

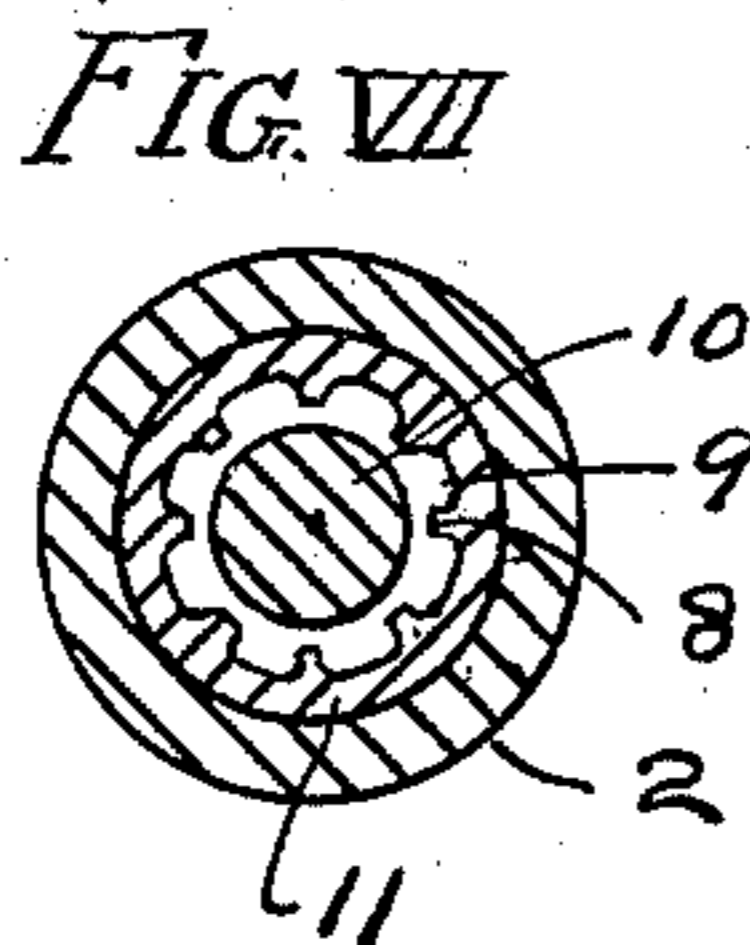
