No. 656,388. Patented Aug. 21, 1900.

E. CINDEL.

NON-REFILLABLE BOTTLE.

(Application filed Dec. 13, 1899.)

(No Model.)

Fig. 1.

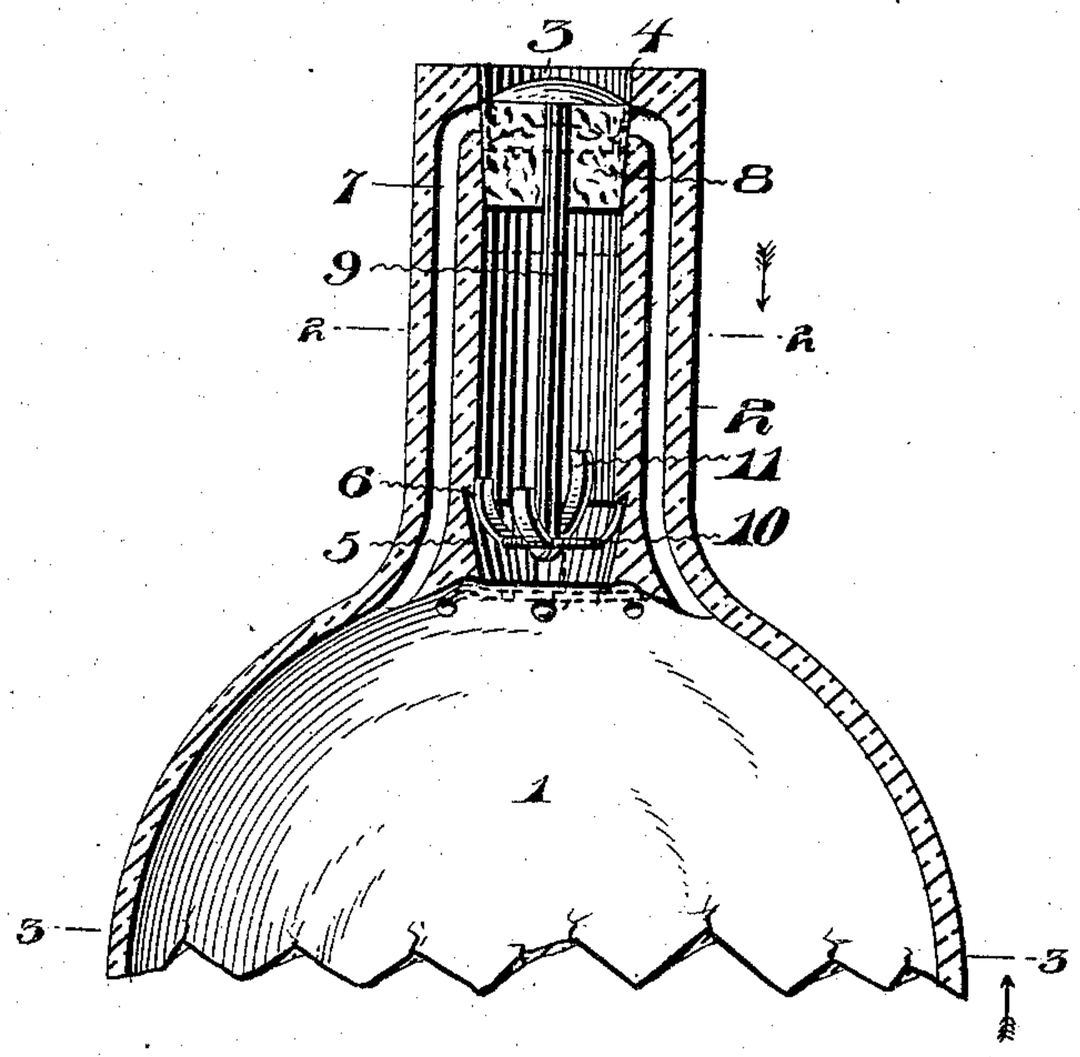


Fig. 2.

