

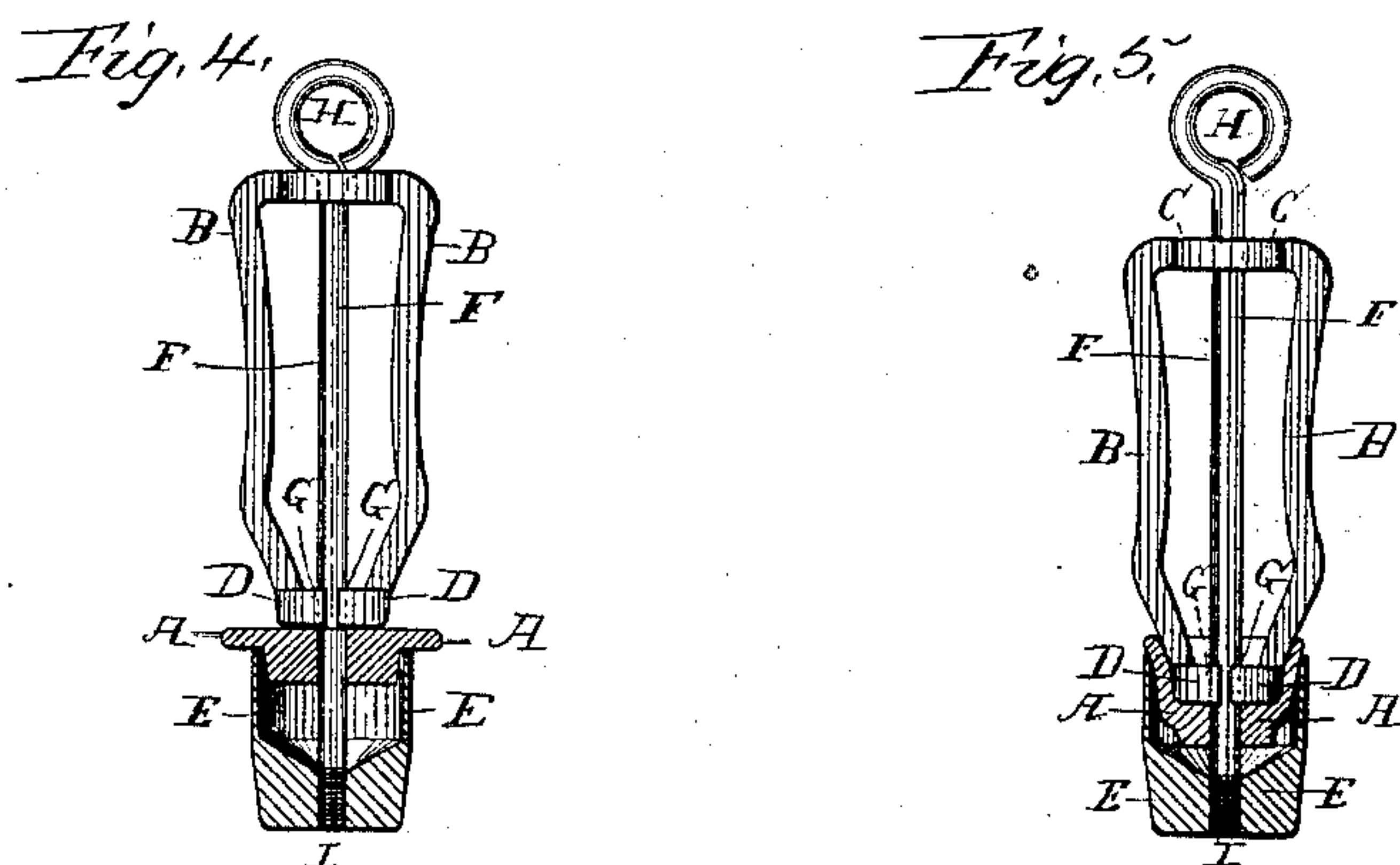