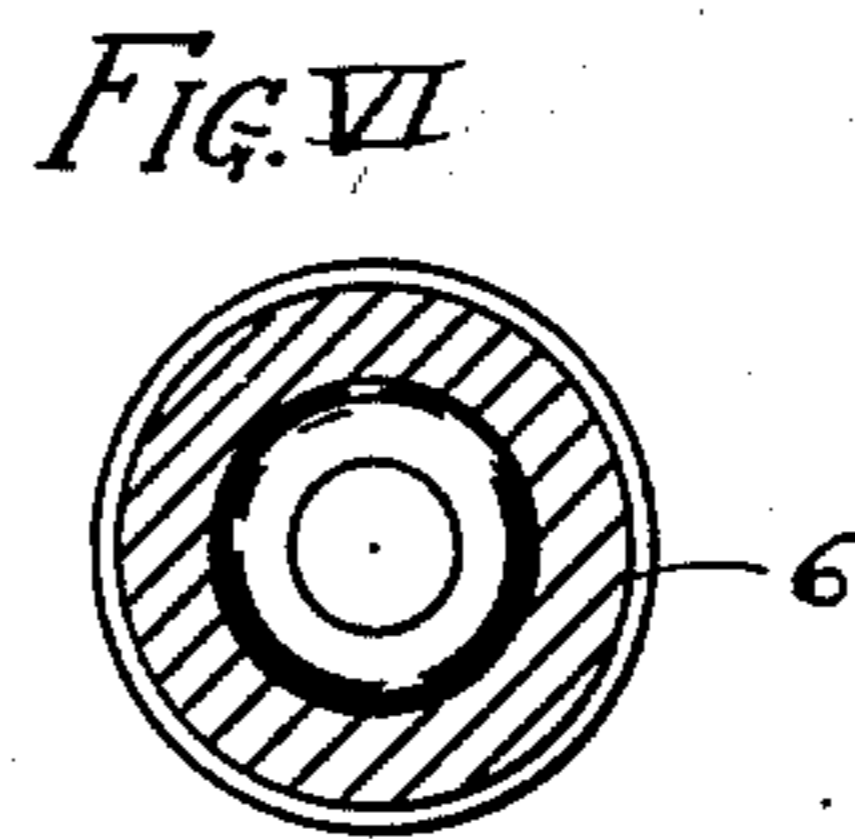
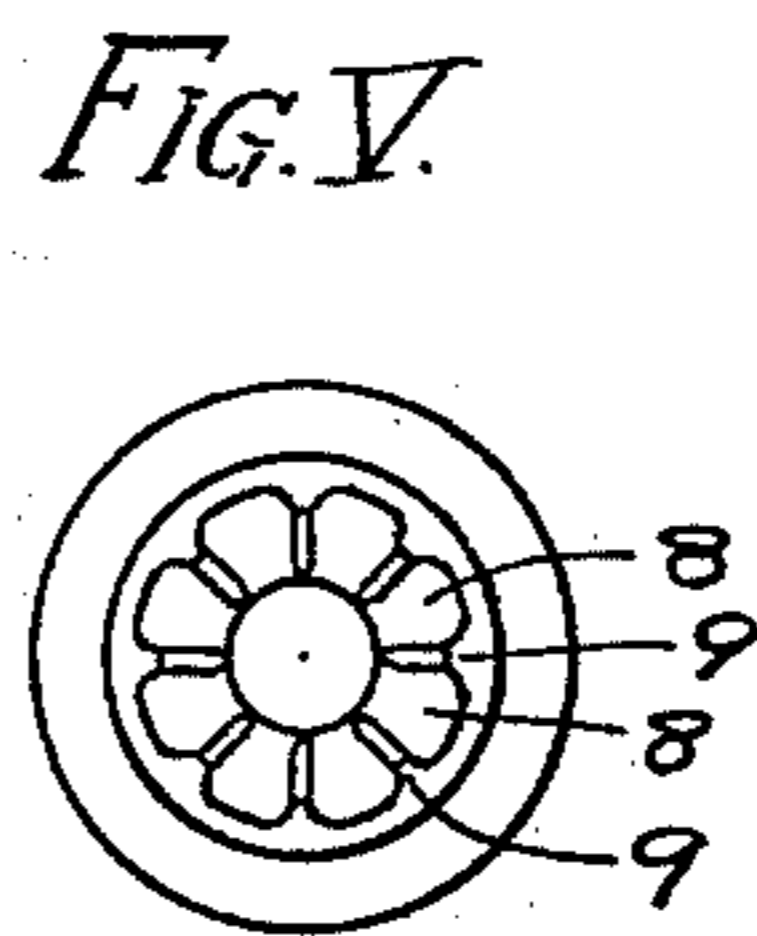
