

No. 768,965.

PATENTED AUG. 30, 1904.

F. C. H. STRASBURGER.

FILLING VALVE.

APPLICATION FILED MAR. 12, 1904.

NO MODEL.

Fig. 1

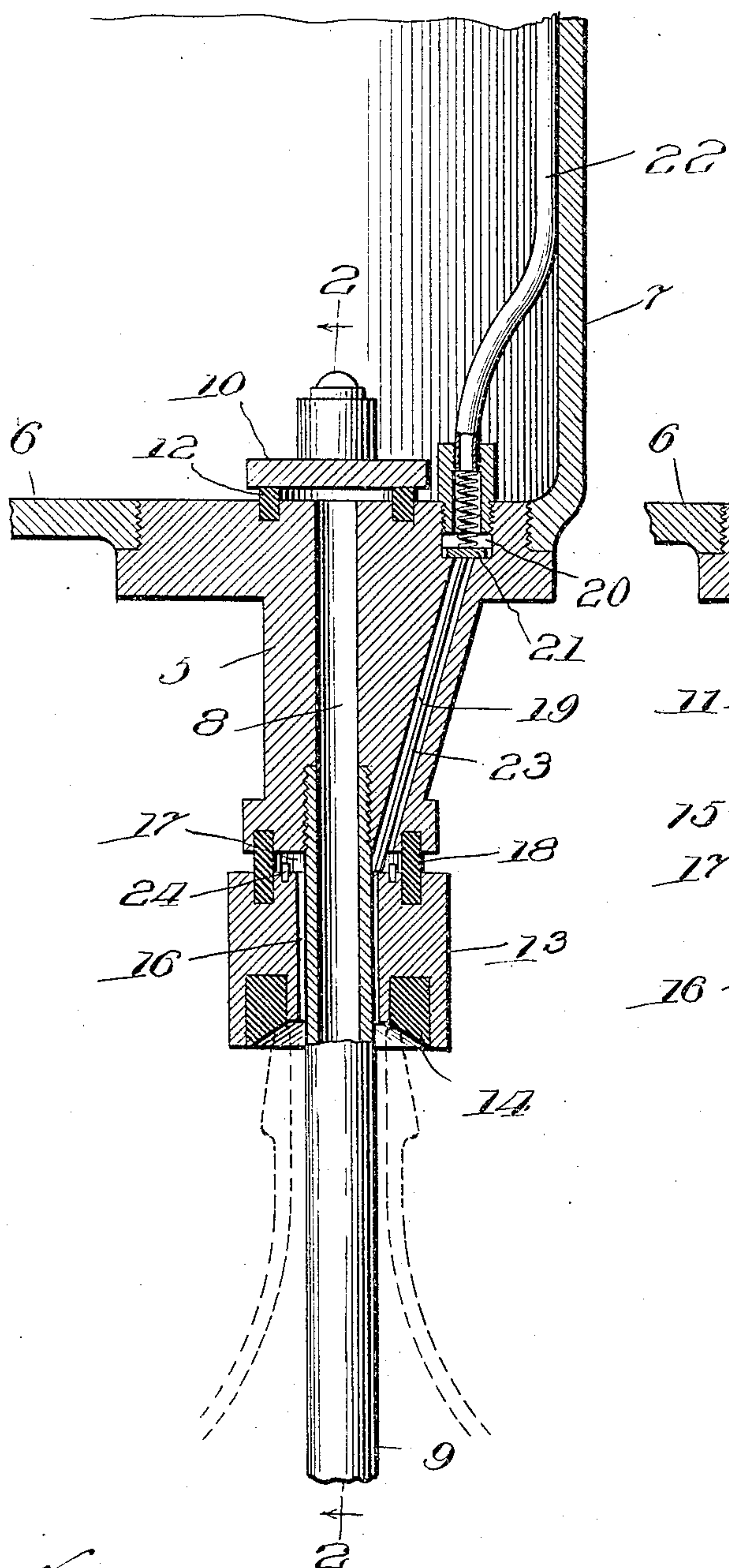
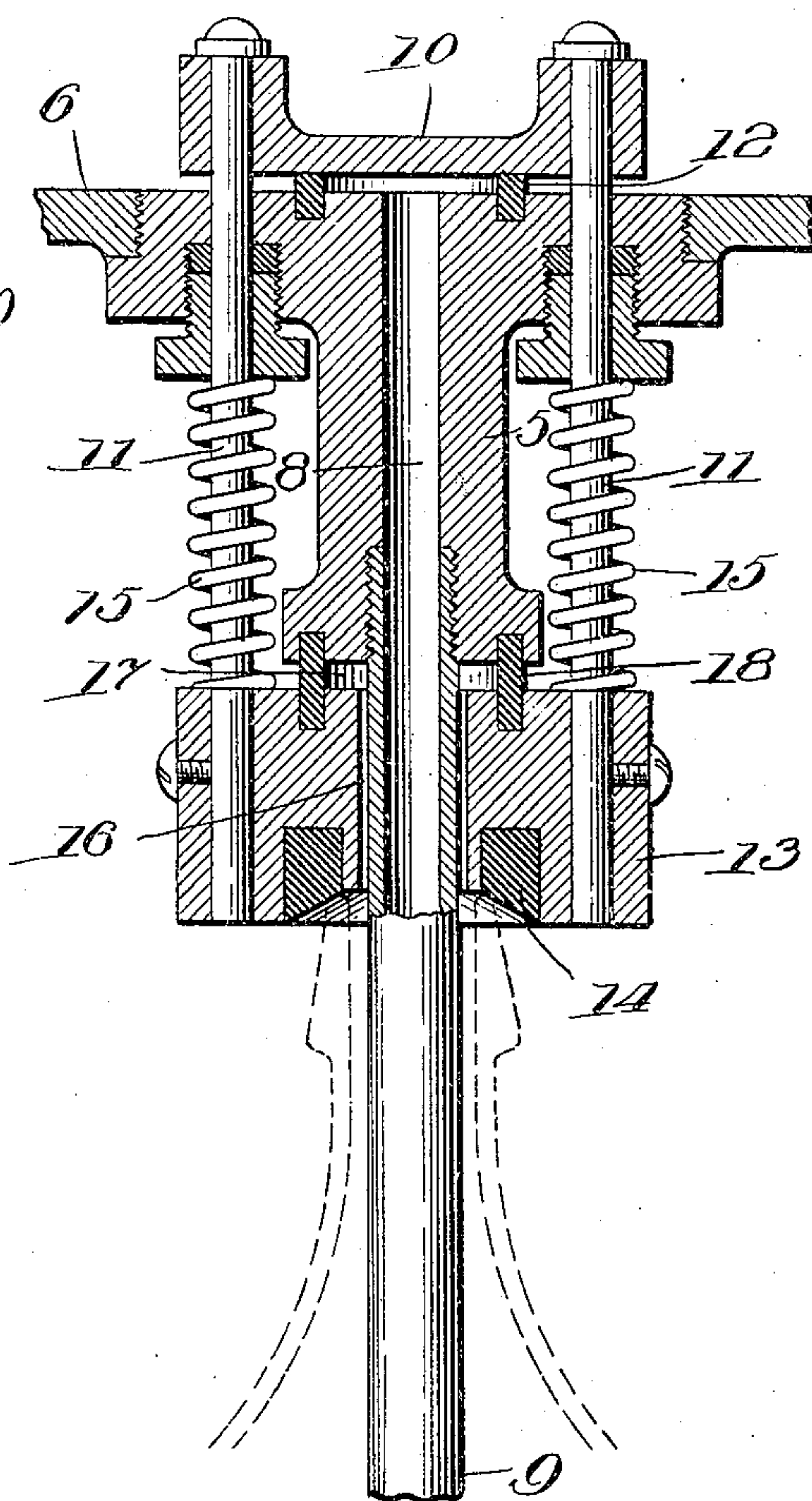


