No. 629,307. Patented July 18, 1899.

G. W. SKANKS.

NON-REFILLABLE BOTTLE.

(Application filed Dec. 9, 1898.)

(No Model.)

Fig. 1.

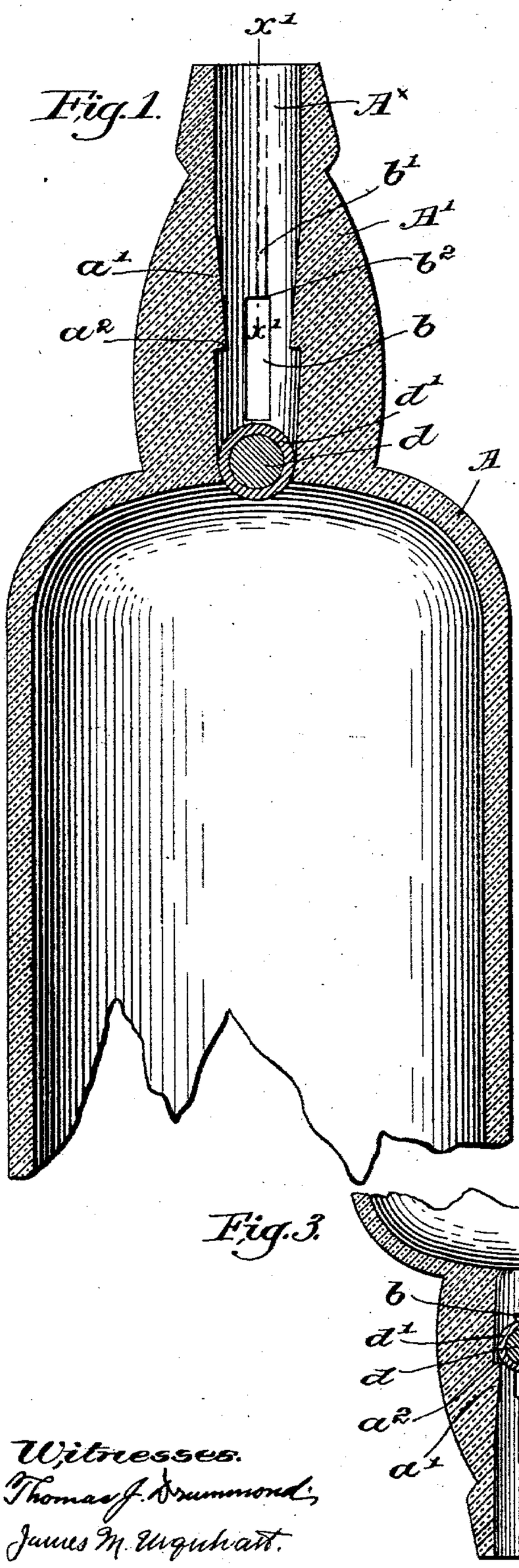

Fig. 2.

