

No. 898,359.

PATENTED SEPT. 8, 1908.

T. B. HAFSTAD.
BOTTLE STOPPER.
APPLICATION FILED SEPT. 6, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

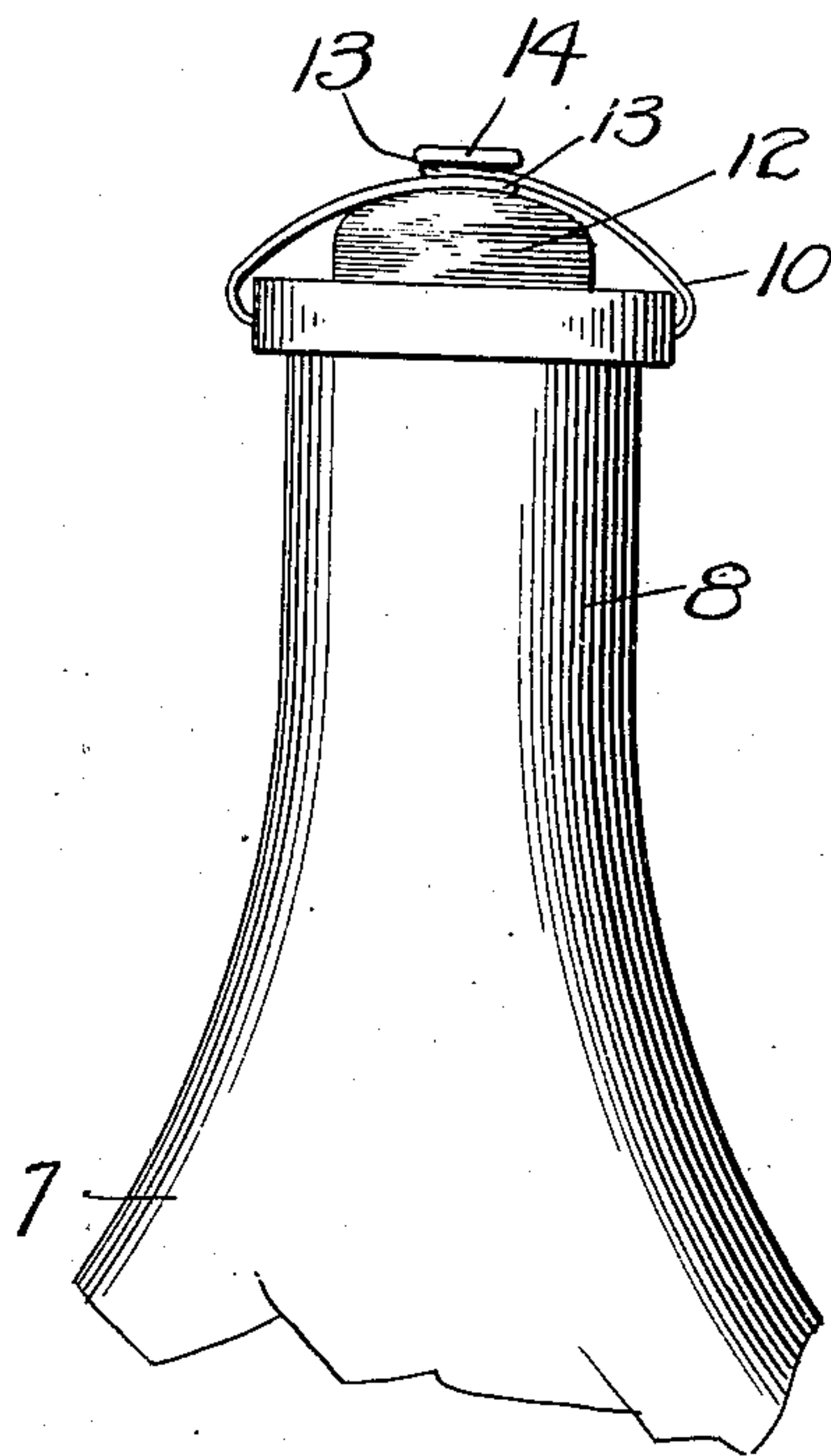


Fig. 2.

