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J. P. QUIRK
SHANK STIFFENER

2,135,844

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Fig. 1.

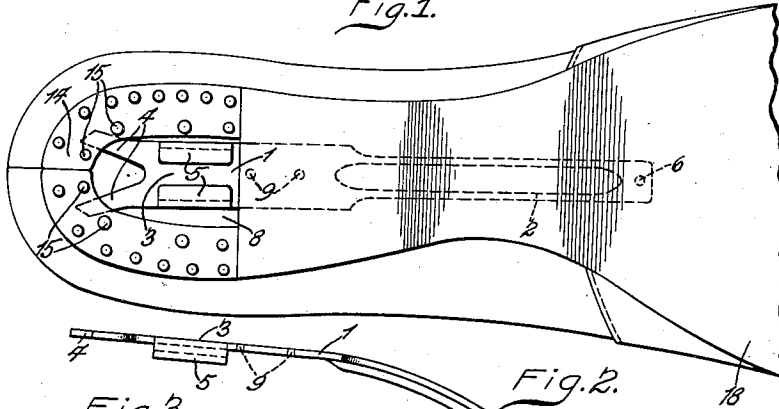


Fig. 2.

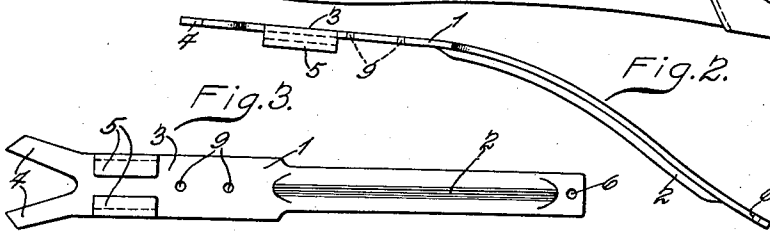


Fig. 3.

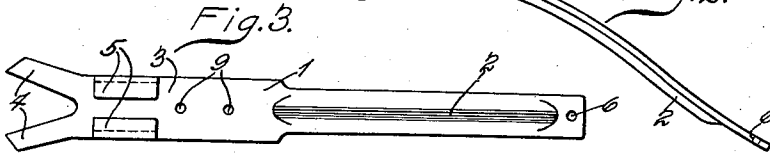


Fig. 4.

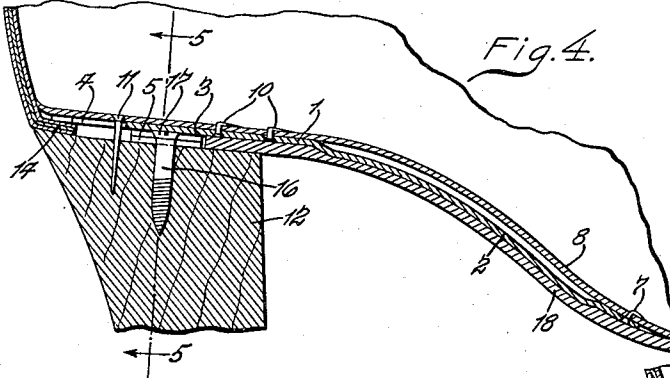


Fig. 5.

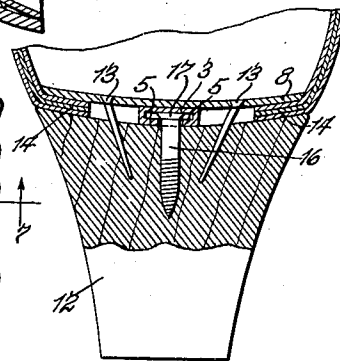


Fig. 6.

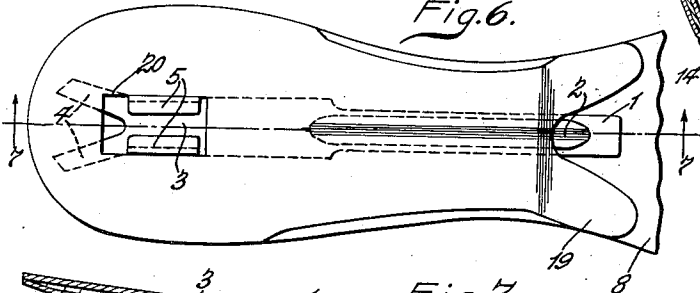
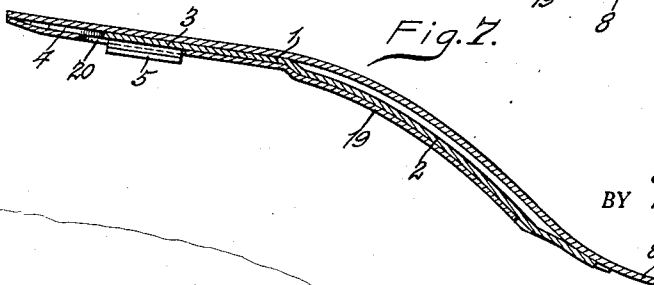


Fig. 7.



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UNITED STATES PATENT OFFICE

2,135,844

SHANK STIFFENER

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Application August 16, 1937, Serial No. 159,257

4 Claims. (Cl. 36—76)

This invention relates to shank stiffeners and associated parts in shoes.

An object of this invention is to provide an improved shank stiffener, with improved means for securing the rear end of the shank stiffener to a heel and to produce economically a completed shoe with strength and durability.

