

R. HUNTER.
SHOE.
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1,317,975.

Patented Oct. 7, 1919.

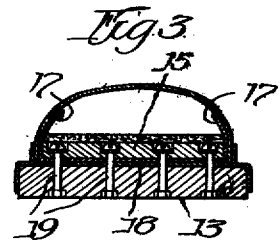
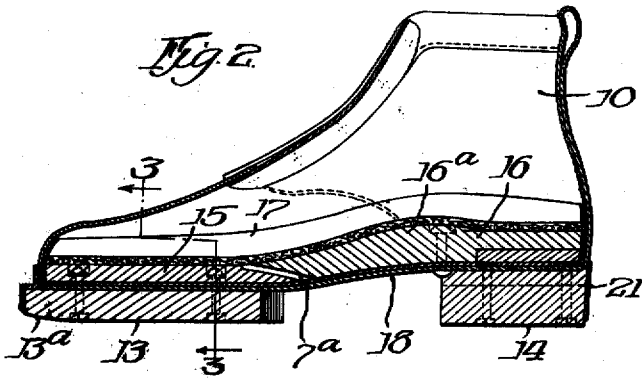
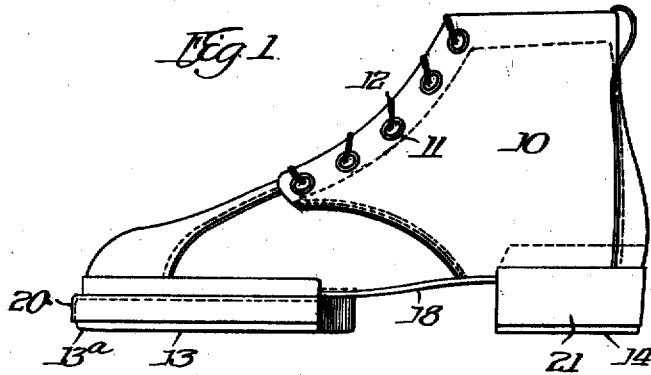


Fig. 6

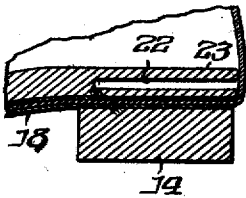


Fig. 5

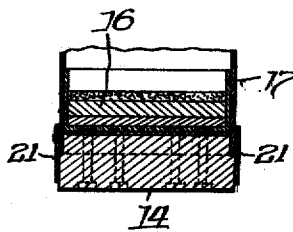
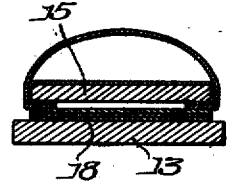


Fig. 4



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UNITED STATES PATENT OFFICE.

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SHOE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ROSS HUNTER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Shoes, of which the following is a specification.

My invention relates to shoes and particularly to shoes subjected to heavy wear such as workmen's and children's shoes.

My invention has to do primarily with a shoe for working men which has preferably a sole of wood or the like and includes means for permitting the movement of the sole as the wearer walks.

The object of this invention is to provide a durable shoe made of wood or other relatively inflexible material and at the same time make the shoe flexible in its action, the parts of the shoe coöperating in a novel manner.

Generally speaking, I accomplish these and other objects by providing a shoe having preferably a wooden heel and sole connected by a metallic strip or other flexible material and providing an insole of wood, or the like, which is preferably jointed to permit certain flexibility of the shoe.

I am aware that reinforced shoes have heretofore been made for wear by men engaged in work in places where the ground is rough or in steel mills, and the like where leather soles and heels wear but a comparatively short time due to the unusual conditions existing. To overcome the wear of leather, provisions have been made such as fastening webbing and the like on the bottoms of leather sides and heels and lately, of forming soles including the heel portions with metal and securing the uppers to the metal bottoms so formed. An objection to this type of shoe is that the sole is rigid and permits no movement as the wearer moves about, thus quickly tiring the feet and to a large extent overcoming the advantage of providing a shoe with a metal sole. It is the primary object of my invention to form a working man's shoe which will possess all the advantageous features of a reinforced heel and sole portion and at the same time

possess the flexibility of a shoe having a leather sole.

The objects of my invention will be more apparent from an observation of the drawings wherein a preferred embodiment of my shoe is shown.

Figure 1 shows a side elevation of the preferred embodiment of my invention.

Fig. 2 is a vertical longitudinal section through Fig. 1.

Fig. 3 is a vertical section on line 3—3 of Fig. 2.

Fig. 4 is a vertical section through the toe portion of the shoe showing the modified form of applying the waterproof portion.

Fig. 5 is a vertical section through the heel portion showing the arrangement of the various elements, and

Fig. 6 is a section through a heel portion showing a modified form of heel cushion.

The preferred embodiment of my shoe which I shall herein describe comprises the usual upper of sufficiently heavy leather provided with eyelets 11 and laces 12. The sole I prefer to make by employing a sole portion 13 preferably of wood or similar material and a heel 14 of like material, the contour of the members 13 and 14 being made to correspond to the style or shape of shoe desired. As an insole I form a front portion 15 and a rear portion 16, preferably of wood, although these may be made of other material if desired. The adjacent ends of these portions are preferably wedge shaped to form a sliding joint 17^a so that as the wearer walks, the sole will move slightly and follow the foot movement and in this way reach the same flexibility and give a livelier foot movement than that of a leather sole. If desired, the member 16 may be raised at 16^a to fit the instep portion of the foot.

