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PATENTED JULY 25, 1905.

J. A. WATT & J. A. CLARK.
NON-REFILLABLE BOTTLE.
APPLICATION FILED NOV. 14, 1904.

FIG. 1.

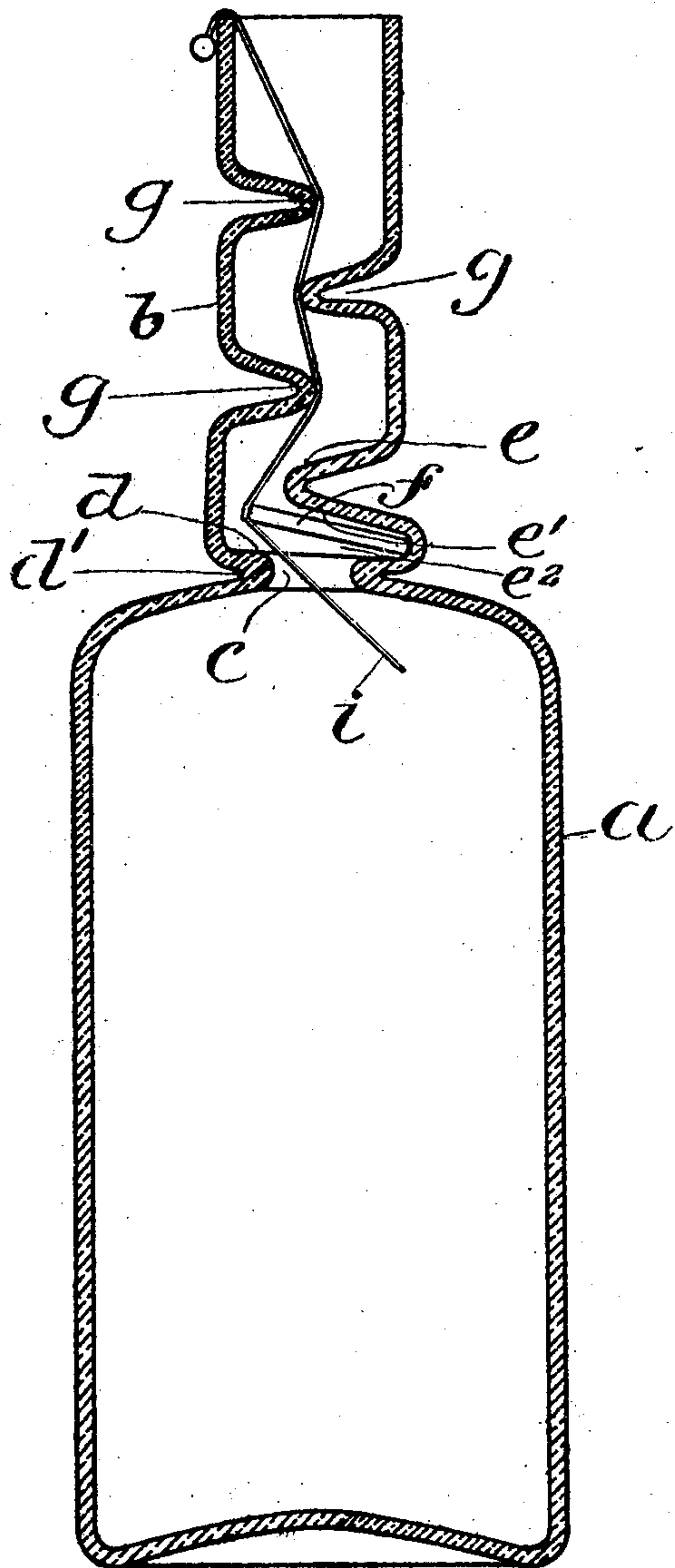
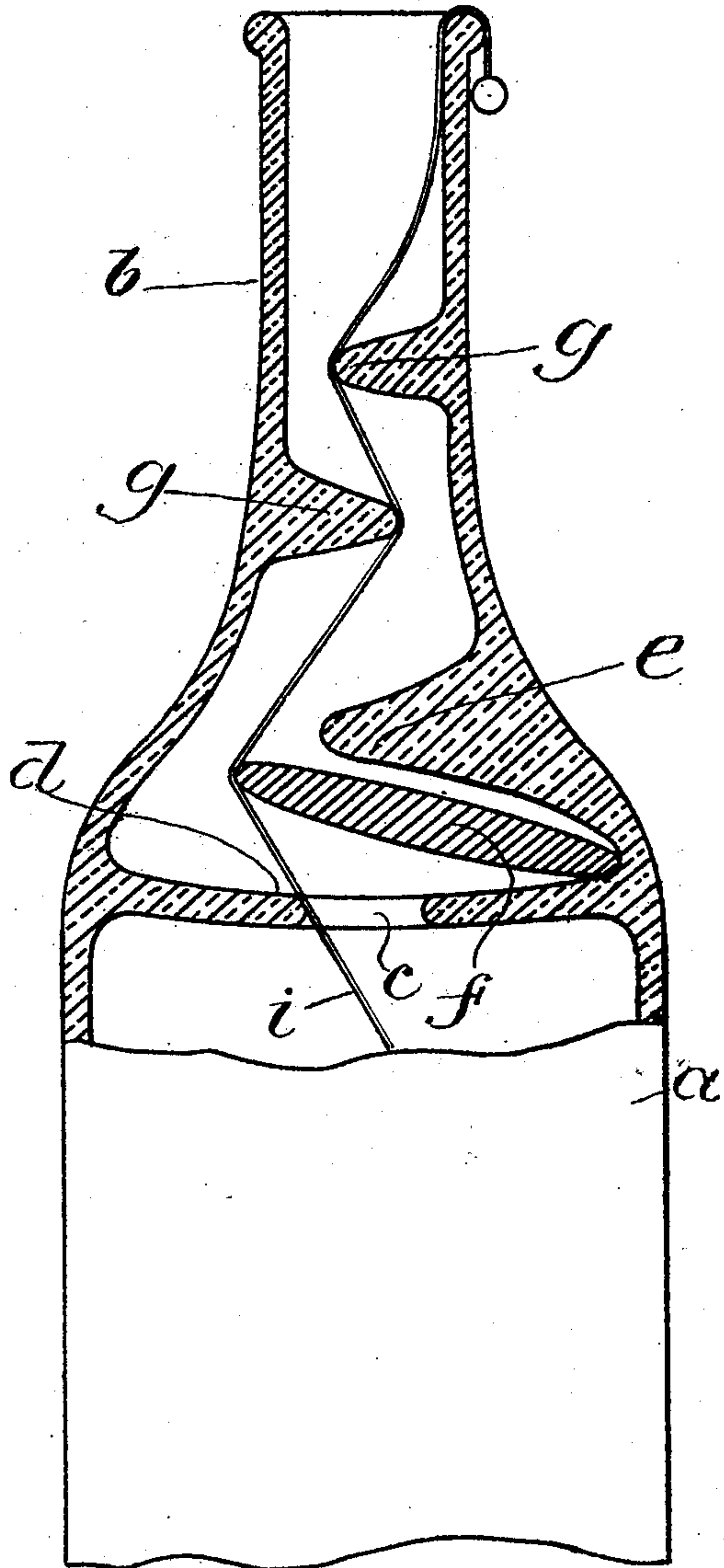


