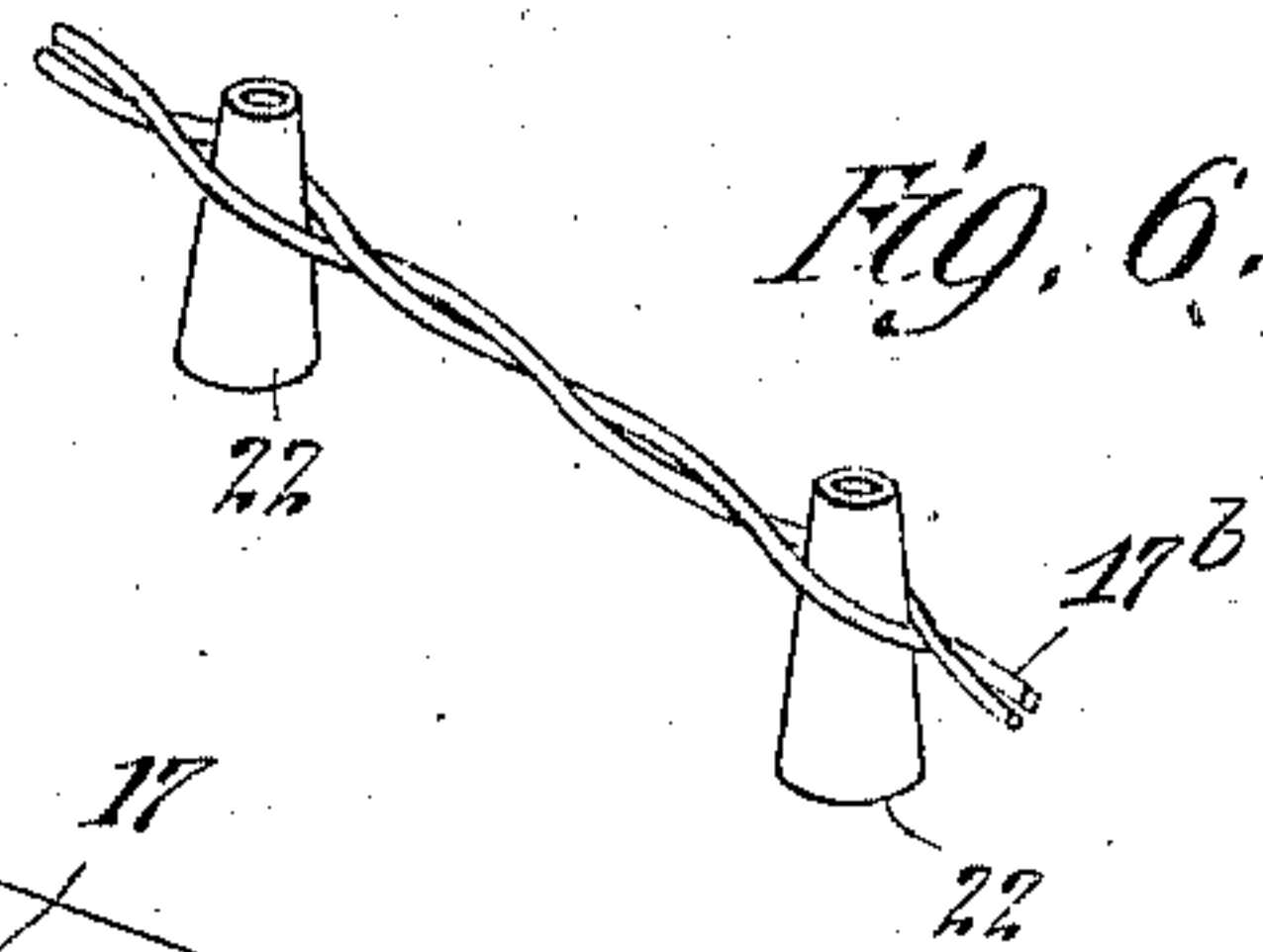
