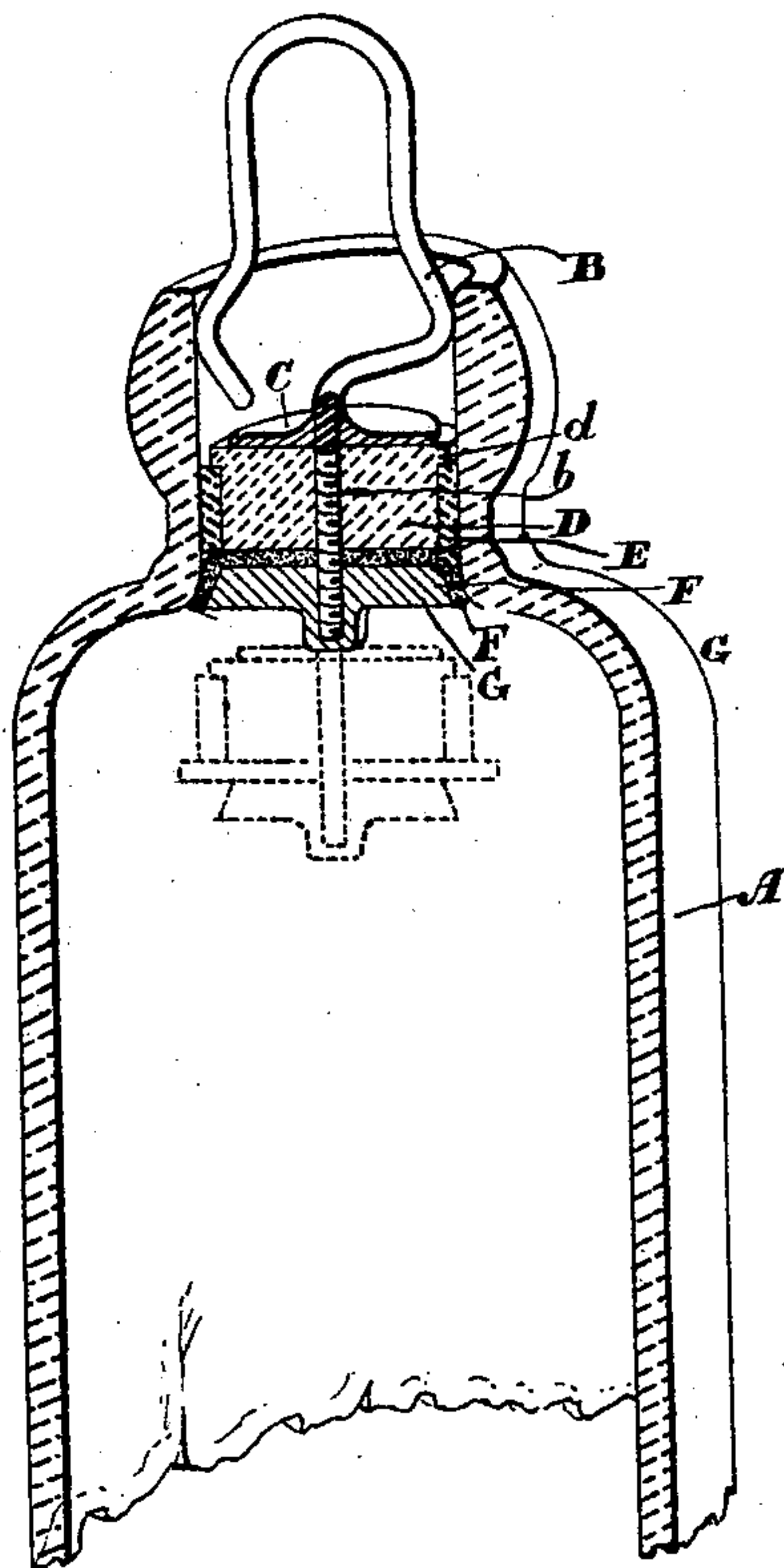


(No Model.)

