

(No Model.)

F. HILL.
NON-REFILLABLE BOTTLE.

No. 598,782.

Patented Feb. 8, 1898.

Fig. 1.

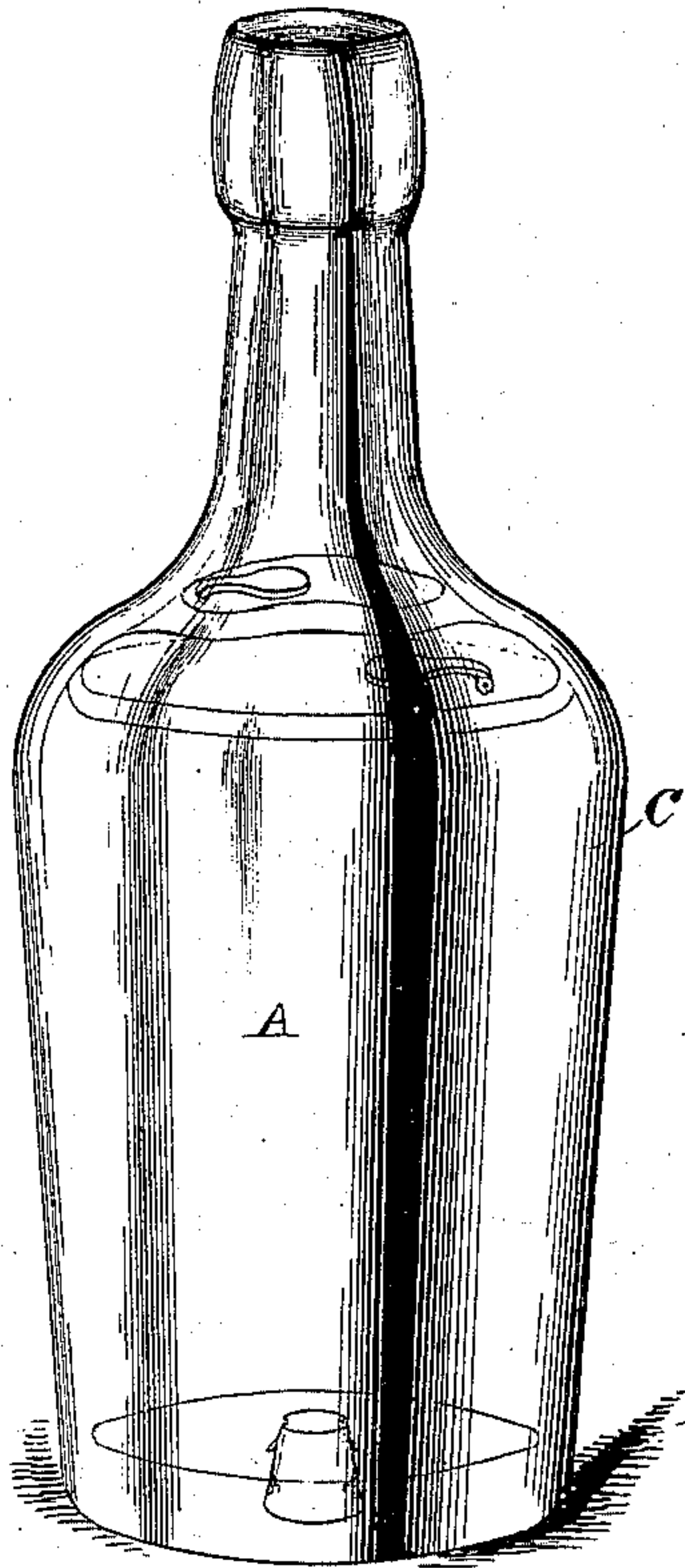


Fig. 2.

