

No. 754,405.

PATENTED MAR. 8, 1904.

E. O. KRENTLER.
LAST SUPPORT.

APPLICATION FILED JUNE 15, 1903.

NO MODEL.

Fig. 1.

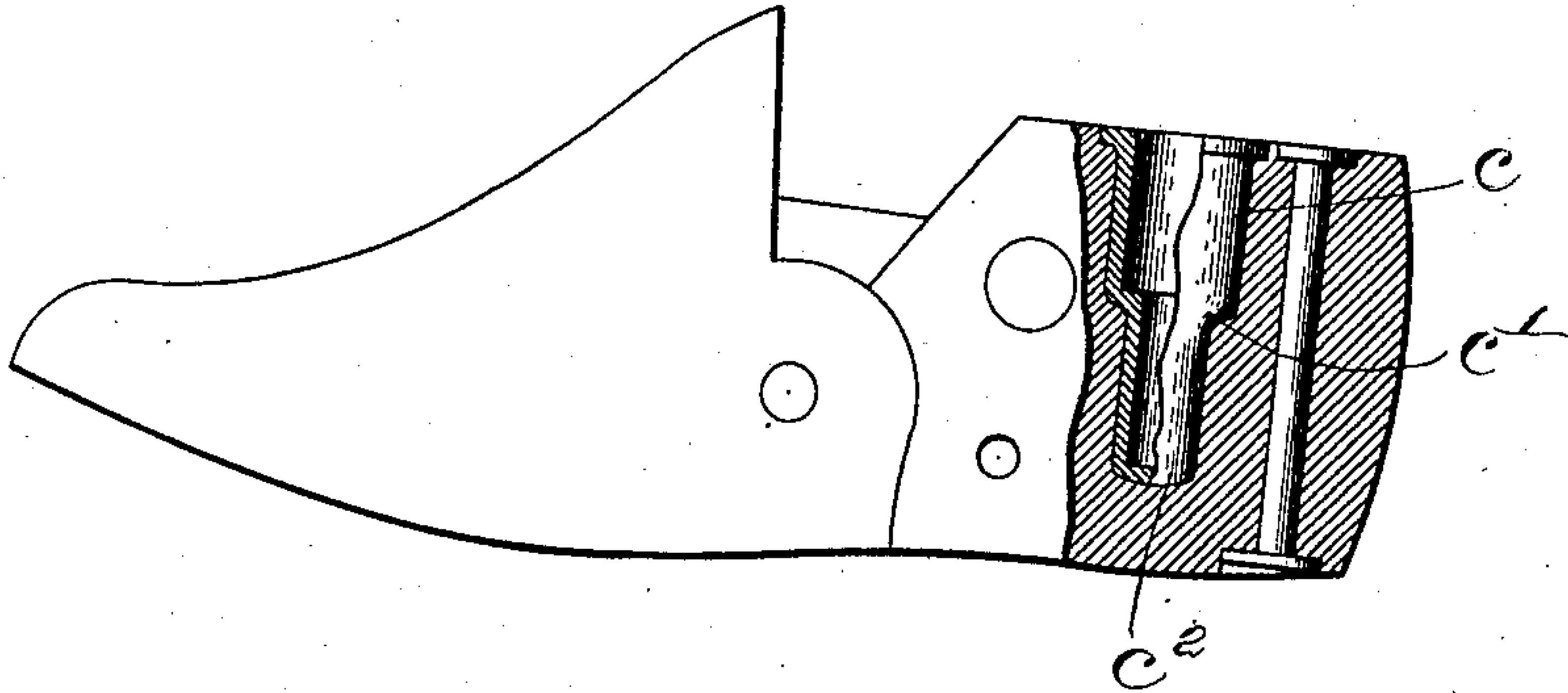


Fig. 2.

