

M. B. REACH.
 FORM OR STRETCHER FOR BOOTS AND SHOES.
 APPLICATION FILED MAR. 3, 1908. RENEWED MAY 26, 1909.

980,676.

Patented Jan. 3, 1911.

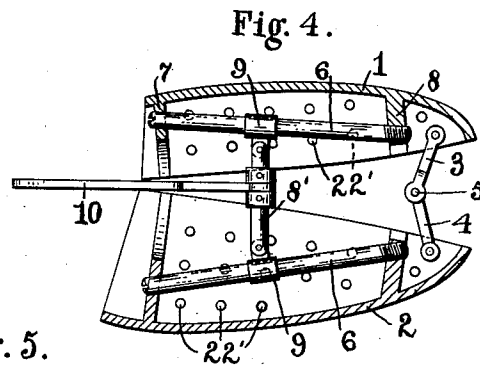
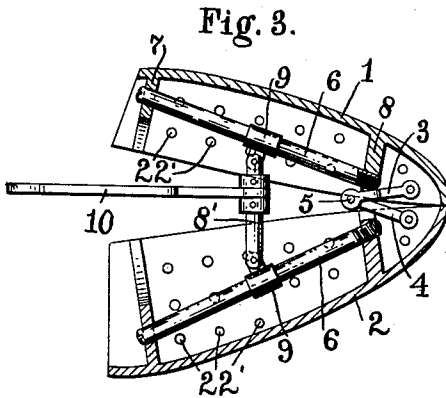
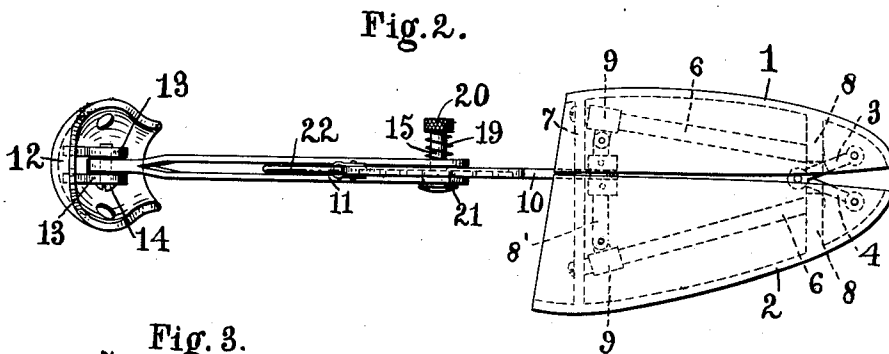
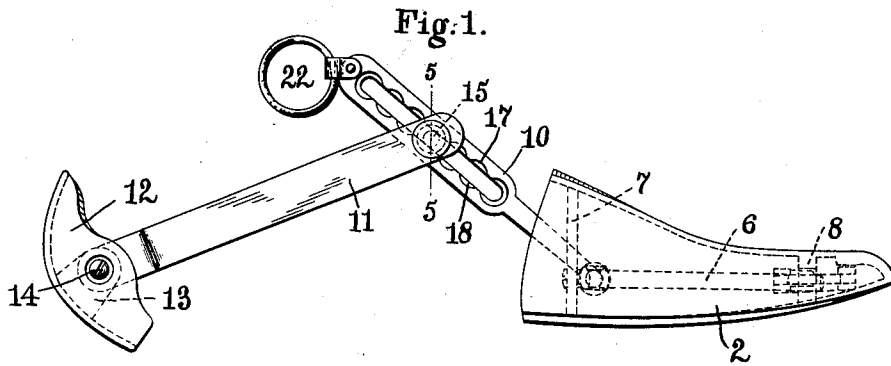
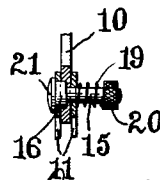


Fig. 5.



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UNITED STATES PATENT OFFICE.

MILTON B. REACH, OF CHICOPEE, MASSACHUSETTS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO R. P. K. SPECIALTY COMPANY, A CORPORATION OF NEW YORK.

FORM OR STRETCHER FOR BOOTS AND SHOES.

980,676.

Specification of Letters Patent.

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Application filed March 3, 1908, Serial No. 419,006. Renewed May 26, 1909. Serial No. 498,570.