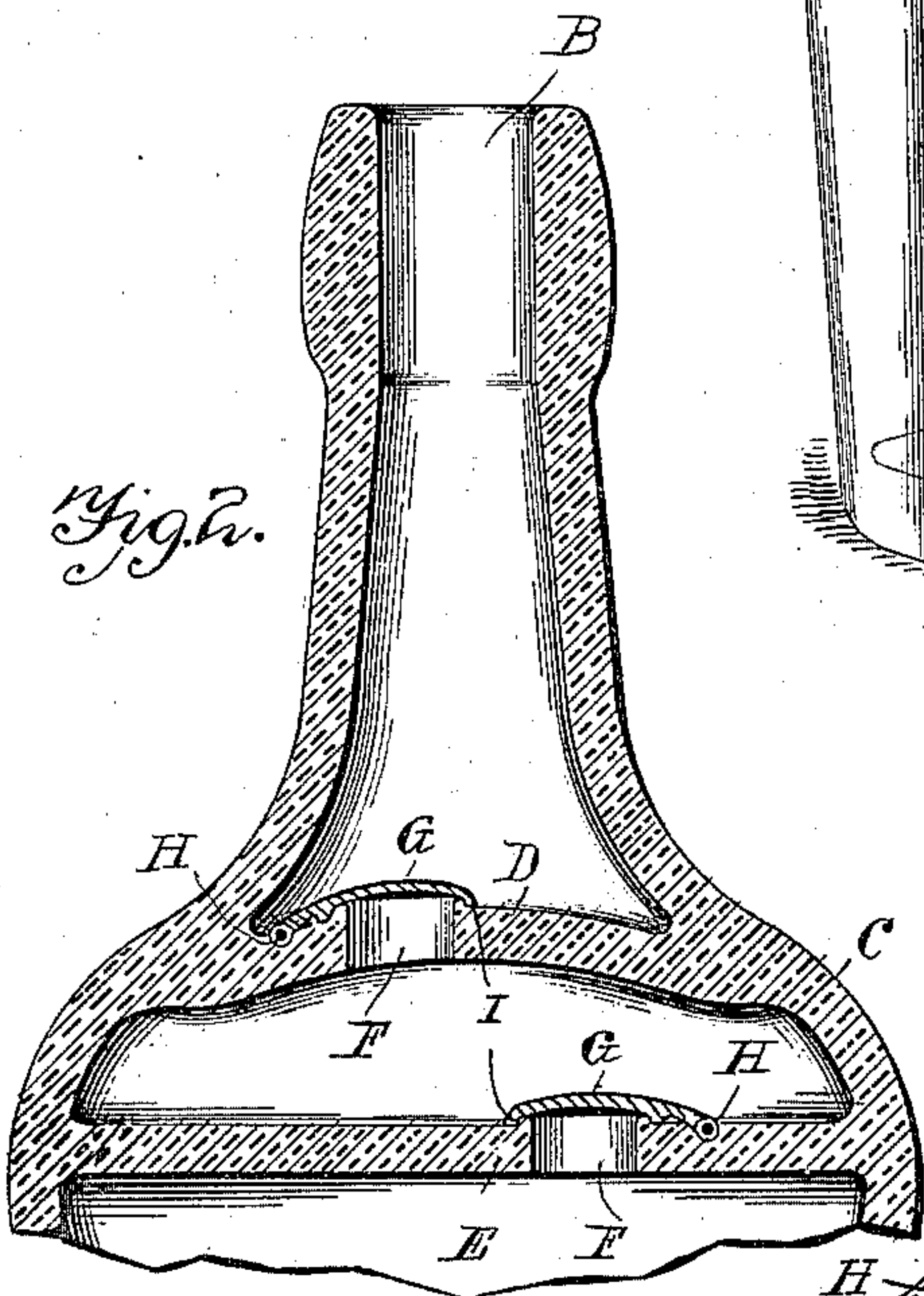


Fig. 4.