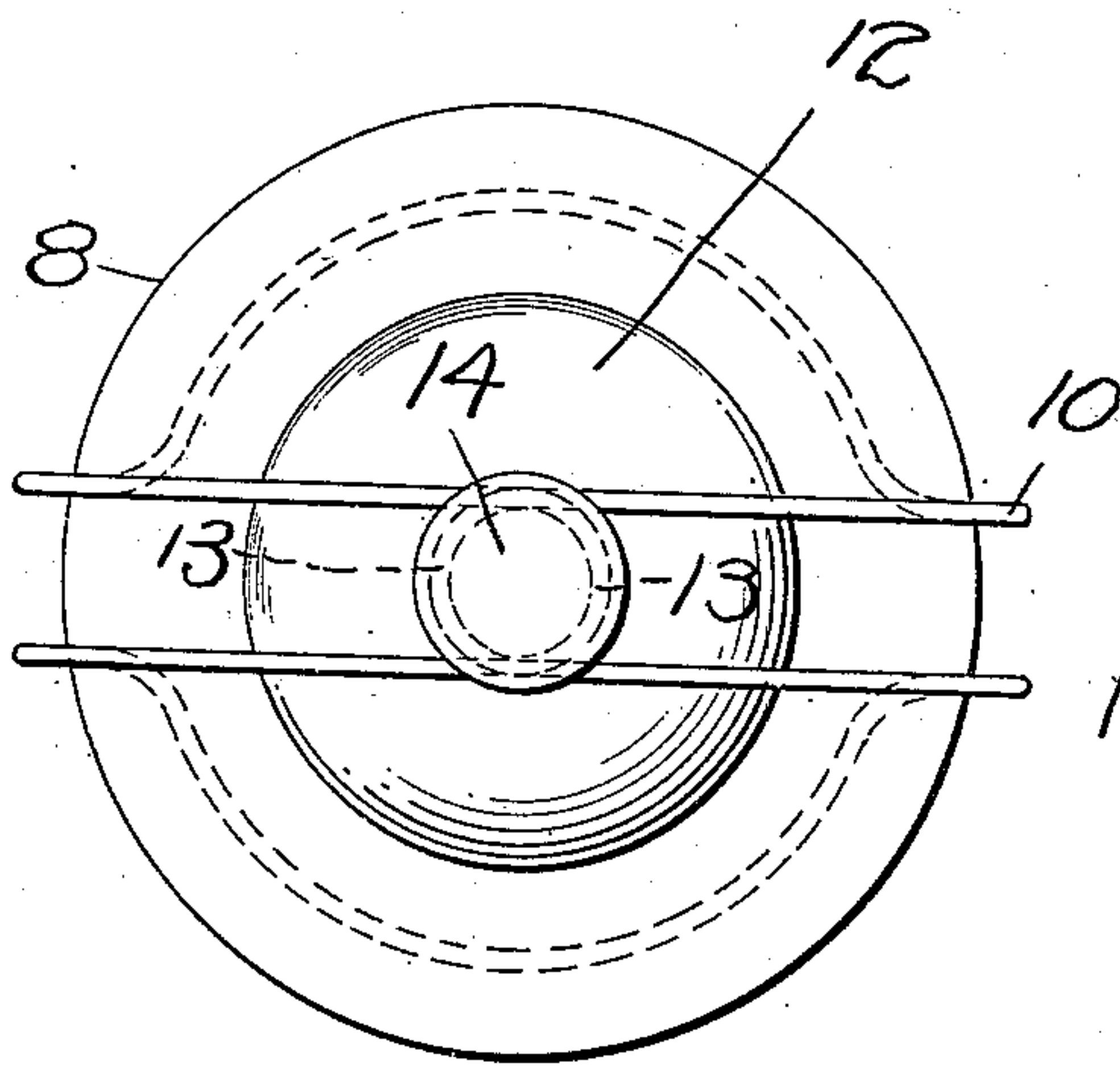
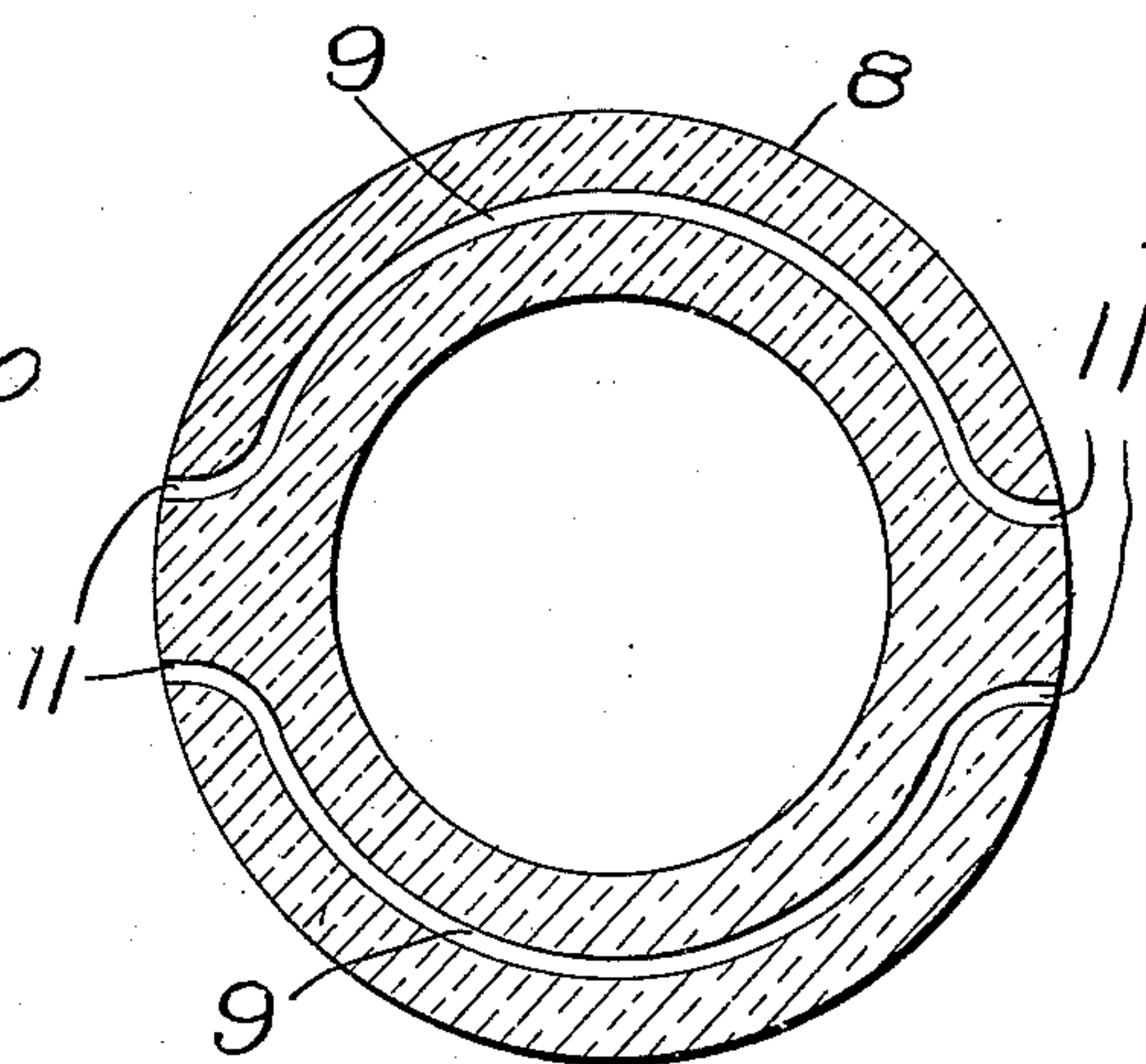


