C. H. WARTHON.

SHOE STRETCHER.

APPLICATION FILED JAN. 12, 1912.

**1,040,473.** Patented Oct. 8, 1912.

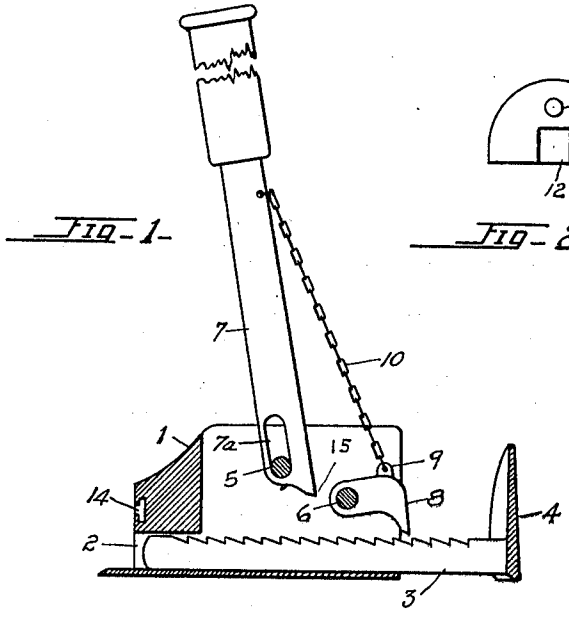


Fig. 1.




Fig. 2.

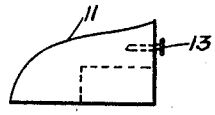


Fig. 3.

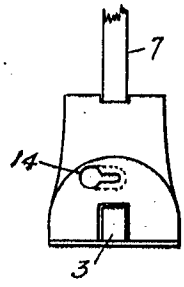


Fig. 4.

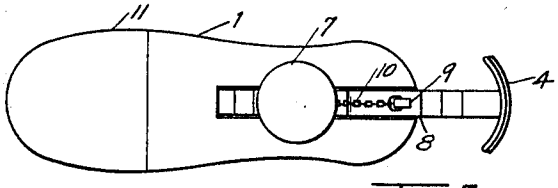


Fig. 5.

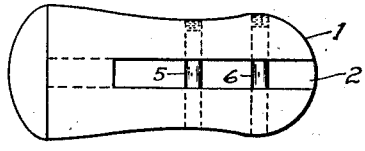


Fig. 6.

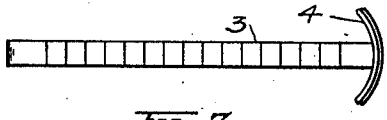


Fig. 7.

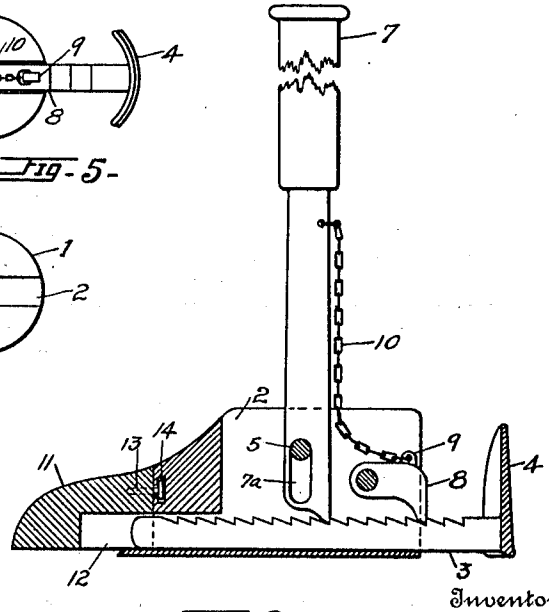


Fig. 8.

Witnesses

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# UNITED STATES PATENT OFFICE.

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## SHOE-STRETCHER.

1,040,473. Specification of Letters Patent. Patented Oct. 8, 1912.

Application filed January 12, 1912. Serial No. 670,745.

*To all whom it may concern:*

Be it known that I, CARL H. WARTHON, of the city of Lincoln, county of Lancaster, and State of Nebraska, have invented certain new and useful Improvements in Shoe-Stretchers, which improvements are described in the following specification and are illustrated by the accompanying drawings.

The invention relates to that class of stretchers for boots and shoes which operate by longitudinal extension effected by a pivoted hand lever and a rack and pawl.

