

Fig. 5.

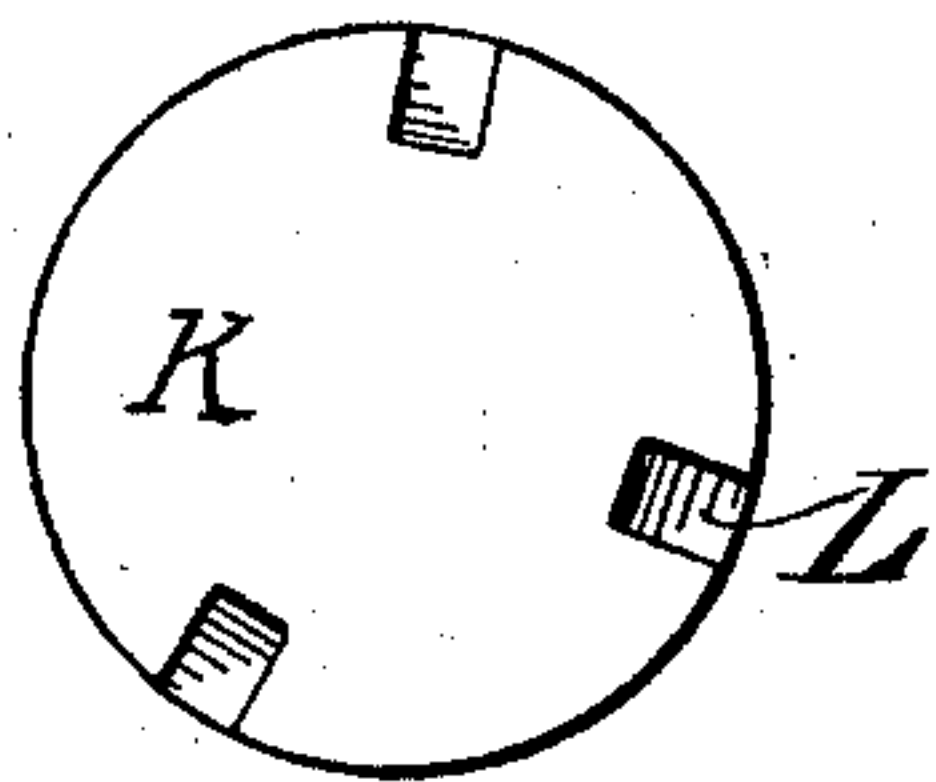


Fig. 1.

