

No. 828,730.

PATENTED AUG. 14, 1906.

J. W. FOOT & M. F. PAULI.
CLOSURE FOR RECEPTACLES.
APPLICATION FILED SEPT. 2, 1905.

Fig. 1.

Fig. 2.

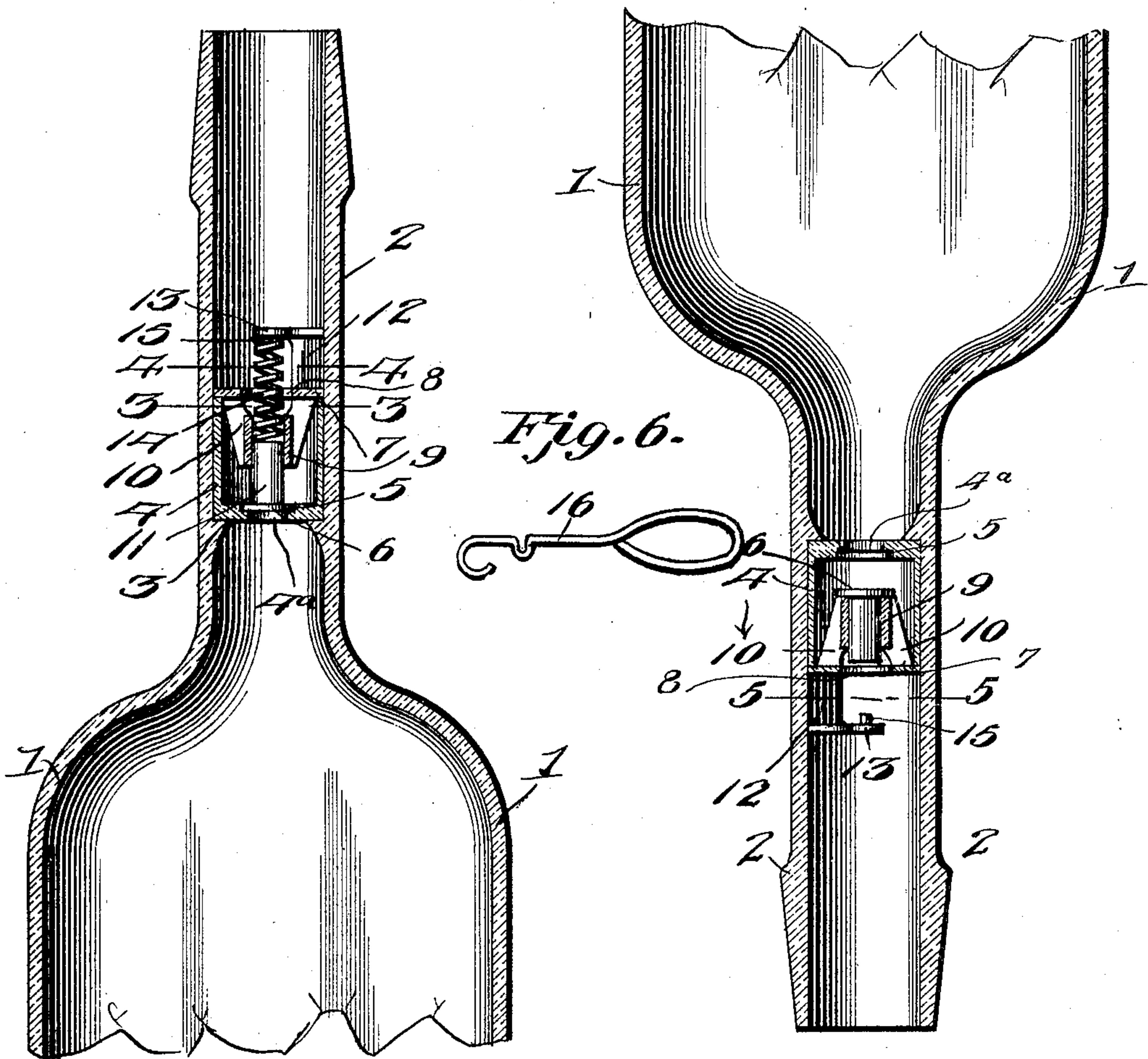
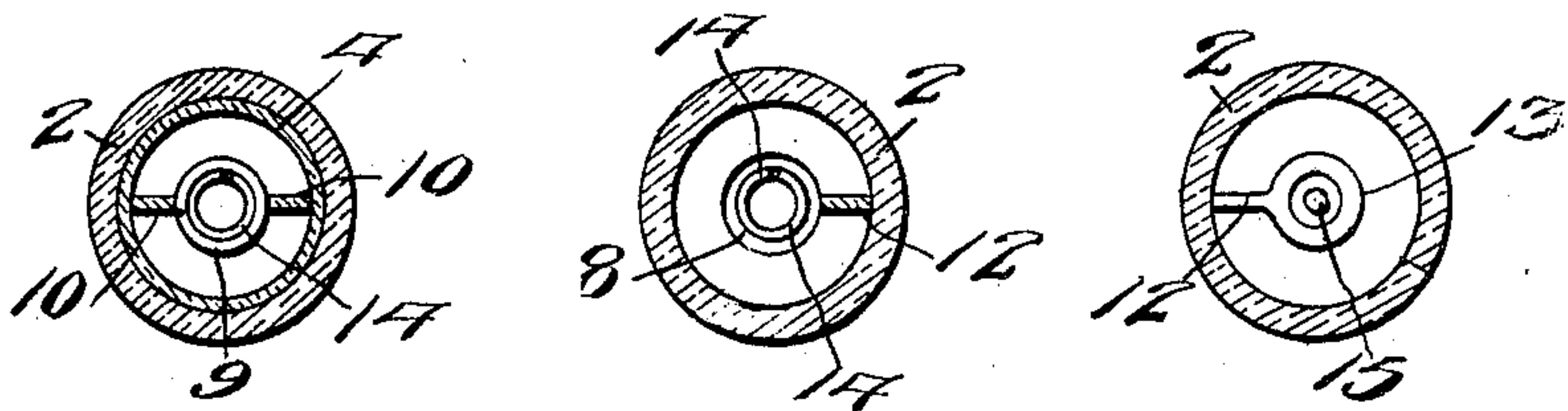