Fig. 2.



Witnesses:

H. S. Gaither

F. B. Allen.

TruSutor:

Frank C. H. Strasburger

by

Wm. F. Bell
attorney

Atorney

UNITED STATES PATENT OFFICE.

FRANK C. H. STRASBURGER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE
BOTTLERS SPECIAL MACHINERY COMPANY, OF CHICAGO, ILLINOIS, A
CORPORATION OF ILLINOIS.

FILLING-VALVE.

SPECIFICATION forming part of Letters Patent No. 768,965, dated August 30, 1904.

Original application filed July 9, 1903, Serial No. 164,815. Divided and this application filed March 12, 1904. Serial No. 197,794.
(No model.)

To all whom it may concern:

Be it known that I, FRANK C. H. STRASBURGER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Filling-Valves, of which the following is a specification.

This invention relates to filling-valve mechanism for bottle-filling machines, and the application is a division of my application, Serial No. 164,815, filed July 9, 1903.

The object of this invention is to avoid the production of foam in the bottle being filled by equalizing the pressure in the supply-tank and bottle before the beer or other carbonated liquid begins to flow into the bottle, and thus causing the liquid to flow by gravity.

In the accompanying drawings, which illustrate one manner of embodying the invention, Figure 1 is a sectional view showing the filling mechanism and a portion of the supply-tank. Fig. 2 is a sectional view on the line 2 2 of Fig. 1.

Referring to the drawings, 5 designates the body of the valve mechanism, which is screwed or otherwise suitably secured to the bottom 6 of the supply-tank 7 and is provided with a bore 8, forming a liquid-passage, into the lower end of which the filling-tube 9 is secured. The liquid-valve 10 is carried by the rods 11 and seats upon the rubber gasket 12 on the body around the liquid-passage therein. These rods also carry the head 13, which is provided on its outer face with a seat 14 to receive the mouth of the bottle, which is forced against said seat with sufficient pressure to overcome the tension of the springs 15 on the rods to unseat the liquid-valve. The head is provided with an enlarged bore 16, which receives the filling-tube and communicates with an air-chamber 17, inclosed by a rubber gasket 18, seated in the upper face of the head and the lower face of the body. An air-passage 19 in the body 5 communicates at its lower end with the chamber 17 and at its upper end with a valve-chamber 20, which contains a spring-pressed

air-valve 21. This valve-chamber may be formed in any suitable manner, and a pipe 22 is connected therewith and extends up in the tank above the level of the liquid therein. A valve-stem 23, which may or may not be connected to the valve 21, is arranged in the passage 19 and projects below the body 5 to engage the head 13. A stop or stops 24 may be provided to limit the upward movement of the head.

In practice the springs 15 hold the liquid-valve normally seated to close the filling-tube, and when a bottle is arranged in position on the filling-tube with its mouth against the seat 14 and moved by any suitable means to force the head upward against the tension of the springs 15 the liquid-valve is moved with the head and unseated. At the initial upward movement of the head the stem is caused to unseat the air-valve, so that the pressure in the bottle will be equalized with that in the tank before the liquid-valve is completely opened by the continued upward movement of the head. In this way I prevent the beer from being forced into the bottle under the pressure in the tank by providing the same pressure in the bottle, so that the beer will flow into the bottle by gravity without producing foam.

My improved valve mechanism is very simple in construction and can be easily connected with a supply-tank or other source of supply. It is susceptible of many changes in the form and proportion of parts and details of construction without departing from its scope, and therefore I do not restrict the invention to the particular embodiment herein disclosed.

Without limiting myself to the exact construction and arrangement of parts herein shown and described, what I claim, and desire to secure by Letters Patent, is—

1. A filling-valve mechanism for bottle-filling machines comprising a body provided with a liquid-passage, a filling-tube connected with said passage, a liquid-valve, a head slidable on the filling-tube and connected with

said liquid-valve, an air-passage in the body at one side of the liquid-passage, an air-valve in said passage, and a stem in the air-passage adapted to be engaged and moved by the head
5 to unseat said air-valve.

2. A filling-valve mechanism for bottle-filling machines comprising a body provided with a liquid-passage, a filling-tube connected with said passage, a liquid-valve, a head movable on the filling-tube and connected to said
10 liquid-valve, an inclosed chamber between the body and the head, an air-passage in the body opening at the bottom thereof within said chamber, an air-valve in said passage, and a
15 stem in said passage adapted to be moved by the head to unseat the air-valve.

3. A filling-valve mechanism for bottle-filling machines comprising a body provided with a liquid-passage, a filling-tube connected

with said passage, a liquid-valve, a head having an enlarged bore and movable on said filling-tube and connected with said liquid-valve, a gasket seated in the opposing faces of the body and head and inclosing an air-chamber around the filling-tube, an air-passage in the
25 body opening at the bottom thereof in said air-chamber, an air-valve in said passage, a stem in the passage projecting below the body to engage the head and adapted to be moved by the head to unseat the air-valve, and a pipe
30 connected to said air-passage and opening into the liquid-supply tank above the level of the liquid therein.

FRANK C. H. STRASBURGER.

Witnesses:

LENORE HORAN,
C. J. NORTHRUP.