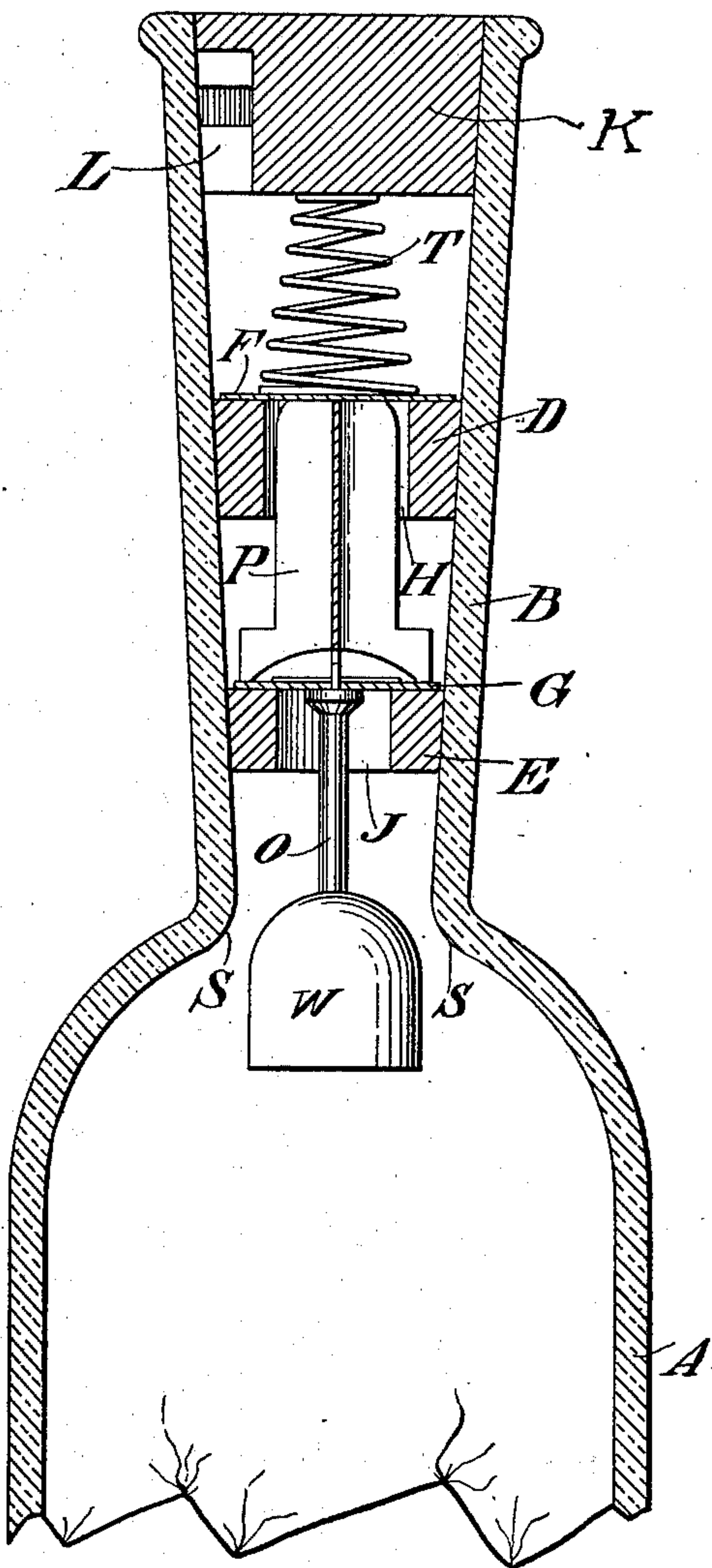


Fig. 2.

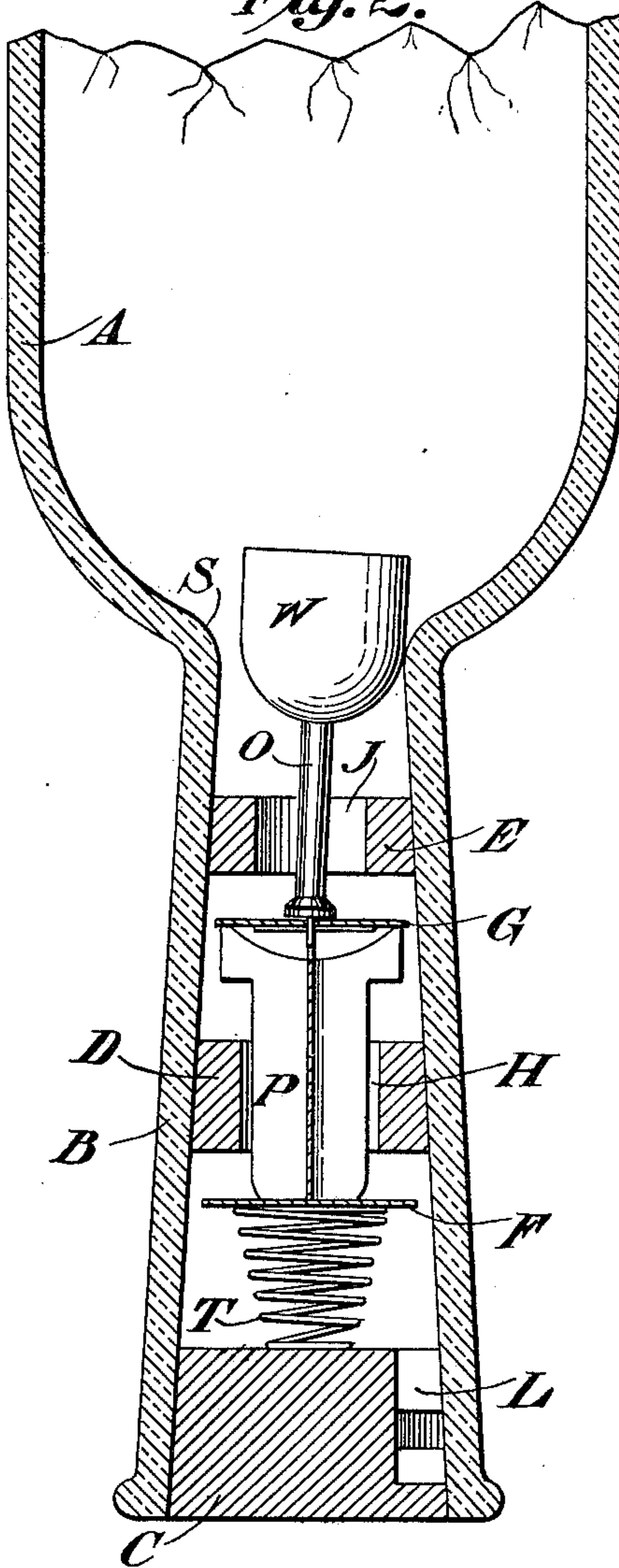


Fig. 6.