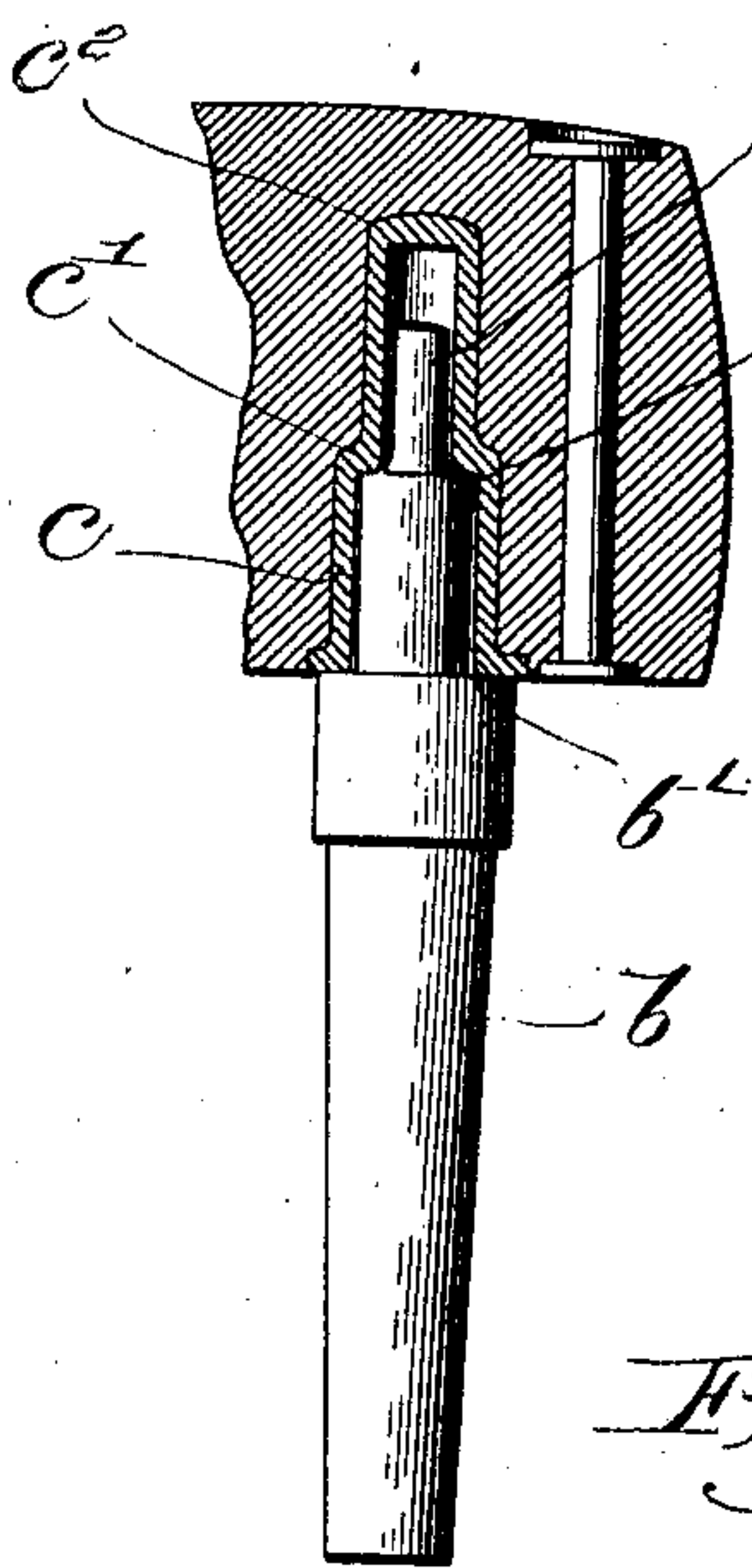


Fig. 3.

