

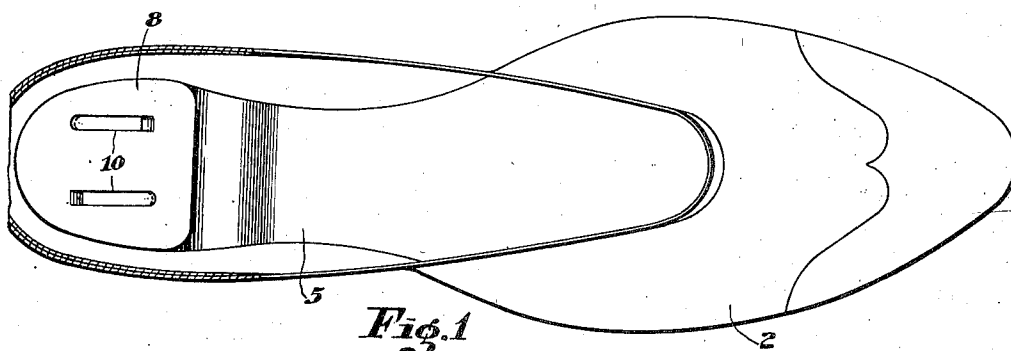
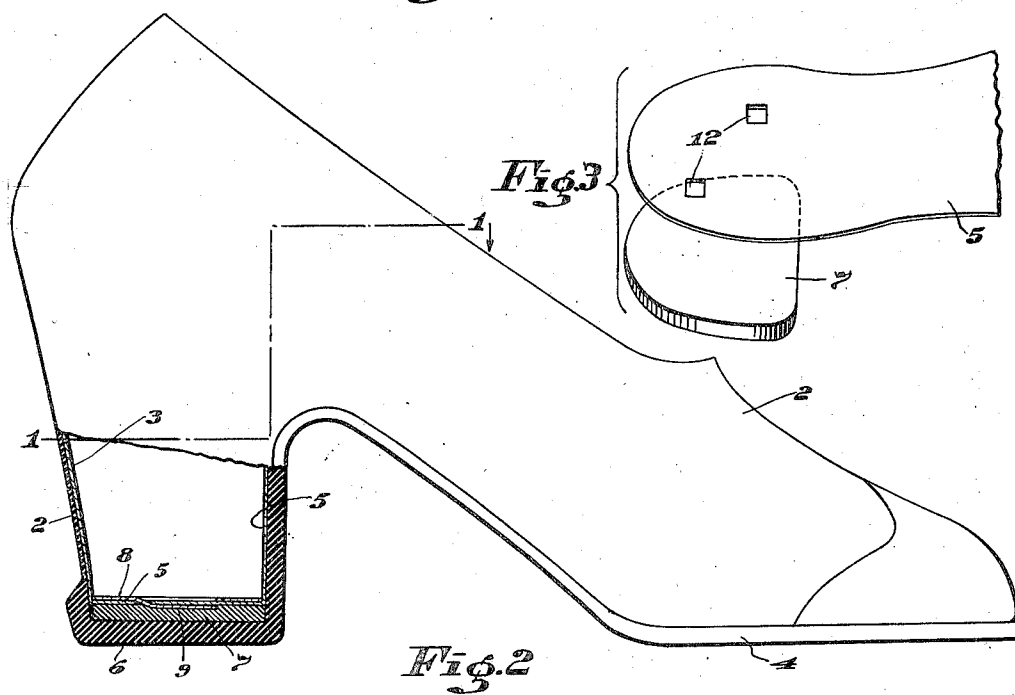
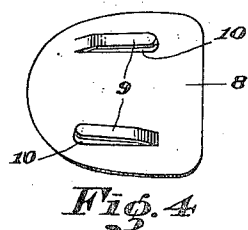
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RUBBER OVERSHOE

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RUBBER OVERSHOE

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8 Claims. (Cl. 36—7.3)

This invention relates to rubber overshoes, and is more especially concerned with the heel structures of footwear of this type. It aims to improve the heel construction of such overshoes with a view to reducing the tendency to deform and distort this portion of the shoe, and producing a sturdier and better wearing heel.

The nature of the invention will be readily understood from the following description when read in connection with the accompanying drawing, and the novel features will be particularly pointed out in the appended claims.

In the drawing:

Figure 1 is a plan view, partly in section, of an overshoe embodying this invention;

Fig. 2 is a side view, partly in section, of said overshoe;

Fig. 3 is a perspective view of portions of the heel structure of the shoe prior to being assembled; and

Fig. 4 is a perspective view of a heel plate which forms an important feature of this invention.

The shoe shown in the drawing is like an ordinary rubber overshoe except for features of the heel structure. This overshoe may be of any suitable construction and may be made in accordance with any convenient process. As shown, the shoe includes an upper comprising an outer rubber ply 2, an inner lining ply 3, a rubber outsole 4, an insole 5, and a rubber heel 6.

According to the present invention, the bottom of the heel is stiffened, strengthened, and protected from internal wear by a metal plate 8 which is permanently secured to the heel structure, and preferably forms the exposed surface at the bottom of the heel cavity. While it has been proposed heretofore to locate metal plates in this relationship, none of the prior arrangements, of which I have been able to learn, has proved successful. An especially serious difficulty has been the mounting of the plate in such a manner that it would not ultimately work loose. In addition, if the plate is made of the desirable light weight, it often becomes deformed, and thus tends to defeat the very purpose for which it is used.