Fig. 3.

Fig. 4.

Fig. 5.



Witnesses

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CLOSURE FOR RECEPTACLES.

No. 828,730.

Specification of Letters Patent.

Patented Aug. 14, 1906.

Application filed September 2, 1905. Serial No. 276,898.

To all whom it may concern:

Be it known that we, JAMES WM. FOOT and MICHAEL F. PAULI, subjects of the King of Great Britain, residing at Stratford, in the Province of Ontario, in the Dominion of Canada, have invented new and useful Improvements in Closures for Receptacles, of which the following is a specification.

Our invention relates to closures for receptacles, such as bottles, jars, and the like; and its primary object is to provide a novel and highly useful device of this character which is designed to prevent the refilling of a receptacle, and thereby avoid the sale of a spurious article in a receptacle in substitution of the original contents thereof.

With the above and other objects in view the invention consists in the construction, combination, and arrangement of parts, hereinafter fully described, claimed, and illustrated in the accompanying drawings, wherein—

Figure 1 is a central vertical sectional view of the upper portion of a receptacle provided with a closure constructed in accordance with our invention. Fig. 2 is a view similar to Fig. 1, illustrating the receptacle in inverted position and the manner in which the valve unseats to permit of the pouring of the contents of the receptacle, the spring being omitted. Fig. 3 is a sectional view on the line 3 3 of Fig. 1. Fig. 4 is a similar view on the line 4 4 of Fig. 1, and Fig. 5 is also a sectional view on the line 5 5 of Fig. 2 looking in the direction indicated by the arrow. Fig. 6 is a top plan view of a tool for removing and replacing the spring.

Referring to the drawings by reference-numerals, 1 designates the body, and 2 the neck portion, of a receptacle of the usual form and construction, the neck portion 2 being formed with an annular shoulder 3, which is adapted to support within the neck portion our improved closure.