Fig. 3.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 4.

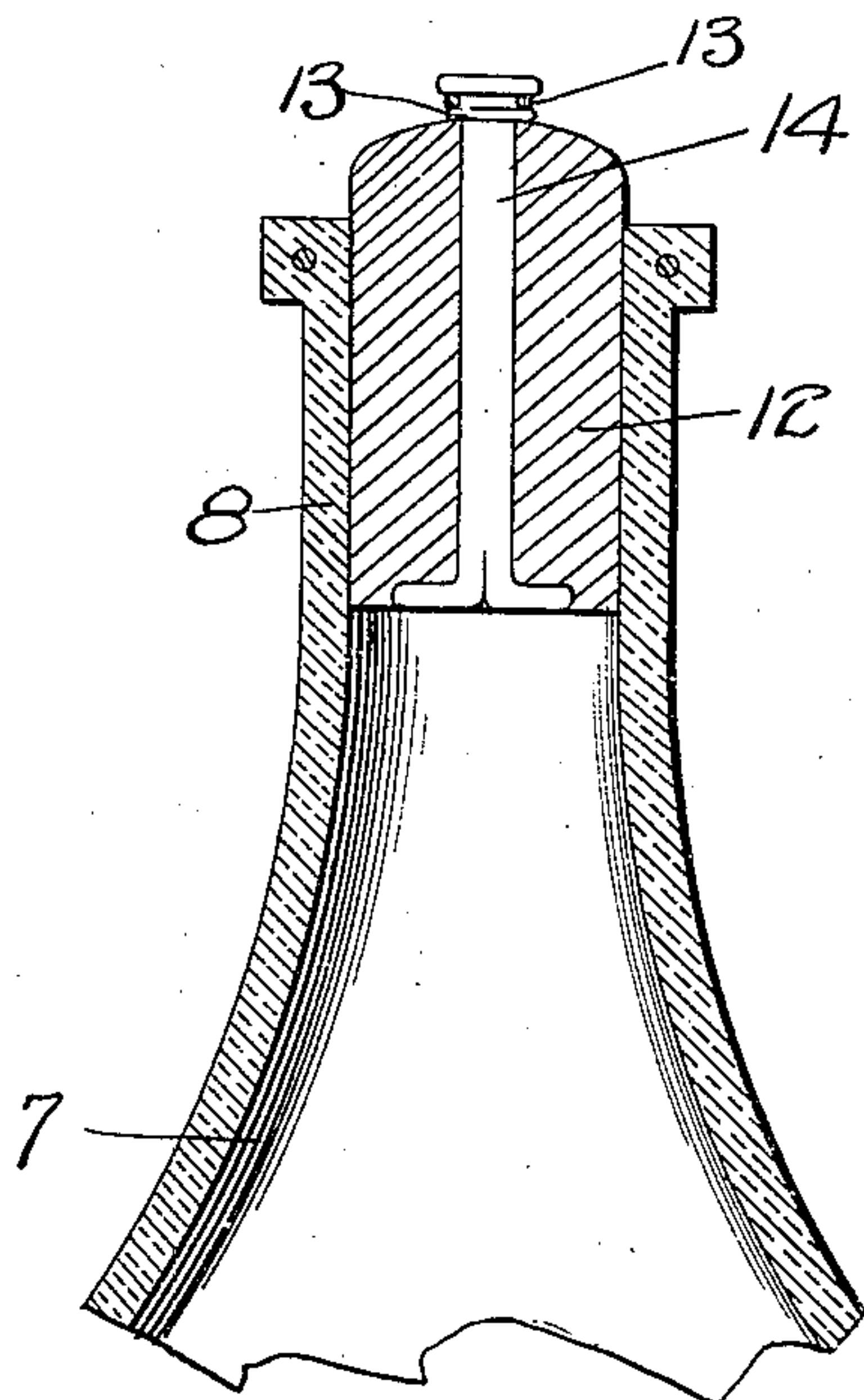
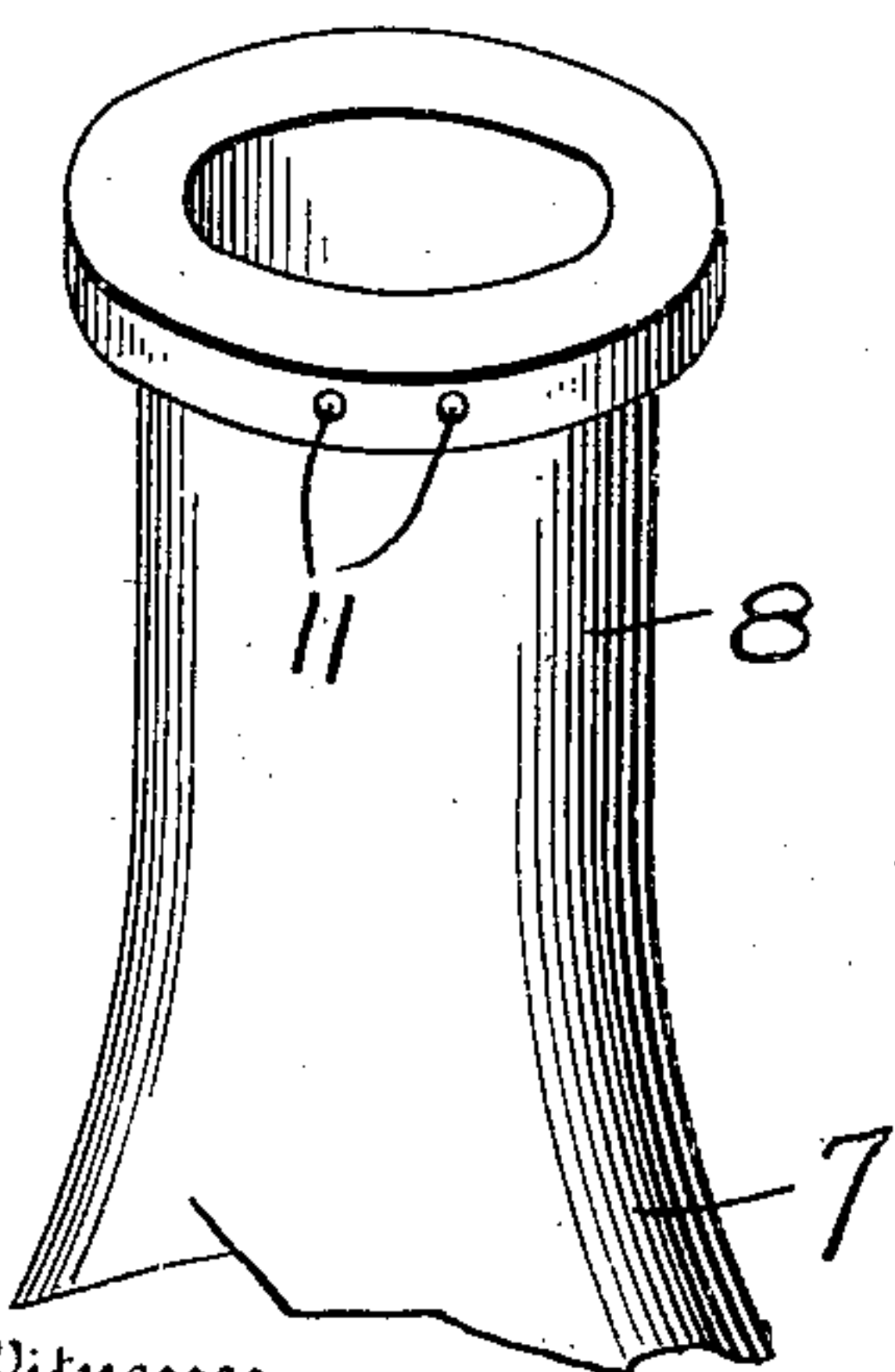