In order to overcome the latter difficulty, I prefer to make the plate 8 of hardened metal of some suitable character. For example, a hardened steel plate of from, say, twenty to thirty thousandths of an inch in thickness, answers this purpose very satisfactorily, although other hard metals, such as certain of the new alloys, can be used.

For the purpose of anchoring this plate securely in the heel structure, two tongues 9—9 are punched from it, prior to the hardening operation, these tongues being bent down into an offset relationship to the plate, and the greater portion of the length of each tongue extends approximately parallel to the plane of the plate. After the plate has been hardened, the tongues then are substantially rigid with the plate, they strongly resist any effort to bend them and thus they maintain their original relationship to the plate. Consequently, by locking the tongues into the heel structure, the main body of the plate will be permanently held in its operative position. For this purpose, and in order to produce anchoring elements of adequate dimensions, as well as to provide a main plate body of suitable form, it is preferable to make each tongue of an elongated or strap-like form and to have it extend from a point adjacent to one edge of the plate toward an opposite edge, and to make each tongue of such a length that it will extend across a very substantial part of a transverse dimension of the plate.

A satisfactory method of assembling the plate with the other parts of the shoe, consists in providing the heel seat end of the insole 5 with two holes 12—12, Fig. 3. Prior to assembling the parts of the shoe, the plate 8 is attached to this end of the insole by sliding the tongues 9—9 into the holes 12—12 with the body of the plate resting on the upper fabric covered surface of the insole. The holes are relatively small so that the tongues underlie the insole for a very substantial distance. Next a rubber piece 7, Fig. 3, commonly referred to as a "plug", is placed on the bottom of the heel seat end of the insole with its margin registering with those of the insole. These parts adhere readily to each other because of the fact that they are made of rubber compositions which, at this time, are in a tacky and unvulcanized condition. The insole with the plate and plug attached to it next are placed on a last, and the assembling and making operations then may proceed in the usual manner. During the vulcanization of the shoe, the rubber of the plug 7 flows around the tongues 9—9, and bonds to the other parts of the heel, thus embedding the strap-like tongues for practically their entire length in the rubber body of the heel structure and locking the heel plate permanently to this part of the shoe.

In the finished shoe the heel plate is of advantage in taking directly the wear caused by contact with the leather heel of the wearer's shoe. Usually

such a leather heel has metallic fastenings projecting from the tread face thereof, where they tend to cut the material of the overshoe and thus to produce excessive wear. The hardened plate 5 8 effectually resists such wear. In addition, it distributes the weight more uniformly over the surface of the heel, tends to produce a flatter and more level tread, and thus serves both to distribute the wear more evenly over the entire tread 10 face of the heel, and also to reduce the tendency to deform the heel portion of the shoe. It should be observed that the tongues 9—9 are located entirely above the bottom lift of the heel so that they will not be exposed by the wear of this member until the shoe is practically worn out. 15

While I have herein shown and described a preferred embodiment of my invention, it will be understood that minor modifications may be made without departing from the spirit or scope 20 thereof.

Having thus described my invention, what I desire to claim as new is:

1. A rubber overshoe having a rubber-covered heel structure, a metal plate in the bottom of the 25 heel cavity, and a tongue extending from said plate and anchored in said heel structure, said tongue being offset from the plane of the plate and extending under the plate across a substantial part of the horizontal dimension of the heel.

30 2. A rubber overshoe having a rubber-covered heel structure, a metal plate in the bottom of the heel cavity, and elongated tongues, extending from said plate and including portions lying approximately parallel to said plate and anchored 35 in the heel structure below the plate but above the tread portion of the heel.

3. A rubber overshoe having a rubber-covered heel structure, a metal plate in the bottom of the heel cavity, and elongated tongues extending 40 from said plate and including portions lying approximately parallel to said plate and anchored in the heel structure, the rubber of said heel structure being molded around said tongues and vulcanized, whereby said tongues are embedded 45 in the rubber portion of the heel above the tread member thereof.

4. A rubber overshoe having a rubber-covered heel structure, a metal plate in the bottom of the

heel cavity, said plate having two tongues projecting downwardly from points adjacent to opposite edges thereof and each directed toward, and extending to a point adjacent to, the edge of said plate opposite to the point of attachment of 5 the tongue to the plate, and said heel structure including a part through which said tongues extend and which space the greater portions of the tongues from the main body of said plate.

5. A rubber overshoe having a rubber-covered 10 heel structure, a metal plate in the bottom of the heel cavity, and elongated metal tongues extending from said plate, the heel seat end of the innersole of the shoe being provided with holes through which said respective tongues project 15 and the greater portion of the length of each tongue lying under said heel seat end and being separated from said plate by said portion of the innersole.

6. A rubber overshoe having a rubber-covered 20 heel structure and a metal plate in the bottom of the heel cavity, said plate having two tongues projecting downwardly therefrom, the greater portions of said tongues being spaced from and extending approximately parallel to the plate, 25 said heel structure including a rubber body filling the spaces around and between said tongues and vulcanized to the adjacent parts of the heel.

7. A rubber overshoe having a rubber-covered 30 heel structure, and a hardened metal plate in the heel and forming the bottom of the heel cavity, said plate having one or more elongated and hardened anchoring tongues including portions offset from and extending approximately parallel 35 to the plate and permanently locked into the rubber of the heel structure.

8. A heel plate for use in rubber overshoes, comprising a heel-shaped body portion having one or more tongues punched from the material of the body with the greater portion of the length of 40 each tongue lying in an offset relationship to said body and extending approximately parallel to the plane of said plate, said plate and said tongue or tongues being hardened, whereby they strongly resist a displacement of one part rela- 45 tively to the other.

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