To all whom it may concern:

Be it known that I, MILTON B. REACH, citizen of the United States, residing at Chicopee, Massachusetts, have invented certain new and useful Improvements in Forms or Stretchers for Boots and Shoes, of which the following is a specification.

My invention relates to forms or stretchers for footwear, and my object is to provide a device of this character which will be self adjusting to accommodate shoes or boots of various shapes to restore the same to their original shape, or approximately so, after they have been worn or after they have become wet and have lost, in any degree, their original form.

My invention is adapted for use in shoes of different shapes, for instance either a narrow toed shoe or one having a box toe, it being possible for a person of ordinary intelligence to apply the device which acts automatically or accommodates itself to the shape of the shoe and will fill out the interior of the same when placed therein and the requisite amount of pressure applied.

The invention consists in the features and combination and arrangement of parts hereinafter described and particularly pointed out in the claims.

In the accompanying drawings Figure 1 is a side view of a form or stretcher embodying my invention, Fig. 2 is a plan view of the parts shown in Fig. 1 in its collapsed or normal position, Fig. 3 is a detail sectional view showing the forming members spread apart at their rear ends and adapted to fit into a narrow toed shoe, the front ends of said members being in contact, Fig. 4 is a view similar to Fig. 3 showing the relative position of the forming members when adjusted in a shoe or boot having a wide or box form of toe, Fig. 5 is a detail sectional view on line 5—5 of Fig. 1.

In the drawings 1, 2 indicate the forming members of the stretcher adapted to be placed in the interior of the shoe to stretch and shape the same. These members are connected flexibly at their front ends by means of the links 3, 4 pivotally connected respectively to the members 1, 2 and also pivotally connected to each other at 5. These links move in a horizontal plane and serve to exert a control over the relative movement of the members at their front or toe ends, serving particularly to keep these mem-

bers in horizontal alinement while at the same time allowing them to have movement in relation to each other laterally and also longitudinally. Each member carries a guide and in the present physical embodiment of the principle of my invention I have chosen a bar 6 as said guide, but I do not limit myself to this construction, as other forms of guides may be employed if desired. These guides are mounted in the horizontally extending walls 7, 8 of the members preferably by having the end of each screw threaded and the opposite end of each provided with a kerf to receive a suitable driver by which the bars may be adjusted in position. These bars are positioned to converge toward each other in both the closed or open position of the members, as shown in Figs. 3 and 4. Upon these guides is mounted a cross head or bar 8, said cross head consisting of a bar having sleeves or eyes 9 pivoted at the ends thereof and mounted upon the guide rods so as to move freely thereon. The cross head has pivotally connected thereto one end of a straining link or member 10 which is adjustably pivoted to a second straining link or member 11 extending rearwardly and adapted at its rear end to find a bearing against the heel of the shoe. In the present form of my invention this bearing consists of a concavo convex member 12 having its exterior convexed or curved to substantially fit the curved inner wall of the counter of the shoe, and having on its interior ears 13 which receive between them the rear end of the straining or adjusting member 11, the connection being made by a pivot 14. The member 11 is preferably made bifurcated, as shown in Fig. 2, and between these sides the member 10 extends. The adjustable pivot connection between the straining links or members 10, 11 comprises a pivot bolt 15 having a head portion 16 adapted to fit any one of a series of sockets 17 formed in the member 10. These sockets do not extend all the way through the member 10, but leave bearing walls or edges 18 along one side against which the head of the bolt fits. A spring 19 around the stem of the head fits between the finger piece or push button 20 and the side of the link or straining member 11, said spring tending to hold the head of the bolt or catch in engagement with the particular socket in which it is then engaged. The head has a flange 21 to limit the move-

ment of the head under the action of the spring. The stem passes through an elongated slot and guides the movement of the locking device longitudinally of the link, and holds the head in proper relation to the opening, so that the head may be pressed thereinto at any point. A ring 22 is arranged upon the end of the member 10 by which the device may be suspended from any suitable hook, either when in use or when empty.