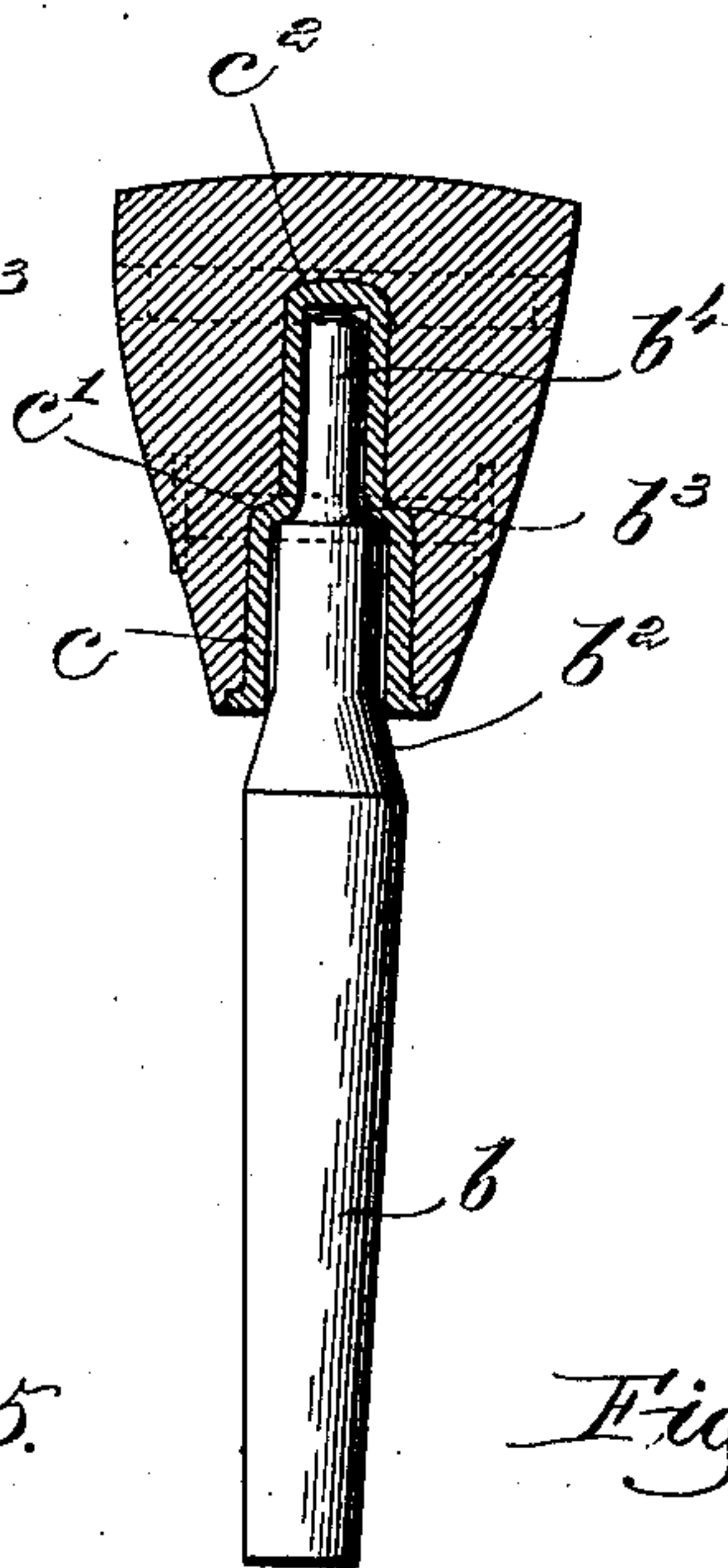


Fig. 4.

