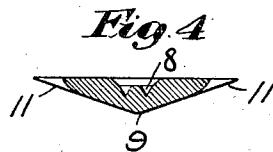
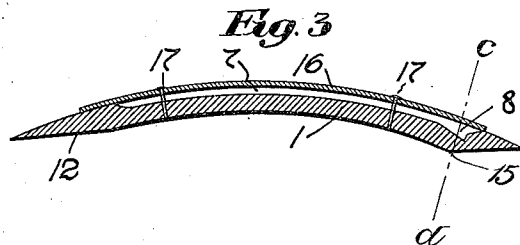
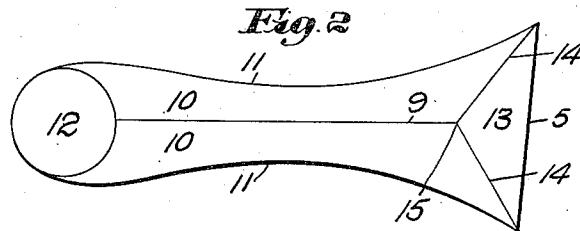
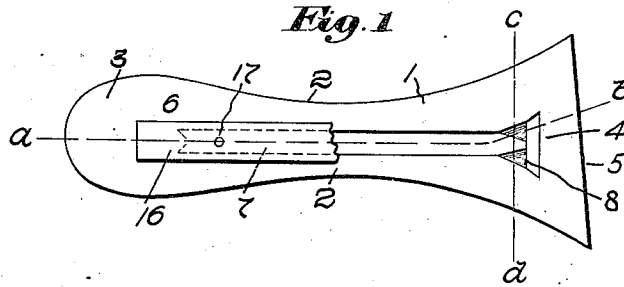


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SHOE SHANK STIFFENER.
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UNITED STATES PATENT OFFICE.

ALFRED M. MOORE, OF MALDEN, AND CHESTER M. MOORE, OF EVERETT,
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SHOE-SHANK STIFFENER.

1,014,894.

Specification of Letters Patent.

Patented Jan. 16, 1912.

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To all whom it may concern:

Be it known that we, ALFRED M. MOORE and CHESTER M. MOORE, citizens of the United States, and residents, respectively, of Malden and Everett, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Shoe-Shank Stiffeners, of which the following description, in connection with the accompanying drawing, is a specification, like reference characters on the drawing representing like parts.

Our invention relates to shoe shank stiffeners and its object is to provide a stiffener that shall combine, among other things, the advantages respectively of leather or similar flexible stiffeners and inflexible metal stiffeners without the accompanying disadvantages of either.

This invention relates more particularly to stiffeners of the so-called "cottage roof" style, used especially where it is desired to give to the shank of the shoe the well-known fish-bone style of finish.

In the drawing showing one form of our invention selected for illustration and description herein: Figure 1 is a plan of the shank, the usual reinforcing member being shown partly broken away; Fig. 2, a view of the under face of the stiffener; Fig. 3, a longitudinal sectional view on the line *a-b*, Fig. 1; and Fig. 4 a cross-sectional view on the line *c-d*, Figs. 1 and 3.

Referring to Fig. 1 in the drawing, our improved shank stiffener comprises a body 1, of any suitable material such as leather-board appropriately longitudinally shaped, herein shown as having oppositely curved sides 2-2, a broader, rounded heel end 3, and a still broader forward or ball end 4, whose edge 5 may be angular with respect to the longitudinal center line of the stiffener, the particular angularity depends upon whether it is a right or left shank, the one herein shown being a left shank, as will be evident to those familiar with the art. The upper face 6 of the shank is substantially flat and is provided approximately at its longitudinal central portion with a groove 7 compressed therein and a depression 8, herein connected with or opening into said groove. Upon its opposite and under side, Fig. 2, the stiffener is provided with a longitudinal, approximately centrally disposed, sharply

defined ridge 9 extending a portion of its length, forming two oppositely inclined faces 10-10 with beveled edges 11-11, Fig. 4.

The ends 3, 4 of the stiffener Fig. 2, are longitudinally beveled on the lower face thereof, the beveled surface 12 at the heel end 3 being of curvilinear outline while the beveled surface 13 at the ball end 4, is substantially triangular in outline the angles being, however, preferably unequal. Clearly and sharply defined angular or diagonal ridges 14-14 are also formed upon the under face of the body at the intersections of the inclined faces 10-10 with the beveled or inclined end face 13, and at the meeting point of said ridges 9 and 14 the apex 15 of the pyramidal portion formed by said faces is also sharply defined, Figs. 3 and 4. A reinforcing member 16 in the form of a flat spring may be secured to the upper face of the shank, if desired, in any suitable manner as by the tacks 17-17.

The heel end 3 of the stiffener is beveled and otherwise properly shaped for insertion beneath the heel and the bevel of the forward or ball end 4, brought to a point at 15, permits the sole to be carried back to that point and the sides thereof trimmed to the ridges 14 thereby giving what is commonly known as the fish-bone style of finish to the shank.

The groove 7, recess 8 and ridges 9 and 14 may be formed in any convenient manner but we have found it very satisfactory to form the same by compression.

