

No. 610,149.

Patented Aug. 30, 1898.

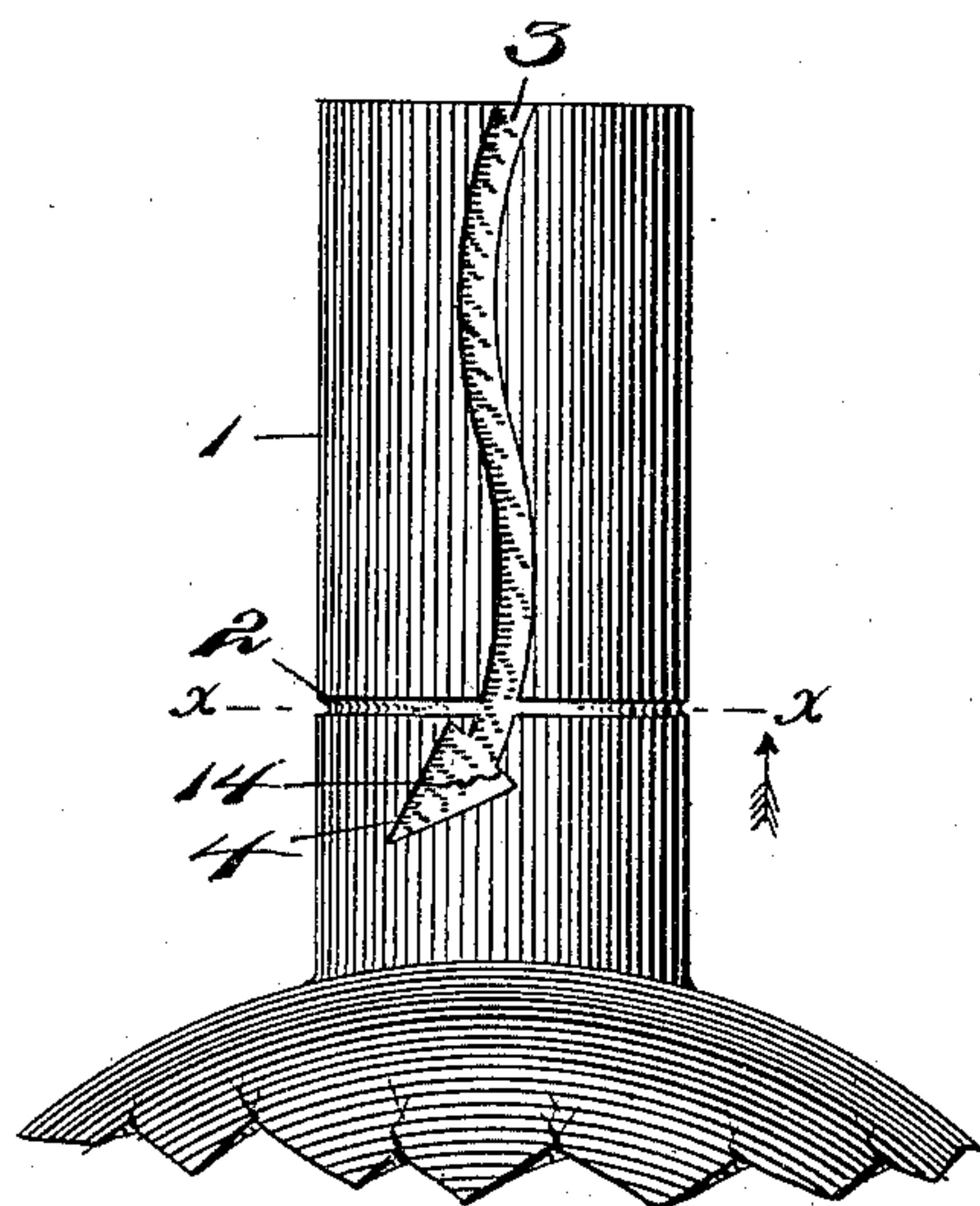
E. M. O. SEAMAN.

BOTTLE STOPPER.

