

No. 632,695.

Patented Sept. 12, 1899.

G. W. BUTLER.

INSULATION FOR LEADING-IN WIRES OF SIGNAL BOXES.

(Application filed Jan. 30, 1899.)

(No Model.)

Fig. 1.

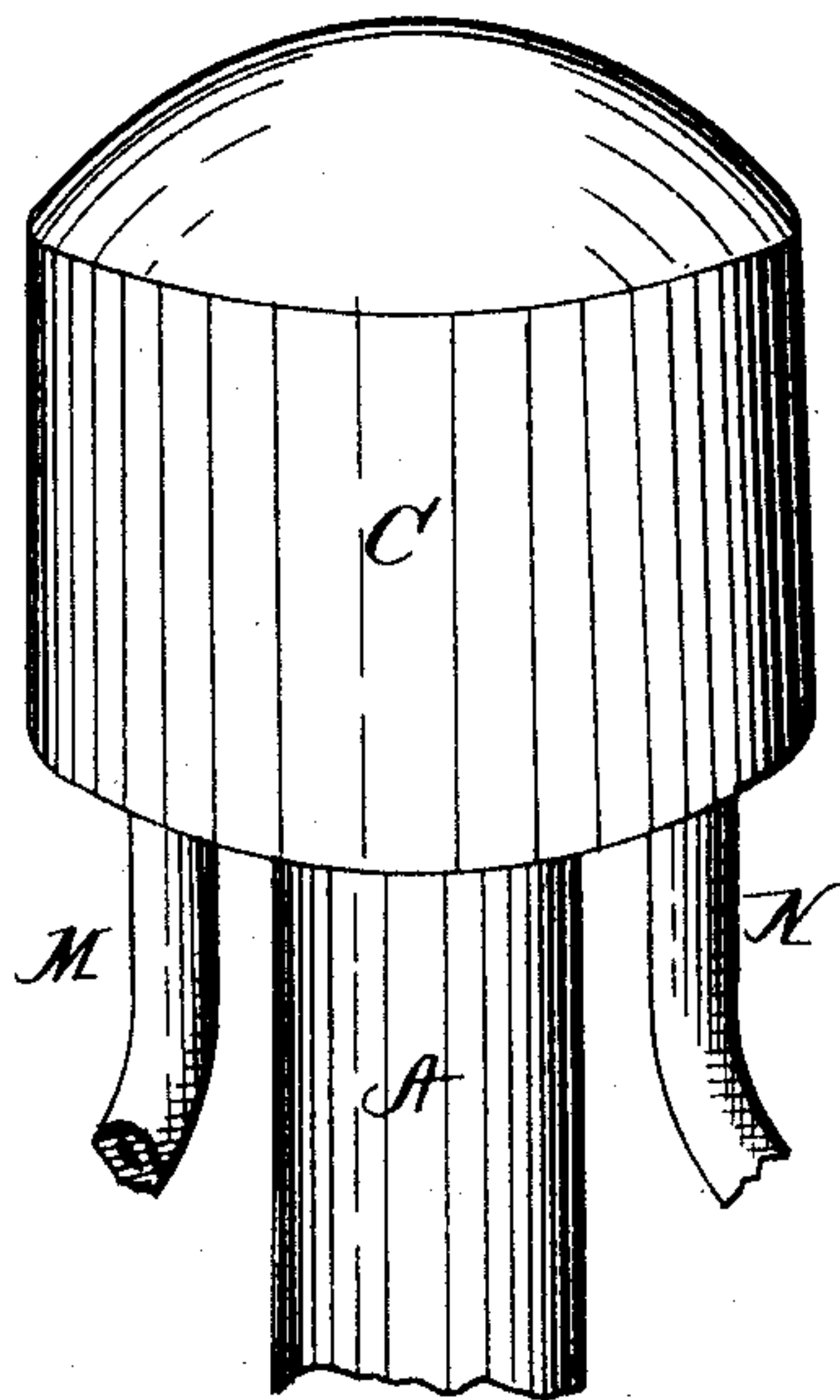


Fig. 5.