The valve-casing 4 is positioned within the neck portion 2 upon the shoulder 3 and is secured in applied position by means of cement or in any other manner found desirable. The valve-casing is fully open at its upper end and has its lower end closed, except for an opening 4^a, through which the contents of the receptacle is adapted to be poured. The bottom portion of the valve-casing is cut away about the opening 4^a to provide an

annular valve-seat 5, upon which is adapted to be seated a disk valve 6, which serves to close normally the opening 4^a, and thereby preserve the contents of the receptacle and prevent its being refilled. A supporting-disk 7 is secured to the upper end of the valve-casing 4 and is provided with a central aperture 8, alining with the opening 4^a in the valve-casing 4. A tubular guide 9 is supported by the disk 7 intermediate the same and the bottom of the valve-casing 4 and in alinement with the aperture 8 and opening 4^a, the same being supported by means of straps 10, as is fully illustrated in Figs. 1 and 2 of the drawings. The guide 9 is adapted to receive a stem 11, rising vertically from the valve 6, whereby to guide the valve in its movements to insure the proper seating of the same upon the valve-seat 5. A short standard 12 rises vertically from the disk 7 and is provided with an arm 13, projected over the aperture 8. Interposed between the stem 11 and the arm 13 is an expansive coil-spring 14, the same being adapted to retain the valve 6 positively seated upon the valve-seat 5. The arm 13 is provided with a depending stud 15, adapted to receive the upper end of the spring 14 and prevent its becoming displaced. As the lower end of the spring 14 is positioned within the guide 9, said end will thereby be prevented from becoming accidentally displaced.

All portions of the closure except the spring 14 may be constructed of glass, or all portions thereof may be made of some suitable light and non-corrosive metal. The several elements of the closure are assembled in an operative relation, and after the receptacle has been filled the closure is mounted within the neck portion 2 upon the shoulder 3, after which the closure may be secured in applied position in any manner found preferable. When it is desired to remove the contents of the receptacle, the spring 14 is displaced by means of a tool 16, (illustrated in Fig. 6 of the drawings,) after which the bottle is canted and the valve 6 will unseat under the pressure of the weight of the contents of the receptacle. As the spring 14 serves to retain the valve 6 seated positively, any portion of the receptacle's contents may be removed and the remainder thereof be preserved by replacing the spring, which may be done in a manner that is apparent by means

of the tool 16, and as the spring retains the valve seated it will not be necessary to use in connection with this closure an additional closure, such as a cork.

5 From the foregoing description, taken in connection with the accompanying drawings, the construction and mode of operation of the invention will be understood without a further extended description.

10 Changes in the form, proportions, and minor details of construction may be made within the scope of the invention without departing from the spirit or sacrificing any of the advantages thereof.

15 Having fully described and illustrated our invention, what we claim is—

1. The combination with a receptacle having a neck portion, of a valve-casing positioned within said neck portion, a valve
20 mounted within said casing, and spring means for retaining said valve seated positively, said spring means being removable to permit of the contents of the receptacle being withdrawn.

25 2. The combination with a receptacle having a neck portion, of a valve-casing positioned within said neck portion, a valve mounted within the valve-casing, an arm carried by the casing, and a spring interposed
30 between said arm and valve to retain the lat-

ter seated positively, said spring being removable to permit of the contents of the receptacle being withdrawn.

3. The combination with a receptacle having a neck portion, a valve-casing positioned
35 within the neck portion, a valve mounted within the valve-casing, a disk secured to the casing and provided with a guide for the valve, an arm secured to the disk, and a spring interposed between said arm and
40 valve.

4. The combination with a receptacle having a neck portion, of a valve-casing positioned within the neck portion a valve provided with a stem and mounted within the
45 casing, a disk secured to the casing and provided with a guide, straps adapted to secure the guide to the disk, said disk being provided with a vertically-arranged support having an arm projecting laterally there-
50 from, and a spring interposed between said arm and valve.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES WM. FOOT.
MICHAEL F. PAULI.

Witnesses:

A. G. SEYFERT,
WM. BURT.