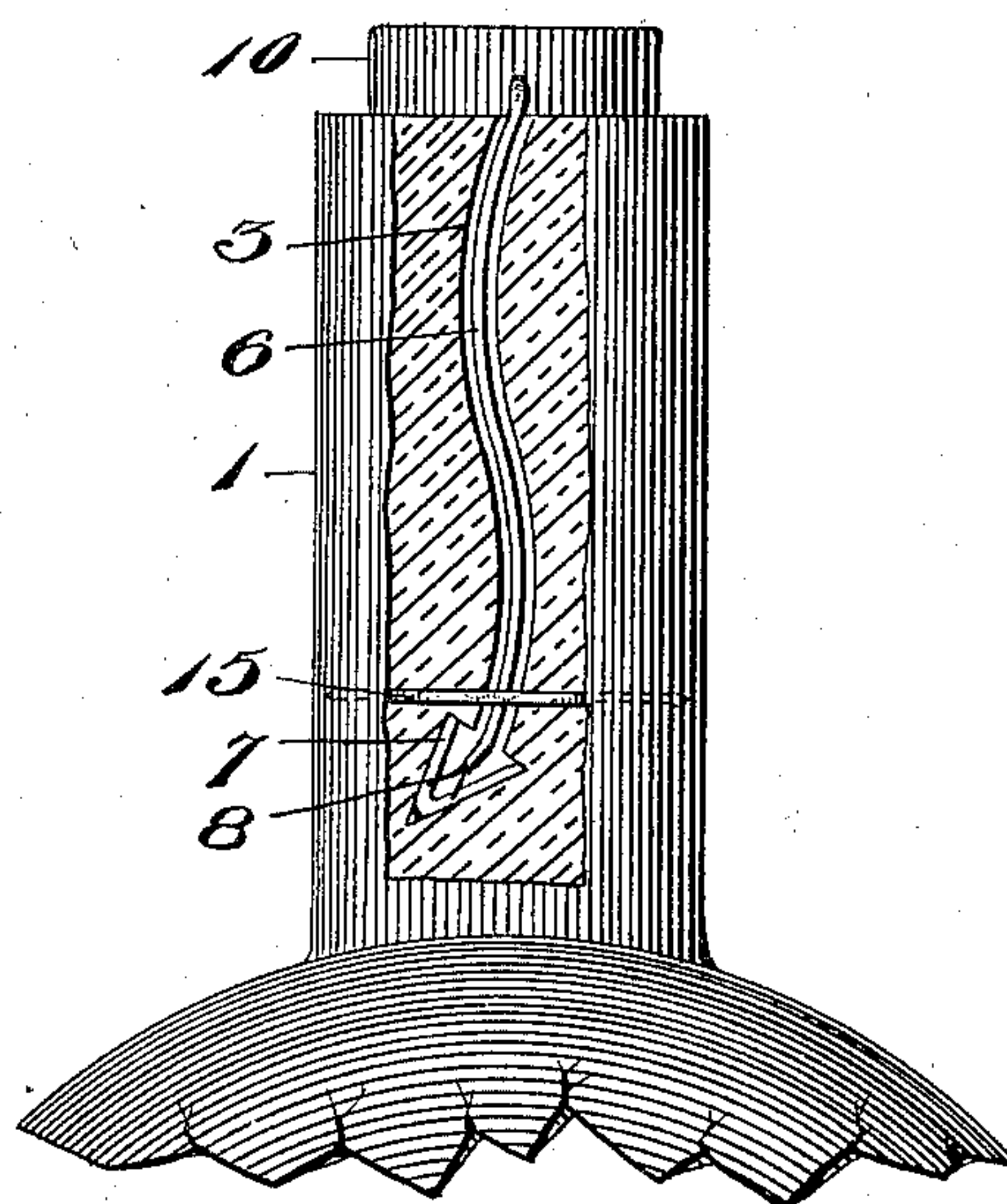
(Application filed Apr. 11, 1898.)

(No Model.)

