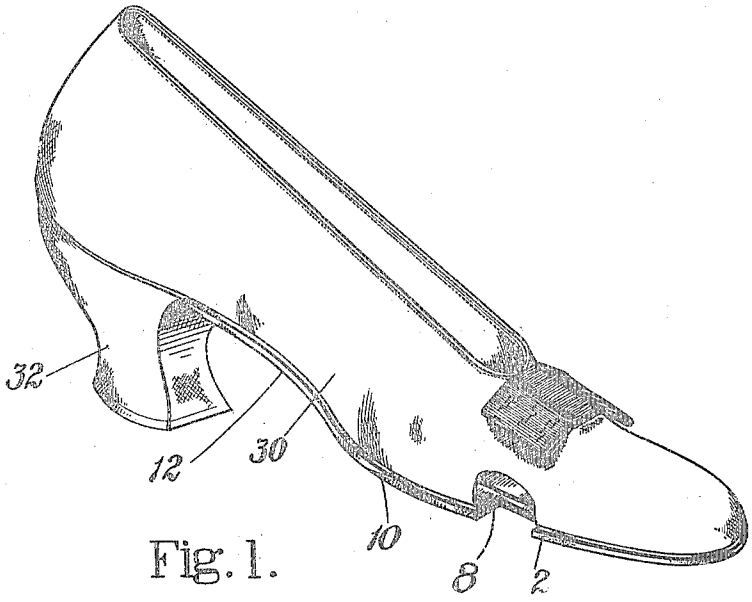


Fig. 1.

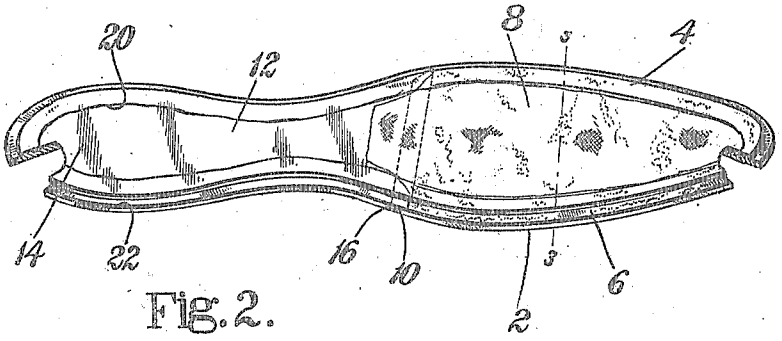


Fig. 2.

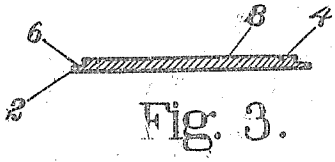


Fig. 3.

INVENTOR.

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UNITED STATES PATENT OFFICE.

SIDNEY W. WINSLOW, JR., OF BEVERLY, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO UNITED SHOE MACHINERY CORPORATION, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

TURN-SOLE.

1,284,014. Specification of Letters Patent. Patented Nov. 5, 1918.

Application filed March 12, 1917. Serial No. 154,194.

To all whom it may concern:

Be it known that I, SIDNEY W. WINSLOW, Jr., a citizen of the United States, residing at Beverly, in the county of Essex and State of Massachusetts, have invented certain Improvements in Turn-Soles, of which the following description, in connection with the accompanying drawings, is a specification, like reference characters on the drawings indicating like parts in the several figures.

This invention relates to shoes and more particularly to improvements in soles for use in the manufacture of shoes of the type commonly known as turn shoes.

The invention has for its principal object to provide an improved turn sole the use of which will enable a turn shoe to be produced combining the advantages found in rubber soled shoes in general and, in addition, the desirable features contributed by the use of a leather sole in the manufacture of turn shoes.