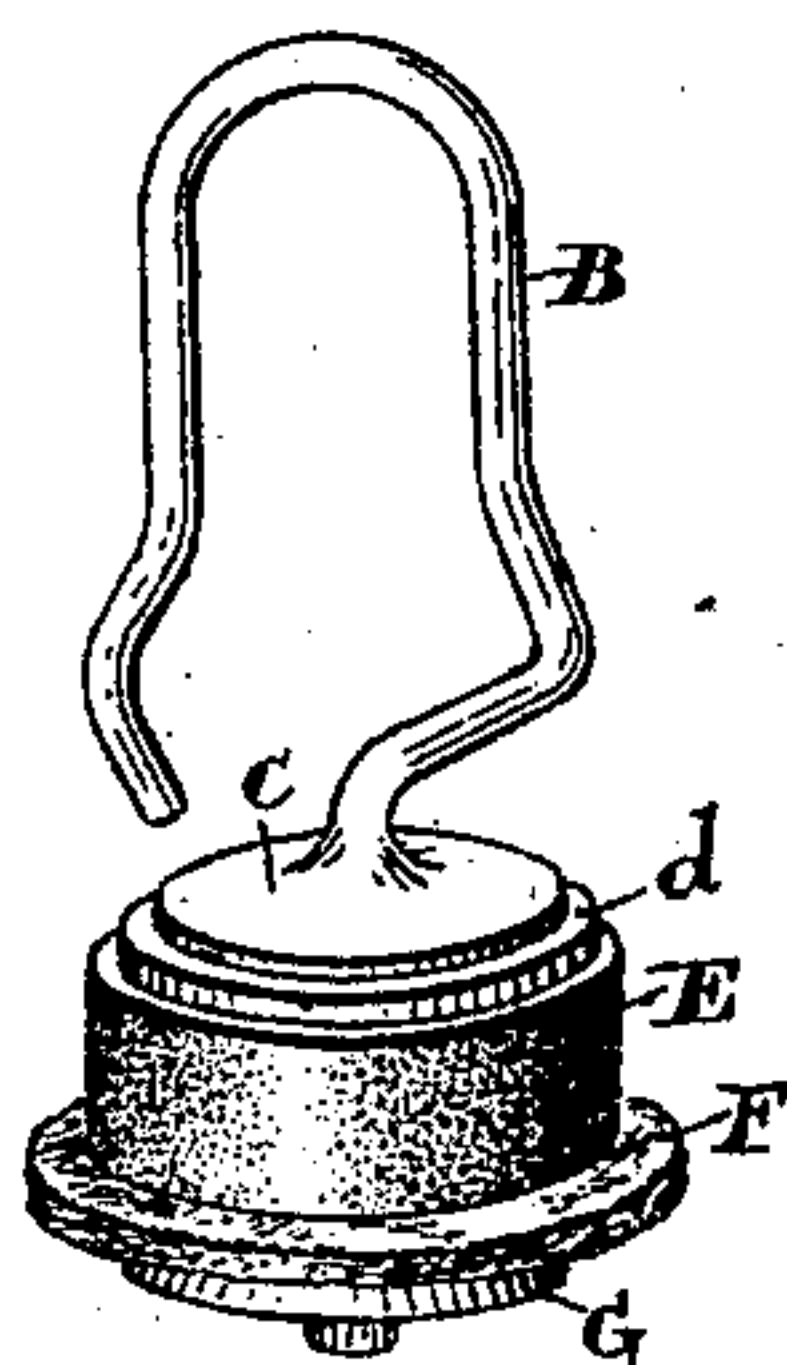
**J. H. STONE.**  
**BOTTLE STOPPER.**

No. 586,980.