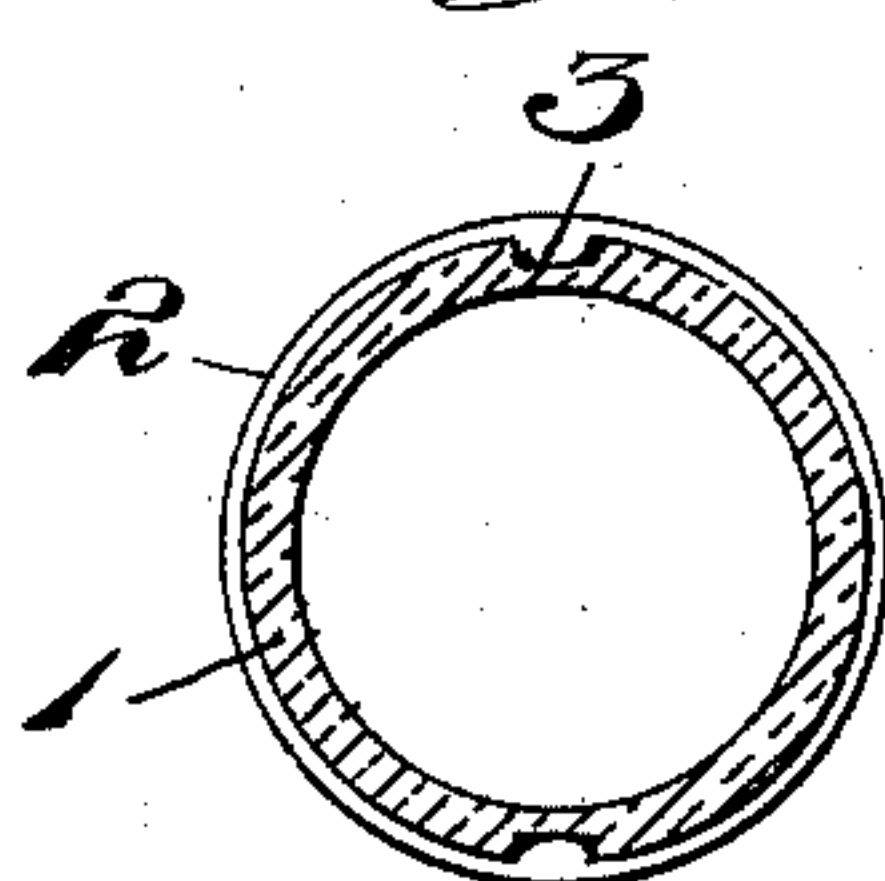
F. fig. 1.