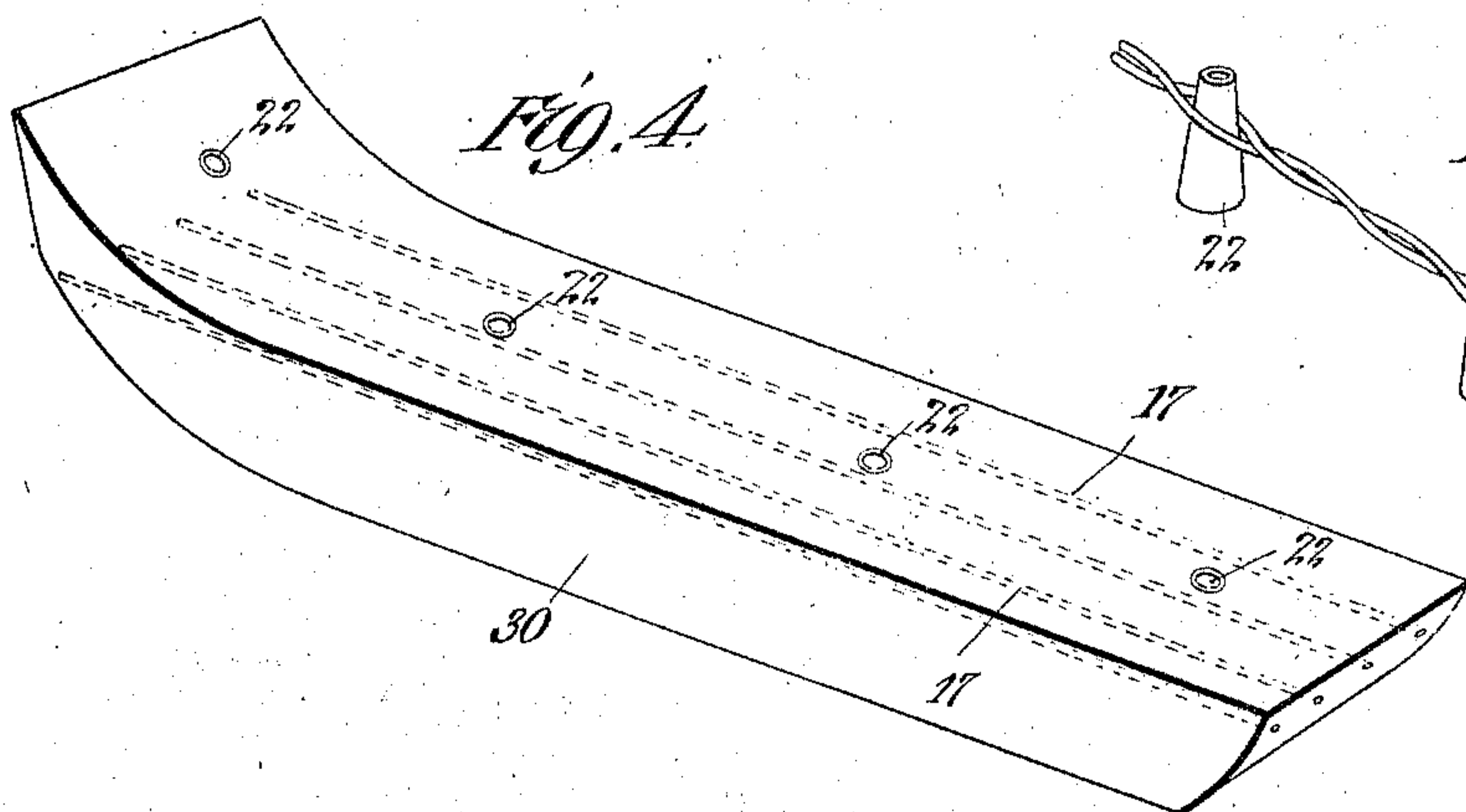