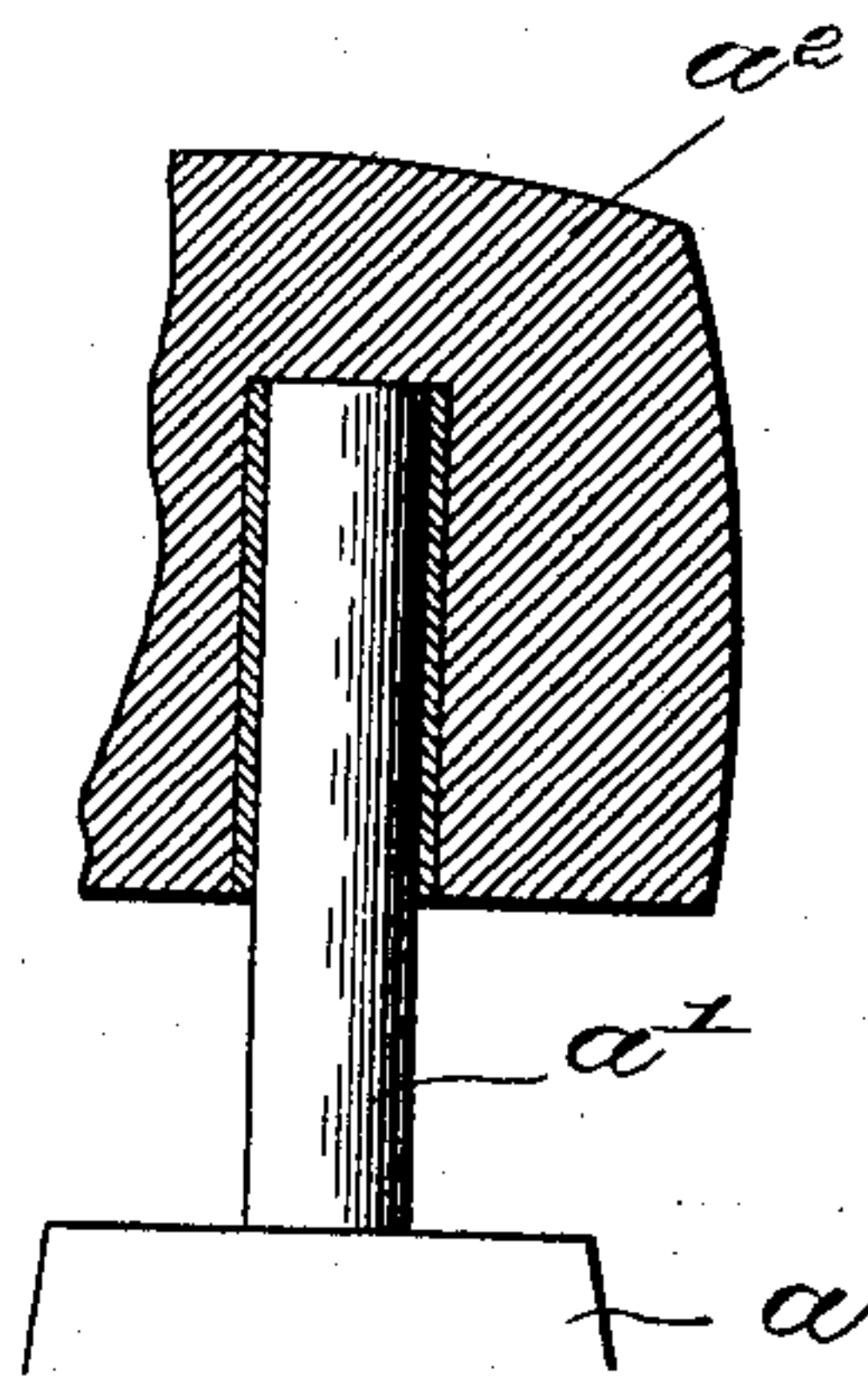


Fig. 5.