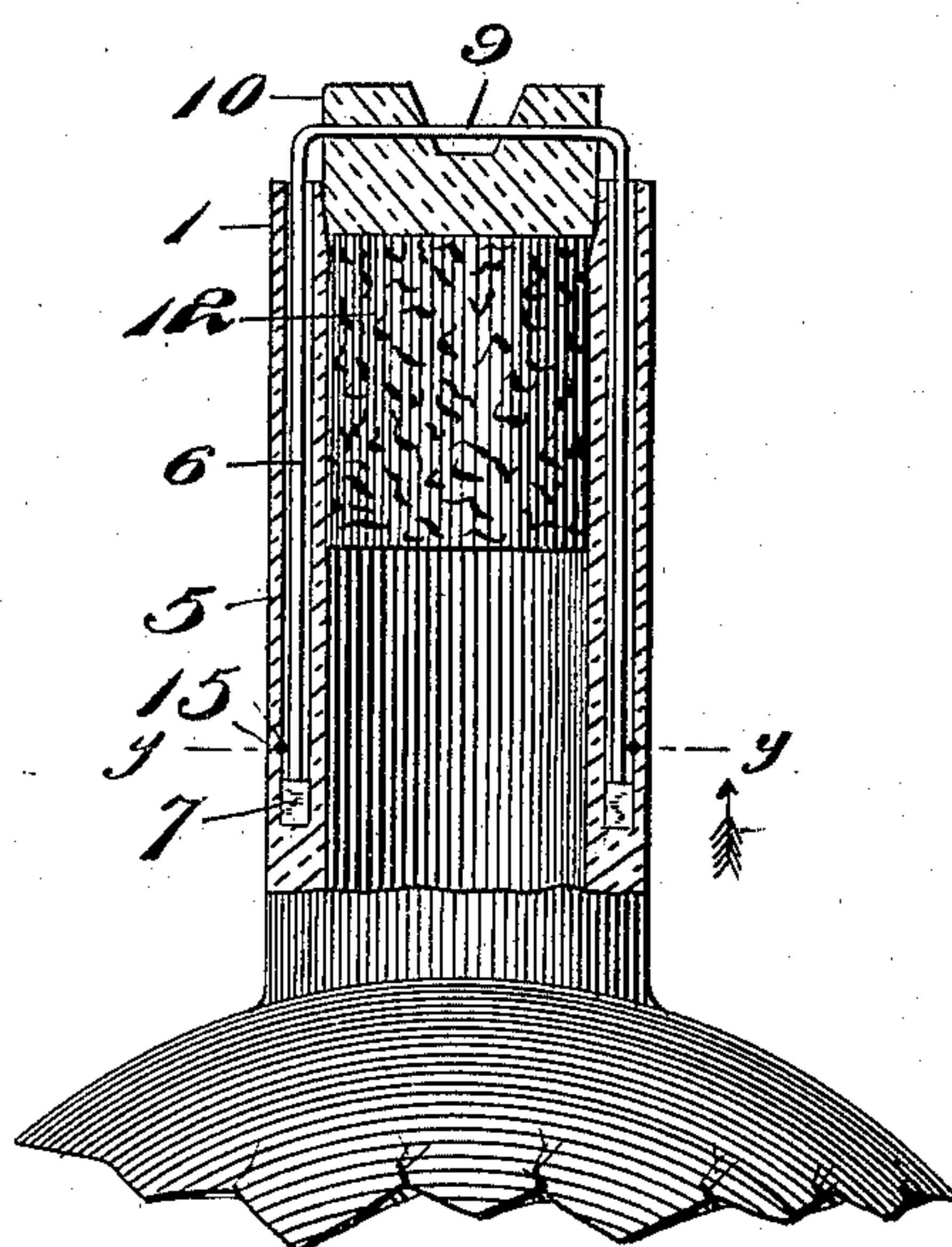
F. fig. 2.