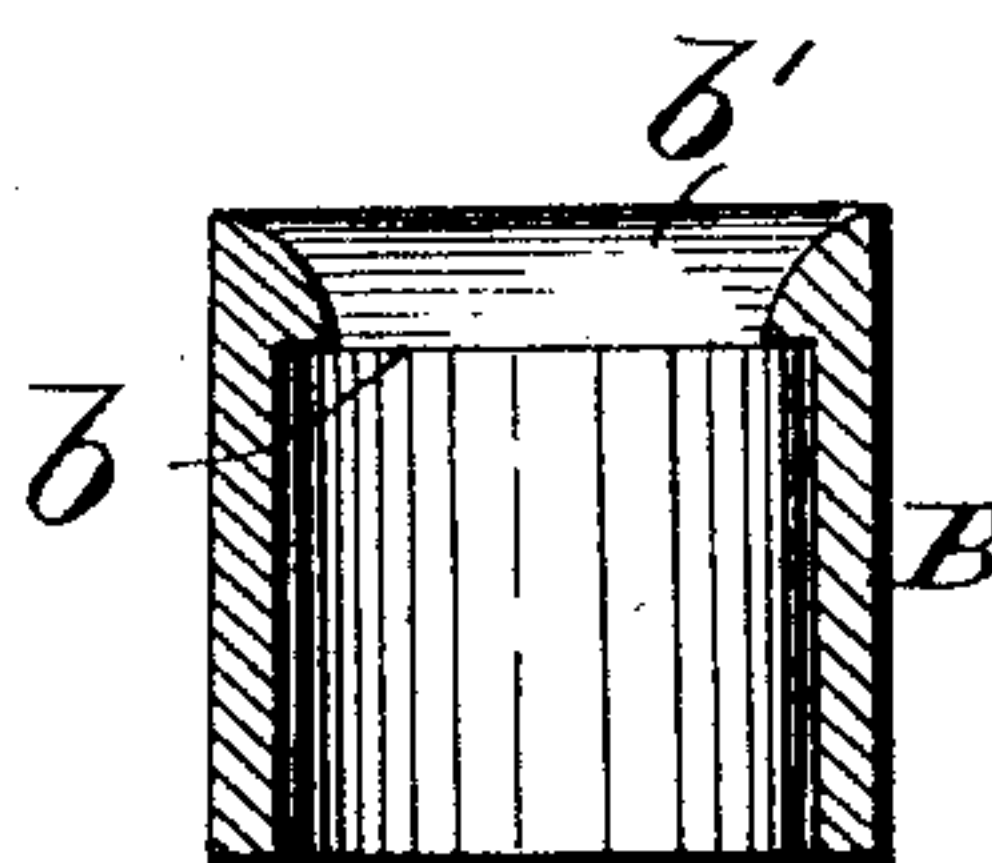


Fig. 2.