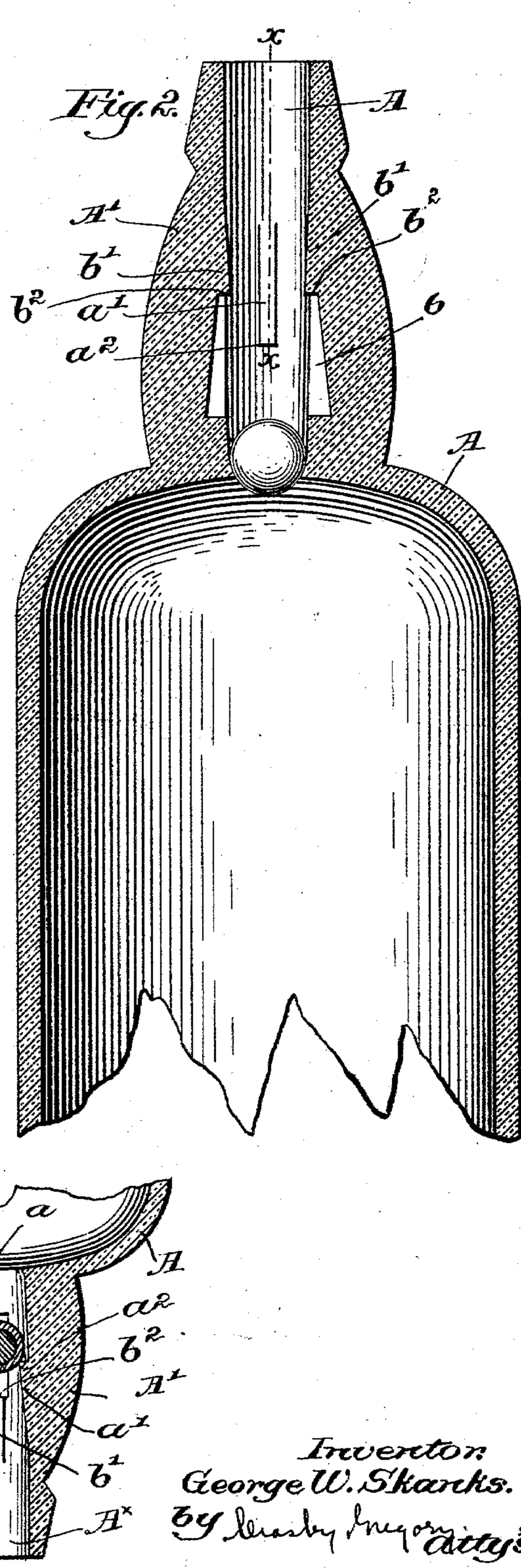

Fig. 3.

Witnesses.
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GEORGE W. SKANKS, OF CHELSEA, MASSACHUSETTS, ASSSIGNOR OF ONE-HALF TO GEORGE D. EMERY, OF ALLSTON, MASSACHUSETTS.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 629,307, dated July 18, 1899.

Application filed December 9, 1898. Serial No. 698,713. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. SKANKS, of Chelsea, county of Suffolk, State of Massachusetts, have invented an Improvement in Non-Refillable Bottles, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object the production of a bottle which cannot be refilled after the original contents have been withdrawn therefrom, the construction being very simple, yet efficient, and cheap to produce.

Figure 1 is a vertical sectional view of the upper part and neck of a bottle embodying my invention, taken on the line $x\,x$, Fig. 2. Fig. 2 is a similar view taken on the line $x'\,x'$, Fig. 1; and Fig. 3 is a view similar to Fig. 1, but on a smaller scale, and showing the bottle turned upside down.

The neck A′ of the bottle A has its tubular bore somewhat contracted at its lower end at a to form a seat for a ball-valve, to be described, said valve being freely movable between the seat a and detents a', herein shown as oppositely located within the neck, and gradually converging in the direction of the valve-seat, said detents terminating at their lower ends in preferably square shoulders a^2, the shortest distance between the detents being less than the normal diameter of the ball-valve.

I have shown two outlet-passages b in the neck extending above and below the contracted portion of the neck between the shoulders a^2 to permit free passage of the liquid from the bottle when turned upside down, the shoulders a^2 at such time supporting the valve (see Fig. 3) and preventing its withdrawal, the passages b terminating well above the valve-seat a. Above each outlet-passage I have provided a guard, shown as a wedge-shaped enlargement b' of the interior of the neck and terminating in shoulders b^2, the upper end of the guard gradually rising from the surface of the tubular bore $A^\times$ of the neck.

The valve D is preferably composed of a central portion, body, or core d, Fig. 2, provided with an exterior shell of a somewhat compressible elastic material, the normal diameter of said ball being a little greater than the diameter of the valve-seat a and greater than the distance between the lower ends of the detents a' or of the guards b'.

I prefer to make the body or core d, Figs. 1 and 3, of the valve of metal or other material sufficiently heavy to maintain the valve seated at a under normal conditions, (see Figs. 1 and 2,) the body or core being covered with an outer layer d' of rubber, cork, or similar elastic material.

After the bottle has been filled the ball-valve d is inserted in the mouth of the neck, and by any suitable means it is forced down past the guards b' and the detents a' into the larger space or chamber of the bore below the shoulders a^2. When the valve is being thus inserted, its yielding exterior will be compressed gradually to permit its passage beyond the contracted portions of the bore above specified, and as soon as the valve has been forced beyond the detents it will expand or return to its normal diameter, so that while it is free to move between the valve-seat a and the shoulders a^2 it cannot pass beyond either.

To remove the contents of the bottle, it is tipped, and the liquid will be discharged through the outlet-passages b, past the valve d, and out of the mouth of the neck A′.

The valve prevents refilling, as it will be forced against its seat a if pressure be employed to introduce a liquid, and the air within the bottle will also act to prevent the entrance of a liquid.

In order to prevent the insertion of a bent wire or hook to lift the valve from its seat and so permit refilling, I have provided the guards b', which prevent the insertion of a wire-like device below the valve through the outlet-passages, the inclined faces of the guards directing the wire onto the rounded surface of the valve and preventing its entrance into one of the outlet-passages b.

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

A non-refillable bottle comprising a neck having a tapered valve-seat and also having a plurality of tapered detents gradually converging toward said valve-seat, and also having outlet passages or recesses between the

detents, the lower ends of the passages or recesses being disposed below the lower ends of said detents, and a ball-valve located below said detents and consisting of a heavy core and compressible material completely covering said core, and the diameter of said valve being greater than the least distance between said detents.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE W. SKANKS.

Witnesses:
GEO. W. GREGORY,
AUGUSTA E. DEAN.