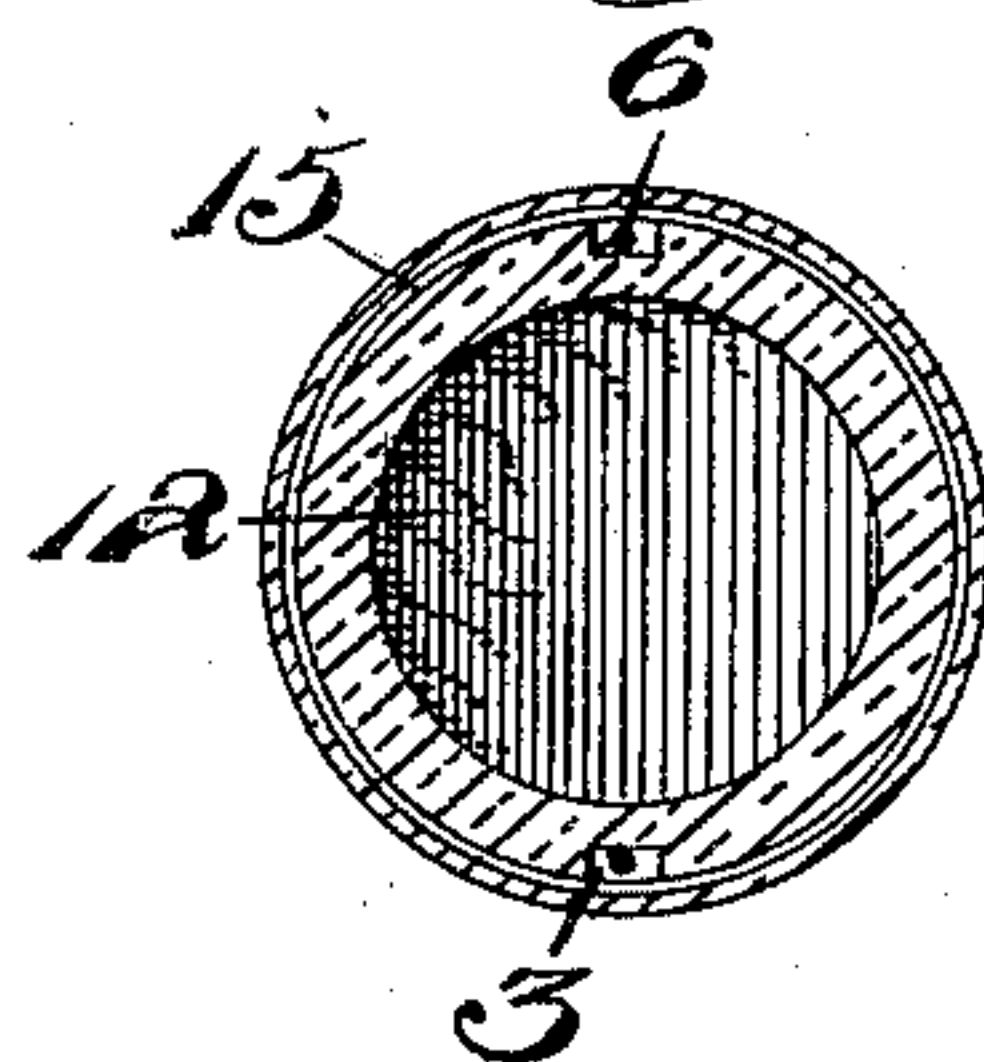
F. fig. 3.



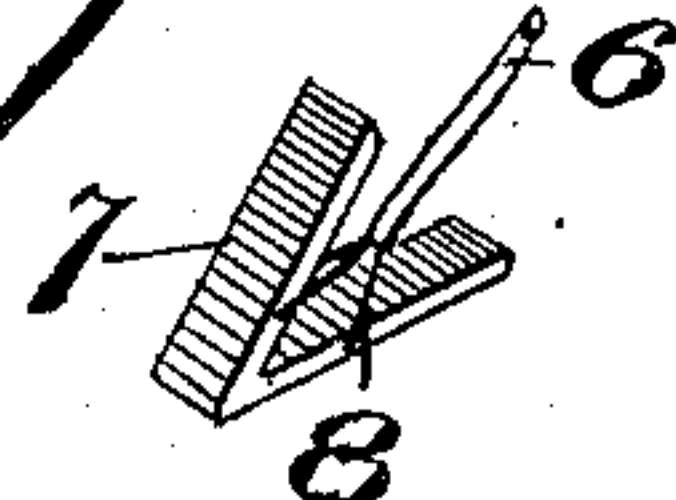
F. fig. 4.



F. fig. 5.



F. fig. 6.



WITNESSES:

J. P. Appleman.
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UNITED STATES PATENT OFFICE.

EZRA M. O. SEAMAN, OF BEAVER FALLS, PENNSYLVANIA.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 610,149, dated August 30, 1898.

Application filed April 11, 1898. Serial No. 677,162. (No model.)

To all whom it may concern:

Be it known that I, EZRA M. O. SEAMAN, a citizen of the United States of America, residing at Beaver Falls, in the county of Beaver and State of Pennsylvania, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in non-refillable bottles; and it has for its object to provide novel and effective means whereby a bottle after being once filled and sealed cannot be opened
15 without detection.