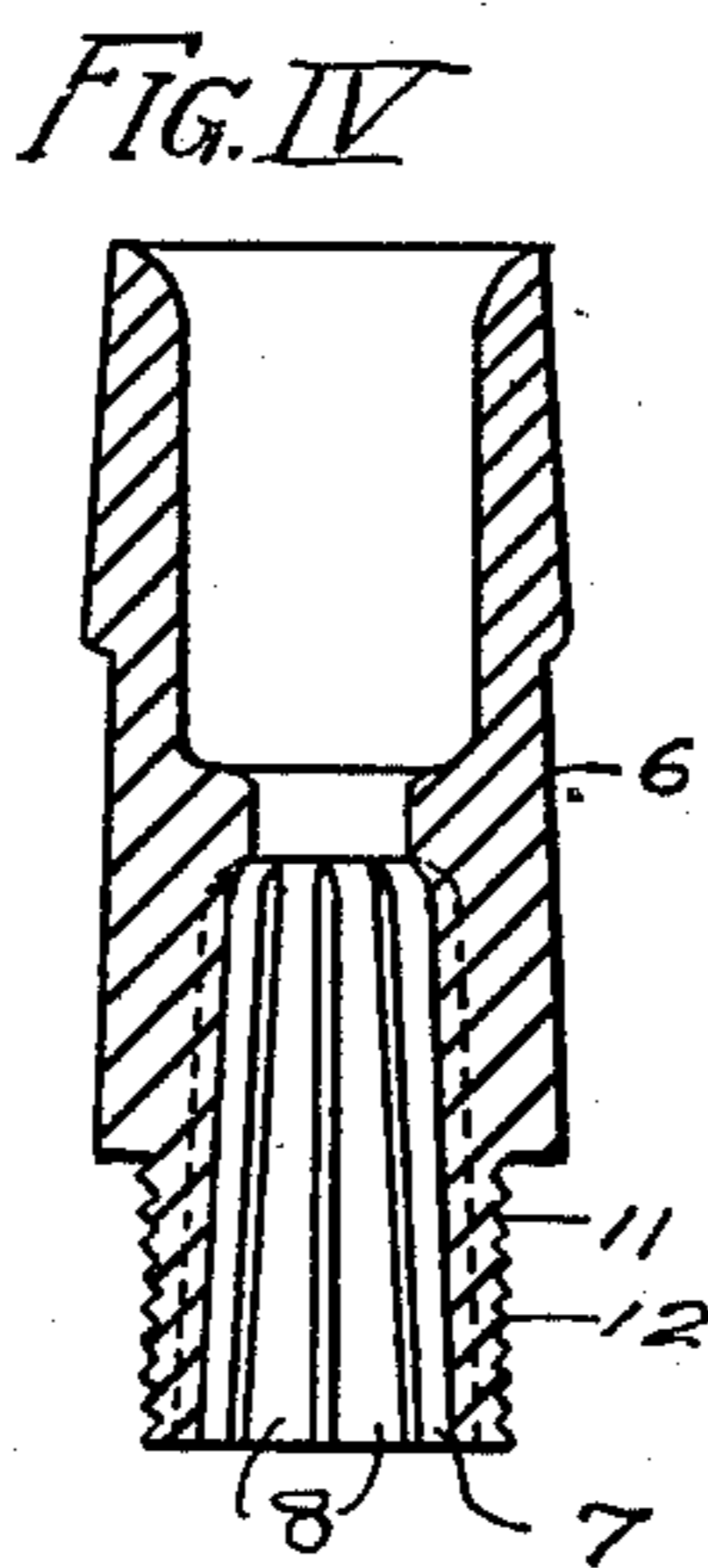