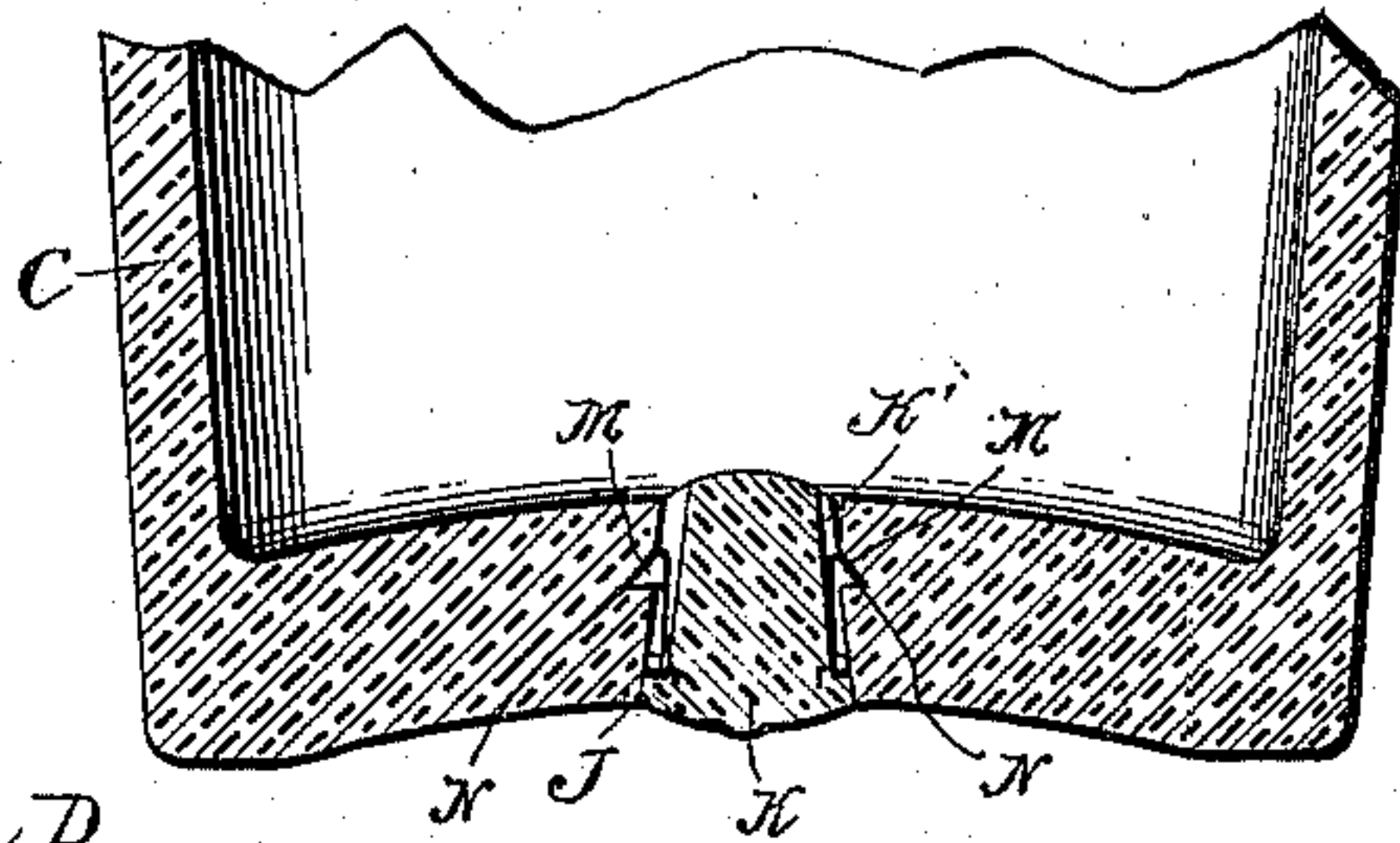


Fig. 3.