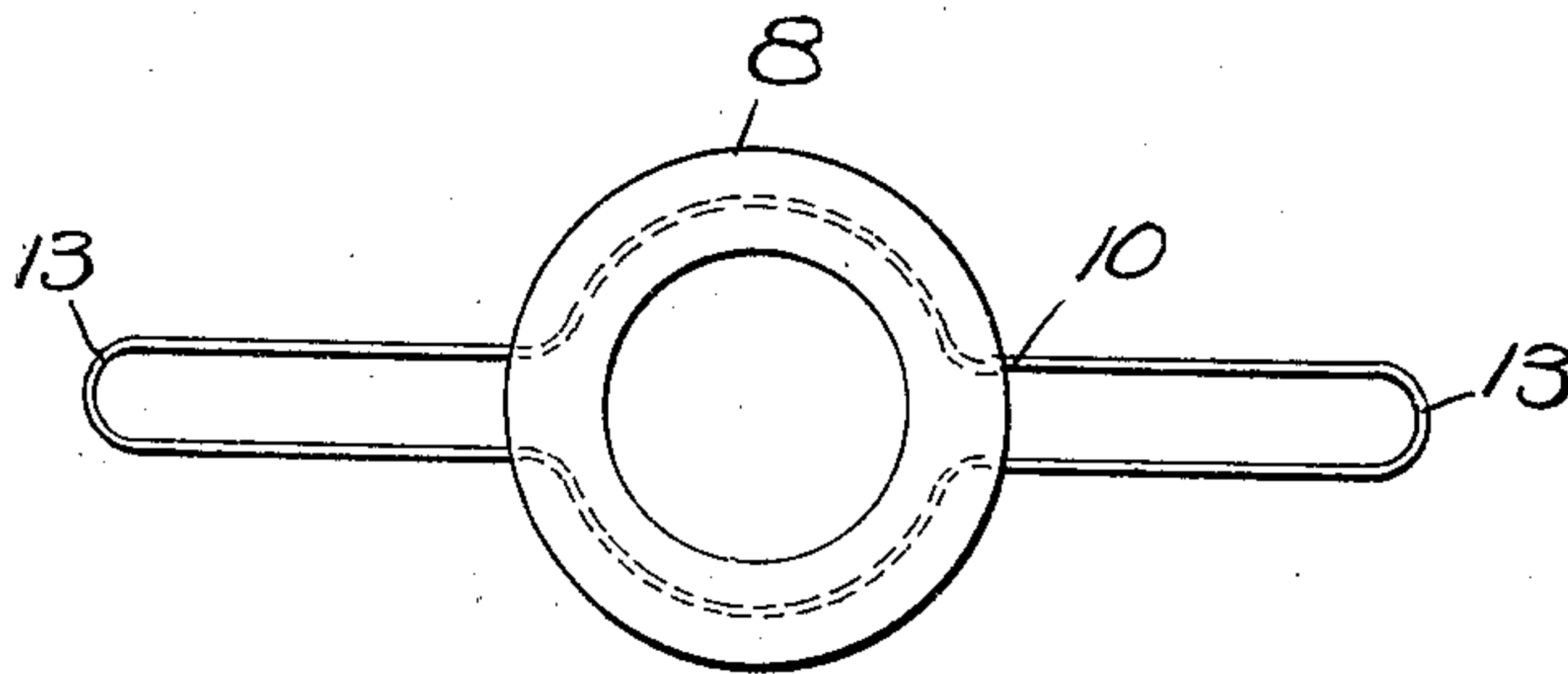
Fig. 5.