As a water-proof or insulating means I prefer to employ an insole member surrounding the portions 15 and 16 and extending under the said members. This insole portion is designated as 17 and is readily observed in Figs. 2 and 3. By extending it around the members 15 and 16, the foot is protected from heat and cold. However, if desired, I may reverse the application of

this member by extending it across the top portions 15 and 16 and downwardly around the edges of said members tacking same on the underside of the portions 15 and 16. In the latter construction, it is possible to surround the members 15 and 16 with such a water-proof material so as to not puncture said material except underneath the members 15 and 16 which method of fastening prevents all chances of admission of water or the like to the interior of the shoe. In this construction, the upper 10 and the insulating insole 17 would be tacked to the under portions of the sole members 15 and 16 and then applied to the soles and heels 13 and 14. Between the insoles 15 and 16 and the sole portions 13 and 14 I prefer to insert a metal strip 18, the contour of which is made to conform to the shape of the shoe when finished, although I do not wish to be considered as making a special feature of the contour of this metal plate 18. The insoles 15 and 16 are then secured to the sole and heel portions 13 and 14 by rivets or bolts 19 or the like. The ends to be riveted or bolted are preferably in the exposed portions of the members 14, 15. If desired webbing, scrap leather, rubber, or similar material may be secured to the under portions of the members 13 and 14, as an additional reinforcing means. In the form of shoe as shown I have surrounded the toe and heel portions with metal strips 20, 21, serving as additional protectors against wear at the sides of the shoes. If desired, the members 20, 21 may be extended around the lower edges of the members 13 and 14, thus providing additional wearing surface to these portions.

It is a well known fact that in a shoe of any kind a cushion in the heel is very desirable. In the form shown I have formed in the rear portion of the insole member 16 a slotted portion 22 leaving the upper member 23 of which free at the rear end. This, therefore, acts in the manner of a spring board so that when the wearer takes a step or bears his weight downwardly, a cushion effect will result, thus increasing the comfort of such shoes. A cushion effect is obtained in the instep portion of the arch but in a different manner. By reason of the fastening of the heel and the member 18, the latter will give slightly as the weight of the wearer is transferred thereto affording a support for the foot and giving a spring action in walking. The under side of the member 16 may be spaced slightly from the member 18 which will act as a spring board and afford additional comfort in walking.

As the shoes are used when taking a step the provision of the joint 17* permits the members 16 to move or ride on the rear por-

tion of the insole member 15 and by reason of the particular arrangement of these members a mating joint is made so that articulation of the sole will result, while at the same time affording a smooth support for the foot and preventing squeezing of any portion thereof between the moving ends of the members 16 and 17. By making the adjacent ends with one slightly convex and the other concave a rolling action will result which will materially assist in comfortable walking. It will be noted that the instep portion follows the foot so that at all times there is some contact between the foot and the instep portion. Also as the instep portion rides on the inner sole a rolling or rocking bearing is made on the flexible connector 18, thus eliminating a point contact or a line contact with the member 18 and doing away with all breakage experienced by a localized application of weight to the member 18 as would follow if the rolling contact were not secure.

It is believed that the construction and arrangement of the shoe will be apparent from the foregoing description. I do not wish to limit my invention to the exact form shown and described as I am aware that modifications will be made to meet the varying conditions of use and I wish to include all such modifications as coming within the scope of the appended claims.

I claim:

1. A shoe comprising an outer sole, an inner sole having a forward and a rearward portion, a heel, the rearward portion of said inner sole being separate from the forward portion and having a movable and riding engagement therewith, a reinforcing plate positioned between the inner sole portions and the outer sole and heel, and means for rigidly connecting the inner sole portions, outer sole and reinforcing plate.

2. A shoe comprising an outer sole, an inner sole having separate cooperating portions one of which has a movable and riding engagement with respect to the other, a heel, a reinforcing plate positioned between the inner sole portions and the outer sole and heel, and means for rigidly connecting the inner sole portions, outer sole and reinforcing plate.

3. A shoe comprising an outer sole, an inner sole having separate cooperating portions one of which has a movable and riding engagement with respect to the other, a heel, said outer sole, inner sole portions and heel being made of wood, a reinforcing plate positioned between the inner sole portions and the outer sole and heel, and means for rigidly connecting the inner sole portions, outer sole and reinforcing plate.

4. A shoe comprising an outer sole, an inner sole having separate cooperating por-

tions one of which has a movable and riding engagement with respect to the other, a heel, said outer sole, inner sole portions and heel being made of wood, one of said inner sole portions being slotted to increase the flexibility of the shoe, a reinforcing plate positioned between the inner sole portions and the outer sole and heel, and means rigidly connecting the inner sole portions, outer sole and reinforcing plate. 10

Signed at Chicago, State of Illinois this 17 day of April, A. D., 1918.

ROSS HUNTER.

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