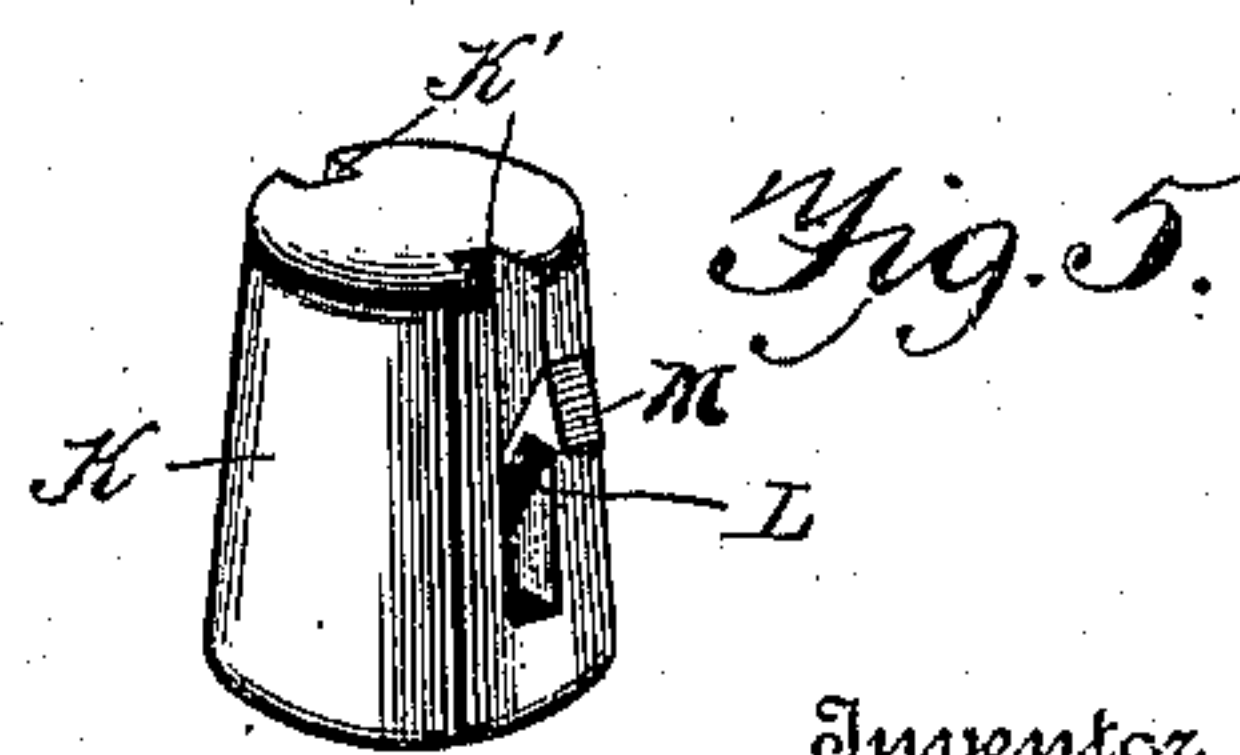
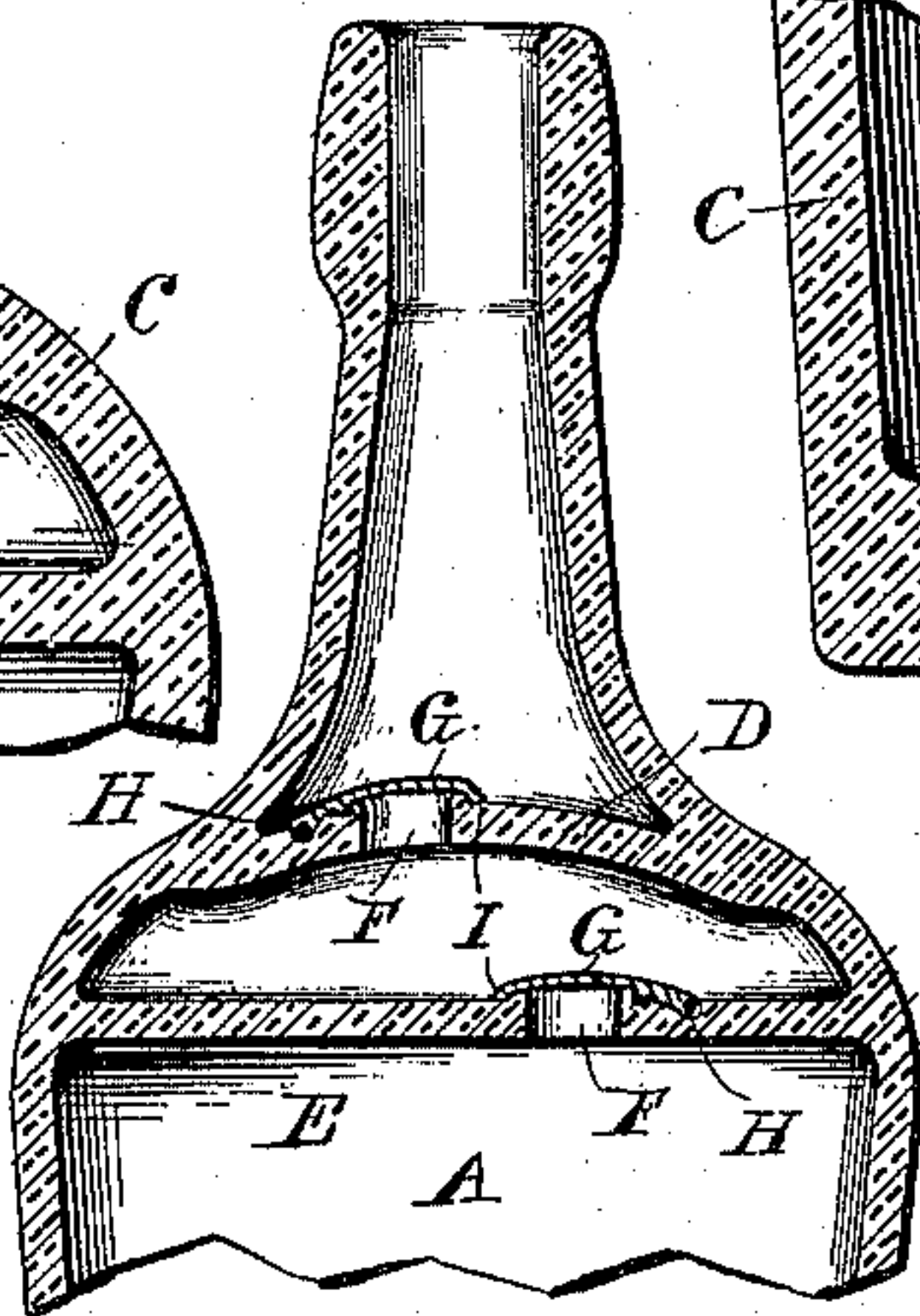