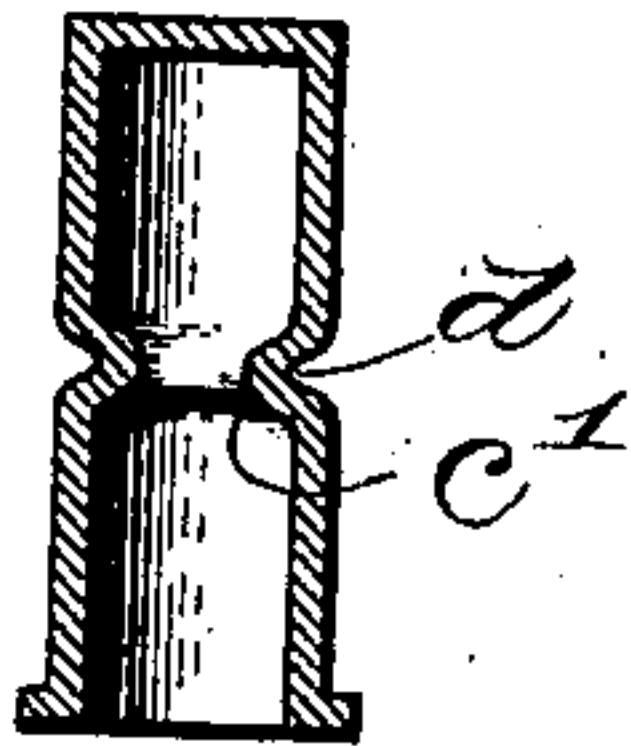
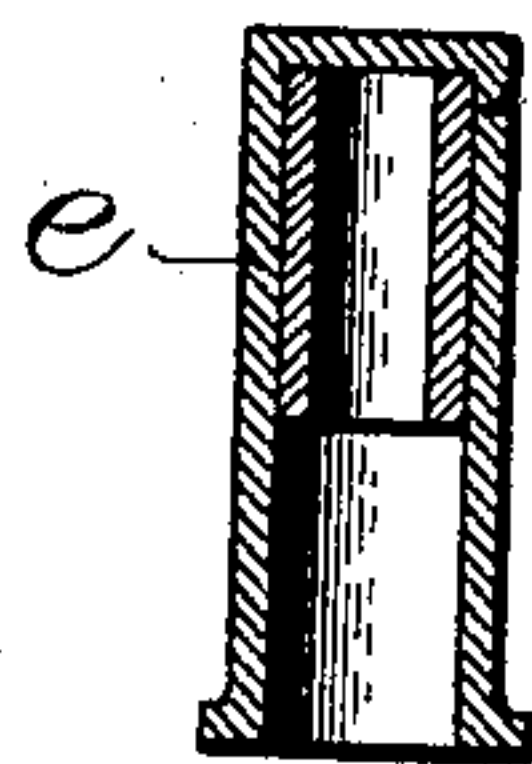


Fig. 6.



Witnesses:

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UNITED STATES PATENT OFFICE.

EDWIN O. KRENTLER, OF DETROIT, MICHIGAN, ASSIGNOR TO KRENTLER-ARNOLD HINGE LAST COMPANY, OF DETROIT, MICHIGAN, A CORPORATION OF WEST VIRGINIA.

LAST-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 754,405, dated March 8, 1904.

Application filed June 15, 1903. Serial No. 161,408. (No model.)

To all whom it may concern:

Be it known that I, EDWIN O. KRENTLER, of Detroit, county of Wayne, State of Michigan, have invented an Improvement in Last-Supports, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention is an improvement in the heel end of lasts, and relates more particularly to the means for supporting the last in inverted working position in various of the operations required in the manufacture of shoes.

In certain forms of lasts, and particularly in small lasts or cacks, large numbers of the lasts are broken because the last-supporting means engages only at the bottom of the thimble-hole, so that when the heel is hammered (as is necessary and usual in making shoes) the wood quickly splits or breaks down between the bottom of the spindle-hole and the bottom of the last. Accordingly in the present invention I have provided supporting means for the last consisting of a supporting tool or spindle having a shoulder and a thimble having a bearing-ledge for receiving said shoulder.

Further details of construction and advantages of my invention will be pointed out in the course of the following description, taken in connection with the accompanying drawings, in which I have shown a preferred embodiment of the invention, and the latter will be more particularly defined in the appended claims.

In the drawings, Figure 1 shows a hinged last or cack ready for use, parts being broken away for clearness of illustration. Fig. 2 is a fragmentary view thereof, in longitudinal section, showing the entire supporting means. Fig. 3 is a similar view in vertical cross-section. Fig. 4 is a view similar to Fig. 2, showing the old form of construction. Figs. 5 and 6 are central vertical sections of different forms of thimble for carrying out my invention.

While my invention is applicable to all sizes and kinds of lasts, it is particularly efficient in small lasts, and accordingly I have herein illustrated it in connection with a child's last, known