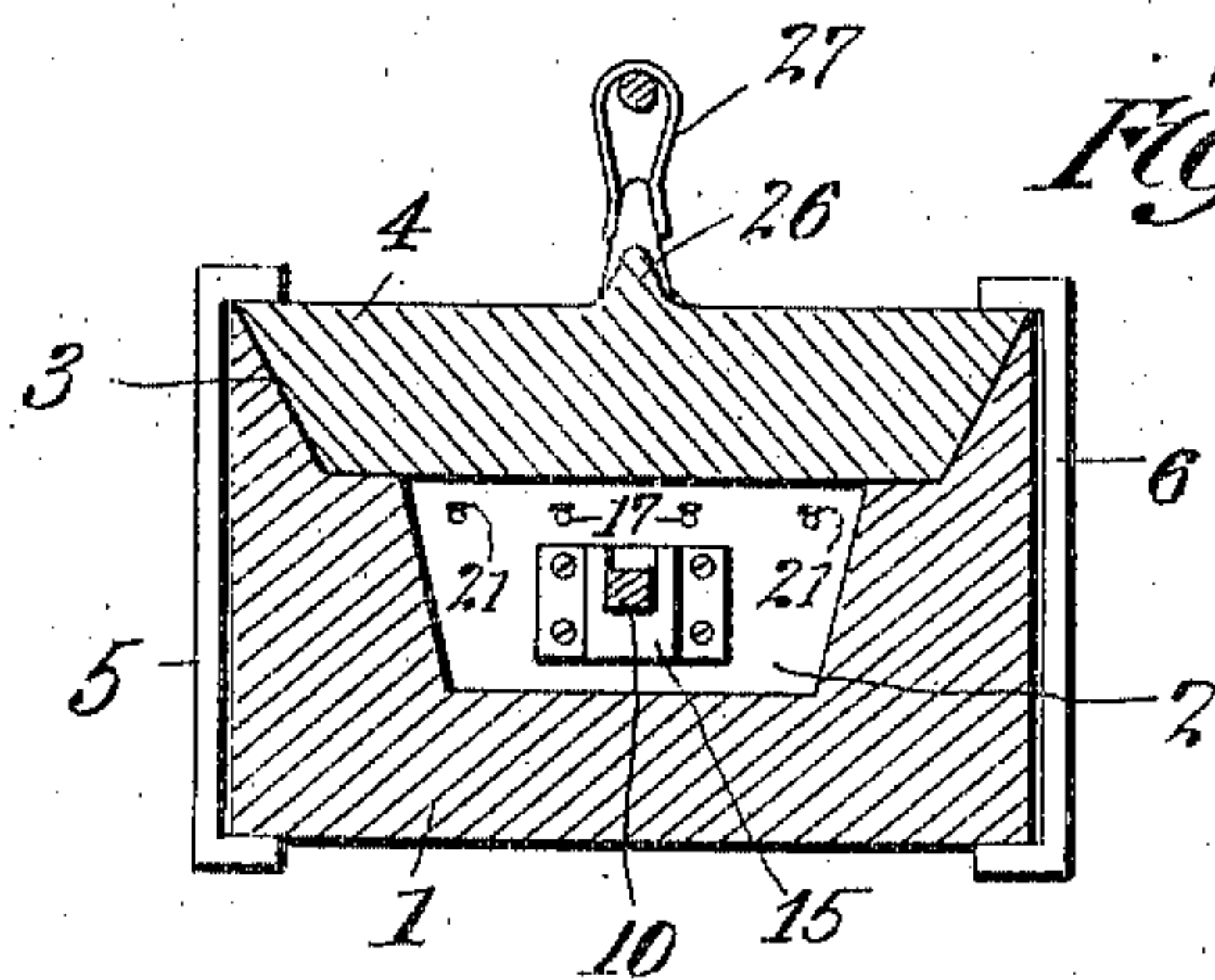
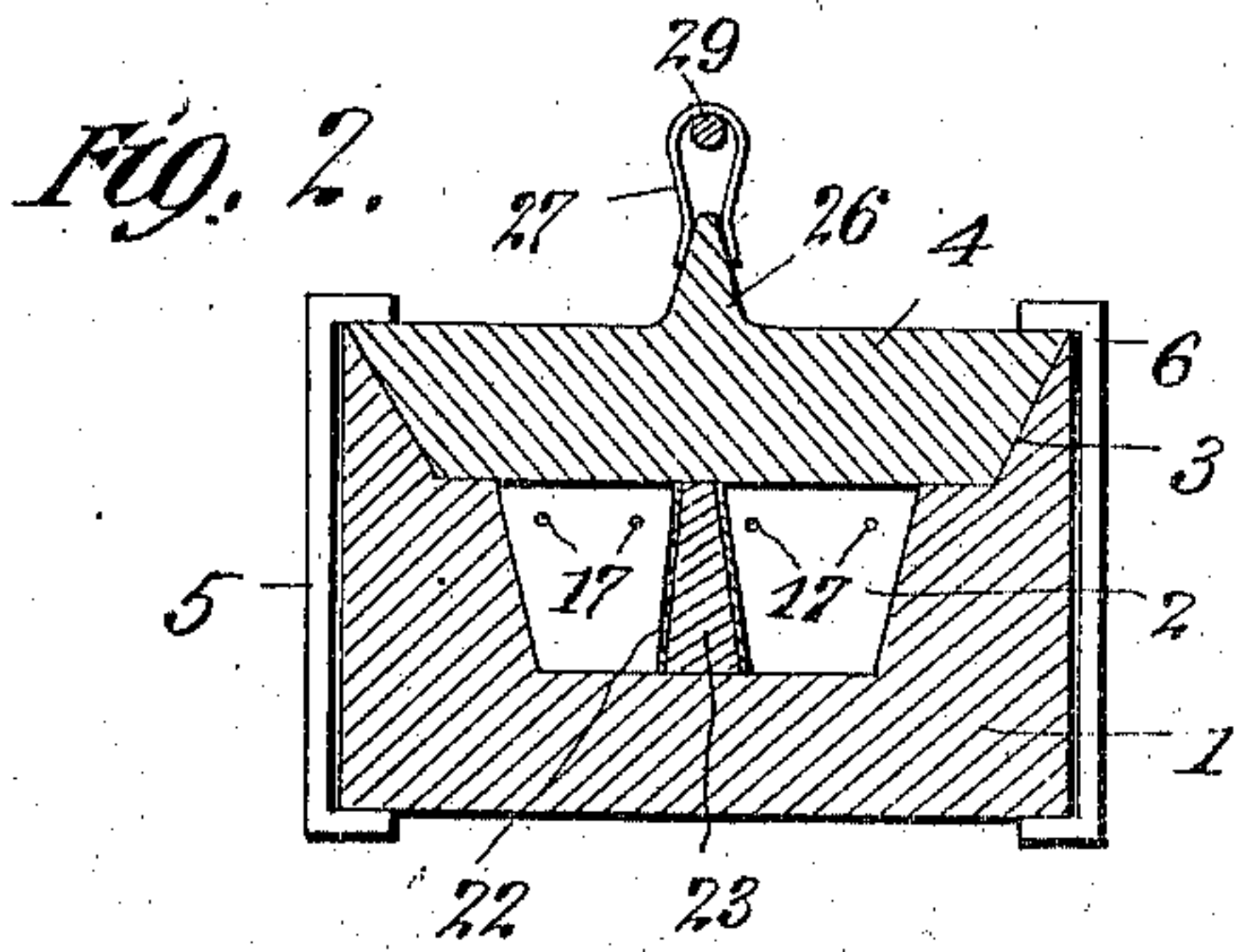