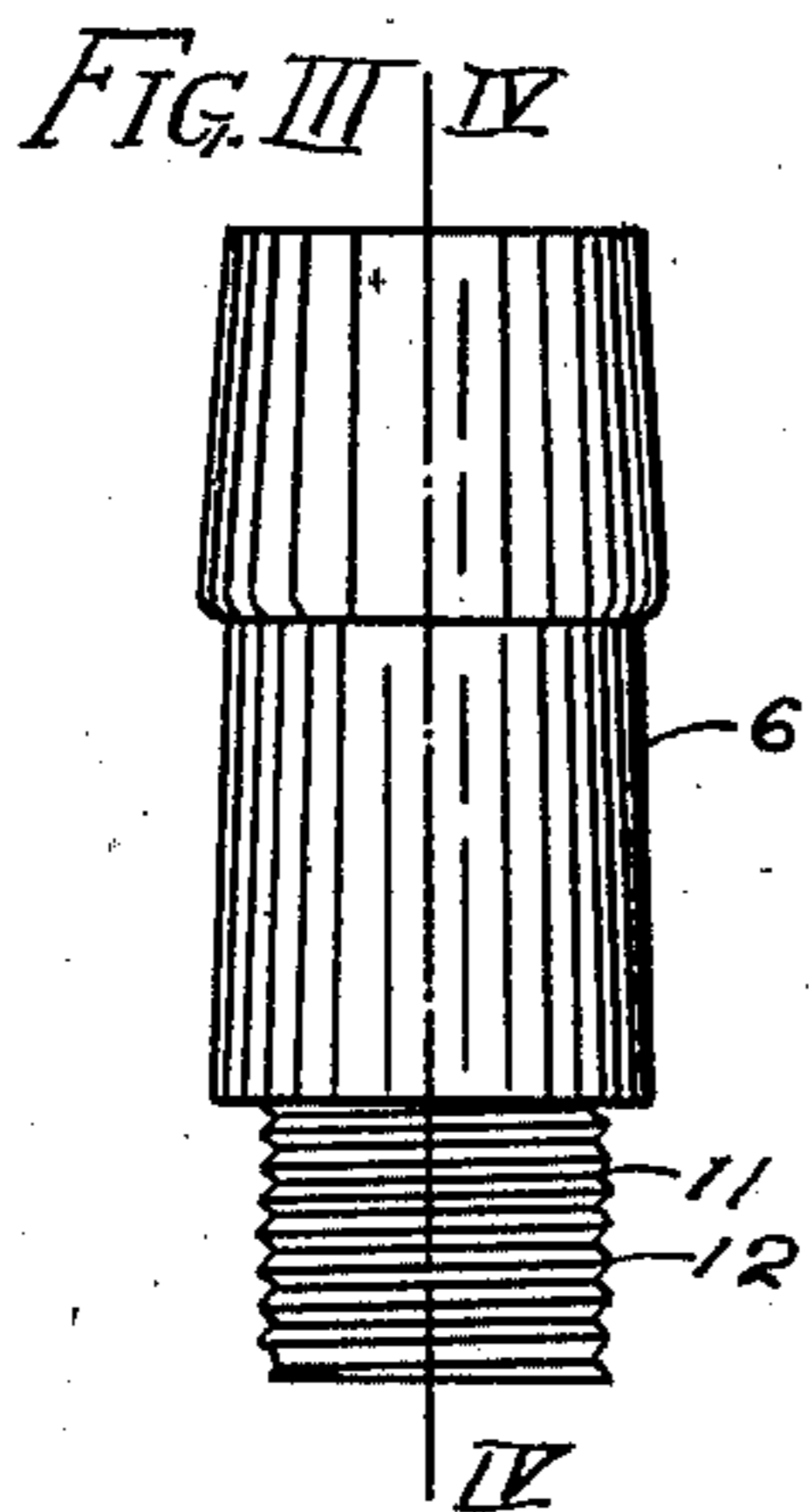
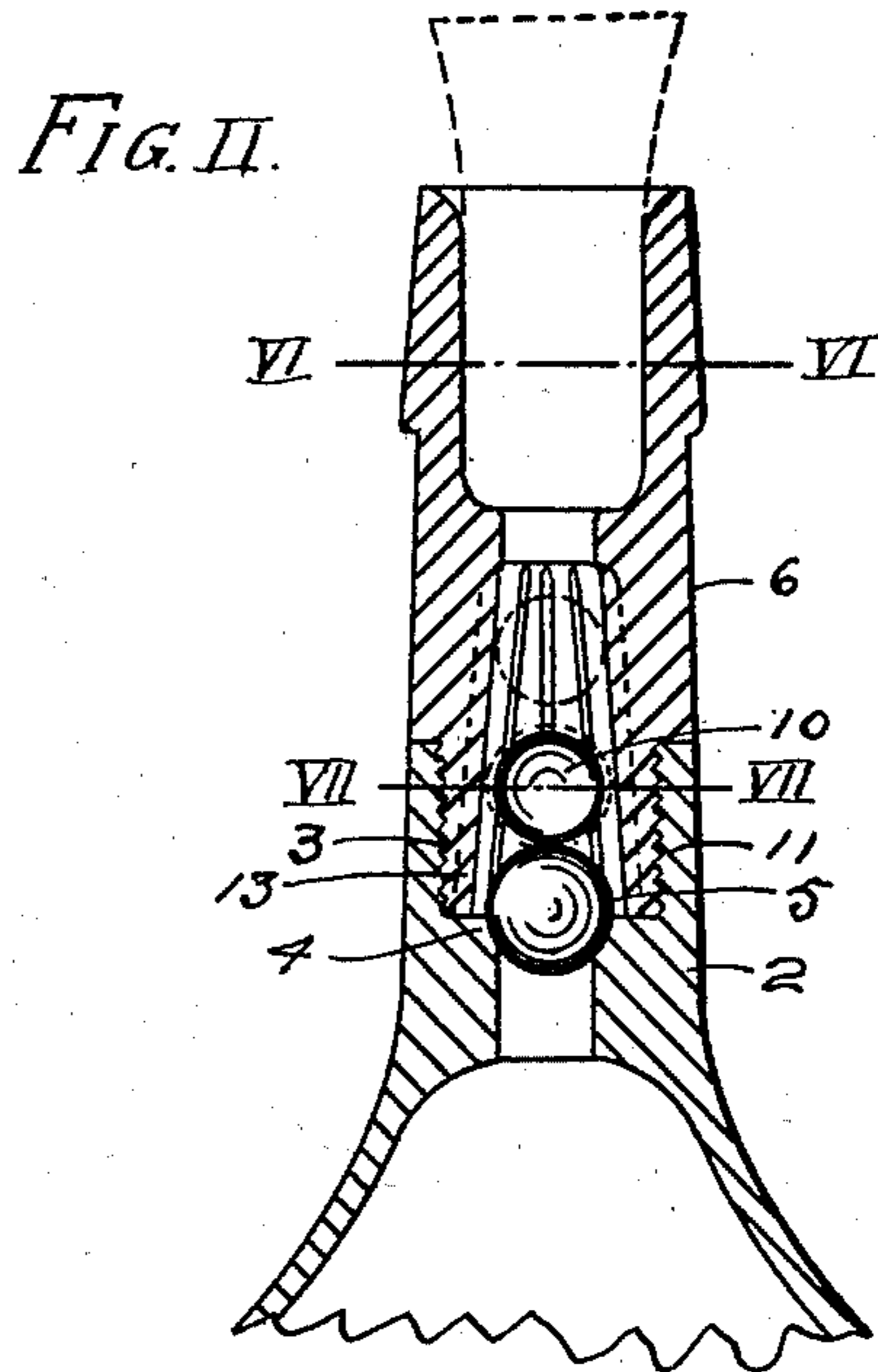
