2 Sheets—Sheet 1.

W. C. WISE.

Molds for Forming Heel-Stiffeners for Boots and Shoes.

No. 216,122. **Patented June 3, 1879.**

FIG. 3.

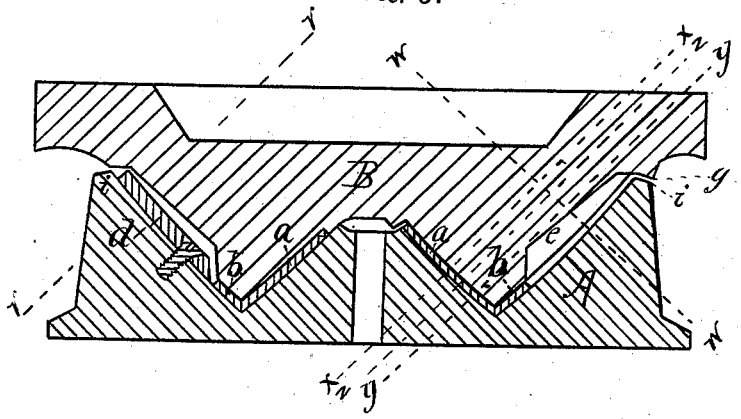


FIG. 2.

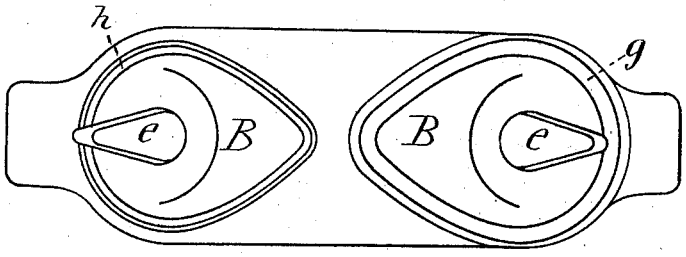


FIG. 1.

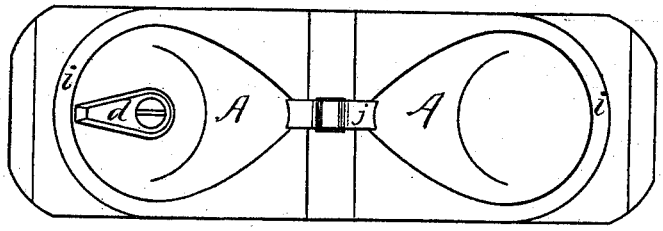
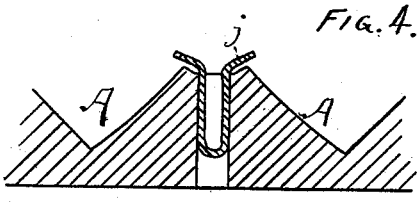


FIG. 4.



WITNESSES.
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Attys

2 Sheets—Sheet 2.

W. C. WISE.

Molds for Forming Heel-Stiffeners for Boots and Shoes.

No. 216,122. **Patented June 3, 1879.**

FIG. 5.

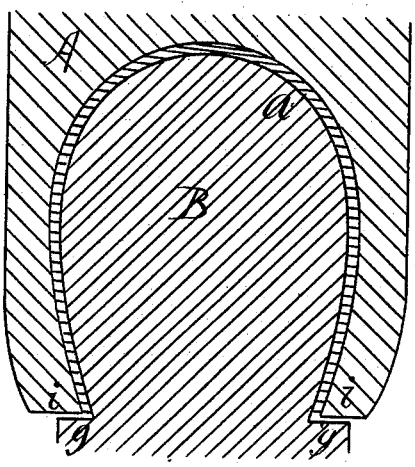


FIG. 6.

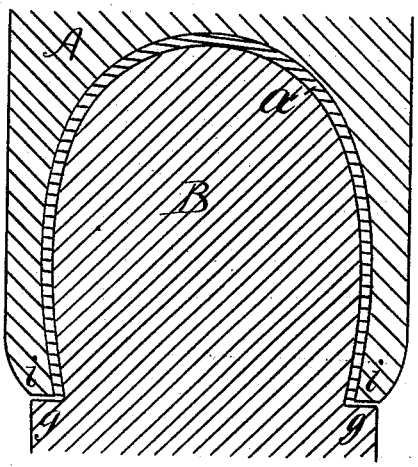


FIG. 7.

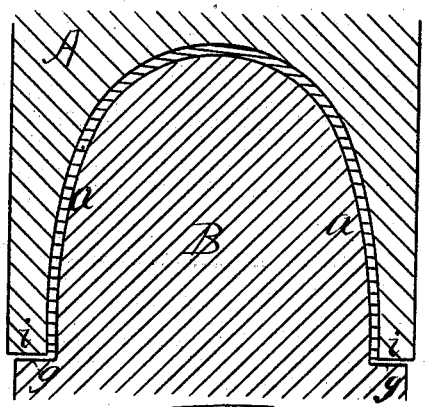


FIG. 8.

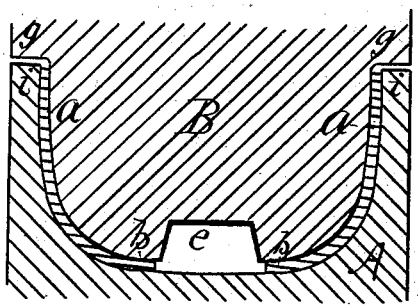


FIG. 9.