Another object of the invention is to provide a shoe shank stiffener which can have its rear end securely anchored to the upper with means for receiving a fastening member on the heel after the stiffener has been incorporated in the upper. Thus the upper may be completed with the stiffener in place and the sole attached before the heel is applied, while means are provided for securing the heel directly to the stiffener to provide a rigid assembly. Applicant's invention results in economy of manufacture since it provides for the use of a short sole and ease of manufacture, and at the same time provides a shoe that is strong and durable.

Other objects and advantages will be apparent from the following detail description, taken in connection with the accompanying drawing.

Fig. 1 is a bottom view of a lasted shoe prior to the application of the heel;

Fig. 2 is a side elevation of a shoe shank stiffener embodying this invention;

Fig. 3 is a top plan view of the shank stiffener;

Fig. 4 is a central vertical section through a shoe;

Fig. 5 is a section on line 5—5, Fig. 4;

Fig. 6 is a view showing an insole, stiffener and securing member, illustrating an alternate manner of applying the invention; and

Fig. 7 is a section on line 7—7, Fig. 6.

A shank stiffener embodying this invention includes an elongated strip 1, preferably of sheet metal, having a corrugation 2 at its forward end to give rigidity to the device. The rear end of the stiffener has a plate 3 which terminates in a bifurcated rear end or forks 4. Rails 5 are formed beneath the plate 3, and integral therewith, by turning down and inwardly sections of sheet metal adjacent the plate 3.

The stiffener may have such holes to accommodate fastening tacks as may be necessary. As illustrated in the drawing, it has a hole 6 at its forward end to accommodate a tack 7 for attaching the front end to an insole 8, as best shown in Fig. 4. It also has holes 9 to accommodate tacks 10 passing through the stiffener and the insole.

The bifurcated end or fork 4 is arranged to provide means for securing or anchoring the rear end of the stiffener to the upper or insole, while

providing space to receive a nail 11, as applied by the conventional nailing machine, which passes through the insole and into a heel 12. The contour of the stiffener also permits the insertion of other nails 13, one on each side of the strip, as shown in Fig. 5, in accordance with standard practice.

One means for anchoring the rear end of the stiffener to the upper is illustrated in Fig. 1, in which the ends of the fork 4 project under the lasting allowance 14 of the upper, which is fastened down in place by nails including those indicated by the numerals 15, Fig. 1. Other means for fastening the stiffener to the upper or to the insole are illustrated in Figs. 6 and 7, which will be described later in detail. The particular arrangement of the bifurcated end or forks 4 is such as to lend itself to a variety of means of fastening, two only of which are illustrated in the drawing.

The heel 12, before its application to the upper, is provided with a screw 16, having a head 17 spaced above the heel seat, as shown in Figs. 4 and 5. The arrangement of the rails 5 is such that the head 17 of the screw may be received between the top surface of the rails 5 and the bottom surface of the plate 3 at their rear end with the shank of the screw passing between the rails. The heel, therefore, is permitted longitudinal movement but is restrained from vertical movement.

In building the shoe the upper is completed, as shown in Fig. 1, with the stiffener fastened in place and with an outsole 18 which, however, stops short of the end of the heel. As specifically shown in the drawing, the end projects under the forward end of the heel. After the upper has been so completed and after the screw 16 has been placed in the heel, the two parts may be readily assembled by bringing them into juxtaposition and inserting the head 17 of the screw 16 lengthwise into the space above the rails 5 from their rear ends. After the heel has been pushed forward relative to the upper until it is in proper position, the shoe may be completed by inserting the nails 11 and 13 through the insole and into the heel.

A shank of the character described, when inserted in a shoe in the manner indicated, or by equivalent means, provides a strong and rigid construction. The heel fastening means which includes the screw 16 taken with the fastener, which is rigidly secured to the upper or to the insole at the front and rear, anchors the heel firmly to the shoe and prevents any tendency of

the heel to work loose. At the same time the construction is such that shoes may be manufactured embodying the invention by simple and economical steps.

- 5 In the embodiments shown in Figs. 6 and 7, the fastener is first secured to the insole 8. This is done by applying a cover strip 19, preferably of fiber board substantially coextensive with the rear of the insole 8, and cementing it to the insole 10 about the sides and over the rear end or forks 4 of the fastener. An opening or window 20 permits the rails 5 to project through the cover strip 19 and allows a space for the insertion of the head 17 of the screw 16 above the rails.

- 15 It is obvious that various changes may be made in the details of construction, within the scope of the appended claims, and that parts of the invention may be used without the whole.

I claim:

- 20 1. A shank stiffener for a shoe comprising an elongated metallic strip, and longitudinal rail members integral with and extending downwardly and inwardly from the side edges of the strip near its rear end to receive the head of a heel 25 fastening member between the rails and the strip.
2. A shank stiffener for a shoe comprising an elongated metallic strip, longitudinal rail mem-

bers integral with and extending downwardly and inwardly from the side edges of the strip near its rear end to receive the head of a heel fastening member between the rails and the strip, and forks 5 at the rear end of the strip to provide means for anchoring the rear end of the stiffener to the upper of the shoe.

3. A shank stiffener for a shoe comprising an elongated strip, longitudinal rails secured to and extending below said strip to accommodate the 10 head of a heel fastening member between the top of the rails and the bottom of the strip and arranged and adapted to receive said head at the rear of said rails and to permit longitudinal movement of said head along said rails while restraining 15 relative vertical movement between the head and the fastener.

4. In a shoe the combination comprising a heel, a shank stiffener having a plate at its heel portion, a screw secured on the seat of the heel hav- 20 ing a head spaced above said seat, and longitudinal rail members integral with and extending downwardly from the outer edges of said plate to receive said screw head at their rear and between the plate and the rails. 25

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