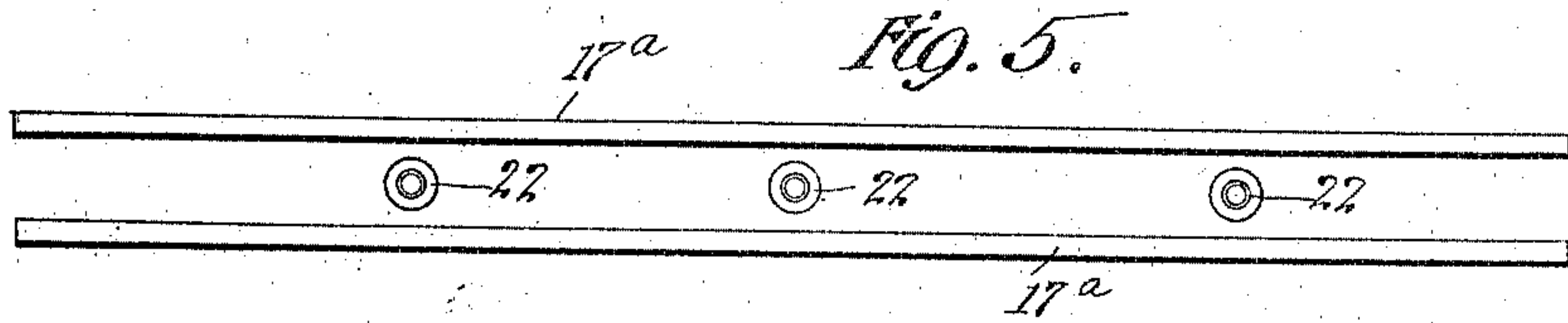
