Aug. 7, 1923. 1,464,342

F. J. ROTHACHER

RUBBER ATTACHMENT

Filed Feb. 27, 1922 2 Sheets-Sheet 1

Fig. 1

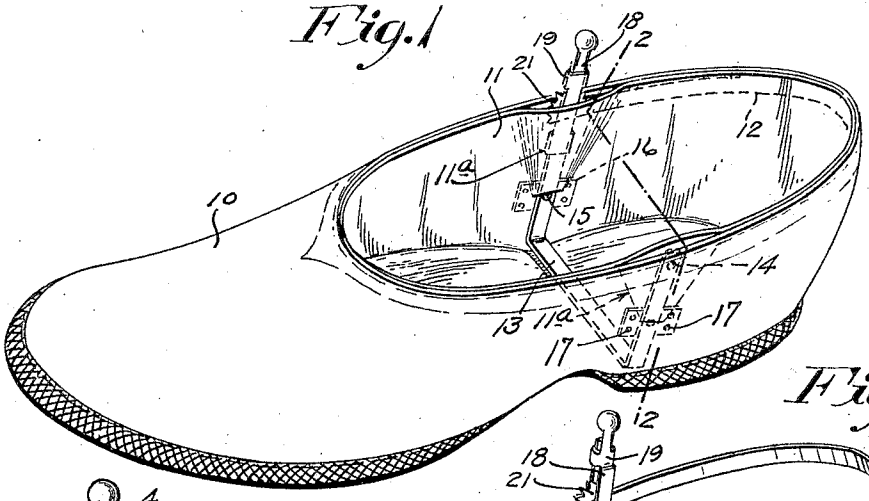


Fig. 3

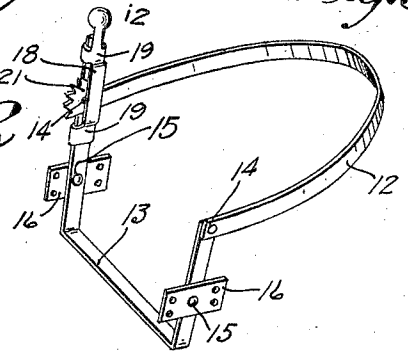


Fig. 2

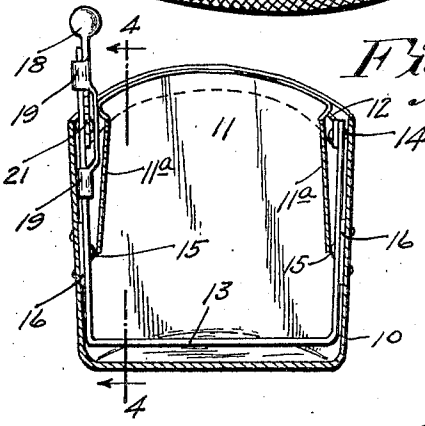


Fig. 5

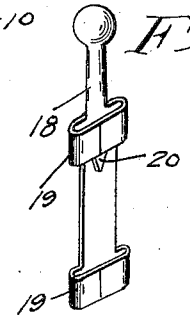


Fig. 4

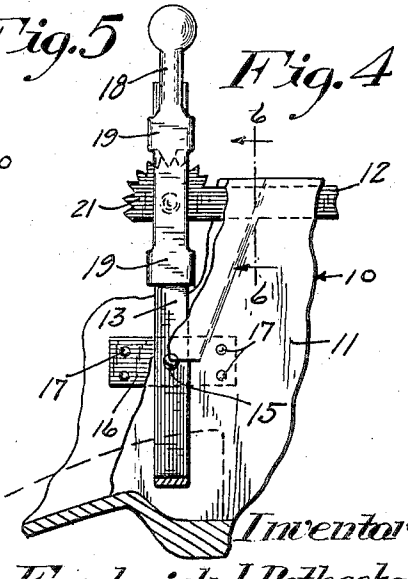
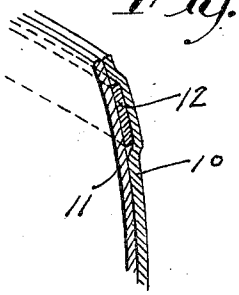