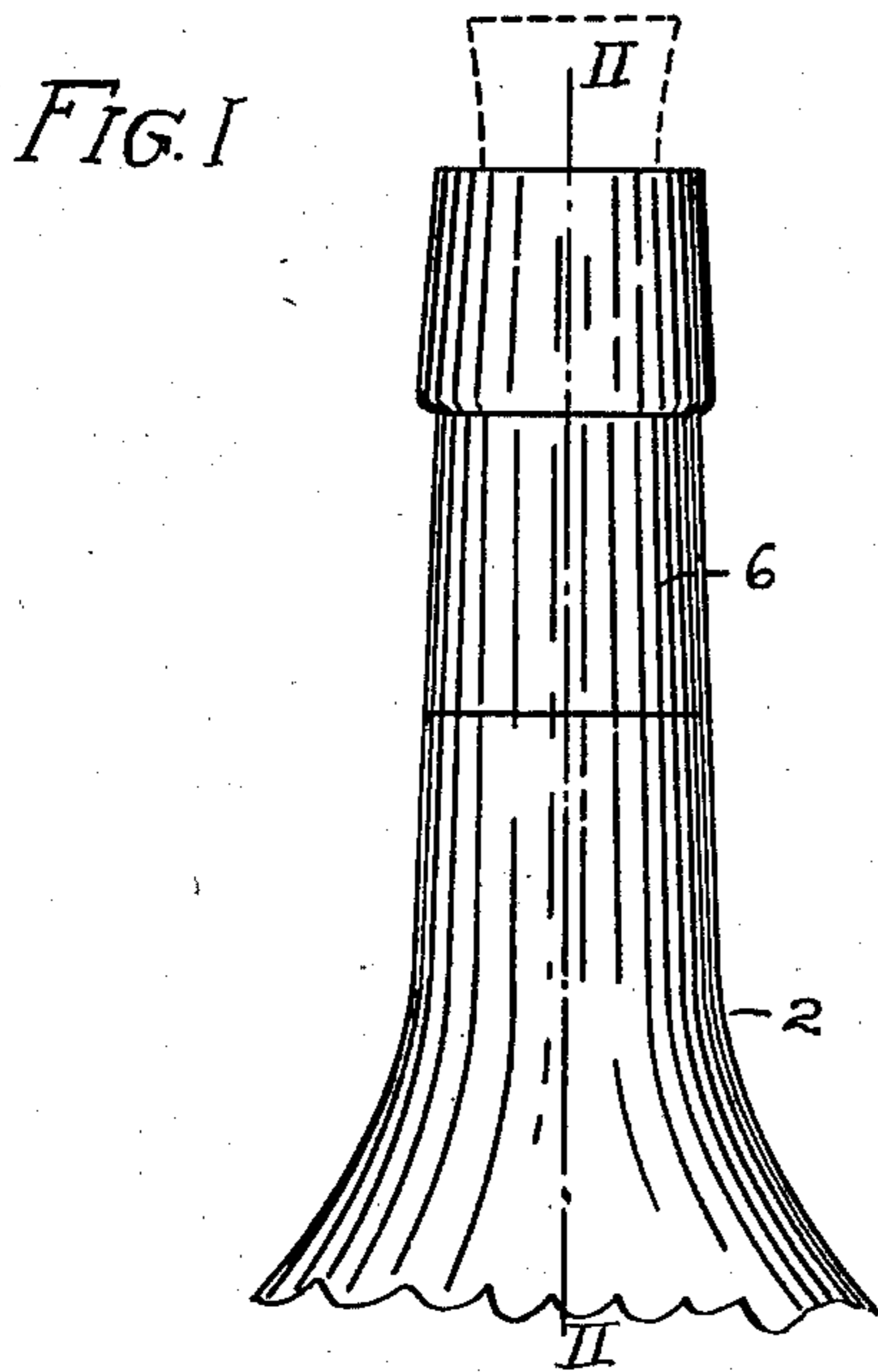
No. 686,224.