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Fig. 6.



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UNITED STATES PATENT OFFICE.

THEODORE B. HAFSTAD, OF IRON MOUNTAIN, MONTANA.

BOTTLE-STOPPER.

No. 898,359.

Specification of Letters Patent.

Patented Sept. 8, 1908.

Application filed September 6, 1907. Serial No. 391,719.

To all whom it may concern:

Be it known that I, THEODORE B. HAFSTAD, a citizen of the United States, residing at Iron Mountain, in the county of Missoula, State of Montana, have invented certain new and useful Improvements in Bottle-Stoppers; 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.

The present invention has reference to stopper fasteners for bottles or analogous vessels, and it aims to provide an extremely simple device of that class which may be secured to the bottle during its manufacture without materially increasing the cost thereof, and which, when in place upon the bottle neck and connected with the stopper, will effectually prevent the withdrawal of the latter.

To this end the invention comprises a wire fastener in the shape of an elongated loop, which is completely embedded intermediate its ends in the bottle neck, one strand being disposed upon each side of the bore thereof, the projecting loop ends being bent upwardly and then folded one upon another against the upper face of the stopper, which latter carries a rivet whose upper end is permanently connected with said loop ends.

The invention will be readily understood from a consideration of the following detailed description, and its preferred embodiment is illustrated in the accompanying drawings in which like parts are designated by corresponding reference numerals in the several views.