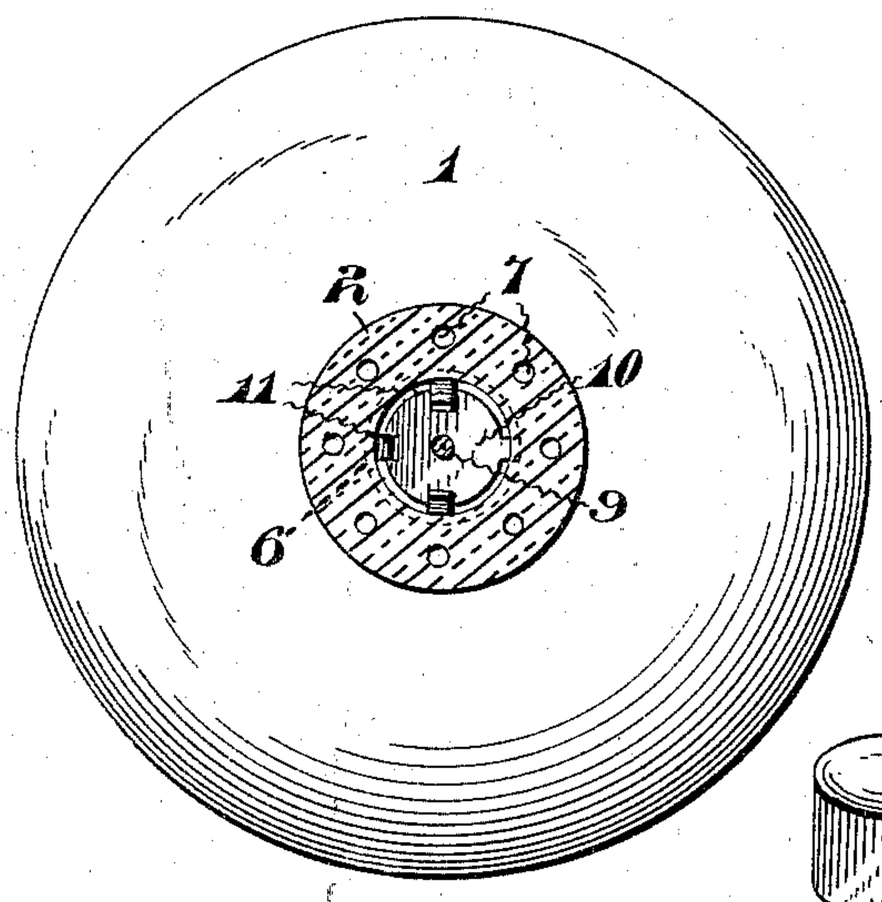


Fig. 3.

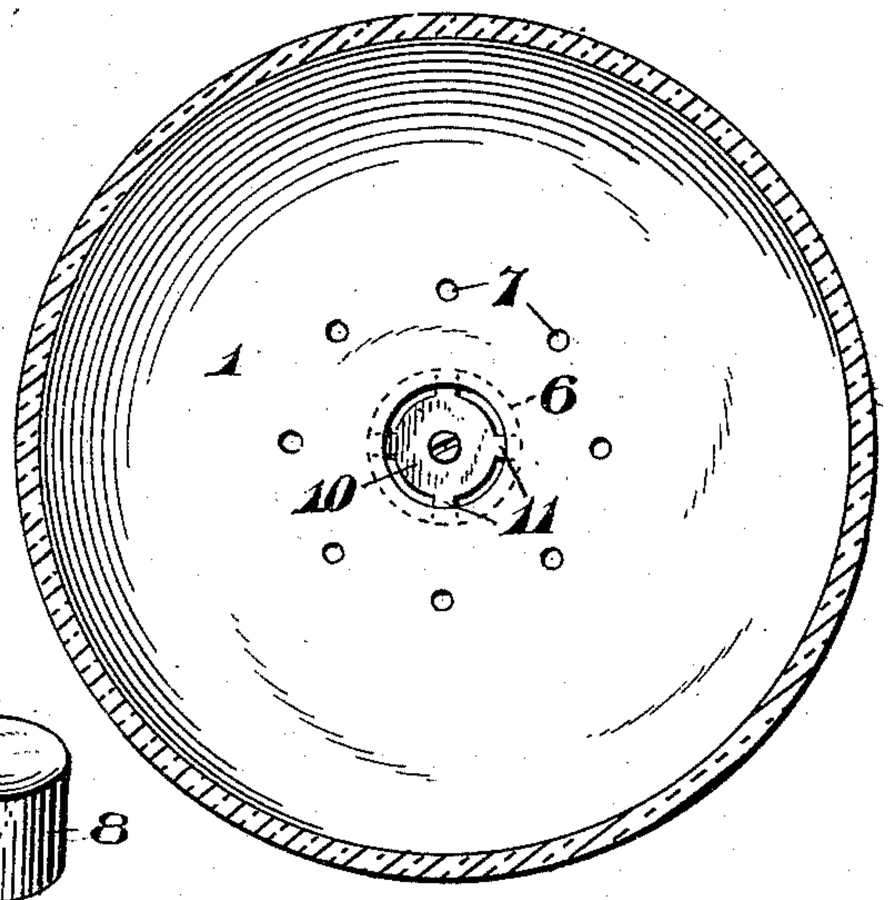


Fig. 4.

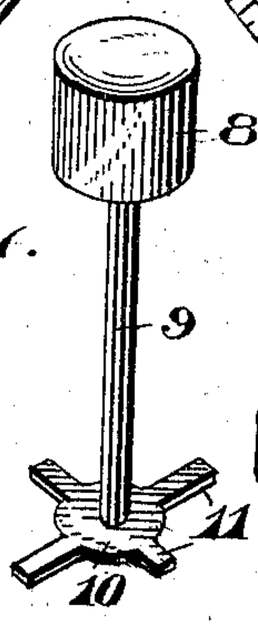
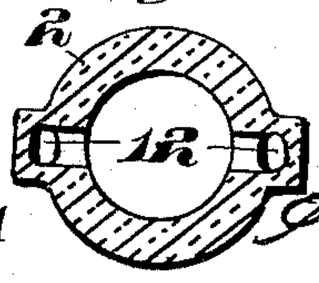


Fig. 5.



