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Patented Mar. 20, 1900.

J. A. HIGGS.
NON-REFILLABLE BOTTLE.

(Application filed June 14, 1899. Renewed Feb. 15, 1900.)

(No Model.)

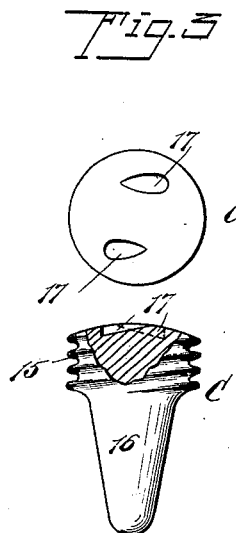
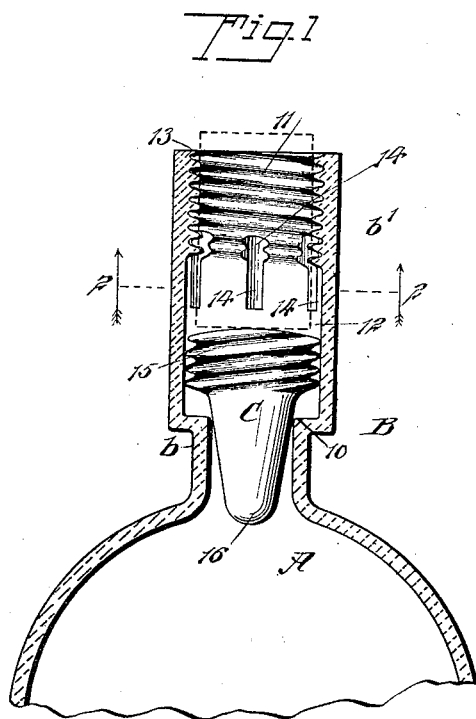
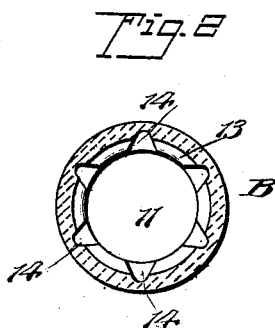


Fig. 4



WITNESSES:

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JAMES ALEXANDER HIGGS, OF BEARSPRING, TENNESSEE.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 645,811, dated March 20, 1900.

Application filed June 14, 1899. Renewed February 15, 1900. Serial No. 5,384. (No model.)

To all whom it may concern:

Be it known that I, JAMES ALEXANDER HIGGS, of Bearspring, in the county of Stewart and State of Tennessee, have invented a new and Improved Non-Refillable Bottle, of which the following is a full, clear, and exact description.

One object of the invention is to provide a non-refillable bottle that may be made at approximately the same cost as the ordinary bottle.

A further object of the invention is to so construct the bottle that all the parts pertaining thereto can be made of glass.

A further object of the invention is to provide a means whereby a valve may be entered in a peculiar manner into the neck of the bottle, which valve after entrance cannot be removed and will effectually prevent the bottle being charged a second time, but will not obstruct the outflow of liquid from the bottle.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal vertical section through the upper portion of the body of the bottle and its neck, showing the valve seated and in side elevation. Fig. 2 is a transverse section through the neck of the bottle, taken substantially on the line 2 2 of Fig. 1. Fig. 3 is a plan view of the valve; and Fig. 4 is a side elevation of the valve, parts thereof being broken away.

A represents the body of the bottle, which may be of any desired shape, and B the neck. The neck is made in two sections—a lower section *b*, that connects directly with the body, and another section *b'*, that is of greater diameter than the lower section—thus providing an interior shoulder 10, as shown in Fig. 1. The upper section *b'* of the neck is in two divisions, an upper division 11 and a lower division 12, the upper division being of less diameter than the lower division, and the inner wall of the upper division is provided with a thread 13, while in the inner wall of the lower division 12 a series of longitudinal

channels 14 is produced, which channels extend across the lower threads of the upper division 11, as best shown in Figs. 1 and 2.

A valve C is employed in connection with the bottle. This valve consists of an exteriorly-threaded head 15 and a body 16, preferably of conical or tapering shape. The diameter of the head 15 of the valve is such that it will fit the thread 13 in the upper division 11 of the neck. The difference between the diameters of the upper division 11 and lower division 12 of the neck is such that when the head of the valve is in the lower division 12 the body 16 will extend downward into the reduced section *b* of the neck and have a bearing at the shoulder 10, as shown in Fig. 1, and the valve will be allowed a slight play in said lower division when the bottle is tilted. The upper face of the head 15 of the valve is preferably made round, so that a hold cannot be obtained thereon, and said head is preferably provided in its upper surface with oppositely-pointed longitudinally-tapering grooves 17, the grooves being tapered in opposite directions, so that a screw-driver or other instrument may be placed in the said recesses 17 and the valve be thereby turned to the right; but after the valve has dropped into the lower division of the neck such screw-driver or other instrument cannot be employed to turn the valve to the left to unscrew it from the neck, by reason of the peculiar formation of the recesses 17, as the recesses afford a bearing for the tool in one direction but not in the other.

After the bottle has been filled and the valve has been placed in position the upper portion of the neck may be closed by a cork of any description. When the cork is removed and it is desired to empty material from the bottle, the bottle is tilted in proper direction to unseat the valve and the liquid will find its way between the channels 14 and the head of the valve into the upper division of the neck. It is evident that all the parts may be made of glass and at comparatively little expense.

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

1. A non-refillable bottle provided with a neck formed into two diameters, the upper

portion being the larger and having its upper end interiorly threaded, said neck being provided with interior channels extending below and crossing a portion of the said threaded surface, and a valve having a threaded section adapted to fit to the threaded surface of the neck, for the purpose described.

2. A non-refillable bottle having its neck made in two diameters, the upper portion being the larger and having its end interiorly threaded and provided with longitudinal

channels extending across the lower threads of the threaded portion into the unthreaded portion, and a valve provided with a conical body and a threaded head, the upper surface of which is provided with oppositely-extending tapering grooves, substantially as herein shown and described. 15

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Witnesses:

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