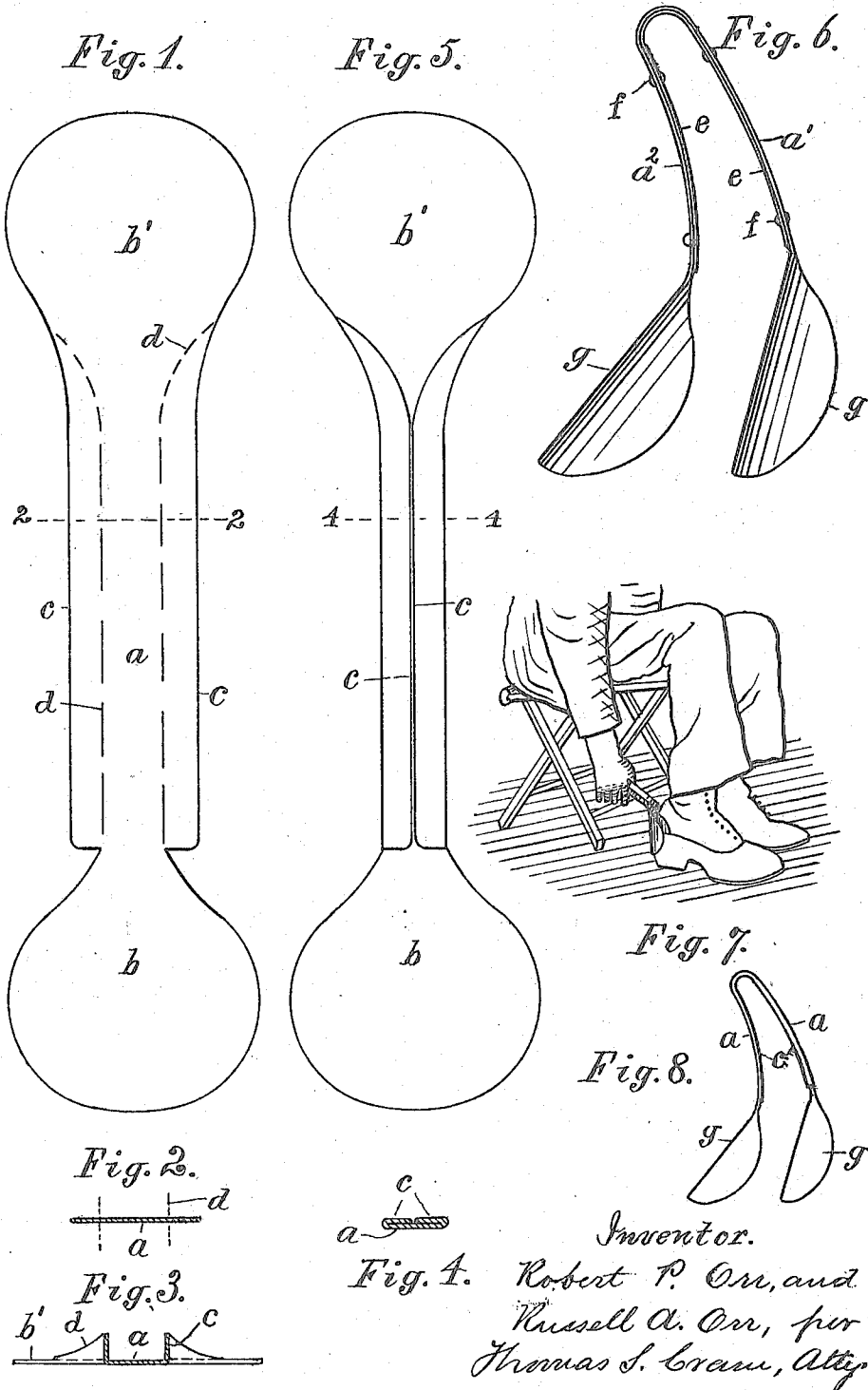


1,271,069.

Patented July 2, 1918.



Inventor.
 Robert P. Orr, and
 Russell A. Orr, for
 Thomas S. Cram, Atty

UNITED STATES PATENT OFFICE.

ROBERT P. ORR AND RUSSELL A. ORR, OF ALBANY, NEW YORK.

CLAMPING SHOE-HORN.

1,271,069.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, ROBERT P. ORR and RUSSELL A. ORR, both citizens of the United States, and both residing at 35 South Manning Boulevard, Albany, county of Albany, and State of New York, have invented certain new and useful Improvements in Clamping Shoe-Horns, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The present invention relates to a device for putting on and taking off shoes and footwear of all descriptions, and is especially useful in applying and removing rubber overshoes, as the latter are liable, in use, to become very dirty and thus to soil the hands if applied directly to the overshoes.