In the use of the device it is placed within the shoe in its closed or collapsed condition, and the heel member having been placed in position, the straining links are forced downwardly from the angular position shown in Fig. 1, and in this action the link 10 is caused to move forwardly at its lower end, thus moving the cross head or bar 9 on the inclined guides 6 and forcing outwardly from each other the members 1, 2. If, now, the members 1, 2 contact with the shoe first at their forward portions, the forward movement of the cross head on the guides will spread part the rear portion of the members 1, 2 to stretch and form the shoe throughout the extent of these forming members. If, however, the shoe is of such shape that the portions of the forming members at the rear come in contact with the shoe first, or in other words, before contact is made at the extreme front portions of the formers, then these contacting rear parts will act as pivotal points and the forward movement of the cross head or bar 9 on the inclined guides will force outwardly or spread apart the front portions of the forming members, until contact is made with the shoe and the forming action or stretching is performed.

It will thus be seen that the forming members will adapt themselves in their relation to each other according to the shape of the shoe. If it is a narrow toed shoe contact of the forming members therewith will take place first at the toe, and these contacting parts acting as pivotal points will cause the forming members to be spread at the rear, and the reverse is true if the shoe has a wide toe and a relatively narrow body portion. I prefer to form the forming members of sheet metal, preferably aluminum, the said members being formed by stamping them up into proper shape, and I provide perforations as at 22' which will furnish ventilation to substantially all parts of the shoe acted on by the forming members.

I claim as my invention:—

1. A former for shoes and the like comprising a plurality of members, and means for spreading said members automatically either at front or rear, according to the shape of the shoe, the point of connection between the said means and said members shifting longitudinally of said members, substantially as described.

2. In combination in a shoe or like former a plurality of members divided longitudinally from each other and having relative pivotal movement, and means for adjusting said members laterally in relation to each other, said means having a connection shifting from point to point of said members and spreading the members at either their front or rear portions, according as the shape of the shoe demands, substantially as described.

3. In combination in a shoe or like former, a plurality of forming members having relative pivotal movement, converging guides thereon, and a cross head or bar movable longitudinally of the members and in engagement with the guiding means and applying its spreading force at different points along said members, whereby the members are spread either at their front or rear portions, according as said members contact with the shoe first at their rear or front portions, substantially as described.

4. In combination with the pair of forming members, relatively inclined guides carried thereby, a spreading member movable longitudinally of the former and having pivotal sliding connection with the guides, substantially as described.

5. In combination the pair of formers having relatively inclined guides thereon, a cross head, blocks movable in connection with the guides, and a pivotal connection between the said blocks and the cross head.

6. In combination the forming members having relative lateral pivotal movement and having guides converging toward the toe portion and a longitudinally moving spreading member having sliding engagement with the guides, substantially as described.

7. In combination the forming members having relative pivotal movement, means for pivotally connecting them together to hold them in alinement, and spreading means for the members having a shifting connection therewith to apply the spreading force at different points along said members, substantially as described.

8. In combination with the forming members, means for movably connecting them and holding them in alinement horizontally, and spreading means for the members said connecting means being independent of the spreading means, substantially as described.

9. In combination with the forming members the horizontally extending links pivoted thereto and to each other, inclined guides on the forming members, and a cross head moving on the inclined guides for spreading the forming members, substantially as described.

10. In combination with the forming members a pair of straining links, one of

which is provided with sockets, and a plain edged slot extending adjacent said sockets continuously past the same, and the other straining link having a bolt under spring
5 tension, the head of which is adapted to fit into said sockets, said bolt being adapted to slide on the plain edges of the slot, substantially as described.

11. In combination a plurality of mem-
10 bers for insertion into the shoe, and adapted to be spread laterally, means for spreading said members comprising the converging guides and the member having sliding connection therewith, a heel piece, and
15 straining means between said heel piece and said sliding member for first spreading the members laterally and then forcing them

longitudinally toward the toe of the shoe, substantially as described.

12. In a shoe form, and in combination 20 with a pair of members separated from each other longitudinally, a pivotal connection between said members shiftable longitudinally in respect thereto to operate said members positively in shifting in either a 25 forward or a backward direction, and means for shifting the said connection, substantially as described.

In testimony whereof, I affix my signature in presence of two witnesses.

MILTON B. REACH.

Witnesses:

MAY JAMESON,

A. W. McCauley.