Witnesses
Comitchee
H. B. Gandy

Samuel E. George and
Joseph R. Norris
Inventors
By Dickerson, Brown, Raegum & Binney
their attorney

Fig. 3.

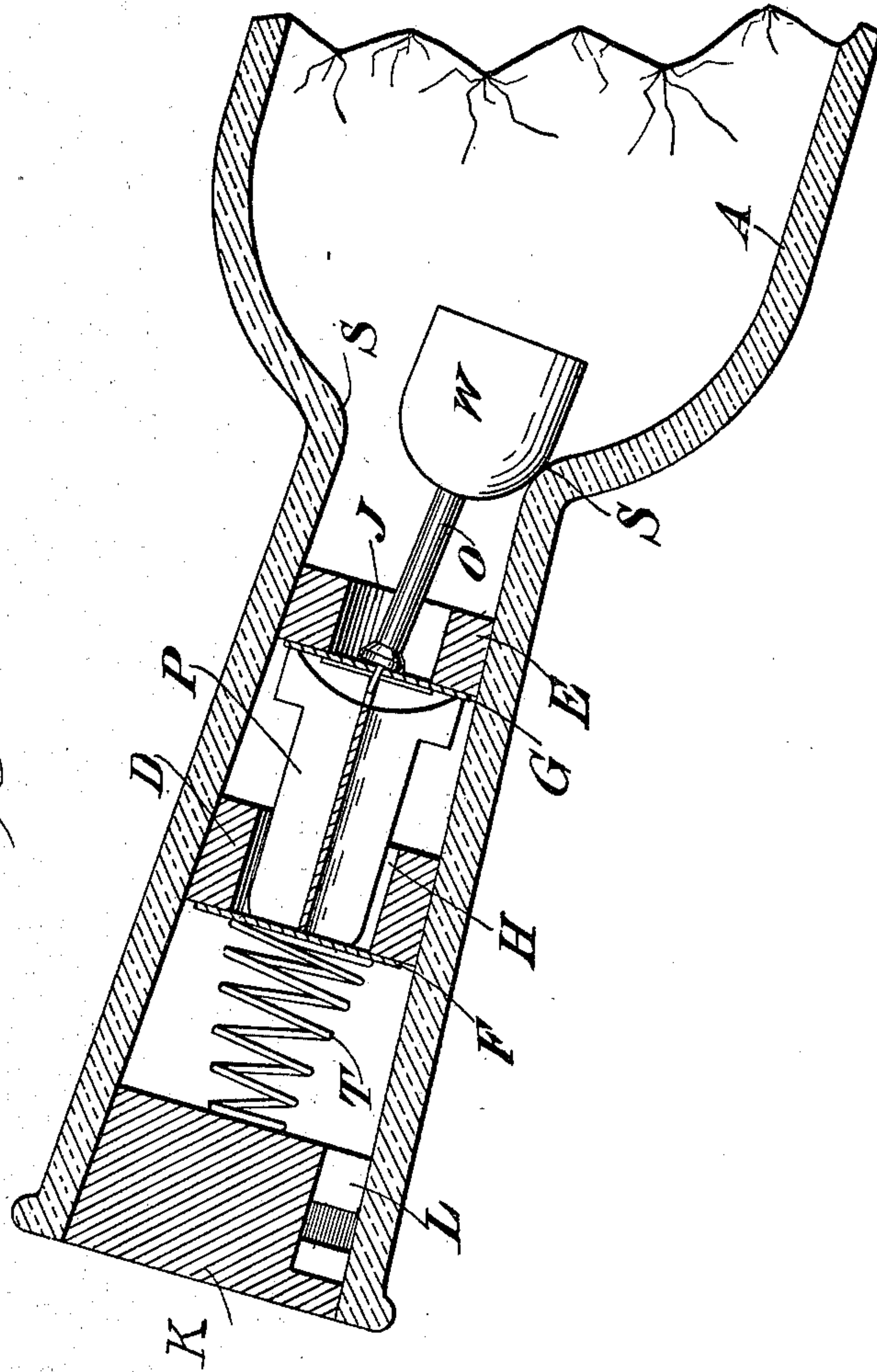
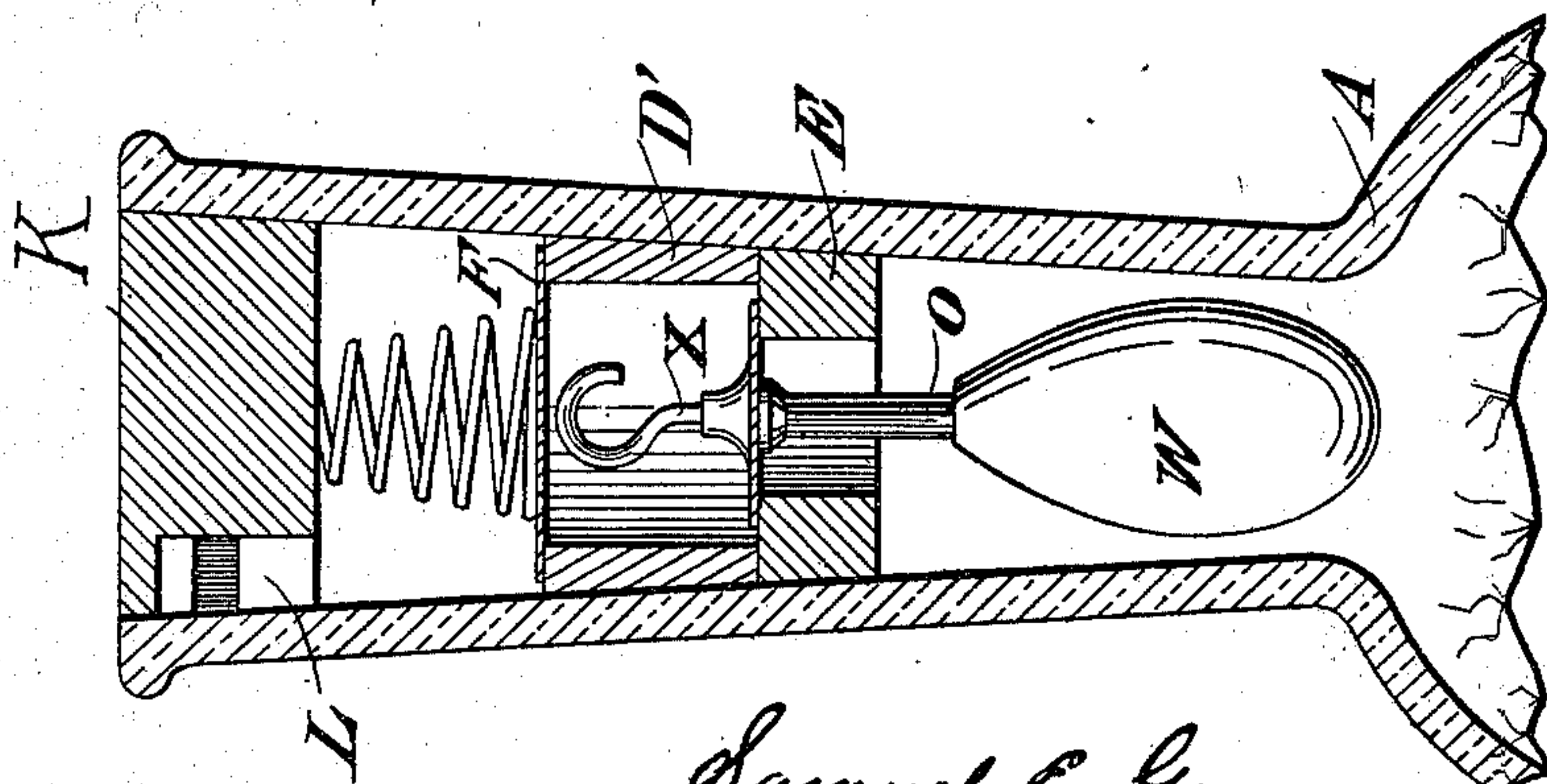


Fig. 4.