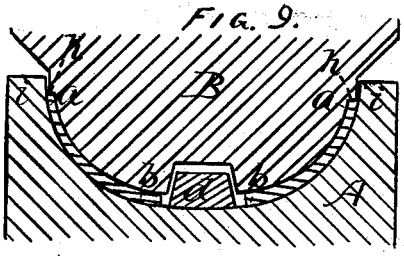
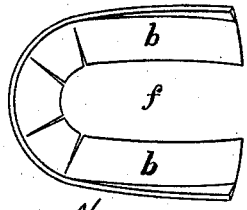


FIG. 10.



WITNESSES.
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Eugene Humphrey

INVENTOR.
William C. Wise
By Porter & Hutchinson
Attys

UNITED STATES PATENT OFFICE.

WILLIAM C. WISE, OF CHELSEA, MASSACHUSETTS.

IMPROVEMENT IN MOLDS FOR FORMING HEEL-STIFFENERS FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. **216,122**, dated June 3, 1879; application filed March 21, 1877.

To all whom it may concern:

Be it known that I, WILLIAM C. WISE, of Chelsea, State of Massachusetts, have invented an Improvement in Boot and Shoe Heel Stiffener Molds, of which the following is a specification.

The object of my invention is to effect certain improvements in the molds wherein the heel-stiffeners of boots and shoes are formed or molded into the exact form or contour they are to occupy when incorporated in the boot or shoe; and the invention consists in certain improvements in the mold proper; also, in a device for securing the stiffener-blank in the mold during the molding process, and in a die secured or formed in the mold, and which determines the form and size of the space within the base-flange of the stiffener.

Figure 1 is a top or plan view of an improved double mold. Fig. 2 is a top or plan view of the plunger, which corresponds (as a counterpart) to the mold shown in Fig. 1. Fig. 3 is a longitudinal vertical section of the mold and plunger, and showing, in section, a stiffener in position between the two as being molded. Fig. 4 is a detached longitudinal vertical section of Fig. 1, showing the central portion thereof, and the retaining-pins in position, and also in section. Fig. 5 is a section taken through one of the molds, plunger, and stiffener on the line parallel to the plane of the bottom of the heel, and as indicated by line Y Y, Fig. 3. Fig. 6 is a similar section taken on line Z Z, Fig. 3. Fig. 7 is a similar section taken on line X X, Fig. 3. Fig. 8 is a section taken through the mold, plunger, and stiffener transversely to the plane of the bottom of the stiffener, and as indicated on line W W, Fig. 3. Fig. 9 is a section similar to Fig. 8, but taken on line V V in said Fig. 3. Fig. 10 is a plan view of a stiffener as molded in my molds, and is introduced for the purpose of explaining the operation of the die, which is secured in the bottom of the mold. The first three figures of these drawings are introduced only to illustrate the function and operation of the improvements in the molds.

In the bottom of the mold A, I form or secure a piece or die, *d*, which is of the exact desired form and size of the space *f*, which is the space bounded by and embraced within the base-flange, *b*, of the stiffener.

A recess, *e*, slightly deeper than the projecting thickness of die *d*, is formed in the plunger B, so that it receives the die when the mold and plunger are closed upon the stiffener.

When molding stiffeners of leather or leather-board the piece *d* determines the size of space *f* by preventing the stiffener-blank from being carried down into the mold by the friction of the plunger B farther than to bring its edges in contact with the die.

When molding stiffeners formed of rubber or other plastic materials the die *d* is omitted, as the space it would occupy serves to receive the surplus material of the blank, which, after the process of molding, is cut away.

The plungers which I use for forming stiffeners of rubber or analogous material are formed with an encircling broad shoulder, *g*, which closes down upon the verge or rim *i* of the mold, and thereby separates or cuts off the surplus material of the blank at its upper edge or border; but for molding stiffeners of leather or leather-board I form the plunger with a shoulder, *h*, which is of the thickness of the edge of the stiffener, and passes slightly into the mold, as shown in Fig. 9.

In Figs. 1 and 4 the spring-holder *j* is shown, which is formed of a thin ribbon of elastic metal inserted, as shown, in a square hole in the body of the mold, the ends of which spring serve to secure the stiffener in position by catching over the rim thereof.

I claim as my invention—

1. In a boot and shoe stiffener mold and plunger, the overlapping shoulder *g* and corresponding rim *i*, arranged substantially as described and shown.

2. In a boot and shoe stiffener-mold plunger, the shoulder *h*, formed to enter the orifice of the mold, substantially in manner as and for the purposes specified.

3. In combination with the mold A, the spring-catch *j*, constructed of a ribbon of metal, and inserted in a passage in the mold, with self-contained spring-friction, substantially as and for the purposes specified.

4. In a stiffener-mold, the die *d*, having a configuration or outline of the size and form of the required space *f* inside the base-flange *b* of the stiffener, substantially as specified.

WILLIAM C. WISE.

Witnesses:

FRANK T. WARE,

EUGENE HUMPHREY.