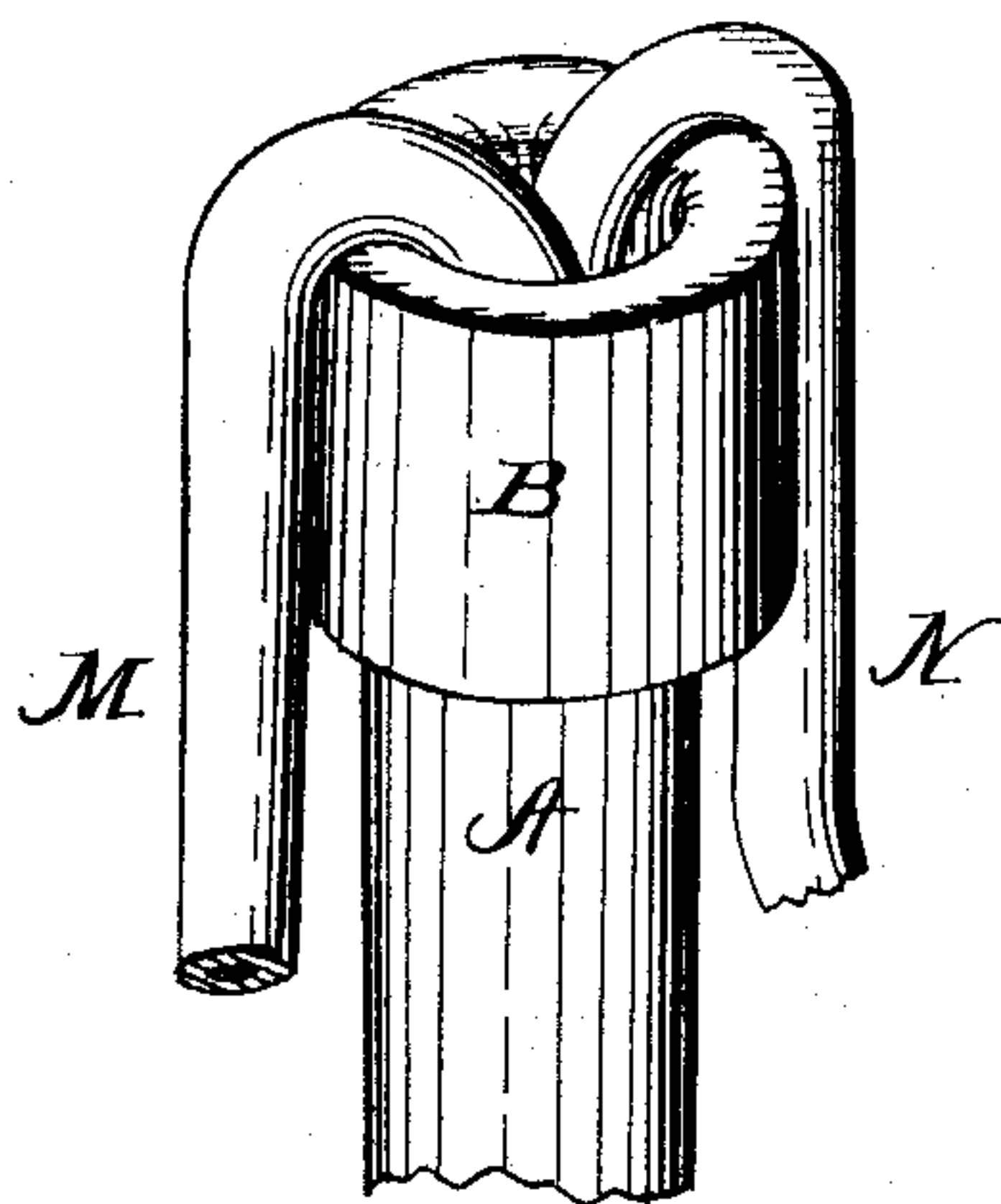


Fig. 3.