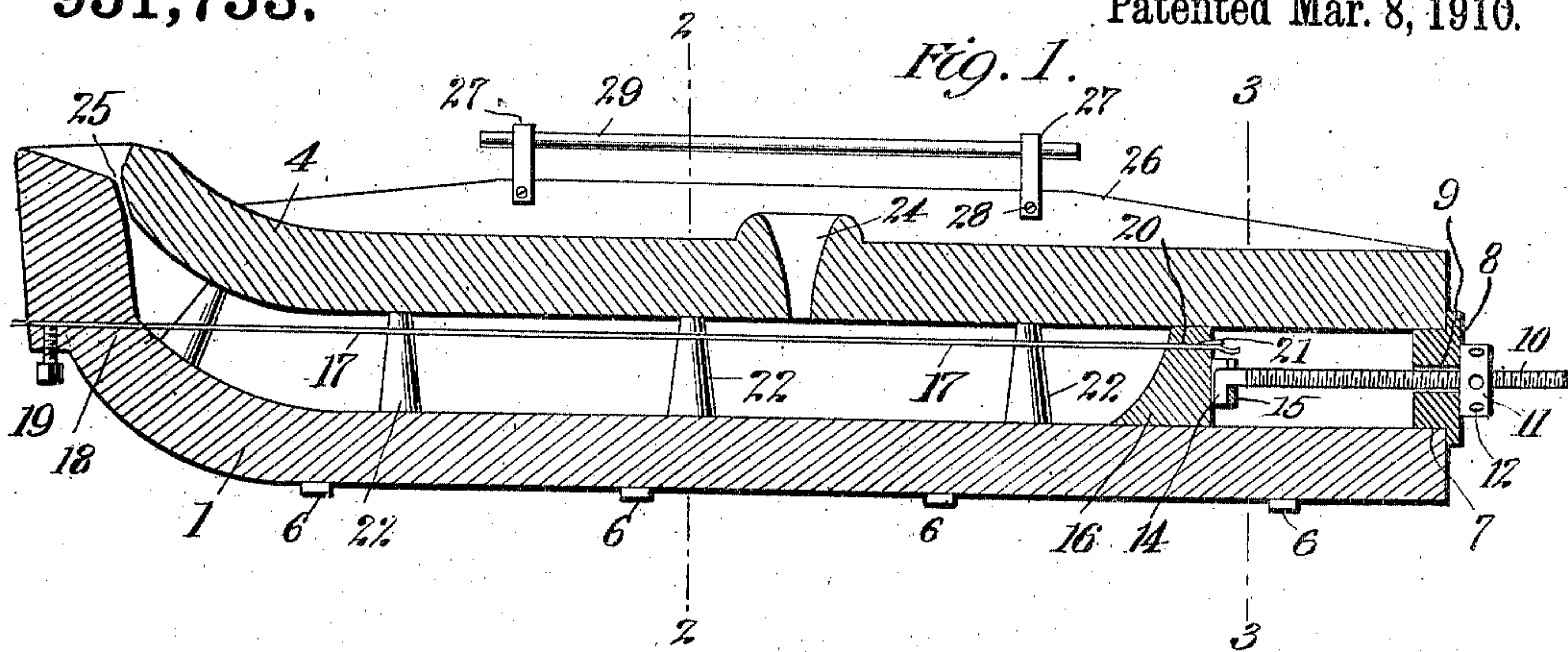