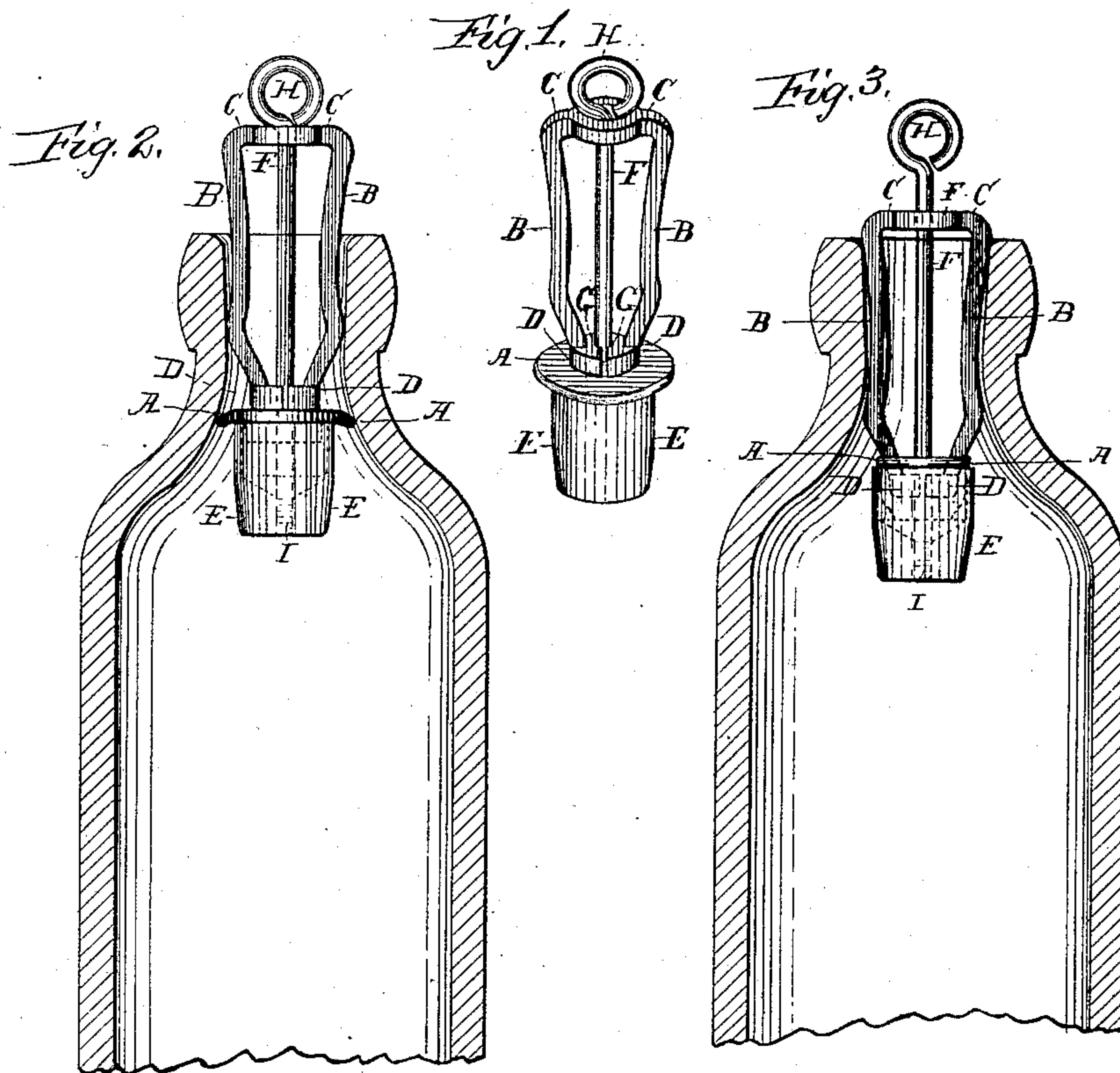
(No Model.)