It is the object of the invention to facilitate the mutual disengagement of the rack and the pawl whenever in the use or release of the stretcher such disengagement is necessary; to simplify the mechanism by which such disengagement is effected, and to locate that mechanism in a convenient and out-of-the-way position; and in general to produce a superior stretcher of the specified class. To this end I incorporate in my improved stretcher a collapsible or flexible connection between the pawl and the hand lever, whereby the latter is enabled to disengage the pawl from the rack.

The best manner in which I have contemplated applying the principles of the invention, is shown in said drawings; yet the invention is not restricted to any specific arrangement or construction of parts, excepting in so far as limitations of that kind are expressed or necessarily implied in the subjoined claims.

Figure 1 is a central vertical longitudinal section of principal parts of a shoe stretcher that is constructed in accordance with these principles. From this view the toe piece is omitted. Figs. 2 and 3 are a rear elevation and a side elevation respectively of the toe piece. Fig. 4 is a front end elevation of Fig. 1. Fig. 5 is a plan of the entire stretcher. Fig. 6 is a plan of the main portion or body of the same stretcher. Fig. 7 is a plan of the rack, including its terminal heel-plate. Fig. 8 is a central longitudinal vertical section of the entire stretcher.

In these drawings the main portion, the body of the stretcher, denoted by the numeral 1, and formed of metal or wood and metal, has a central slot 2 of uniform width, extending from end to end of the body and upward through its top. The bottom of this slot is occupied by a longitudinal reciprocable sliding rack 3, which is adapted to abut operatively against the inside of the back end of the boot or shoe under treatment, and is preferably, but not necessarily, provided with a curved heel-plate 4, for the purpose of giving enlargement and desirable shape to its abutting surface. In the body 1 are set two transverse pivot pins, 5 and 6, crossing the slot 2 above the path of the sliding rack 3. On one of these pins is fulcrumed the hand lever 7 having a longitudinal slot $7^a$ for the accommodation of the pin, and armed with a gear point 15 for engagement with the rack 3; while on the other of these pins, and within reach of the same rack, is pivoted in slot 2 the pawl 8, having on its back the lug 9, and impelled by gravity to engage rack 3. The chain 10, constituting in this instance the above mentioned flexible or collapsible connection between the pawl and the hand lever, is attached to the hand lever at a convenient distance above the slot $7^a$, and is fastened to the pawl by the lug 9. By preference this chain is longer than the distance which separates its described attachments when the lever occupies a vertical position of engagement with the rack 3, as in Fig. 8; but it is not long enough to allow the hand lever to be lifted vertically to its extreme position above the rack, as in Fig. 5, and also to be tilted forward from that vertical position, as in Fig. 1, without pulling the pawl clear of the rack, as shown in the last mentioned figure. The toe piece 11, having a longitudinal slot 12 normally in alinement with the slot 2, is removably attached to the body 1 in the position shown, in the usual manner, as by the catch or dowel 13 and the slot 14.

In operation my improved stretcher, after being extended lengthwise in the shoe to any necessary or desired extent, in the usual manner, is relaxed and released from extension by lifting the hand lever vertically upward clear of the rack and by then tilting the same forward on its pivot, as shown in Fig. 1. All this is very easily accomplished by the action of the hand lever, and without the aid of any additional mechanism which might either hamper the movement of that lever or pre-occupy to any extent the top opening of the shoe, or the leg of the boot, into which the stretcher has been inserted.

I claim as my invention—

1. A stretcher for boots and shoes, comprising a main portion having a slot, a rack movable endwise in the slot, a pawl for the rack, a pivoted hand lever movable end-

wise in the slot and adapted to engage the rack, in combination with an operative connection whereby the hand lever may withdraw the pawl from the rack.

2. A stretcher for boots and shoes, comprising a main portion having a slot, a rack slidable endwise in the slot, a pawl for the rack, and a pivoted hand lever slidable endwise in the slot and adapted to engage the rack, in combination with a flexible connection between the hand lever and the pawl.

3. A shoe stretcher comprising a main portion having a slot, a rack reciprocable in the slot, a pawl for the rack, and a slotted and pivoted hand lever working endwise in the slot and adapted to engage the rack, in combination with a chain connecting the pawl and the hand lever; whereby the pawl may be disengaged from the rack by leverage of the hand lever.

In testimony whereof I hereunto set my name in the presence of two witnesses.

CARL H. WARTHON.

Witnesses:
HATTIE SELLHORN,
C. J. CAMPBELL.