No. 618,872. Patented Feb. 7, 1899.

J. W. HARDIN.

NON-REFILLABLE BOTTLE.

(Application filed Apr. 13, 1898.)

(No Model.)

Fig. 1.

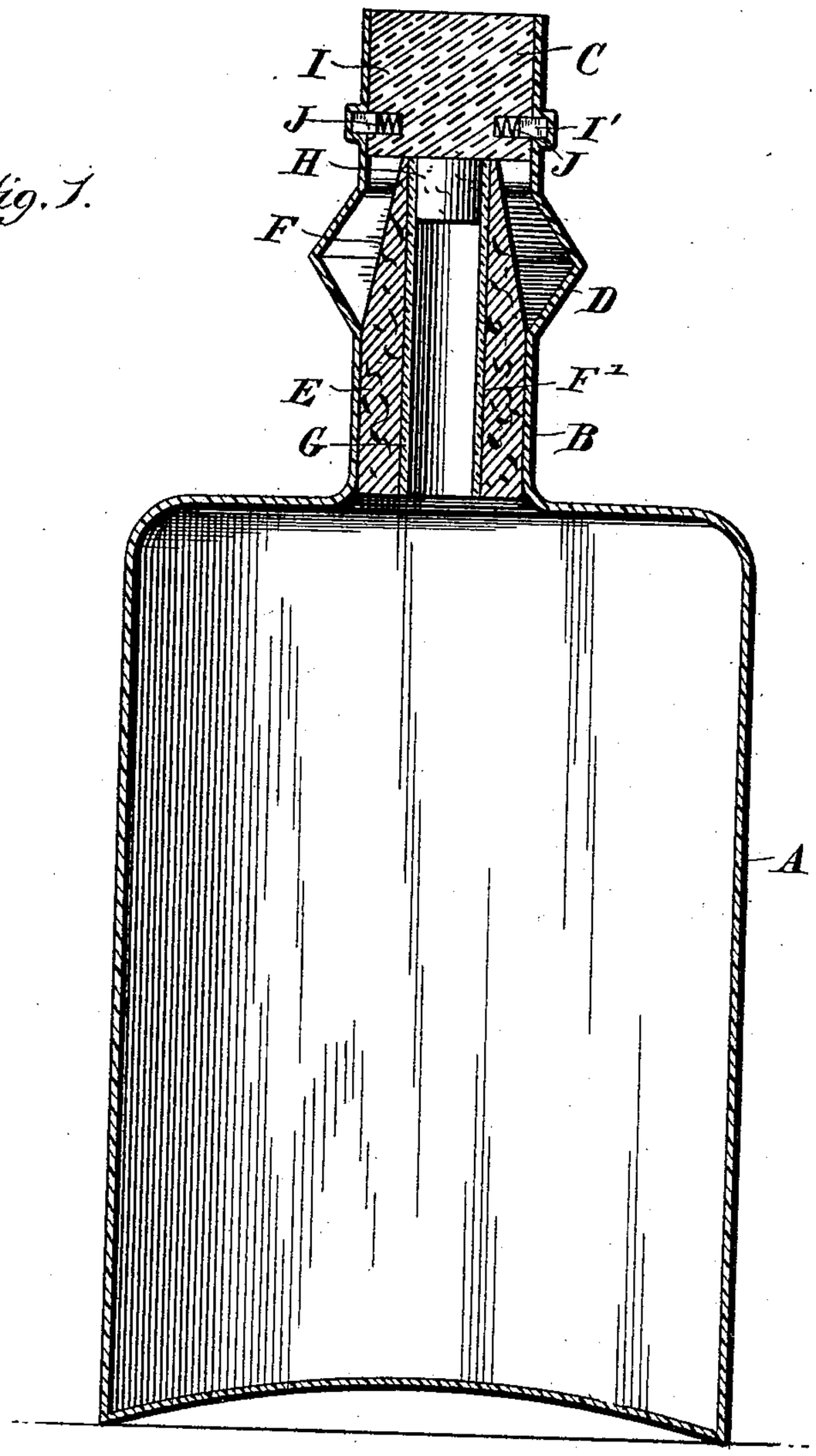


Fig. 2.

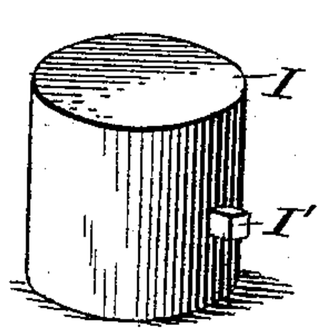


Fig. 3.

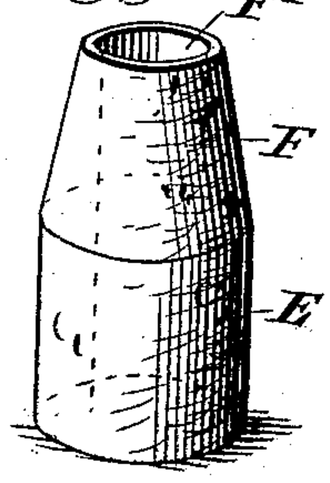


Fig. 4.