W. E. ANDERSON.
MOLD.
APPLICATION FILED AUG. 4, 1908.

951,753.

Patented Mar. 8, 1910.



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UNITED STATES PATENT OFFICE.

WILLIAM E. ANDERSON, OF JAMESTOWN, NEW YORK.

MOLD

951,753.

specification of Letters Patent.

Patented Mar. 8, 1910.

Application filed August 4, 1908. Serial No. 446,896.

To all whom it may concern:

Be it known that I, WILLIAM E. ANDERSON, a citizen of the United States, residing in Jamestown, Chautauqua county, State of New York, have invented certain new and useful Improvements in Molds, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to molds or flasks for casting articles and I have illustrated my invention in this class of devices in connection with a mold suitable for casting metallic sled shoes, though the invention, of course, is not limited to the same.

The principal objects of the present invention are to provide a new method for casting in molds; reinforced or strengthened articles, such as iron sled shoes and to produce thereby a cast reinforced article of a comparatively light weight and great strength.

With these and other objects in view, my invention consists in the various novel and peculiar steps in the method and the arrangements and combinations of the different parts of the mold, all as hereinafter fully set forth and then pointed out in the claims.

I have illustrated my invention in the accompanying drawings, wherein;

Figure 1 is a central longitudinal sectional view of my improved mold shown with the hollow metallic lining or bushings for the perforations in the cast body, as in place, likewise the longitudinal strengthening members, the mold being ready for receiving the molten material to produce the casting. Figs. 2 and 3 are views of cross sections of the mold, the plane of the sections being indicated by lines 2—2 and 3—3, respectively, in Fig. 1. Fig. 4 is a perspective view of a cast metal shoe containing the vertical metallic linings or bushings in the perforations thereof and the longitudinal strengthening members, the latter being shown in dotted lines. Fig. 5 is a detached view in plan showing the relative locations of the hollow metal linings or bushings and the longitudinal strengthening members. Fig. 6 is a perspective view of a portion of a modified form of the reinforce members, in the way of the wires twisted upon them-

selves with the metal linings and bushings between the twisted parts of the same.

Referring to the drawings in which like numbers of reference designate like parts throughout, 1 is the main and lower part of the mold having the matrix cavity or chamber 2 and with its upper edges rabbeted at 3 to receive the cover or upper part of the mold 4. The two parts 1 and 4 of the mold are clamped firmly together by the detachable clamps 5 and 6. One end of the casting chamber or matrix 2 is open at the point 7, for the reception of a removable yoke or part 8 having a central perforation 9 through which passes a screw-threaded rod 10 which is provided upon the exterior of the yoke with a tightening nut 11 having peripheral holes 12 therein for receiving a tool or part by which the nut is turned. The inner end of the screw rod 10 is bent at 14 for detachable engagement with the socket formed in a bracket 15 which is mounted upon the outer face of the adjustable end member 16 of the mold. This adjustable end member 16 is designed to fit snugly within the casting chamber 2 and so as to be movable longitudinally therein to adjust it for the desired length of the article which is to be cast, and the screw rod 10 is made of sufficient length to permit of the desired range of movement of the piece 16. By setting the movable end 16 at the desired point in the casting chamber, the length of the cast article is determined and the position of this piece may be varied to vary the length of the article. Within the casting chamber 2 are strung reinforce members or rods 17 which in Figs. 1, 2, 3 and 4 are shown as consisting in metallic wires each of which passes through a perforation 18 in one end of the part 1 of the mold and is provided with a set screw 19 for clamping the end of the wire therein. The other end of each wire passes through a perforation 20 in the movable end 16 and the wires are twisted or tied at 21 upon the exterior of the movable part 16. The reinforce members 17 being first secured in the movable part 16 and the latter then set in the position in which it is to be used in the mold, the reinforce members 17 are drawn taut at the ends extending through the perforation 18 and are then clamped by the set screw 19. Under this condition, a slight turning of

the nut 11 on the screw rod 10 will make sure of the reinforce members 17 being taut. In this way the movable end 16 serves the double function of determining the length of the article to be cast and assisting in tautening the reinforce members.