While any suitable material may be employed for the construction above referred to, we have found leather-board to give the best results. By using leather-board and suitably compressing it, both the desired form and rigidity are imparted to it, and at the same time a portion of the material may be caused to travel from the outer edges of the shank toward the center thereof where it is compressed to a high degree at or in the walls of the groove 7 and depression 8 formed therein thereby providing ample and stiff supports or supporting walls for the ridge 9 and apex 15 on the opposite face of the shank. The recess or depression 8 serves an important function in that the formation and presence thereof serve to form the apex 15 and to compress the material thereat to a high degree and to a higher degree than

the material of the edges of the shank stiffener are compressed. A further result of this construction is that the edges 11—11 of the shank are less rigid than the ridge 9, thus providing the greatest strength at the central longitudinal section where it is most needed. If formed or molded steel shanks are used they are practically inflexible and too expensive. If unformed or not molded they may be made flexible, but lacking form they will not permit the shank to be finished and to retain its shape in the style referred to. A shank made of leather-board as described possesses both the necessary qualities in such a member, viz., sufficient rigidity combined with a slight flexibility. The ridges 9 and 14, recess 8 and apex 15 formed in and supported by an area of material compressed to an additional degree of hardness are in no danger of being distorted and insure permanent shape to the shank of the shoe.

Claims:

1. A compressed shank stiffener comprising a thick molded body, approximately triangular in cross section and having at its upper side a longitudinal groove, and at one end of said groove a recess, the said groove and recess having compressed walls and being substantially dissimilar in cross sectional shape from the cross sectional shape of the body and providing supporting walls of increased strength for the body below the groove and recess.

2. A compressed shank stiffener comprising a thick molded body approximately triangular in cross section, provided with longitudinally beveled ends and having at its upper side a longitudinal groove, and at one end of said groove a recess, the said groove and recess having compressed walls and being substantially dissimilar in cross sectional shape from the cross sectional shape of the body, providing compressed supporting walls of increased strength for the body below the groove and recess, and providing on the under face of said stiffener a pyramidal section having sharply defined edges and supporting walls of increased strength, and a reinforcing member upon the grooved face of said body.

3. A compressed shank stiffener comprising a thick molded body having a substantially flat upper face, downwardly and inwardly inclined lower faces and longitudinally beveled ends, the apex of said lower and end faces at one end of said shank being sharply outlined, forming sharply defined ridges extended angularly toward the respective corners of the front end of said shank, said shank having at its upper side a longitudinal groove and at one end of said groove a recess, the said groove and recess having compressed walls and being substantially dissimilar in cross sec-

tional shape from the cross sectional shape of the body and providing compressed supporting walls of increased strength for the body below the groove and recess, and a reinforcing member upon the upper face of said body.

4. A compressed, thick, shank stiffener molded from leather board, said stiffener having a substantially flat upper face, a longitudinal groove 7 and a substantially triangular recess 8 compressed in one end of said groove, lower longitudinally beveled faces 10 and laterally beveled ends 12, 13 on the opposite face of said shank, said beveled ends 12, 13 being adjacent said faces 10 and having inclined outer edges, a longitudinal ridge 9 and divergingly disposed ridges 14 substantially opposite said groove and recess and forming an apex 15, said groove 7 and recess 8, owing to their compression in said stiffener with said beveled faces and ends providing wall sections of increased strength for said ridge 9 and apex 15.

5. A compressed molded shank stiffener comprising a thick body having a substantially flat upper face and inwardly inclined longitudinal lower faces forming a substantially triangular waist section, the ends of said body having beveled lower faces forming, at their intersection with said inwardly inclined longitudinal lower faces, at one end of said body sharply defined angularly extended ridges, and at the opposite end of said body less sharply defined oppositely extended curved ridges meeting and blending with the outer edge of the adjacent end of said body, a relatively narrow longitudinal curved groove in the upper face of said body within the length of said triangular waist section opening at one end into a relatively small substantially triangular depression, said groove and depression providing compressed wall sections of increased strength adjacent said groove at said waist and adjacent said depression at one of the ends of said body, and a reinforcing member secured to the upper face of said body.

6. A compressed shank stiffener molded from leather-board and comprising a thick body approximately triangular in cross-section, having in its upper face a longitudinal groove and a recess at one end of said groove, said recess and groove having compressed walls and being substantially dissimilar in cross-sectional shape from the cross-sectional shape of the body and providing supporting walls of increased strength for the body below said groove and recess.

7. A compressed shank stiffener comprising a molded, thick body approximately triangular in cross-section, with a beveled end, said cross-sectional shape forming with said beveled end an apex, and having at its face

opposite said apex a recess compressed in
the body material of said stiffener, said re-
cess having compressed supporting walls to
sustain said apex, said walls being of greater
5 strength than that of the edges of the stiff-
ener.

In testimony whereof, we have signed our

names to this specification, in the presence
of two subscribing witnesses.

ALFRED M. MOORE.
CHESTER M. MOORE.

Witnesses:

ROBERT H. KAMMLER,
F. IRENE CHANDLER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