WITNESSES:

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ELI CINDEL, OF McKEES ROCKS, PENNSYLVANIA.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 656,388, dated August 21, 1900.

Application filed December 13, 1899. Serial No. 740,182. (No model.)

To all whom it may concern:

Be it known that I, ELI CINDEL, a citizen of the United States of America, residing at McKees Rocks, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to certain new and useful improvements in bottles, and more particularly to non-refillable bottles.

One object of my invention is to construct a bottle of this character which after the contents have been removed therefrom cannot be refilled.

A further object of my invention is to construct a bottle of this class that may be easily opened, thereby overcoming a great objectionable feature that is usually incident in bottles of this character.

A further object of my invention is to construct a bottle of this class that will be extremely simple in its construction, strong, durable, and comparatively inexpensive to manufacture.

With the above and other objects in view my invention finally consists in the novel combination and arrangement of parts to be hereinafter more fully described, and specifically pointed out in the claim.

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

Figure 1 is a vertical sectional view of my improved bottle, the body portion thereof broken away. Fig. 2 is a cross-sectional view taken on the line 2 2 of Fig. 1 looking downwardly, as indicated by the arrow. Fig. 3 is a cross-sectional view thereof, taken on the line 3 3 of Fig. 1, looking upwardly, as indicated by the arrow. Fig. 4 is a perspective view of the stopper and its fastening means. Fig. 5 is a cross-sectional view of a modified form of bottle-neck.

Referring to the drawings by reference-numerals, 1 indicates the body portion of the bottle, and 2 the neck portion, provided with the usual opening 3. A portion of the inner face of the neck 2 at its upper end tapers upwardly, as at 4, as well as a portion of the lower end thereof tapering upwardly, as at 5. The top of the tapering portion 5 terminates in an annular shoulder or stop 6, the function of which will be hereinafter described. The neck portion 2 is also provided with a series of elongated passages 7, terminating at their lower ends in the body portion 1 and at their upper ends in the opening 3 of the neck.

8 indicates a stopper for sealing the openings of the passages 7 at their upper ends, and which is connected by means of a stem 9, which is suitably secured thereto, to a disk 10 of any suitable material provided with a series of radially-extending fastening-springs 11, which are of different lengths, the disk 10 being suitably secured to the lower end of the stem 9 in any desirable manner.

The modified form of construction shown in Fig. 5 illustrates the neck portion 2, provided with a pair of oppositely-arranged elongated passages 12 instead of a series of passages, as heretofore set forth.

My improved bottle is operated as follows: Assuming that the same has been filled, the stopper, stem, disk, and fastening-springs are inserted in the opening of the neck 2, and the same are forced downwardly until the stopper seals the opening of the passages, terminating in the upper end of the neck portion. The stopper remains in such position until the contents of the bottle are desired for use, when the stopper is further forced downwardly, as shown in dotted line of Fig. 1, unsealing the upper end of the passages 7 and permitting the contents of the bottle to be discharged therefrom. While the stopper is being forced downwardly to the position as shown in full and dotted lines of Fig. 1, the fastening-springs 11 will be compressed until they pass the annular shoulder 6 and the lower end of the neck portion, when they will be extended, engage the shoulder and lower end of the neck, and prevent the withdrawal of the stopper, thereby indicating that the contents have been used, owing to the fact that it will be impossible to seal the opening of the passages with the stopper again—that is to say, the springs when in engagement with the bottom of the neck and the shoulder 6 will prevent the stopper being ad-

justed vertically enough to seal the opening in the passages.

It is thought that the many advantages of my improved bottle can be readily understood from the foregoing description, taken in connection with the accompanying drawings.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of my invention.

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

In a non-refillable bottle, the combination of the neck portion provided with an opening extending entirely therethrough and a series of outlet-passages opening at their lower end into the body portion of the bottle and at their upper ends into the opening of the neck near the top thereof, an annular ridge or shoulder formed in the wall of the opening of the neck near the lower end thereof, a wedge-shaped stopper adapted to be mounted in the upper end of the opening of the neck portion and adapted to seal the upper end of said passages, a stem connected to said stopper and extending downwardly in said opening of the neck, a disk secured to the lower end of said stem, and a series of radially-extending fastening-springs of unequal length formed integral with said disk and adapted to engage said shoulder and the lower end of the neck portion to prevent the sealing of the upper end of said passage by said stopper after the same has been forced past said upper end of said passages, substantially as described.

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

ELI CINDEL.

Witnesses:

JOHN NOLAND,

A. M. HAYMAKER.