Fig. 6



Inventor
Frederick J. Rothacher
By his Attorneys
Macleod & Kilgore

Aug. 7, 1923. 1,464,342

F. J. ROTHACHER

RUBBER ATTACHMENT

Filed Feb. 27, 1922 2 Sheets-Sheet 2

Fig. 7

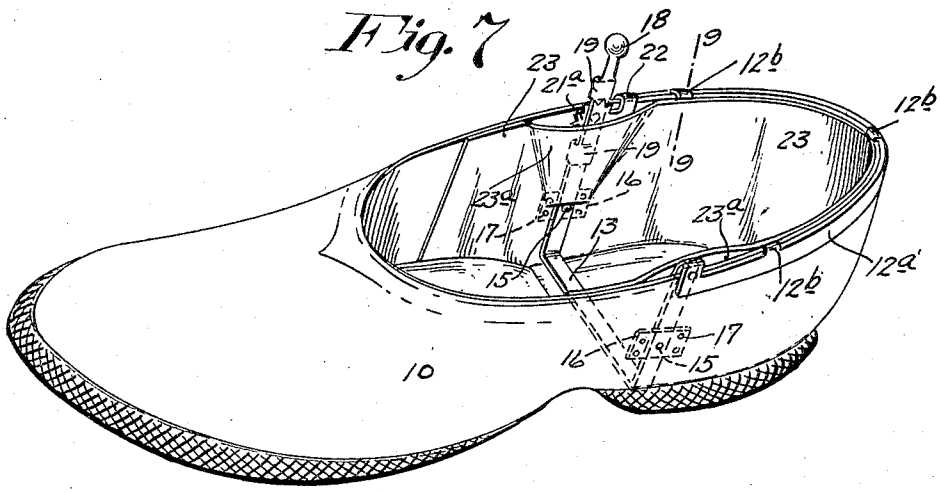


Fig. 8

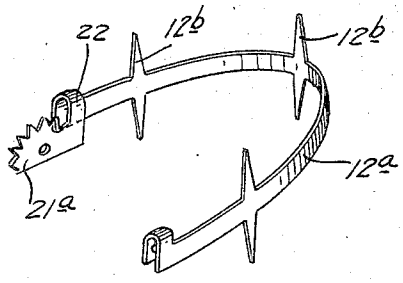
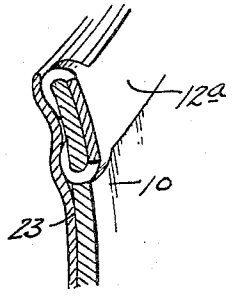


Fig. 9



Inventor
Frederick J. Rothacher
By his Attorneys
Merchant & Kilgore

Patented Aug. 7, 1923. 1,464,342

UNITED STATES PATENT OFFICE.

FREDERICK J. ROTHACHER, OF MINNEAPOLIS, MINNESOTA.

RUBBER ATTACHMENT.

Application filed February 27, 1922. Serial No. 539,399.

To all whom it may concern:

Be it known that I, FREDERICK J. ROTHACHER, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Rubber Attachments; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention provides an extremely simple and efficient clamping device for rubbers or over-shoes whereby such rubbers or over-shoes may be clamped to the heel of the wearer and prevented from being pulled off when walking in heavy mud, clay or the like.

In certain rural districts and also in cities where the streets are not paved, in muddy weather it is frequently impossible to keep rubbers from being pulled off from the shoes unless some contrivance other than the rubber itself be relied upon. Sometimes the rubbers have been tied onto the shoes which is, of course, a very unsatisfactory operation. Also certain mechanical devices have been proposed for the purpose of holding rubbers onto the shoes, but so far as I am aware no simple, efficient mechanical device has been provided for the purpose.

My invention provides a simple yet very efficient means for holding rubbers on the shoes of the wearer, and which device may be quickly thrown into action and quickly thrown out of action.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings:

Fig. 1 is a perspective showing my improved rubber clamp applied to an ordinary rubber or over-shoe;

Fig. 2 is a transverse vertical section on the line 2—2 of Fig. 1;

Fig. 3 is a perspective showing the clamping device removed from the rubber;

Fig. 4 is a fragmentary vertical section taken on the line 4—4 of Fig. 2;

Fig. 5 is a perspective showing the lock lever of the clamping device;

Fig. 6 is a fragmentary section on the line 6—6 of Fig. 4;

Fig. 7 is a perspective view corresponding to Fig. 1 but illustrating a slightly modified form of the clamping device;

Fig. 8 is a perspective showing a portion of the clamping device removed from the rubber; and

Fig. 9 is a fragmentary section on the line 9—9 of Fig. 7.

Referring first to the structure illustrated in Figs. 1 to 6, inclusive, the numeral 10 indicates an ordinary rubber or over-shoe having the customary cloth lining 11.

My improved device comprises, as its chief elements, a clamping yoke or U-shaped band 12, preferably of sprung steel, a rectangular clamping stirrup 13, which elements are pivotally connected at 14. The vertical side bars of the stirrup 13 are intermediately pivoted at 15 to angular plates 16 which are rigidly secured to the sides of the rubber 10, preferably by rivets 17. The clamping yoke 12 closely follows the upper rear edge of the rubber and is placed between the rubber body and the lining 11. That portion of the clamping stirrup 13 that is below the pivots 15 is on the inside of the rubber, but the upwardly extended arm portions are extended between the lining and the body of the rubber, said lining being preferably loosened at 11^a to form pockets in which the upper portions of the sides of said stirrup may freely work.

