

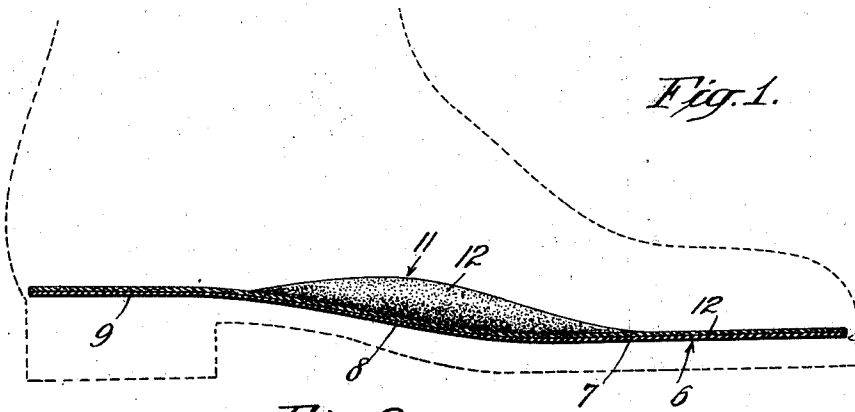
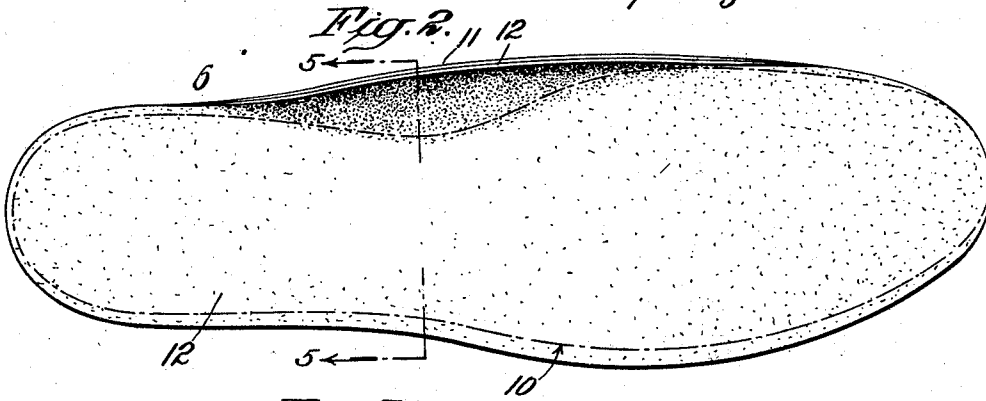
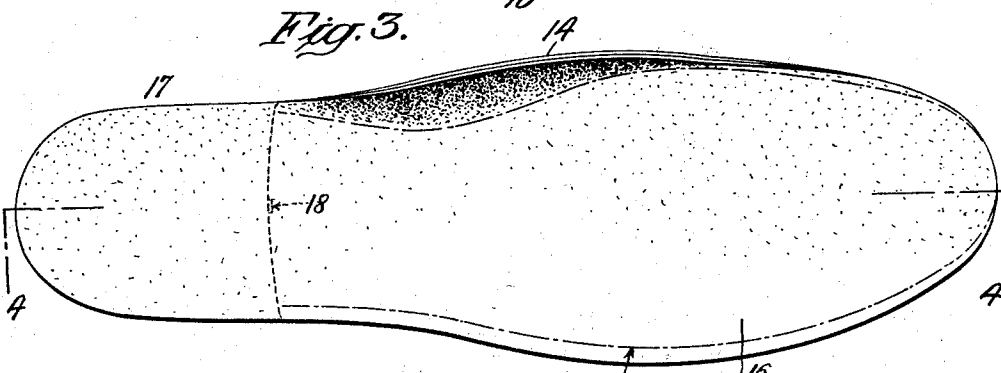
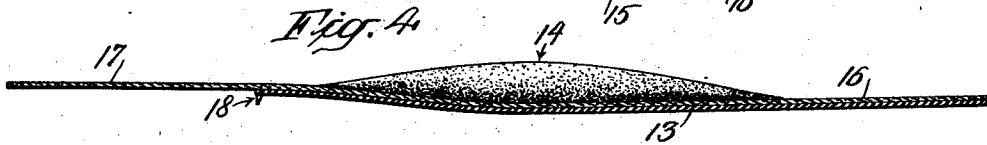
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REMOVABLE FOOT PROTECTOR FOR SHOES

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REMOVABLE FOOT PROTECTOR FOR SHOES

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The present invention has particular reference to metal foot protectors which may be inserted in or removed from the shoes of workmen or others who are engaged in work in places where they are likely to sustain foot injuries by reason of some outside or foreign nail or other sharp instrument penetrating through a shoe and into a foot. It is a well known fact that workmen engaged in erecting or demolishing a building frequently sustain foot injuries, more or less serious and sometimes resulting in death, as they go about the building, inasmuch as there are always more or less loose nails and sharp pieces of metal, etc., lying about on the floors and elsewhere, and sometimes penetrable objects of various sorts project where there is a possibility of their being suddenly trod or stepped upon. The records of insurance companies and others show that accidents from such causes constitute a high percentage of the accidents to which workmen are subject.

