Aug. 4, 1931. I. DOROGI ET AL 1,817,300

RUBBER FOOTWEAR

Filed Jan. 28, 1929

Fig. 1.

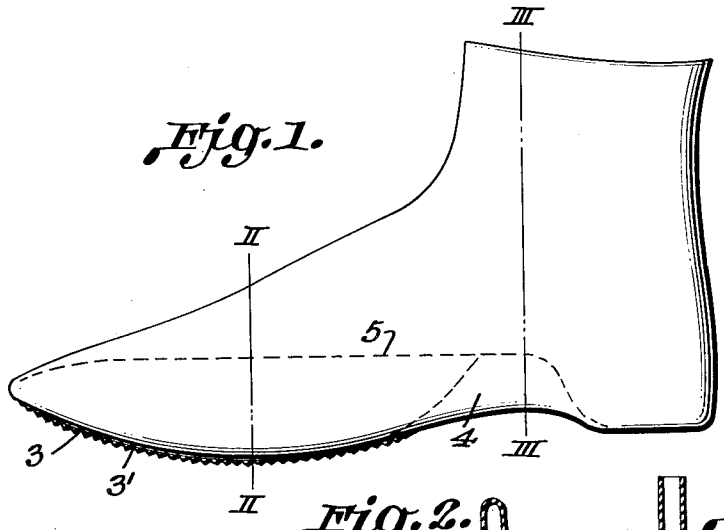


Fig. 2.

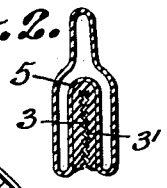


Fig. 3.

Fig. 4.

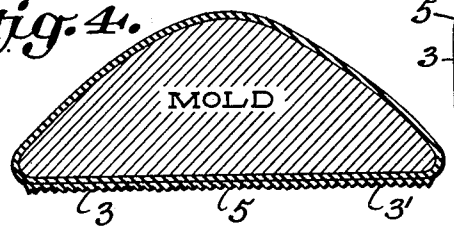


Fig. 5.

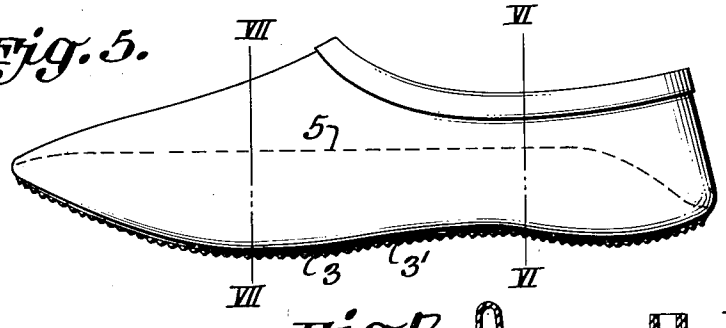


Fig. 7.

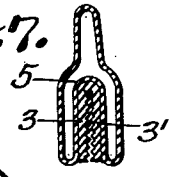


Fig. 6.

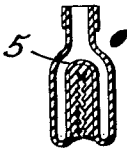
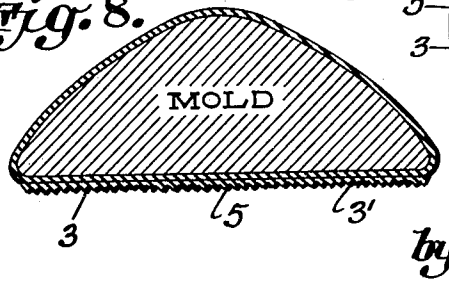


Fig. 8.



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Patented Aug. 4, 1931

1,817,300

UNITED STATES PATENT OFFICE

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RUBBER FOOTWEAR

Application filed January 28, 1929, Serial No. 335,682, and in Germany November 12, 1928.

The known kinds of rubber foot-wear such as overshoes provided with or without an opening for the heel, and provided with or without devices for the protection of legs or stockings, such as bathing shoes, galoshes etc. possess the disadvantage that in most cases they are not capable of being plied or folded into a small space and stowed into a correspondingly small receptacle. Even if such foot-wear should be packed with one sole laid against the other, a great deal of space is required. If such articles are packed immediately after use when the soles are soiled, it is very difficult to avoid soiling the hands of the packer.