in the trade as a "cack." These lasts are small, and consequently there is very little wood to receive the necessary parts which they must contain, the result being that the wood is cut into to such an extent that there is little strength left for retaining the inserted parts in proper position and affording sufficient strength, so that when such lasts are put on the usual jack, as shown in Fig. 4, said jack having a leg *a*, provided with a spindle *a'* of proper length for adults' lasts, the upper end of the spindle bears against the bottom of the thimble or, if the latter is of the open-ended kind, directly against the wood at the narrow place *a''*, (shown in Fig. 4,) and when the workman pounds on the heel end of the last he quickly batters down the wood and drives the spindle *a'* through or into the last, splitting and ruining the same. To obviate these and other objections, I provide a supporting means consisting of a shouldered spindle and an internally-shouldered thimble fitting each other and coöperating to bring the strain directly on the thimble and distribute the same therefrom more generally to the wood. The spindle, as shown in Figs. 2 and 3, has a tapered lower end *b*, adapted to fit any jack or other machine in which it may be placed, and a shoulder *b'*, Fig. 2, or tapered portion *b''*, Fig. 3, and a shoulder *b'''* and a small extension *b''''* therefrom, and the thimble has a tubular portion *c*, fitting the corresponding part of the spindle, and an internal ledge or shoulder *c'*, abutting against the shoulder *b'''* of the spindle, and a smaller hollow extension *c''* for receiving the extension *b''''*.

It will be apparent to those skilled in the art that my invention may be carried out in various embodiments differing in minor details from the form and arrangement herein shown without departing from the spirit and scope of certain of the claims.

Any old or preferred form of external shape of thimble may be employed, although, preferably, the thimble will have substantially the same external shape as internal shape, as it is convenient to make the same from drawn or rolled metal, the invention residing, however,

in the interlocking or mutually engaging and supporting surfaces of the spindle and inside of the thimble, whereby they support and brace each other intermediate their ends and in the form shown in Fig. 3 also at their ends. For example, in Fig. 5 I have shown the thimble as provided with a shoulder c' by simply having a groove or bulge rolled in it, as indicated at d , leaving the rest of the thimble substantially the same size above and below said shoulder, and in Fig. 6 I have shown the shoulder as provided by means of inserting in the bottom of an ordinary thimble a short section e of smaller tube.

The spindle enters the last substantially as deep as has been the custom, thereby getting the customary leverage or strength and stability of position; but the thrust or support against downward pressure is brought nearer the crown or top of the last than heretofore, being thereby distributed to better advantage and giving greatly-increased strength.

The form of spindle having a shoulder b' , as shown in Fig. 2, is best adapted to larger sizes of lasts, while the form shown in Fig. 3, where the spindle has a tapered portion b^2 , is preferred for the very small lasts, which, as indicated in Fig. 3, are extremely narrow, so that the thimble extends substantially from edge to edge at the top of the last, and if the spindle or post had a supporting-shoulder, as shown at b' , the lining of the shoe would be caught, and the shoulder b' would therefore interfere with the proper and convenient manipulation of the last and its support. As shown in the drawings, the spindle and thimble get two mutual bearing-surfaces, the form shown in Fig. 2 having a bearing at the top against the shoulder b' of the spindle and intermediate the thimble between the shoulders b^3 c' , and in the form shown in Fig. 3 there is a bearing between the shoulders b^3 and c' and between the bottom of the thimble and the end b^4 of the spindle.

The present application is a continuation of my prior application, Serial No. 139,153, filed January 15, 1903.

Having described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The herein-described last-support, comprising a thimble having an internal shoulder intermediate its length, and a spindle fitting said thimble and having an external shoulder for engaging said internal shoulder.

2. The herein-described last-support, comprising a thimble provided with an internal cavity having larger diameter at its upper end than at its lower end, and a spindle provided with a reduced portion for extending substantially the length of said thimble for maintaining the last in stable position, and intermediate its length within said thimble provided with a portion fitting and bearing against said thimble intermediate the ends thereof.

3. The herein-described last-support, comprising a thimble and spindle provided with mutually engaging and supporting surfaces between the top and bottom of the thimble.

4. A thimble set solidly in the heel end of a last, said thimble having an internal shoulder intermediate its length, combined with a spindle having a reduced portion for extending approximately the length of said thimble for maintaining the last in stable position, a shoulder a short distance from its end for bearing against the shoulder of the thimble, and a tapered portion b^2 located adjacent the outer end of said thimble.

5. A thimble, having its walls of substantially uniform thickness throughout its length, said walls having an internal ledge or shoulder approximately midway of its length, combined with a jack-spindle for bearing against said ledge or shoulder.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWIN O. KRENTLER.

Witnesses:

G. A. KRENTLER,
CHARLES F. PYRN.