Many kinds of removable insoles have been patented but in none of them does there appear to have been any special consideration of accidents caused in the way mentioned, as all of such devices are either too frail, too thin, and too incomplete and unsafe, and in many cases have openings produced by holes or slits which invite a penetration at the very points where they occur. In other words such previous insoles are not properly constructed to avoid the accidents from the sources referred to, and for that reason they do not avoid them.

Therefore, the principal object of this invention is to provide removable foot protectors for insertion in workmen's shoes, each such protector being oversize, that is it has transverse dimensions which are greater than those of the insole of the shoe in which it is to be inserted, such protector being composed of a suitably hard and thick plate of metal and being preferably imperforate, and preferably having a longitudinal laterally projecting guard portion extending outwardly and upwardly from that side which corresponds with the instep of the foot. When it is possible for workmen to supply themselves

with such foot protectors the rates of accident insurance should be lower.

With these and other objects in view, the invention consists of certain novel features to be hereinafter described and then claimed, with reference to the accompanying drawings illustrating two embodiments of the invention, in which:

Figure 1 is a longitudinal section of one form of the foot protector shown in a shoe, indicated in broken lines;

Fig. 2 is a plan view of the same form of protector, the outline of the size of the insole of the shoe being indicated in broken lines;

Fig. 3 is a similar view of another form of protector;

Fig. 4 is a section thereof on line 4—4, Fig. 3, and

Fig. 5 is a cross section on the line 5—5, Fig. 2.

The protector, Figs. 1, 2 and 5, mainly comprises an imperforate metal plate 6 including a sole portion 7, a waist portion 8 and a heel portion 9. This plate is oversize as compared with the outline 10 of the insole of the shoe into which it is to be inserted, and is made in a right and a left so as to go into each shoe of the pair.

Phosphor-bronze is the metal preferably used for plate 6, as that is a very hard and tough metal, although other suitably hard metals may be employed. Experiments show that when phosphor bronze is used it may best have a thickness of No. 20 gauge of sheet metal.

A longitudinal lateral guard portion 11 extends outwardly and upwardly from that side of waist portion 8 and the adjacent region which corresponds with the instep of the foot, the same being transversely curved and made to substantially conform with the shape and curvature of the instep. Laterally, the guard portion 11 extends more considerably beyond the outline of the insole 10 of the shoe to receive the protector than do the other portions of the oversize protector.

A soft facing or lining 12 is cemented or otherwise permanently united with the inner surface of the metal plate 6 so that the

stocking of the wearer does not come directly in contact with metal, and it may consist of various materials, such as felt, leather, cork or the like. The size of the lining 12 is the same as that of the metal plate 6, so that the edge of the metal will contact with the inside of the shoe, and as the edge of the metal will project beyond the edge of the insole of the shoe which is indicated by the dotted line 10, the foot will be fully protected against penetration.

A workman supplied with a pair of these oversize foot protectors made for the size of shoe he wears (possibly a size larger than usual) crowds them into his shoes until they rest upon the insole of the shoes. The edges of the protector will extend more or less beyond the outlines of the insole of the shoe so as to substantially yet fully cover the sole of the foot, and inasmuch as the metal plate is sufficiently hard and thick, the foot is protected by the armor beneath it, from being penetrated or injured by any foreign nail or other penetrating instrument which may have penetrated the shoe, even through the sole. Sometimes a workman will step with considerable pressure upon a penetrating object, or even jump down a few feet upon it, but the described metal plate will act to ward off or turn back the point or edge of such an object which may come in contact with it, the same acting as an anvil. The part of the shod foot most exposed to possible penetration is the instep, but the protector of the present invention specially takes care of the instep, through employment of the instep guard 11.

Another form of the invention is shown in Figs. 3 and 4, wherein the metal plate 13 is short, it terminating at the heel, because in some cases it may not be necessary to extend it over the heel of the shoe. A guard portion 14 for the instep is also formed on the metal plate 13. The insole is represented by the dotted line 15.

In this form, the metal plate 13 is also provided with a soft lining 16 united therewith, and which however has a heel portion 17 which extends beyond the rear edge of the metal plate, so that the heel of the foot will be more comfortable. In order to anchor this short metal plate 13 and prevent it from crawling back into the shoe of the wearer, the rear end of the plate may have a slight, pointed, prong 18 which may be pushed down into the sole.

The making of the metal plate oversize, as stated, as compared with the insole of the shoe, on which the foot protector rests, has been found in practice to be quite important. It has been found that if this is not the case, and if penetration of the edge of the outer sole happens as is likely, the edge of the foot within the shoe which usually presses out and

extends beyond the edge of the insole will be penetrated and thus injure the foot.

What I claim as new, is:

As an article of manufacture, a removable foot protector for shoes, comprising a metal plate of the general outline of a foot forward of the heel, such plate being oversize as compared with the transverse dimensions of the insole of a shoe into which it is to be inserted removably, and the metal having a hardness and thickness such that a foreign nail or the like which may have penetrated through the shoe due to the pressure of a workman's foot is resisted and is prevented from puncturing the plate and injuring the foot, the plate terminating at the heel, and means at the rear end of such plate for holding the plate in a position forward of the heel.

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