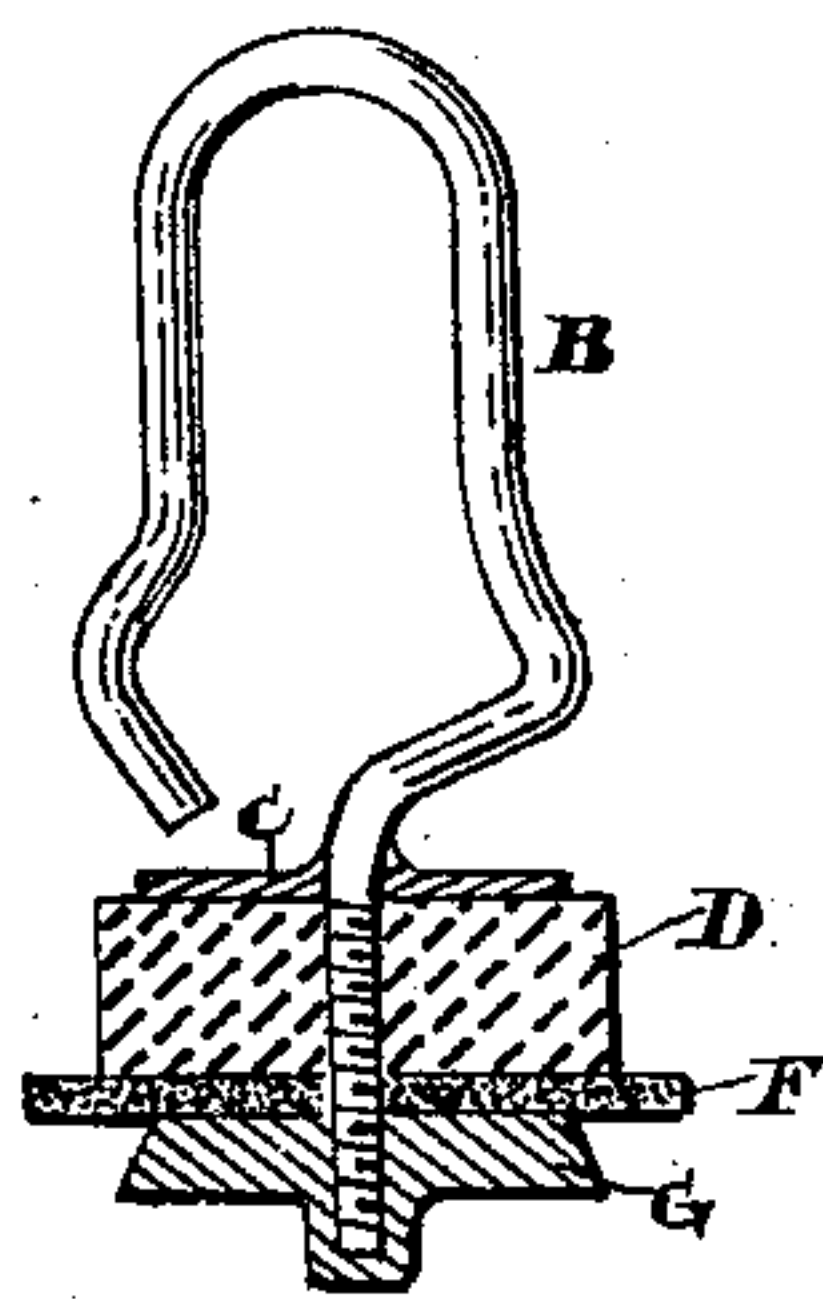
Patented July 27, 1897.



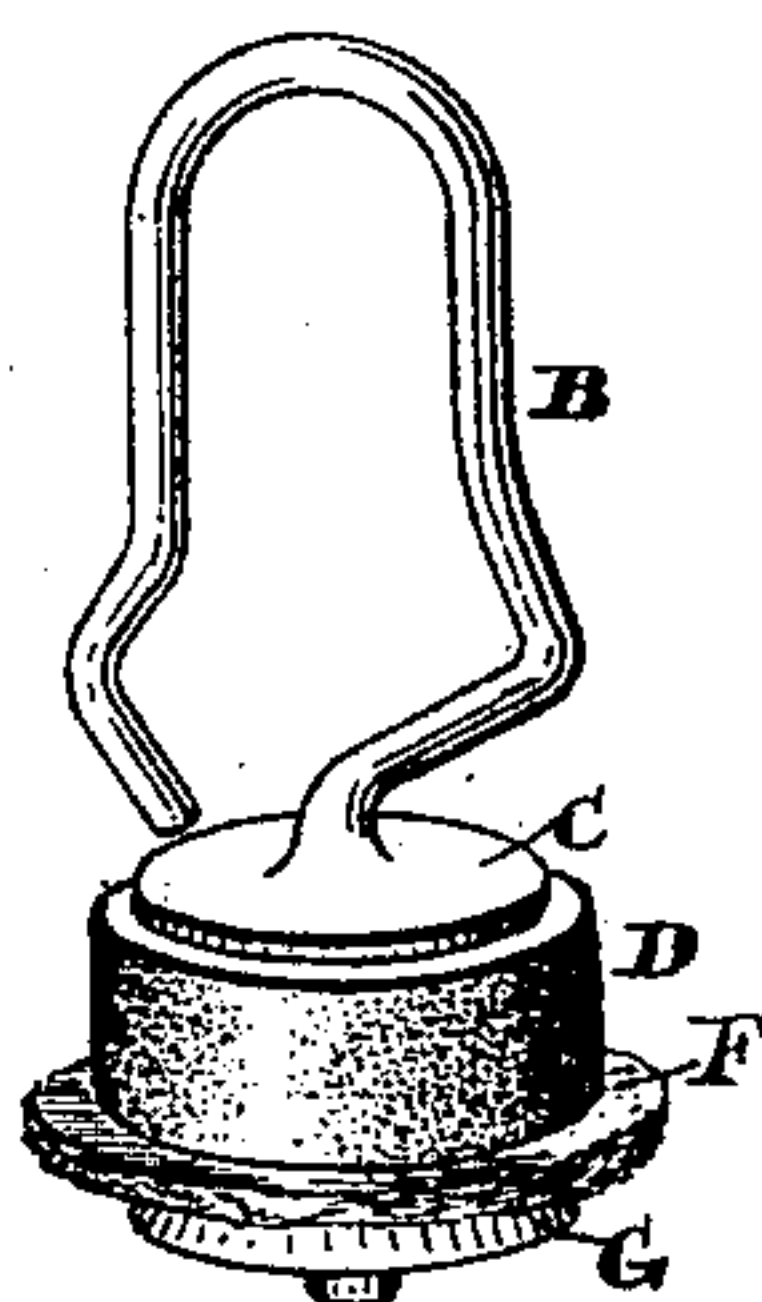
*Fig. 1.*



*Fig. 2.*



*Fig. 4.*



*Fig. 3.*

*Witnesses.*  
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*Attys*

# UNITED STATES PATENT OFFICE.

JOHN HENRY STONE, OF TORONTO, CANADA.

## BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 586,980, dated July 27, 1897.

Application filed September 8, 1896. Serial No. 605,068. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN HENRY STONE, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a specification.

My invention relates to improvements in bottle-stoppers; and the object of the invention is to design a simple and cheap form of bottle-stopper which will effectually and securely close the bottle and in which none of the parts of the stopper that will injuriously affect the contents are exposed to the contents or interior of the bottle; and it consists, essentially, of a suitable stem provided with an upper flange, a sleeve of rubber designed to fit around the plug and abut the upper flange, a disk of felt fitted beneath the plug, and a retaining nut or disk which is secured on the threaded end of the stem, so as to hold the felt disk in position, as hereinafter more particularly explained.

Figure 1 is a sectional perspective view of a bottle and stopper made in accordance with my invention. Fig. 2 is a perspective detail of the stopper complete. Fig. 3 is a perspective view of alternative form of stopper. Fig. 4 is a sectional view of the alternative form shown in Fig. 3.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is the bottle, in which the stopper is intended to fit and close from within. The stopper is made in five portions, consisting of the stem B, provided with a threaded lower end *b*, the top disk C, secured thereto, the plug D, fitted onto the stem and provided with an upper flange *d*, the rubber sleeve E, fitting onto the plug and designed to abut the flange at the top thereof, the felt disk F, fitted beneath the plug, and the disk-nut G, fitted beneath the felt disk. The disk C may be made of metal. The plug D is preferably made of wood or other suitable cheap material having like properties. The sleeve E is made preferably of rubber on account of its elastic and compressible qualities, the outer periphery of the sleeve being preferably, when the stopper is down, as shown in dotted

lines in Fig. 1, of greater diameter than the interior of the neck of the bottle.

The felt disk F is preferably treated with a suitable chemical, so as to give it non-absorbent qualities. The nut-disk G is made of porcelain or any other suitable material of like quality and is preferably of less diameter than the sleeve and is also preferably beveled, as shown.

It will be seen in the construction of stopper that both rubber and metal are entirely separated from the interior of the bottle when the stopper is thrown up into the neck, as shown, as the felt bends down and closely fits the lower portion of the neck. This non-exposure obviates the defect heretofore so commonly incident in stoppers—that is to say, the contact of the fumes or liquid with the rubber and metal, which so detrimentally affect the contents of the bottle.

By the construction of stopper which I describe there is no reason why the contents of the bottle will not always remain perfectly sweet and pure.

In Fig. 4 I show the sleeve D' as made entirely of rubber instead of providing a wooden plug and an outer sleeve, as shown in Fig. 1, but I prefer the form shown in this latter figure, as it is much cheaper and more effective.

What I claim as my invention is—

1. In a bottle-stopper the combination with a suitable stem, of a rubber sleeve connected thereto, a non-absorbent felt disk situated beneath the sleeve and a non-corrosible disk-nut secured on the stem beneath the sleeve and covering the end of such stem as and for the purpose specified.

2. In a bottle-stopper the combination with a suitable stem, of a wooden plug connected thereto provided with an upper flange, a rubber sleeve fitting the interior of the plug, a non-absorbent felt disk situated beneath the sleeve and plug and a non-corrosible disk-nut secured on the stem beneath the sleeve and covering the end of such stem as and for the purpose specified.

3. In a bottle-stopper the combination with a suitable stem, of a rubber sleeve connected thereto, a non-absorbent felt disk situated beneath the sleeve and a non-corrosible disk-



nut of less diameter than the sleeve and beveled to allow of the downturn of the felt disk as and for the purpose specified.

4. The combination in an internal stopper, 5 the stem, the rubber sleeve arranged thereon adapted to close the neck of a bottle with means for preventing the movement of said sleeve on said stem, and a non-absorbent flexible disk of greater diameter than said

sleeve and arranged below the same on said stem, and the rigid disk below said flexible disk, whereby the neck of the bottle below said sleeve is sealed when said stopper is in place, substantially as described.

JOHN HENRY STONE.

Witnesses:

B. BOYD,

H. DENNISON.