Fig. 5.

Witnesses
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UNITED STATES PATENT OFFICE.

FREDERICK HILL, OF MOOSE LAKE, MINNESOTA, ASSIGNOR OF ONE-HALF
TO JOSEPH KING, OF SAME PLACE.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 598,782, dated February 8, 1898.

Application filed April 24, 1897. Serial No. 633,613. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK HILL, residing at Moose Lake, in the county of Carlton and State of Minnesota, have invented a new and useful Non-Refillable Bottle, of which the following is a specification.

This invention relates to certain improvements in bottles, and more particularly to that class known as "non-refillable."

10 An object of the invention is to provide an improved bottle so constructed that after the same has once been emptied there will be no possibility of it again being used.

15 A further object of the invention is to provide a non-refillable bottle having a filling-opening in the bottom or base thereof and provided in its interior upper portion with certain diaphragms having openings therein and carrying certain valves to close said openings, so that after the bottle is inverted in emptying the same the valves will automatically open to permit the outflow of the liquid contained in the bottle to escape from the mouth thereof.

25 A further object of the invention is to provide a non-refillable bottle with the diaphragm portions and the valves thereon, as above described, and a filling-opening in the bottom thereof, and means whereby said opening is permanently closed after the bottle has once been filled.

30 With these and other objects in view my invention consists of certain details of construction and novelties of combination, all of which will be described hereinafter, and specifically pointed out in the claims.