With this object in view, the novel turn sole of the present invention comprises a forepart of rubber compound having a stitch receiving element formed on its upper side adapted to receive and hold single-faced stitches for securing a shoe upper to the sole, and a complemental shank part of relatively firmer and less flexible material than the forepart of the sole, said shank part being permanently connected to the forepart and having a single-faced stitch receiving element formed on its upper side in continuation of the stitch receiving element of the forepart of the sole. In the illustrated embodiment of the invention the complemental shank part of the sole, the rear end of which also preferably constitutes a heel part, consists of a non-stretchable fibrous material such as leather, high-grade leather-board or composition having the desired qualities differing from those of the forepart stock, of a sufficient thickness to impart, with the aid of the usual shank stiffener, the desired firmness and stiffness to the shank portion of the shoe and to enable this part of the sole to be conformed to the longitudinal and transverse curvature of the last and to maintain such conformation when the shoe is removed from the second last. This shank part is permanently connected, preferably by vulcanization, to the rubber compound forepart by a joint located at approximately the ball line and extending across the entire width of the sole. As herein illustrated the stitch receiving element on the forepart of the sole consists of an integral sewing rib extending marginally along the upper side of the sole and a layer of reinforcing fabric vulcanized to the rubber body and extending across the upper side of the rubber forepart and over the sewing rib, thereby providing for a strong attachment of the shoe upper to the forepart of the sole. The stitch receiving element on the complemental shank portion of the sole is formed by channeling and shouldering the upper side of the shank part from the termination of the rib on either side of the forepart and may or may not include a continuation of the reinforcing fabric vulcanized to the upper side of the shank part and extended over the stitch receiving rib. The fabric, when extended over the shank, constitutes a strong bond reinforcing the joint between the forepart and shank.

Other objects and features of the invention will appear more fully from the following description when considered in connection with the accompanying drawings and will then be pointed out in the claims.

In the drawings,—

Figure 1 is a perspective view of a completed shoe embodying a sole of the present invention;

Fig. 2 is a perspective view of a preferred embodiment of a sole of the present invention; and

Fig. 3 is a cross-section on the line 3—3 of Fig. 2.

In its illustrated preferred embodiment the composite turn sole of the invention consists of a vulcanized rubber compound forepart or body portion of a size sufficient to present a rubber tread surface for approximately the entire tread portion of the shoe from the ball line. This forepart 2 is provided with a stitch receiving rib 4 which may be molded on the upper side of the rubber body 2 at the time the rubber compound is vulcanized and extends from the rear edge of the forepart or ball line on one side to a corresponding point on the opposite edge of the sole. This projecting stitch receiving element or sewing rib 4 is located in from the edge of the forepart a sufficient distance to provide a feather edge 6 as in a

leather turn sole and it is also of such proportion as readily to receive a series of single face stitches such as are ordinarily used to attach a shoe upper to a turn sole. In order to insure a strong attachment of a shoe upper to the stitch receiving rib 4, a layer of relatively heavy canvas 8 extending across the upper side of the forepart and covering the rib 4 is vulcanized to the rubber body 2. The transversely extending rear edge of the forepart 2 is preferably provided with a downwardly and rearwardly inclined bevel 10 extending from edge to edge, this bevel being conveniently formed when the forepart is first molded prior to vulcanization.

As herein provided the complemental shank part 12 of the sole which also preferably includes a heel portion 14 consists of a firmer and less flexible material than the rubber compound forepart and of a non-stretchable or inelastic fibrous character, a suitable material for this purpose being leather which material will hereinafter be referred to without limitation as to analogous materials such as leather-board, fiberboard and the like. This leather shank part 12 is of a sufficient thickness to impart firmness and stiffness to the shank portion of the shoe and to be shouldered and channeled in a similar manner to that of an all-leather turn sole. The forward edge of this shank part 12 is provided with a bevel 16 which is adapted to overlap the bevel 10 at the rear edge of the forepart 2 and both parts 4 and 12 are preferably permanently secured together to form a unitary sole blank by vulcanization, this being conveniently done when the rubber forepart is vulcanized. The upper side of the fibrous shank part 12 is provided with the usual turn sole channel 20 and shoulder 22, the stitch receiving structure 20, 22 there formed being a continuation of the projecting sewing rib 4 on the forepart 2 of the sole as illustrated in Fig. 2. Preferably the canvas reinforce 8 on the forepart 2 of the sole is extended back on to the shank part 12 to reinforce the connection between the forepart and shank part as illustrated and, if desired, it may also cover the stitch receiving element, the canvas being secured to the shank part by cement.

In the use of the sole of the present invention, it is first assembled on a last together with a shoe upper 30 in the usual manner. After the upper has been lasted over on to the sole in the customary way, it is secured to the sole by blind or single faced stitches passing through the continuous sewing element 4, 20, 22, on the upper side of the sole. The rear end or heel portion of the shank part 14 being of the same material as the part 14 of the sole enables a firm and properly shaped heel seat to be produced for the attachment of a heel 32.