Patented Nov. 5, 1901.

W. HILL.
NON-REFILLABLE BOTTLE.

(Application filed Jan. 8, 1901.)

(No Model.)



WITNESSES:

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By

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UNITED STATES PATENT OFFICE.

WARREN HILL, OF LOS ANGELES, CALIFORNIA.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 686,224, dated November 5, 1901.

Application filed January 8, 1901. Serial No. 42,523. (No model.)

To all whom it may concern:

Be it known that I, WARREN HILL, a citizen of the United States, residing at Los Angeles, county of Los Angeles, State of California, 5 (with post-office address at 1304 East Ninth street, in said city,) have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a full, clear, and exact description, reference being had to 10 the accompanying drawings, which form a part of this specification.

My invention has for its object to provide a practical and simple device which can be applied to or made a part of any bottle in order to prevent its being refilled after the original contents have been withdrawn. I have 15 also aimed to construct a bottle which can be quickly filled and the contents thereof readily discharged; and my invention consists in 20 certain features of novelty hereinafter described and claimed.

Figure I is a side elevation of my improved bottle-neck. Fig. II is a longitudinal section taken on line II II, Fig. I. Fig. III is a side 25 elevation of the attachable portion of the neck. Fig. IV is a longitudinal section taken on line IV IV, Fig. III. Fig. V is a bottom view of the attachable neck. Fig. VI is a transverse section taken on line VI VI, Fig. 30 II. Fig. VII is a transverse section taken on line VII VII, Fig. II.

Referring to the drawings, 1 represents my improved bottle as made in two parts, the body of the bottle being blown in the usual 35 manner, but having a short neck, as shown at 2. Within the neck 2 there is an annular socket 3, forming a valve-seat 4 at its lower end, 5 representing a ball or round valve adapted to rest in said socket and close against 40 said valve-seat. The neck of the bottle is made in two separate parts, consisting of the fixed part 2 and an attachable part 6, the attachable part being designed to be secured to the fixed part when the bottle has been 45 filled. The attachable section of the neck is provided with a conical aperture 7 of sufficient length to allow the ball-valve to operate therein. The entire surface of the conical aperture 7 is formed with a series of cor- 50 rugations or ribs 8, with an intervening series of channels 9, with the result that when the bottle is being emptied the ball-valve rolls in the conical opening and the liquid contained within the bottle runs through the

channels 9 under the ball and between the 55 ribs 8, and thus out through the neck to the mouth of the bottle.

I preferably use in addition to the ball-valve 5 an auxiliary ball 10, adapted to operate within the conical aperture, the purpose of said 60 auxiliary ball being to prevent manipulation of the ball-valve in order to refill the bottle. The auxiliary valve serves to force and hold the ball-valve in position in case the bottle 65 is tipped in attempting to refill the same and at the same time prevents the insertion of a wire or other medium around the ball-valve to lift the same up, and thus let the liquid pass.

The attachable portion of the neck of the 70 bottle is provided with a shank 11, having ribs or threads 12 on its periphery, and the part 2 of the neck may be also supplied with a like series of ribs or threads 13 on the periphery of the socket 3 in order to hold the 75 cement or other means for connecting the two parts of the neck after the balls have been placed in position within the conical aperture 7. After the cement is set the neck of 80 the bottle becomes rigid, when it is impossible to detach the attachable portion without destroying the bottle.

I claim as my invention—

The combination with a body of a bottle contracted at its upper end a valve-seat formed 85 above the contracted end, an annular rim projecting upwardly from the contracted portion above the valve-seat and provided with interior screw-threads a port through the contracted portion leading to the valve-seat, of a 90 detachable neck, a depending annular flange of greater diameter than the said valve-seat having exterior screw-threads adapted to enter the annular flange of the bottle and secured therein by means of the respective 95 screw-threads, a tapering or conical bore formed through said neck and flange a series of corrugations or ribs formed in the said bore and a ball-valve adapted to seat itself on the valve-seat in the contracted portion of the 100 body of the bottle and a second ball of less diameter loosely secured in the conical bore above the ball-valve.

WARREN HILL.

Witnesses:

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