35 In order that my invention may be fully understood, I will proceed to describe the same with reference to the accompanying drawings, in which—

40 Figure 1 is a perspective view of my invention in operative position. Fig. 2 is a vertical section of the neck and top of the bottle, showing the diaphragms located thereon. Fig. 45 3 is a vertical section illustrating a bottle, a portion thereof being partially broken away, and the same showing the diaphragm-valves, the filling-opening, and a plug or stopper permanently secured therein. Fig. 4 is a vertical section of the lower part of the bottle, the

plug or stopper being in position within the filling-opening; and Fig. 5 is a detail perspective view of the plug or stopper adapted to fit within the filling-opening.

The same letters of reference will indicate 55 similar parts wherever they occur throughout the different views.

In the practical embodiment of my invention I have shown a bottle A, having the usual mouth B. C indicates the body portion 60 thereof. Arranged within this body portion, at the upper part thereof, and preferably formed integral therewith are the diaphragms D E, the former being slightly curved, as shown. These diaphragms are provided with 65 the openings F, said openings being out of alinement with each other.

G represents inverted-cup-shaped valves hinged to the diaphragms, as shown at H, and being provided with the downwardly-projecting edge I, adapted to engage over the raised 70 edge around the openings F in said diaphragms.

In the bottom of the bottle is formed the filling-opening J, the same being adapted to 75 receive a preferably wedge-shaped glass plug or stopper K after the bottle has been filled. This plug or stopper is provided on its sides with the vertically-extending slots K'.

L indicates a spring fastened within the 80 slotted portion of the plug or stopper at the lower part thereof. The upper end portions of this spring have the outwardly-extended prongs M, adapted to enter the notches N, formed in the bottom of the bottle, so as to 85 hold the stopper securely in place and against removal after the same has been inserted in the filling-opening.

The operation of the device is as follows: When it is desired to fill the bottle, a cork 90 end is forced into the mouth of the bottle and the bottle inverted. The liquid is then poured into the bottle until the same is completely filled. It will of course be understood that the valves will be raised as the liquid is 95 poured into the filling-opening, so that the upper part of the bottle will be filled as well as the lower part. After the desired quantity of liquid has been received within the bottle the glass plug or stopper carrying the 100

springs is forced into the filling-opening, and by reason of its peculiar shape and the employment of the springs to engage the bottle at the upper portion of the filling-opening the
5 plug or stopper will be securely locked in position against removal.

If desired, any suitable plastic material or cement can be placed on the side of the stopper or plug before insertion in the filling-
10 opening, so that after the stopper has been inserted and the cement has set it will be impossible to withdraw the stopper without breaking the bottle.

From the foregoing description it will be
15 seen that I provide a bottle that after once being filled and the contents removed therefrom it will be impossible to again refill the same, this being possible by reason of the fact that after the bottle has once been emp-
20 tied should an attempt be made to refill it the valves located on the diaphragms will prevent any part of the liquid entering the body portion of the bottle as said valves re-
sume their normal position, closing the open-
25 ings of the diaphragms when the bottle is in an upright position.

Various slight changes might be made in the forms and constructions of the parts described without departing from the spirit and
30 scope of my invention. Hence I do not care to limit myself to the exact construction herein set forth, but consider myself entitled to all such slight changes as fall within the spirit and scope thereof.

35 Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. A non-refillable bottle having the diaphragms located in the upper portion thereof, said diaphragms being provided with the
40 openings out of alinement with each other, the valves to open and close the openings therein automatically, a filling-opening in the lower portion of the bottle, and means sub-
stantially as described for permanently clos-
45 ing said filling-opening, for the purpose set forth.

2. A non-refillable bottle having the diaphragms located in the upper portion thereof, said diaphragms being provided with open-
50 ings out of alinement with each other, valves to open and close the openings automatically, a filling-opening in the bottom of the bottle, and a stopper adapted to be permanently se-
cured within said filling-opening, substan-
55 tially as described.

3. A non-refillable bottle having the diaphragms formed integral in the upper portion thereof, the openings therein arranged out of
60 alinement with each other, the hinged valves to automatically open and close said openings, a filling-aperture in the bottom of the bottle, and a wedge-shaped plug or stopper carrying the springs adapted to be inserted and per-
manently secured within said filling-aperture,
65 as set forth.

FREDERICK HILL.

Witnesses:

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