April 25, 1933. W. H. NASH 1,905,301

BOTTLE STOPPER AND THE LIKE

Filed March 16, 1932

Fig. 1.

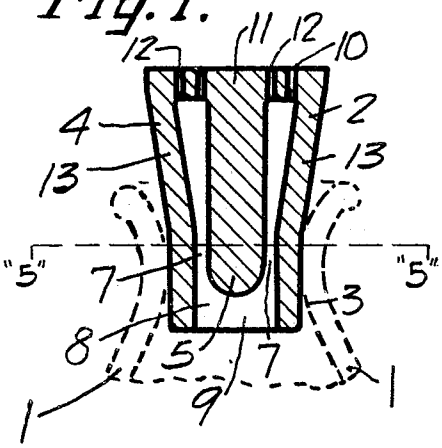


Fig. 2.

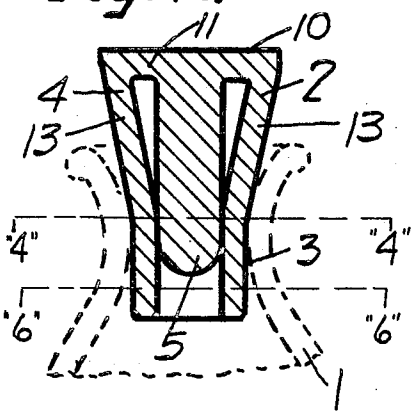


Fig. 3.

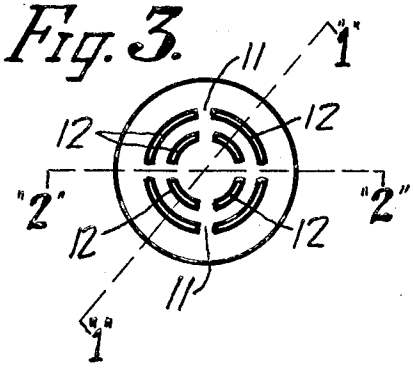


Fig. 4.

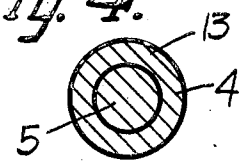


Fig. 5.

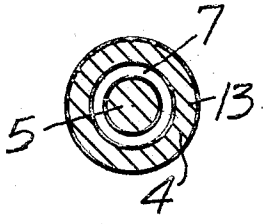
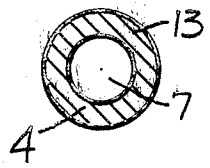


Fig. 6.



INVENTOR.

Walter Henry Nash

Patented Apr. 25, 1933

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UNITED STATES PATENT OFFICE

WALTER HENRY NASH, OF ARLINGTON, CALIFORNIA

BOTTLE STOPPER AND THE LIKE

Application filed March 16, 1932. Serial No. 599,211.

My invention relates to bottle stoppers and the like, and to new and useful improvements in same.

It is an object of the invention to provide a means adapted to seal the neck of a bottle and prevent the flow of fluid from said bottle and being so arranged so that the said means can also be used for dispensing fluid from the bottle.

Another object is to provide an efficient bottle stopper adapted for shipping and dispensing fluid from a bottle or container.

A further object is to provide a new and novel valve, wherein all parts or elements thereof are integral and pliable.

A still further object is to provide a new and novel valve mechanism wherein all parts thereof are integral and said valve is adapted to be opened or closed by the respective longitudinal movement of the entire valve mechanism.

Heretofore it was necessary to pull or adjust the stopper in a container at each time the fluid was desired to be dispensed therefrom. By my device I am enabled to dispense the fluid from the container at any time without further pulling or adjusting the said stopper after the said stopper is once set in a dispensing position in the container and at the same time dust is prevented from entering the container and evaporation of the fluid is reduced to a minimum.

With these and other objects in view, the invention resides and consists in the construction and novel combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawing, and pointed out in the claims hereto appended it being understood that various changes in the form, proportion, size and minor details of construction within the scope of the claims may be resorted to without departure from the intent, or spirit or by sacrificing any of the advantages of the invention.

Similar characters of reference denote like or corresponding parts throughout the several figures of the accompanying drawing, forming a part of this specification and upon which,

Figure 1 is a sectional elevation through the entire device, at "1"—"1",—showing the valve in an opened position.

Figure 2 is a sectional elevation through the entire device, at "2"—"2", showing the valve in a closed position.

Figure 3 is a top view of the device.

Figure 4 is a transverse section through the device at "4"—"4", showing the valve in a closed position.