Witnesses
Comitchee
R. G. Ogden

Samuel E. George and
Joseph R. Norris
Inventors
By Dickerson, Brown, Raegen & Bernier
their attorneys

UNITED STATES PATENT OFFICE.

SAMUEL E. GEORGE AND JOSEPH R. NORRIS, OF NEW YORK, N. Y.

BOTTLE.

SPECIFICATION forming part of Letters Patent No. 735,240, dated August 4, 1903.

Application filed June 19, 1902. Serial No. 112,275. (No model.)

To all whom it may concern:

Be it known that we, SAMUEL E. GEORGE and JOSEPH R. NORRIS, citizens of the United States, residing in New York, borough of Manhattan, State of New York, have invented certain new and useful Improvements in Bottles, of which the following is a specification, accompanied by drawings.

Our invention relates to improvements in bottles; and its object is to enable a bottle to be filled with the desired liquid, but after the bottle has been emptied to prevent such bottle being refilled.

To these ends our invention consists in an improved bottle having the general construction and mode of operation, substantially as hereinafter fully described, and shown in this specification and accompanying drawings, in which—

Figure 1 is a longitudinal sectional view of a portion of a bottle embodying our invention. Fig. 2 is a longitudinal sectional view of a portion of such a bottle, but in a position the reverse of that shown in Fig. 1. Fig. 3 is a view of a bottle embodying our invention tipped slightly or inclined upwardly from the horizontal. Fig. 4 is a longitudinal sectional view of a portion of a bottle embodying a modified form of our invention, and Figs. 5 and 6 are views of the outer cork.

Many attempts have hitherto been made to so construct a bottle or flask of any description that after it has once been emptied it cannot be refilled; but ordinarily the construction of such bottles has been extremely complicated and expensive to make; and the object of our invention is to avoid the use of many parts and construct the apparatus for filling the bottle in the simplest and cheapest possible manner, while at the same time carrying out the ends in view.

Referring to the drawings, A represents any suitable bottle, which may be of glass or any other material, and in this instance the bottle is shown with a relatively long neck B, which is preferably tapered from the mouth C toward the junction of the neck with the body of the bottle. According to this construction the stoppers and corks and apparatus for preventing the filling of the bottle may be more nicely fitted within the neck and the parts are less liable to become

loose and get out of order. According to our invention the bottle is provided with a stopper which may be formed of several pieces, as D and E, shown somewhat separated in Figs. 1, 2, and 3 in order to more clearly illustrate our invention, while in Fig. 4 the parts D' and E are shown assembled into one compact whole. The stopper D E is provided with a plurality of valves F and G, shown in this instance as opening outwardly from the interior of the bottle and provided with means tending normally to maintain said valves closed over the apertures H J in the stopper, while according to our invention means are provided acting in such manner that when the bottle is turned upside down or is inclined downwardly from the horizontal the valves will be opened and the contents of the bottle may be poured out. When, however, the bottle is tipped slightly in an upward position from the horizontal or inclined upwardly the valves F and G will close and it will be impossible to fill the bottle. In order to prevent interference with the operation of the valves, as by thrusting appliances into the bottle from the outside, we so construct the outer cork or stopper K that it is impossible to thrust sticks or wires within the bottle. Any suitable means may be provided for preventing interference with the operation of the valves; but, as shown in this instance, the stopper K is provided with a plurality of tortuous passages L, so arranged that it is impossible to thrust appliances into the neck of the bottle and interfere with the valves.

The portions D and E, forming the stopper of the bottle, may be of any suitable material—such as cork, pressed paper, or hard rubber—while the valves F and G may be made of isinglass or any other material which may be found desirable for the purpose. In order to maintain the valve G closed when the bottle is in an upright position or inclined slightly upward from the horizontal, the weight W is suspended from said valve G in any suitable manner, but preferably by means of a stem O, which is of stiff material, and the weight W should be made of such material that it will not affect the liquid with which the bottle is to be filled. The weight may be made of glass or of a metal covered with glass, or, in fact, of any suitable mate-