Of the said drawings, Figure 1 is an elevation of the neck of a bottle in which the stopper is held in place by the improved fastener, Fig. 2 is an enlarged top plan view of Fig. 1, showing in dotted lines the position of the wire embedded in the bottle neck, Fig. 3 is an enlarged horizontal section through the bottle neck, illustrating the formation of the grooves therein, Fig. 4 is a vertical section through Fig. 2, Fig. 5 is a fragmental detail view of the bottle neck showing the terminals of the grooves. Fig. 6 is a top plan view showing the position of the loop ends prior to bending the same against the stopper.

Referring more particularly to the drawings, 7 designates a bottle or analogous vessel, whose neck 8 is provided adjacent its up-

per end with a pair of arcuate oppositely-disposed grooves 9 formed internally therein during the manufacture of the vessel, the opposite ends of the grooves communicating with the outer face of the bottle neck, as shown. The grooves are approximately concentric with each other and with the neck opening, and are disposed upon opposite sides of the latter.

Embedded within the grooves is a fastening device 10, composed of a single strip of extremely thin wire, whose ends are welded together to form a closed elongated loop, the central portion of the members of said loop being disposed within the arcuate grooves, as above stated. The length of the loop is such that its opposite ends extend through the terminals 11 of the grooves and project therebeyond, as shown in Fig. 6. Owing to the fact that the grooves are approximately semi-circular, the central portion of the loop will have a much greater width than the end portions. The fastening device is preferably secured to the bottle neck during the blowing of the bottle.

Fitted within the opening in the bottle neck is a stopper 12 of any preferred description, across whose upper face the projecting loop ends 13 are bent, the length of said ends being such that they overlap each other slightly. The stopper is, in turn, provided with a bolt or rivet 14 permanently fastened thereto, the head of which is engaged with the overlapping portions of the loop ends 13, which latter are bent over the bolt head. The strain upon the loop ends requisite in engaging them with the bolt head will hold them in place.

From the foregoing, it will be apparent that when the loop ends are engaged with the bolt head any attempt to directly withdraw the stopper will result in breaking one or both of said ends, by reason of the extreme thinness of the wire of which they are formed, the outward movement of the stopper incidental to its withdrawal having the effect of straining the ends to the point where they are bound to snap. In like manner, even if the loop ends could be disengaged from the bolt head, the bending of said ends backwardly to permit the stopper to be withdrawn, and their subsequent bending forward when the stopper is reinserted would have a similar effect for the same reason as will be apparent.

While the invention has been shown and

described in connection with a bottle, it is to be understood that it is equally capable of use in connection with any analogous vessel.

What is claimed, is,

5 1. A bottle or analogous vessel having its neck provided at the upper end thereof with a pair of oppositely-disposed arcuate grooves formed internally therein, each groove hav-
10 ing its ends communicating with the outer surface of the bottle neck; a stopper fitted in the bottle neck; a fastener in the form of a closed loop having the central portion of its members embedded in said grooves, the op-
15 posite ends of said loop projecting beyond said grooves exteriorly of the bottle neck and being overlapped against the upper face of the stopper; and a member permanently
20 fixed in the stopper and engaged with the overlapping portions of said ends, to prevent the displacement of the latter from such posi-
tion.

2. A bottle or analogous vessel having its neck provided at the upper end thereof with a pair of oppositely-disposed approximately

semi-circular grooves formed internally there- 25
in and arranged at opposite sides of the neck opening, each groove having its ends com-
municating with the outer surface of the bot-
tle neck; a stopper fitted in the bottle neck; a
single strip of wire having its ends connected 30
to form a closed loop, the central portion of the members of said loop being embedded in said grooves and the opposite ends of the
loops projecting therebeyond exteriorly of
the bottle neck, said projecting portions be- 35
ing bent upwardly and overlapped directly against the upper face of the stopper; and a
member permanently fastened in the stopper
and engaged with the overlapping portions of
said loop ends, to prevent displacement of 40
the latter from such position.

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

THEODORE B. HAFSTAD.

Witnesses:

F. W. MARLOWE,
A. P. JOHNSTON.