The invention eliminates this drawback and consists essentially in forming the sole of the rubber footwear so that it can be folded along its longitudinal centre-line either inwardly or outwardly. During use, when the rubber foot-wear is kept in stretched condition by the foot, or by the foot-wear to be protected, the two halves of the sole are situated in the same plane, in the way usual in the known types of such articles, so that the sole portion is parallel to the sole of the foot. As soon as the rubber foot-wear is removed from the foot, or from the ordinary foot-wear, the two halves of the sole portion fold up along the centre-line of the tread surface until they touch each other, so that the sole, whilst being comparatively thick, only occupies one-half of the area taken up by the sole during service, or respectively one-half of the area of rubber foot-wear of the types known up to now. As the tread surfaces of the two sole-halves which have been soiled by use automatically move closely adjacent each other they do not come into contact with the hand so that stowing away used rubber foot-wear in a receptacle becomes possible without soiling one's hand at all, as long as this operation is carried out with the necessary care. When packing the rubber foot-wear, its softer parts such as the top, upper, etc. can be wound about the comparatively thick and rigid pair of sole-halves folded against each other.

One embodiment of the invention, is illustrated in the annexed drawings. Fig. 1 is a side view. Figs. 2 and 3 are sections on the lines II—II and III—III of Fig. 1. Fig. 4 is a section corresponding to Fig. 3, showing the device used as an overshoe. Figs. 5–8 are views respectively similar to Figs. 1–4, and showing another embodiment.

The sole, i. e. the comparatively thick tread leaf 3, 3′ is doubled inward along its longitudinal centre-line 5, so that the tread surfaces of the two tread leaf halves 3, 3′ are facing each other, in a mutually parallel position. The thinner sole part 4, joining on to the thicker tread leaf is preferably also doubled up in the same manner. When the protector is pulled over a foot or a shoe, its parts assume the positions shown on Fig. 4. As soon as the improved device is removed from the foot or shoe, the parts automatically return to the positions shown in Figs. 1 to 3, in which the tread leaf halves, which may be soiled, face each other, thus enabling the thinner parts of the article to be wound around the sole or plied on to it without soiling one's hand. The device can thus be subsequently folded so as to occupy so little space as possible, so that it can be placed in a comparatively small bag or case.

Figs. 5 to 8 illustrate, by way of example, as another embodiment of the invention, a bathing shoe provided with a sole according to the invention corresponding to Figs. 1 to 4.

These figures do not require any particular explanation.

The invention is also advantageous in the process of manufacture. Up to now, rubber foot-wear, especially of a kind with comparatively thick soles, has always been assembled on moulds, and usually vulcanized on the same moulds. The foot-wear according to the invention is assembled on the moulds as used up to now, so that on the mould, the entire sole is located in one plane. However, after assembling its parts, the article can be removed from the mould, the sole is bent along its longitudinal centre-line as shown, and the article subsequently carefully imbedded in talc and vulcanized in a flat state. By this procedure, a saving is realized by the fact that no vulcanizing moulds need be used, and on the other hand, a large

amount of space is saved in the vulcanizing boiler.

Since the article is made with its relatively thick tread or sole-portion vulcanized in the manner previously described, the normal shape of said sole-portion is as shown in Figs. 2 and 7 for example, in which the sole-portion is bent along a longitudinal line which is intermediate the longitudinal edges of said sole-portion. This longitudinal line is preferably the central longitudinal line of the sole-portion.

What we claim is:

1. An article of rubber foot-wear having a relatively thick sole member, said article being vulcanized so that the sole member is normally bent along a longitudinal line intermediate the longitudinal edges thereof.

2. An article of rubber foot-wear having a relatively thick sole member, said article being vulcanized so that the sole member is normally bent along its longitudinal central line with the two halves of the sole member facing each other in substantially parallel position.

3. A method of manufacturing an article of vulcanized rubber foot-wear which consists in holding the sole-portion of said article in bent condition along a longitudinal line intermediate the longitudinal edges of said sole-portion, so that the parts of said sole-portion substantially face each other, during the vulcanization of said article, so that after vulcanization said article tends to normally assume said shape.

In testimony whereof we affix our signatures.

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