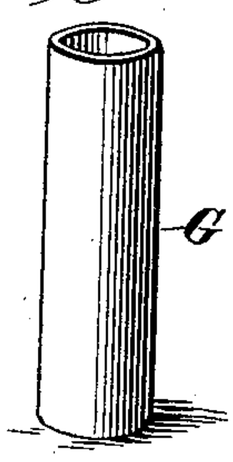
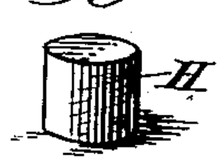


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN W. HARDIN, OF NEWCOMB, TENNESSEE.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 618,872, dated February 7, 1899.

Application filed April 13, 1898. Serial No. 677,419. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. HARDIN, a citizen of the United States, residing at Newcomb, in the county of Campbell and State of Tennessee, have invented a new and useful Non-Refillable Bottle, of which the following is a specification.

My invention relates to bottles, and more especially to that class of bottles known as "non-refillable," the object of the invention being to provide a bottle of this class of cheap, simple, and generally improved construction.

With this object in view my invention consists in a non-refillable bottle comprising a body of any desired construction or contour, having a neck which for a short distance from the body and for a short distance from the mouth is cylindrical, the intervening section being bulged outward and the outer cylindrical section being provided with an interior annular groove near its inner end, a cork or similar tubular stopper cylindrical in contour for a sufficient length to fill the lower cylindrical section of the bottle-neck, conically tapering upward, provided with a central bore reaching from end to end, a glass tube for lining said bore, a cork stopper for the upper end of the glass tube, a glass or similar stopper fitting the outer cylindrical section of the bottle-neck, and spring-impelled radially-projecting lugs fitted in recesses in the glass stopper and adapted to engage in the interior annular groove when the glass stopper is seated in the neck of the bottle.

In order to enable others skilled in the art to which my invention most nearly appertains to make and use the same, I will now proceed to describe its construction and operation, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a central vertical sectional view of a bottle constructed in accordance with my invention. Fig. 2 is a detail perspective view of the glass stopper. Fig. 3 is a similar view of the tubular cork stopper. Fig. 4 is a similar view of the glass tube. Fig. 5 is a similar view of the cork stopper for the glass tube.

Like letters of reference mark the same parts wherever they occur in the various figures of the drawings.

Referring to the drawings by letters, A indicates the body of the bottle, of any suitable size, shape, or material, preferably of glass.

The neck of the bottle is composed of three sections, being a cylindrical section B, adjoining the neck, a cylindrical section C at the mouth, and an outwardly-bulged section D, intermediate of sections B and C and connecting them. These three sections may be about equal in length, and the bulged section D may be of the form of two conic frusta joined at their larger ends or of any other preferred contour. The section C is provided with an interior annular groove, in this instance formed by projecting the material of the neck outward or blowing the glass in a mold with an interior groove; but this is not absolutely necessary, it being admissible when the glass is thick enough to form the interior groove without disturbing the contour of the outside of the neck.

E indicates a cork plug or stopper cylindrical in section for a sufficient length and of a proper diameter to fit the section B of the neck and conically tapered at F for a length sufficient to pass through section D and into section C. This plug E is tubular, having a cylindrical bore F′ extending entirely through the plug and lined by fitting therein a glass tube G.

H indicates a cork stopper to fit in the upper end of the tube G.

I indicates a cylindrical plug, of glass or other similar material, which is of a diameter to properly fill the mouth-section C of the bottle-neck and is provided with a plurality of recesses in its sides, from which project radial pins or lugs I′, backed up and normally pressed outward by springs J, seated in said recesses.

The construction of my invention will be readily understood from the foregoing description, and its operation may be described as follows: The bottle having been filled, the tubular plug E is inserted and stopped with cork H. The bulging section D may be filled around the conical section F′ of cork plug E with plaster-of-paris or cement, if desired, and the glass plug or stopper is then inserted in section C, the lugs J having been first pressed into the recesses in order to admit the plug into the mouth of the bottle. As soon

as the plug I is pressed far enough into section C the lugs or pins J will be impelled outward by the force of springs J into the interior annular groove of the neck, from which it will be impossible to remove them without breaking the bottle. When pressed thus far into the neck-section C, the inner end of the glass plug I will rest on the outer end of cork H and prevent its accidental displacement from the glass tube G. To open and empty its contents from the bottle, the neck is broken off, the bulged section D being made thinner and weaker than the rest of the bottle for this purpose, when by removing cork H from tube G the contents may be poured out of the bottle.

The advantages attending the use of my invention will be apparent from the foregoing description of its construction and operation, and while I have illustrated and described the best means for carrying out my invention I do not wish to be understood as restricting myself to the exact construction shown, but hold that such changes as might suggest themselves to the ordinary mechanic would properly fall within the limit and scope of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination in a non-refillable bottle, of a neck having an inner cylindrical section, an intermediate expanded breakable section, and cylindrical mouth-section provided with an interior annular groove, of a tubular cork plug or stopper fitting the inner cylindrical section, a glass tube in the bore of the tubular plug, a cork in the glass tube and a non-removable plug or stopper in the outer section bearing upon the outer end of the cork, substantially as described.

2. The herein-described non-refillable bottle comprising the neck having inner cylindrical section B, outer cylindrical section C with interior annular groove, and expanded intermediate section C, the tubular cork plug E in section B extending through section D into section C, the glass tube G in tubular plug E, the cork H in tube G, the glass plug I in section C having radial recesses, the springs K in said recesses, and the pins J slidably arranged in the recesses and normally pressed by said springs into the interior annular groove, substantially as described.

JOHN W. HARDIN.

Witnesses:
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