rial. The weight W is hung at such a distance from the valve and the valve itself is so positioned in the neck of the bottle that in the normal position of the bottle upright the weight will be suspended about opposite the shoulders S of the bottle, and then when the bottle is tipped, as in Fig. 3, the weight will lie against one of the shoulders S. As the bottle is tipped downward from the horizontal position toward the position shown in Fig. 2 the gravity of the weight tends to force the valve G away from its seat, and thereby allow liquid within the bottle to pass out through the opening J. The stem O may be connected to the valve G in any suitable manner. The valve F is shown normally pressed against its seat by any suitable means, in this instance a spring T being shown arranged between the stopper K and the valve F and under compression tending to maintain the valve F closed. Suitable means should be provided for causing the valves F and G to operate together, and we have illustrated a connection between the valves (shown as a connecting-piece P) which is interposed between the valves and when the bottle is in an upright position rests upon the valve G, while valve F rests loosely upon the top of said connecting-piece P. There is preferably no positive connection between the connecting-piece P and the valves, the connection between the same being loose. The spring T may be made of any suitable material, as piano-wire, while the connecting-piece P may be made of sheet metal, as zinc, and formed in any desired manner. It will readily be seen that according to the construction described upon turning the bottle upside down, as in Fig. 2, the weight W will be supported by the spring T, and by adjusting the strength of the spring properly the valves F and G will be allowed to open the desired amount to enable the liquid to be poured from the bottle. When the bottle is tipped slightly upward, the weight W will immediately close the valve G, for its tendency is to slide downwardly over the shoulder S of the bottle, and since the weight is thus taken from the spring T the spring also will close the valve F. It is thus impossible to fill the bottle by submerging it, and it is also impossible to obtain a vacuum in the bottle and so fill it on account of the construction of the two valves. We are not to be understood, however, to limit ourselves to any particular number of valves, for there may be any desired number, and our invention may be embodied in widely-varying forms. One modification is illustrated in Fig. 4, wherein the connection between the valves is made by means of an extension X of the stem O, connected to the weight W, the top of this extension X extending to the valve F, so that when the bottle is tipped the gravity of the weight W will open both valves F and G against the action of the spring T. In Fig. 4 the upper portion D' of the stopper is made

larger than the portion D in Fig. 1 and fitted down upon the portion E.

Without limiting ourselves to the construction shown and described and without enumerating equivalents, we claim and desire to obtain by Letters Patent the following:

1. The combination with a bottle, of a stopper provided with two apertures, a spring-actuated valve to close one aperture, a weighted valve to close the other aperture, and a body interposed between said valves and operating to transmit movement from one valve to the other, substantially as set forth.

2. The combination with a bottle, of a stopper provided with two apertures, a weighted valve to close the inner aperture, a spring-actuated valve to close the other aperture, and a body interposed between said valves and operating to cause both valves to move in substantial unison either in opening or closing, substantially as set forth.

3. The combination with a bottle, of a stopper provided with apertures and a plurality of outwardly-opening valves over said apertures, a weight connected to the inner valve tending to hold it closed when the bottle is in an upright or upwardly-inclined position, and a spring tending to always hold the outer valve closed, and connection between said valves whereby when the bottle is inclined downwardly the weight tends to open both the inner valve and the outer valve against the tension of the spring, substantially as described.

4. The combination with a bottle, of a stopper provided with apertures and a plurality of outwardly-opening valves over said apertures, a weight connected to the inner valve tending to hold it closed when the bottle is in an upright or upwardly-inclined position, and a spring tending to always hold the other valve closed, connection between said valves whereby when the bottle is inclined downwardly the weight tends to open both the inner valve and the outer valve against the tension of the spring, and an outer stopper provided with tortuous passages for preventing interference with the operation of the valves, substantially as described.

5. The combination with a bottle, of stoppers provided with apertures, a plurality of outwardly-opening valves over said apertures, a weight hung inwardly from the inner valve to maintain said valve closed when the bottle is inclined upwardly, a spring adapted to maintain the other valve closed, and connections between said valves whereby the gravity of the weight operates to open both valves when the bottle is inclined downwardly, substantially as described.

6. The combination with a bottle, of stoppers provided with apertures, a plurality of outwardly-opening valves over said apertures, a weight hung inwardly from the inner valve to maintain said valve closed when the bottle is inclined upwardly, a spring adapted to maintain the other valve closed,

connections between said valves whereby the gravity of the weight operates to open both valves when the bottle is inclined downwardly, and an outer stopper for preventing interference with the operation of said valves, substantially as described.

5

In testimony whereof we have signed this

specification in the presence of two subscribing witnesses.

SAMUEL E. GEORGE.
JOSEPH R. NORRIS.

Witnesses:

E. VAN ZANDT,
H. G. OGDEN, Jr.