One of the side arms of the stirrup 13 is upwardly extended, and mounted thereon for sliding movements is a short lock lever 18. Said lock lever 18 has upper and lower retaining ears 19 for loosely embracing the side arm of the stirrup 13. At its intermediate portion the lever 18 has a dog-acting lug 20 for engagement with the teeth of a lock segment 21 formed on the adjacent end of the clamping yoke 12.

When the rubber is to be put on or taken off the lever 18 will be thrown rearward thereby throwing forward the lower transverse portion of the stirrup 13, and press rearward the clamping yoke 12. When the rubber is applied on the shoe and it is to be locked to the shoe, the lever 18 is forced forward so as to draw the clamping yoke 12 against the back of the shoe and to force the transverse bar of the stirrup 13 against the heel of the shoe, and the said clamping elements 12 and 13 will then be locked in their clamping adjustments by engagement of the dog 20 with the teeth of a lock segment 21. In this locking engagement the stirrup 13 presses the heel of the shoe rearward while the yoke 12 presses the upper rear edge of

the rubber or over-shoe against the back of the heel portion of the shoe, thus locking the rubber to the heel portion of the shoe to which the rubber is applied in such a manner that the rubber cannot possibly be pulled off until the clamping device is released. However, this clamping tension may be varied, at will, by engaging the dog 20 with different teeth of the lock segment 21.

The structure just above described and illustrated in connection with Figs. 1 to 6, inclusive, is especially adapted to be applied to a rubber or low over-shoe during the process of manufacture. The slightly modified form illustrated in Figs. 7, 8 and 9 is adapted to be applied to a commercial rubber or low over-shoe at any time after the latter has been purchased, or even worn for that matter. This modified construction is like the construction already described except that the clamping yoke 12^a is arranged to be applied to the exterior of the upper rear edge of the rubber 10 and is provided with clinching barbs 12^b adapted to be clinched through and over the body and up over the edge of the rear heel portion of the rubber. Also in this arrangement the teeth of the lock segment 21^a that correspond to the lock segment 21 are inwardly offset from the ends of the clamping yoke and are connected thereto by upwardly bent integral U-shaped necks 22. Moreover, in this arrangement it will be advisable, after the clamping device has been attached to the rubber, to cement a supplemental lining 23 to the interior of the rubber so as to protect the shoe from coming in contact with the lock segment 21 and lever 18. This supplemental lining 23 will have the lining pocket forming portions 23^a that correspond to the lining portions 11^a of Figs. 1 and 2.

In both of the structures described, clamping yokes 12 and 12^a are preferably of spring tempered steel having a tendency under strain to spring inward and to hold the sides of the rear portion of the rubber in between the frictional contact with the rear heel portion of the shoe.

What I claim is:

1. The combination with a rubber or overshoe, of a heel-engaging clamping yoke having upturned arms intermediately pivoted to the sides of the rear portion of said rubber or shoe, a horizontally disposed yoke having its front ends pivoted to the upper ends of the first noted yoke, and means for locking said two yokes in different relative angular adjustments.

2. The combination with a rubber or overshoe, a clamping yoke applied to the upper rear edge portion thereof, a clamping stirrup having upturned arms intermediately pivoted to the sides of said rubber and at their upper ends pivotally connected to the ends of said yoke, a notched lock segment applied to one end of said clamping yoke, and a dog-equipped lever applied to the corresponding side of said stirrup and engageable with said lock segment to secure said stirrup into different angular positions in repsect to said yoke.

3. The structure defined in claim 2 in which said rubber has a lining between which and the body of the rubber all of said parts are positioned except the lower transverse portion of said stirrup.

4. The structure defined in claim 3 in which said rubber has a lining between which and the body of the rubber all of said parts are positioned except the lower transverse portion of said stirrup.

5. The combination with a rubber of overshoe, a spring metal clamping yoke applied to the upper rear edge thereof, a clamping stirrup the sides of which are intermediately pivoted to the sides of said rubber and the ends of which are pivotally connected to the front ends of said clamping yoke, one end of said clamping yoke having a notched lock segment, and the corresponding arm of said clamping stirrup having a sliding lever extension formed with a lock dog engageable with said teeth of the lock segment.

6. The combination with a rubber or overshoe, of a flexible heel-engaging clamping yoke, means anchoring one end of said yoke to the side of the rubber, a lever pivotally connected to the other end of said yoke and pivoted to the adjacent side of the rubber, and means for anchoring said lever in various different angular positions in respect to said yoke whereby said yoke may be adjusted and put under varying tension.

In testimony whereof I affix my signature.

FREDERICK J. ROTHACHER.