Figure 5 is a transverse section through the device at "5"—"5", showing the valve in an opened position.

Figure 6 is a transverse section through the device at "6"—"6", showing the formation of the device at this point.

Referring in detail to the characters of reference marked upon the drawing, 1 represents a narrow neck bottle adapted to contain a fluid. It is into this said bottle 1 that I insert my stopper 2, which is a self contained unit having no separate parts. This said stopper 2 is so constructed so that when I force the same into the neck 3 of the bottle 1, it will positively seal the said neck 3 and thus prevents fluid from leaving the bottle 1. By referring to Fig. 2 of the drawing it will be noted that my stopper 2 is shown in a closed or sealing position in the container 1 and by referring to Fig. 1 of the drawing herewith it will be noted that the stopper 2 is shown in an opened position and that fluid in the container 1 can be dispensed therefrom at will. While I prefer to make the stopper 2 of a pliable rubber composition it may obviously be made of any pliable material and used to equally good advantage. The stopper 2 containes two substantially separate parts, a valve seat body 4 and a valve 5. Both the said valve seat body 4 and the said valve 5 are formed integral in the entire unit 2. The stopper 2 is shown cylindrical in formation, I obviously can make this of any shape or formation and use it to equally good advantage.

It should be noted at this time, that one of the novel features of my stopper 2 is the pliable body 4 which forms a valve seat 6 for the valve 5 which is concentric with the said body 4. The body 4 being formed in a conical shape, acts as a wedge when forced into the

neck of the bottle 1 and because of its pliable composition it is thus contracted until it closes the area 7 about the valve 5 and presses tight around valve 5, thus sealing off the neck of the bottle 3. This body 4 is formed into a hollow cylinder 8 on one end portion 9, while on the opposite end portion 10, a head 11, containing slots 12, serves to connect its cylindrical walls with the valve 5. So that it will be noted, the body 4, head 11, and valve 5 are formed integral with each other. Valve 5, is an outword disposed solid pliable rod connected to the head 11 which serves to connect the walls 13 of the body 4. This valve 5 extends, concentric with the said walls 13, well into the body 4. When the stopper 2 is pulled in an outward longitudinal direction from the bottle 1, so that the sealing position is released, the pliable body 4 expands in direct proportion relative to the size of the neck diameter of the bottle 1 and thus breaks away from the valve 5 leaving an unobstructed area around said valve 5, creating a fluid passageway through the stopper 2, directly to the head 11. In head 11 I have provided a series of slots 12 or perforations being so arranged so that a shaking action of the weight of the fluid will modify their areas and provides access for fluid in the bottle 1.

It will be apparent to those skilled in the art that it is possible to reverse the stopper 2 from the position I have shown in Figures 1 and 2 in the drawing herewith, so that the head portion 10 extends into the bottle 1 and the stopper thus operated by the movement of the valve 5. It may also be well to mention that my device or stopper is actuated to perform its function directly as it is moved in a longitudinal direction, thus when the entire unit is moved in a longitudinal direction the area of the passageway therein is modified so that the flow of fluid from the container is regulated in direct proportion. In other words, by the construction disclosed it is seen I have provided a novel device that can be used for sealing a passageway in a bottle and by a slight longitudinal movement of the said device I can dispense any specific quantity of fluid desired from the said bottle by a shaking or otherwise movement of the bottle. Head 11 will be provided with a series of perforations of any desired shape to meet conditions of fluid that will or may be passed therethrough.

What I claim and desire to secure by Letters Patent is:

1. In a bottle stopper adapted to be moved in a longitudinal direction and comprising a pliable valve formed integral and concentric with a pliable valve seat, said pliable valve seat forming the bottle stopper body and surrounding said pliable valve and containing a fluid passageway adapted to be opened or closed by the longitudinal movement of said bottle stopper.

2. In a container adapted to contain a fluid and having a narrow neck opening, a pliable stopper plug having a conical exterior surface and adapted to be moved in a longitudinal direction and wedged in said narrow neck opening, said pliable stopper plug including a pliable body comprising a valve and a valve seat formed integral with said body and containing a fluid passageway area between said valve and valve seat adapted to be constructed directly by the longitudinal movement of said plug in said narrow neck whereby; a shaking movement of the said container will not force fluid through the said plug when same is wedged in the said narrow neck opening but with a slight longitudinal movement of said plug in an opposite direction in said narrow neck opening the shaking movement of the said container will move fluid through the said plug.

WALTER HENRY NASH.