E. S. PIPER.

REMOVABLE INTERNAL BOTTLE STOPPER.

No. 318,290.

Patented May 19, 1885.



WITNESSES:

Edward H. Rogers,
D. J. Kelsey.

INVENTOR

Edmund S. Piper

BY *George W. Seymour*

ATTORNEY

UNITED STATES PATENT OFFICE.

EDWIN S. PIPER, OF BRISTOL, CONNECTICUT, ASSIGNOR, BY MESNE ASSIGNMENTS, TO WALTER E. STRONG, OF SAME PLACE.

REMOVABLE INTERNAL BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 318,290, dated May 19, 1885.

Application filed August 28, 1884. (No model.)

To all whom it may concern:

Be it known that I, EDWIN S. PIPER, residing at Bristol, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Removable Internal Bottle-Stoppers; and I do declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an improvement in removable internal bottle-stoppers, the object being to produce an improved article, which shall be simple and compact in construction, easy to operate, and durable and efficient in use.

With these ends in view my invention consists in a removable internal bottle-stopper in which the stopping-disk is contracted for the removal of the stopper independently of the bottle.

My invention further consists in a removable internal bottle-stopper having certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of one form which my invention may assume. Fig. 2 shows the application of the device to a bottle in which it is shown in its closed adjustment and with its stopping-disk normally expanded. Fig. 3 is a view with the stopper in its open adjustment and with its disk contracted; and Figs. 4 and 5 are detached views, partly in elevation and partly in section, respectively, showing the stopping-disk expanded and contracted.

In the construction herein shown an elastic flanged button, A, forming the stopping-disk, is interposed between the lower end of the frame of the stopper, which frame consists of two spring-arms, B, having their upper ends united by a cross-bar, C, and their lower ends separated and provided with semicircular bearings D, which together form a plunger, and the open end of a thimble or contractor, E, removably secured to the lower end of a spindle, F, passing through the button extending below the frame, journaled in the

cross-bar thereof, and held between the bearings D, which are grooved, as at G, for the purpose. The upper end of the said spindle projects beyond the cross-bar of the frame and is provided with an eye, H, or equivalent enlargement, which is normally in conjunction with the cross-bar. The lower end of the spindle is threaded for the application of the contractor or spindle aforesaid, which is tapped and threaded, as at I, for the purpose. The object of making the contractor or thimble removable is to permit the interposition of the button between it and the frame and to permit the button to be replaced when necessary. Normally the body of the button sets into the contractor or thimble, and its flange projects over and beyond the edges of the same, as shown in Figs. 1, 2, and 4 of the drawings.

When it is desired to remove the stopper from the bottle, the button is contracted and displaced into the contractor or thimble by introducing the lower end of the frame thereinto, as shown in Figs. 3 and 5 of the drawings. This is preferably done without disturbing the adjustment of the frame in the bottle by drawing out the spindle and thus pulling the contractor or thimble over the flange of the button. The operation is effected by engaging the spindle by its eye and drawing it outward against the cross-bar of the frame as a point of leverage. The described contraction of the button permits the stopper to be readily removed from the bottle. As soon as the spindle is released the tension of the button will be asserted and it will regain its expanded shape and throw its spindle back to its normal position, in which the eye is in conjunction with the cross-bar of the frame. It will thus be seen that the contraction of the button for removing the stopper is effected entirely independently of the bottle.

In introducing the stopper into the bottle it is simply forced thereinto without contracting the button, as herein provided for. The drawing out of the spindle for the purpose described may be effected by any desired means. Preferably a special instrument resembling pliers, and having its jaws adapted to grasp the eye of the spindle and engage with the

cross-bar of the frame as a point of leverage for lifting the spindle, will be employed.

It is apparent that some changes and alterations in the construction herein shown and described may be made. I would therefore have it understood that I do not limit myself to the same, but hold myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A removable internal bottle-stopper having a plunger, a contractor, and a stopping-disk interposed between the said plunger and contractor, substantially as set forth.

2. A removable internal bottle-stopper having a plunger, a contractor, and a stopping-disk consisting of an elastic flanged button interposed between the said plunger and the contractor, substantially as set forth.

3. A removable internal bottle-stopper having a frame provided with a plunger, a contractor, and a stopping-disk interposed between the said plunger and contractor, substantially as set forth.

4. A removable internal bottle-stopper having a frame, the spring-arms of which are provided at their lower ends with bearings forming a plunger, a contractor, and a stopping-disk, the said bearings of the frame, and the contractor, substantially as set forth.

5. A removable internal bottle-stopper having a plunger, a contractor located upon a spindle mounted in the frame of the stopper and held in place thereby, and a stopping-disk interposed between the plunger and the contractor, substantially as set forth.

6. A removable internal bottle-stopper having a plunger, a contractor located upon a spindle mounted in and extending above the frame of the stopper and having its upper end enlarged or provided with equivalent means for seizure, and a stopping-disk interposed between the said plunger and contractor, substantially as set forth.

7. A removable internal bottle-stopper having a plunger, a removable contractor, and a stopping-disk interposed between the said plunger and contractor, substantially as set forth.

8. A removable internal bottle-stopper having a plunger, a contractor consisting of a thimble which is secured to a spindle, and a stopping-disk interposed between the said plunger and contractor, substantially as set forth.

9. A removable internal bottle-stopper having a frame composed of two spring-arms united at their upper and separated at their lower ends, which latter are constructed to form a plunger, a contractor located upon a spindle journaled in the frame and held in place by the lower ends thereof, and a stopping-disk interposed between the lower ends of the frame and the contractor and perforated to receive the spindle of the latter, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

EDWIN S. PIPER.

Witnesses:

EDWARD H. ROGERS,
D. J. KELSEY.