The invention embodies an improvement upon that class of clamping shoe-horns in which two jaws are connected by an elastic body.

Such jaws are complementally curved and opposed to one another to fit inside and outside the heel-portion of the shoe, and it is obvious that the curvature or concavity of the jaws imparts to the sheet-metal of the jaws a very considerable degree of stiffness, so that a relatively thin metal may be employed for such parts; but it has been found in practice that such light metal is not stiff enough when formed into a narrow looped body, to hold the jaws firmly when grasping the shoe.

Our present improvement consists in reinforcing the body in such manner as to double its thickness and elasticity. Such reinforcement may be effected by riveting on a supplementary strip of the same width as the body, but the present invention employs preferably in the manufacture of the article a sheet-metal blank having a parallel body about twice the width of the body intended for the article, and folds the edges of the blank over upon the body and presses them down closely thereon, thus doubling the thickness of the body and greatly increasing its stiffness and elasticity when bent to form a handle for operating the device.

The edges or flanges upon the blank which are formed to bend over the body-part may project laterally from such part, at the base of the widened ends which form the jaws, or they may be sloped toward the edges of

such rounded ends so as to form a stronger connection between the handle and the jaws.

The invention will be understood by reference to the annexed drawing, in which Figure 1 shows the blank to form the implement with dotted lines indicating the lines to bend the flanges over upon the body; Fig. 2 is a cross-section on line 2—2 in Fig. 1 with transverse dotted lines showing the points of flexure for the flanges; Fig. 3 is a section representing the body with the flanges bent upward at right-angles thereto, the view also including the flat wide end *b'* with the flanges tapered downward toward its edges; and Fig. 4 is a section of the body on line 4—4 in Fig. 5 with the flanges pressed down upon the body. Fig. 5 represents the blank with the flanges thus pressed down and still in a flat form; Fig. 6 represents the body looped to form a handle with elastic arms, and a strip riveted upon the body; and Fig. 7 represents the application of the implement to a shoe by a person in a seated position. Fig. 8 is a perspective view of the article having the body stiffened by bent flanges.

Fig. 1 shows a blank for reinforcing the body with integral flanges, and it shows the blank with parallel edges, and widened ends *b*, *b'* with rounded edges.

The edges of the body form flanges *c* distinguished from the body by dotted lines *d* in Figs. 1 and 2, indicating the lines of flexure upon which to bend the flanges. This is done by suitable stamping tools which alter the body to trough-shape, as shown in Fig. 3.

By any suitable means, the flanges are then bent downward and pressed hard upon the body, as shown in Figs. 4, 5 and 8, the flanges being proportioned so that their edges nearly meet, thus doubling the entire thickness of the body.

In the lower ends of Figs. 1 and 5, the flanges are shown projected laterally from the base of the widened end so that the flanges terminate abruptly where the body joins such end.

In the upper ends of Figs. 1 and 5, the flanges are shown sloped to the edges of the widened end, and when the flanges are folded upon the body these sloped portions are folded over upon the base of the body and upon the dotted line *d'* in Fig. 1, thus greatly strengthening the connection be-

tween the body and the jaws. Such tapered portion of the sheet-metal is stretched during such bending operation, said stretching being readily effected by the tools which bend the body into trough-shape.

Both forms for the flange, those shown at the upper and lower ends of Fig. 5, are suitable for practical use, either form producing a handle integral with the jaws.

When the body-portion is thus stiffened the ends are concaved to form the jaws as shown in Fig. 6, and the body is bent into loop-shape to form two elastic arms a' and a'' with the jaws opposed to one another. The jaws are then bent at a substantial angle to the arms, as shown in Figs. 6 and 7, to make the handle project backwardly, as indicated in Fig. 7.

The present construction permits the formation of the article from a single piece of sheet-metal, of relatively light thickness and with the handle reinforced so as to possess the required stiffness and elasticity.

Fig. 6 shows the reinforcement of the clamping-jaws by securing a strip e upon the body by rivets f , so as to double its

thickness; and thus permit the jaws and body to be made integral with one another of relatively thin metal.

By either construction, thin jaws and a stiff handle are economically secured with the use of relatively thin sheet metal.

From the above description, it will be seen that our invention consists in doubling the thickness of the body when made integral with relatively thin sheet-metal jaws.

Having thus set forth the nature of the invention what is claimed herein is:

A clamping shoe-horn, consisting of a single piece of sheet-metal having a body with parallel edges having integral widened rounded ends, complementally curved to form clamping-jaws, and the body looped between the ends to form a handle with the jaws opposed to one another, the entire width of the body being reinforced to double its thickness between the said jaws, thereby doubling its stiffness and elasticity.

In testimony whereof we have hereunto set our hands.

ROBERT P. ORR.
RUSSELL A. ORR.