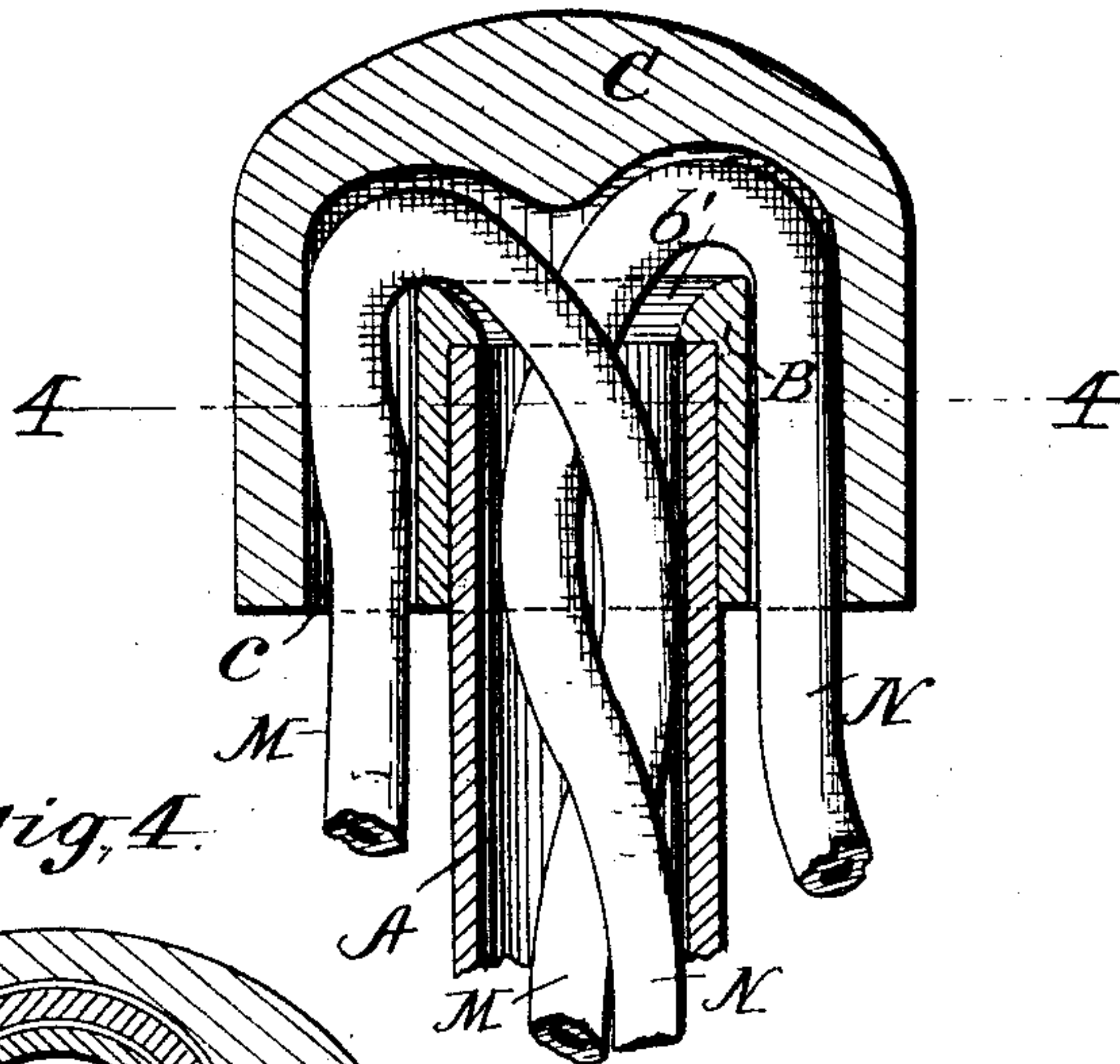
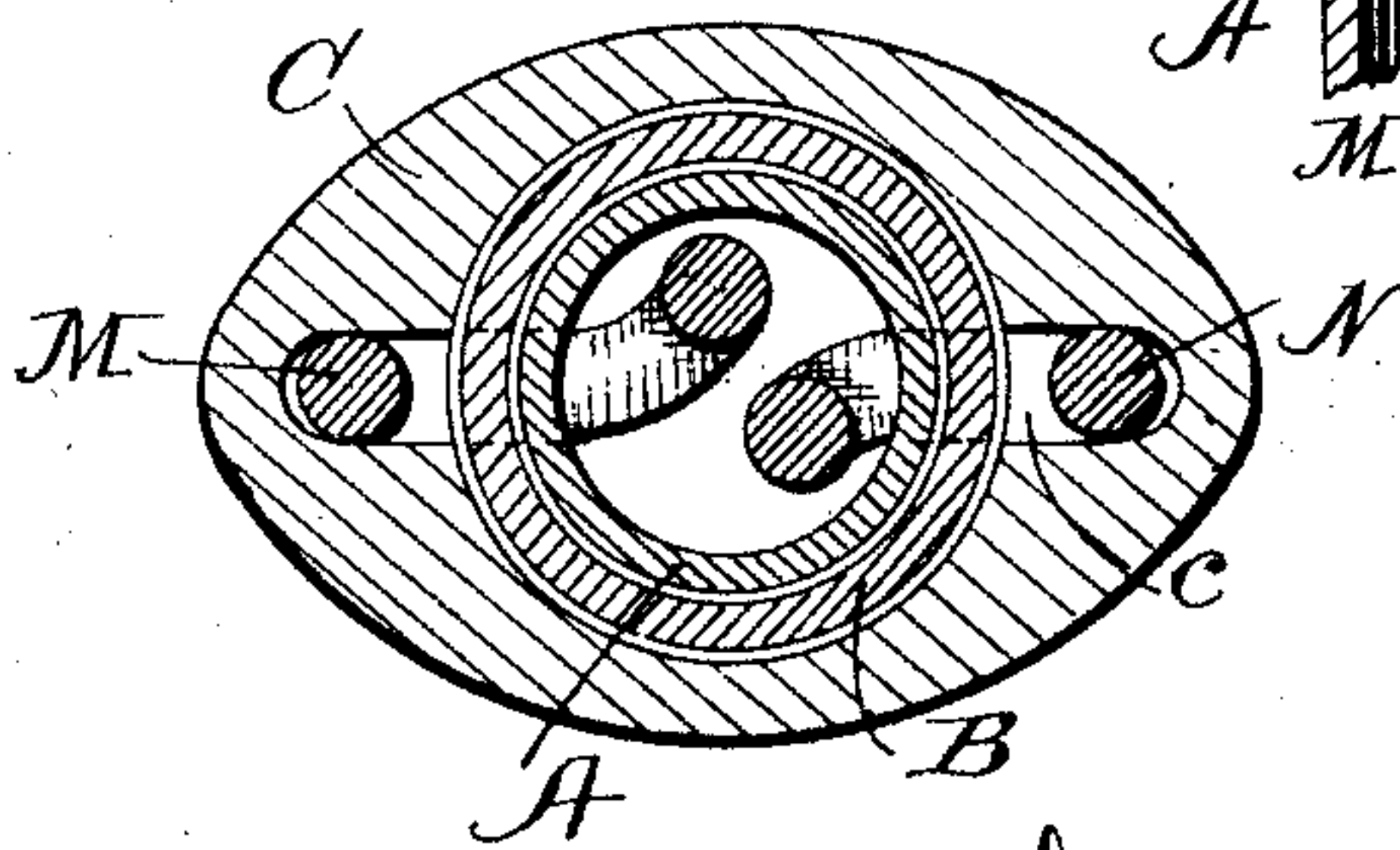