In casting iron sled shoes, the same are formed with tapering vertical perforations, for receiving attaching rivets or screws by means of which the shoe is held in place for use. In order to form these vertical perforations in the shoe, I provide a set of hollow tapering or conical bushings or linings 22 which are set on their larger ends, on the bottom of the casting chamber 2 and on the longitudinal center line of the same, as indicated in Fig. 1. These linings or bushings I make of a suitable thin stiff metal such as tin and I insert within the same solid removable plugs 23, so that the bushing may maintain its true shape throughout the casting process and may be finally secured in place in the casting as a lining for the vertical perforations. This also is an important feature of the present improvement and I have found that it gives excellent results. After the cast article is removed from the mold with the plugs 23 in the bushings 22, the plugs are knocked out for subsequent use in casting other articles.

The top or cover 4 of the mold is provided near one of its edges with a pouring hole 24 through which the molten metal is poured into the mold when the same is closed for the casting process. At one end of the mold between the cover and corresponding end of the body of the mold is formed another pouring hole 25 into which the metal is also introduced in order to fill the high point in the matrix chamber 2. Upon the exterior of the cover 4 is formed a longitudinally extending rib 26 for strengthening the cover and this rib also serves as the attaching point for the straps 27 which are riveted at 28 thereto. A rod 29 is inserted in the straps 27 so as to provide a convenient handle for the cover.

In Fig. 5, the reinforcing members 17^a are shown as flat bands or strips of metal, instead of the ordinary wire.

In Fig. 6 the reinforce wires 17^b are twisted upon each other and between the twisted strands of the wires are placed conical bushings or linings.

In Fig. 4 I have shown a cast iron sled shoe having the reinforce wires 17 running longitudinally through the same and the metal linings or bushings 22 secured in the vertical perforations of the shoe 30, ready for use.

It will, of course, be understood that modifications may be made in the various differ-

ent parts of the improvements herewith set forth, without, however, departing from the spirit of the invention.

Having thus described my invention what I claim and desire to secure by Letters Patent is:—

1. A mold comprising a base member channeled or recessed to form a casting-chamber open at one end, a cover, a movable part adjustably mounted in the open end of said chamber and adapted to vary the length of the casting, a screw-threaded rod engaging said movable part, a detachable yoke or piece through which said rod loosely passes and adapted to be mounted across the open end of said chamber, and a nut on said threaded-rod acting against said yoke or piece as an abutment.

2. A mold comprising a casting-chamber and a cover therefor, one end of said chamber being open, a movable part adjustably mounted in the open end of said chamber, a screw-threaded rod engaging said movable part, a detachable yoke or piece through which said rod loosely passes and adapted to be mounted across the open end of said chamber, and a nut on said threaded-rod acting against said yoke or piece as an abutment.

3. A mold comprising a casting-chamber and a cover therefor, and movable hollow conical bushings or linings adapted to be placed on end in said casting-chamber at any desired point therein and cast in the article, and means for regulating the length of the casting.

4. A mold comprising a base member channeled or recessed to form a casting chamber having an integral wall at one end to close the same at that point and open at the other end, a movable part adjustably mounted in the open end of said chamber and means for adjusting it in said chamber, reinforce members adapted to extend through said casting chamber the closed integral end of said chamber being formed with apertures for receiving the reinforce members and set-screws projecting into said apertures for engaging and holding said reinforce members, the said movable part being provided with means for attaching thereto the other ends of said reinforce members and said part acting to stretch said members during the casting.

In testimony whereof, I have hereunto set my hand in the presence of the two subscribing witnesses.

WILLIAM E. ANDERSON.

Witnesses:

OLOF A. OLSON,
JOHN A. HAGGLUND.