The principal features of my invention comprise the novel form of bottle-neck and the novel means by which the cork or stopper is secured in its position after the bottle has
20 been filled, so that any tampering with the cork or stopper in order to remove the same may be directly noticeable.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, wherein
25 like figures of reference indicate similar parts throughout the several views, in which—

Figure 1 is a side view of the bottle-neck and a portion of the body of the bottle. Fig.
30 2 is a like view with the stopper in position and the neck partly in section. Fig. 3 is a horizontal sectional view of the neck, taken on the line X X of Fig. 1. Fig. 4 is a vertical sectional view of the neck with the stopper secured in its position. Fig. 5 is a horizontal sectional view taken on a position
35 equal to the line Y Y of Fig. 4. Fig. 6 is a perspective view of one of the fastenings, showing the cord or wire attached thereto.

40 The numeral 1 represents the bottle-neck, which is provided at a desirable point, preferably a short distance below the middle of the neck, with an exterior annular groove 2, said neck being further provided on two sides
45 thereof with vertically-extending irregular grooves 3, terminating at the outer end in the top of the neck and preferably made extending a short distance below the exterior annular groove 2, where they terminate in dart-shaped recesses or pockets 4, at which time,
50 the compression upon the two arms of the fasteners being relieved, the same will expand

and lock against the shoulders 14, formed in the bottle-neck 1. At this time the stopper 10 has been firmly seated within the bottle-neck in its position upon the top of the stopper 12.

It will be observed that the fastening means which hold the glass stopper in position will be entirely visible from the exterior
60 of the bottle-neck, so that in case an acid or other agent were poured in the grooves or passage-ways 3 in order to destroy the fine wires or cords 8 these could readily be discerned from the exterior of the bottle-neck,
65 showing that an attempt had been made to tamper with the contents of the bottle.

When the seal is broken in the intended manner—viz., by inserting an instrument under the connecting-rod 9, and thereby lifting the cork 10 out of the bottle-neck—the strain on the rods or cords 6 serves to break the fine wires or cords 8 and permits the said cork 10 being removed, at which time the cork 12 may be withdrawn in the usual manner. The fasteners 7 will remain embedded
70 in the bottle-neck in their recesses or pockets 4 and indicate that the bottle has once been sealed and opened.

The supplemental neck or casing 5 may be
80 secured to the bottle-neck either at the time of forming or at the time of sealing the bottle. When the latter course is pursued, the exterior annular groove 2 is provided for the purpose of receiving a wire or cord 15, which
85 binds the cords 6 within their grooves and holds the same in position while the supplemental casing or neck is being brazed or otherwise placed in its position upon the bottle-neck. When, however, the supplemental
90 casing or neck should be placed in position at the time of forming the bottle, the exterior groove 2 will be useless, as it would be impossible to place the fastening-wire 15 in its position.

95 Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a non-refillable bottle, the combination with the neck, of a supplemental neck
100 or casing brazed or otherwise secured thereto, said bottle-neck being provided on its sides with vertically-extending irregular grooves which terminate at their lower ends in recesses

or pockets, said grooves being adapted to receive a wire or cord which is attached to the fastener and secured in the aforesaid recess, said wire or cord carrying a stopper, substantially as shown and described.

2. In a non-refillable bottle, the combination with the bottle-neck having an exterior annular groove, two vertically-extending irregular grooves terminating below the exterior annular groove in pockets or recesses, said grooves and recesses being adapted to receive the fastening means, and a stopper carried by said fastening means, substantially as shown and described.

3. In a non-refillable bottle, the combination with the bottle-neck having an exterior annular groove, and vertically-extending irregular grooves which terminate at their lower ends in pockets or recesses, a supplemental neck or casing brazed or otherwise secured to the bottle-neck, said grooves and recesses being adapted to receive the fastening means for the stopper carried thereby, substantially as shown and described.

4. In a non-refillable bottle the combination with the bottle-neck having exterior vertically-extending irregular grooves terminating at their lower ends in pockets or recesses said pockets or recesses adapted to receive a fastening device to which the cords or wires within said grooves are attached, said cords or wires carrying the stopper within the bottle-neck, substantially as shown and described.

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

EZRA M. O. SEAMAN.

Witnesses:

JOHN NOLAND,

H. H. PATTERSON.