Fig. 4.



Witnesses.
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UNITED STATES PATENT OFFICE.

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INSULATION FOR LEADING-IN WIRES OF SIGNAL-BOXES.

SPECIFICATION forming part of Letters Patent No. 632,695, dated September 12, 1899.

Application filed January 30, 1899. Serial No. 703,941. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. BUTLER, a citizen of the United States, residing at Bloomington, in the county of McLean and State of Illinois, have invented certain new and useful Improvements in the Insulation of the Leading-In Wires for Signal-Boxes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of the present invention is to provide a safe and effective insulation of the leading-in wires of signal and fire-alarm boxes at the end of the tubular conduit as ordinarily employed. This conduit in the common form of signal-boxes is an iron pipe through which the insulated wires enter and leave the box, the wires being bent down over the upper edge of the pipe and a metal cap, having a socket with internal grooves to receive the wires, is seated on the end of the pipe, the wires extending out from below the cap. Much trouble, however, is experienced by the wearing through of the insulation of the wires at the point where they are bent over the edge of the iron pipe. Each wire has to make a sharp turn at this point, and in time the iron edge cuts through the wire covering and short-circuits the box.

The present invention consists of an improved insulating-cap device, as hereinafter described, which reduces very much the chance of the cutting through of the wire coverings and also maintains the insulation in the event of the wire covering being injured at this point.

In the accompanying drawings, Figure 1 is a view of the capped conduit-pipe of a signal or fire-alarm or like box, and Fig. 2 shows the same with the cap removed. Fig. 3 is a ver-

tical central cross-section, and Fig. 4 is a horizontal cross-section on the line 4 4 of Fig. 3. Fig. 5 is a sectional view of the shouldered insulating-ring.

The leading-in-wire conduit-pipe of an alarm or other like signal box is shown at A, and M and N are the electric wires. Seated on the end of the pipe A there is a collar B, made of porcelain or other insulating material, this collar having an internal shoulder *b*, that rests on the pipe edge, and a rounded flaring mouth face *b'*. The outer cap C conforms in its general features to the caps that have been heretofore used, except that it is made of porcelain or other suitable insulating material. It has a central socket to receive the end of the pipe A and the collar B, this socket having the opposed grooves *c c* to receive the wires M and N. The collar B having been seated on the end of the pipe A and the wires M and N turned down over it, as shown by Fig. 2, the cap C is readily slipped on over all, and even if the wire insulation does wear through at the bends the collar or ring cap effectually prevents any trouble therefrom.

What I claim as my invention is—

The combination, with a conduit-pipe, and the leading-in wires of a signal-box, of an insulating collar or ring fitting the end of said pipe and having a flaring mouth terminating in an internal shoulder to cover the edge of the pipe, and to permit the said wire being bent from the pipe over the mouth and down upon the outside of the collar or ring, and an insulating-cap fitting over the bent portion of the wires and covering the said collar or ring, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE W. BUTLER.

Witnesses:

WM. H. HUNTER,
JOHN T. LILLORD.