FIG. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN A. WATT AND JOSEPH A. CLARK, OF HALIFAX, CANADA.

NON-REFILLABLE BOTTLE.

No. 755,744.

Specification of Letters Patent.

Patented July 25, 1905.

Application filed November 14, 1904. Serial No. 232,564.

To all whom it may concern:

Be it known that we, JOHN A. WATT and JOSEPH A. CLARK, of Halifax, in the county of Halifax and Province of Nova Scotia, Canada, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

This invention has for its object to provide a non-refillable bottle of simple and inexpensive construction; and it consists in the improvements which we will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a longitudinal section showing a bottle embodying our invention. Fig. 2 represents a similar section showing a slightly different embodiment of the invention.

The same reference characters indicate the same parts in all the figures.

In the drawings, *a* represents the body, and *b* the neck, of a glass bottle. *c* represents a contracted opening between the body and neck through which liquid must pass to and from the body, said orifice being surrounded by a valve-seat *d*. In the construction shown in Fig. 1 the contracted orifice and the valve-seat are formed by forcing inwardly the glass forming the base of the neck while the glass is in a soft condition, thus forming an annular projecting flange *d'*, the upper side of which constitutes the valve-seat, said flange being V-shaped in cross-section. The neck *b* is provided above the valve-seat with a projection *e*, extending inwardly partly across the neck, said projection having an inclined under surface *e'*, which forms the upper side of a V-shaped pocket *e''*, the upper side of which overhangs a portion of the valve-seat.

f represents a valve, which may be made of cork, wood, glass, or any other material and is preferably a disk, which may be flat, oval, convex, concave, or of any other shape in cross-section. One edge of the valve is engaged loosely with the handle of the pocket *e''*, the other edge being adapted to swing between the valve-seat and the projection *e*. The valve is normally closed on the orifice *c* by gravitation. The diameter of the valve is considerably greater than the length of the projection *e*, so that the free edge of the valve projects considerably beyond said projection, as shown in the drawings, the projecting portion being therefore exposed or subjected to pressure from liquid entering the neck of the bottle. Hence if an attempt is made to refill the bot-

tle by holding it in an inverted or an inclined position, so that the valve will remain open by gravitation, the liquid in being forced through the neck will bear upon the projecting portion of the valve and will close the latter against its seat, thus preventing any considerable quantity of liquid from entering the bottle.

g g represent projections formed in the bottle-neck and extending into the same from opposite sides, said projections, with the projection *e*, giving the channel of the bottle-neck a zigzag form and preventing access of a wire or other device to the valve for the purpose of tampering with the same. The various projections *e* and *g* may be made by indenting the outer surface of the neck while the glass composing it is soft, the projections being hollow, as shown in Fig. 1.

It will be seen that the bottle constructed as shown in Fig. 1 may be formed entirely from the exterior, there being no necessity of inserting forming devices or appliances into the interior of the bottle or neck. Hence the bottle may be very cheaply constructed, the essential parts which prevent it from being refilled being only two in number—namely, first, the bottle-neck, with the valve-seat and various projections integral with it, and, secondly, the valve.

To permit the original filling of the bottle, a slender cord or wire *i* is brought up against the valve and extended through the neck, the cord or wire being used to hold the valve open until the bottle has been filled, after which the cord is drawn out through the neck, allowing the valve to fall over the orifice. This feature, however, we do not claim, as we are aware that it is not new.

In Fig. 2 we show the valve-seat formed as the upper side of a solid annular flange projecting inwardly from the wall of the bottle, various projections in the bottle-neck being also solid.

We claim—

1. A bottle having a contracted opening at the lower portion of its neck, said opening being surrounded by a valve-seat, a projection within the bottle-neck above the valve-seat, said projection having an inclined lower face overhanging the valve-seat and forming with the upper surface of the valve-seat a V-shaped pocket, and a loose valve engaged at one edge with the angle of said pocket and adapted to swing between the valve-seat and the projection, the valve being of greater

width than the projection, so that its free edge extends beyond the projection and is subjected to pressure from liquid entering the bottle.

2. A bottle having the lower portion of its neck contracted to form an annular inwardly-projecting flange which is V-shaped in cross-section, the upper surface of said flange forming a valve-seat which surrounds the opening connecting the bottle with the neck, a projection within the bottle-neck above the valve-seat, said projection being hollow and having an inclined lower face overhanging the valve-seat and forming with the upper surface of the valve-seat a V-shaped pocket, and a loose

valve engaged at one edge with the angle of said pocket and adapted to swing between the valve-seat and the projection, the valve being of greater width than the projection, so that its free edge extends beyond the projection and is subjected to pressure from liquid entering the bottle.

In testimony whereof we have affixed our signatures in presence of two witnesses.

JOHN A. WATT.
JOSEPH A. CLARK.

Witnesses:

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