It will be seen that the use of the sole of this invention involves substantially the same procedure as with the use of a leather sole and eliminates a number of the difficulties encountered in incorporating rubber soles in turn shoes. One disadvantage found in the use of the rubber soles heretofore provided for turn shoes has been due to the difficulty in obtaining sufficient rigidity for the shank portion of the shoe properly to support the foot and to the impossibility of conforming the shank portion of a rubber sole to the conformation of the last and maintaining it in such condition owing to the single sole construction of shoes of this type. However, by reason of the inelastic and non-stretchable fibrous character of the material in the shank part of the sole of the invention, this disadvantage is entirely eliminated and the sole may be conformed to the curvature of the corresponding portion of the last with the same facility as a leather sole and also will maintain its conformed condition after the last is withdrawn from the shoe thereby adding appreciably to the neat and stylish appearance of the shoe in the shank.

It will be seen that a shoe having a sole as above described has all of the desirable qualities found in rubber sole shoes in general and in addition includes all of the advantages particularly as to appearance and wearing qualities of an all-leather sole turn shoe. Furthermore, the fibrous backing on the rubber body forepart of the sole, provides an effective insulation for the foot and thus renders the shoe much more comfortable. Also, if desired, a shank piece may be incorporated in the shoe in the same manner as in a leather turn shoe to provide additional support for the foot of the wearer and assist in maintaining the shape of the shoe.

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

1. A composite sole for turn shoes comprising a forepart of rubber compound having a stitch receiving element including fibrous material formed on its uper side and adapted to receive and hold single-faced stitches, and a complemental shank part of relatively firmer and less flexible material than the rubber compound permanently connected to the forepart and having a single-faced-stitch receiving element on its upper side in continuation of the stitch receiving element on the forepart.

2. A composite sole for turn shoes comprising a forepart of rubber compound having a fibrous stitch receiving element formed on its upper side and adapted to receive and hold single-faced stitches, and a complemental shank part of firm non-stretchable material permanently connected to the fore-

part and having a single-face stitch receiving element formed on its upper side in continuation of the stitch receiving element on the forepart.

3. A compc ite sole for turn shoes comprising a forepart presenting a rubber compound tread with a fibrous backing having a stitch receiving structure formed thereon adapted to receive and hold single-faced stitches, and a complemental shank part of less flexible fibrous materiai permanently connected to the forepart and having a stitch receiving structure formed on its upper side in continuation of the stitch receiving structure on the forepart.

4. A composite sole for turn shoes comprising a forepart presenting a rubber compound tread with a fibrous backing having a stitch receiving structure formed thereon adapted to receive and hold single-faced stitches, and a complemental shank part of fibrous material permanently connected to the forepart and having a stitch receiving structure formed on its upper side in continuation of the stitch receiving structure on the forepart, the fibrous backing for the forepart extending across the connection between the forepart and the shank part.

5. A composite sole for turn shoes comprising a forepart of vulcanized rubber compound having a fibrous stitch-receiving element formed on its upper side adapted to receive and hold single-faced stitches, and a complemental leather shank part vulcanized to the forepart and having a stitch-receiving element formed on its upper side in continuation of the stitch receiving element on the forepart.

6. A composite sole for turn shoes comprising a tread portion of rubber compound extending from edge to edge of the sole having a foot engaging portion of fibrous material and a stitch-receiving structure formed integral therewith, and a complemental shank part of inelastic fibrous material directly connected to the forepart and having a single-faced-stitch receiving element formed on its upper side in continuation of the stitch receiving element on the forepart.

7. A composite sole for turn shoes comprising a tread portion of rubber compound having a sewing rib formed on its upper surface with a layer of fibrous material vulcanized to the sewing rib and to the upper surface of the tread portion to reinforce said sewing rib, and a complemental shank part of less flexible fibrous material vulcanized at its forward end to the rear end of the tread portion so as to form a unitary sole and having its upper surface channeled and shouldered to form a stitch receiving element for the shank part of the sole in continuation of the sewing rib on the tread portion.

8. A turn shoe comprising a composite sole having a rubber compound forepart and a less flexible fibrous shank portion, said sole having a fibrous stitch receiving structure on its upper side, and an upper secured to the sole along its lower edge by stitches received and held by the fibrous stitch receiving element on the composite sole.

9. A turn shoe comprising a composite sole having a rubber compound forepart and a shank part of firmer material than the rubber compound vulcanized to said forepart to form a unitary sole, said sole having a fibrous stitch receiving element formed on the upper side of the forepart and shank, an upper, and a series of single-faced stitches passing through the upper and the stitch receiving element for attaching the upper to the sole.

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

SIDNEY W. WINSLOW, JR.