

No. 834,679.

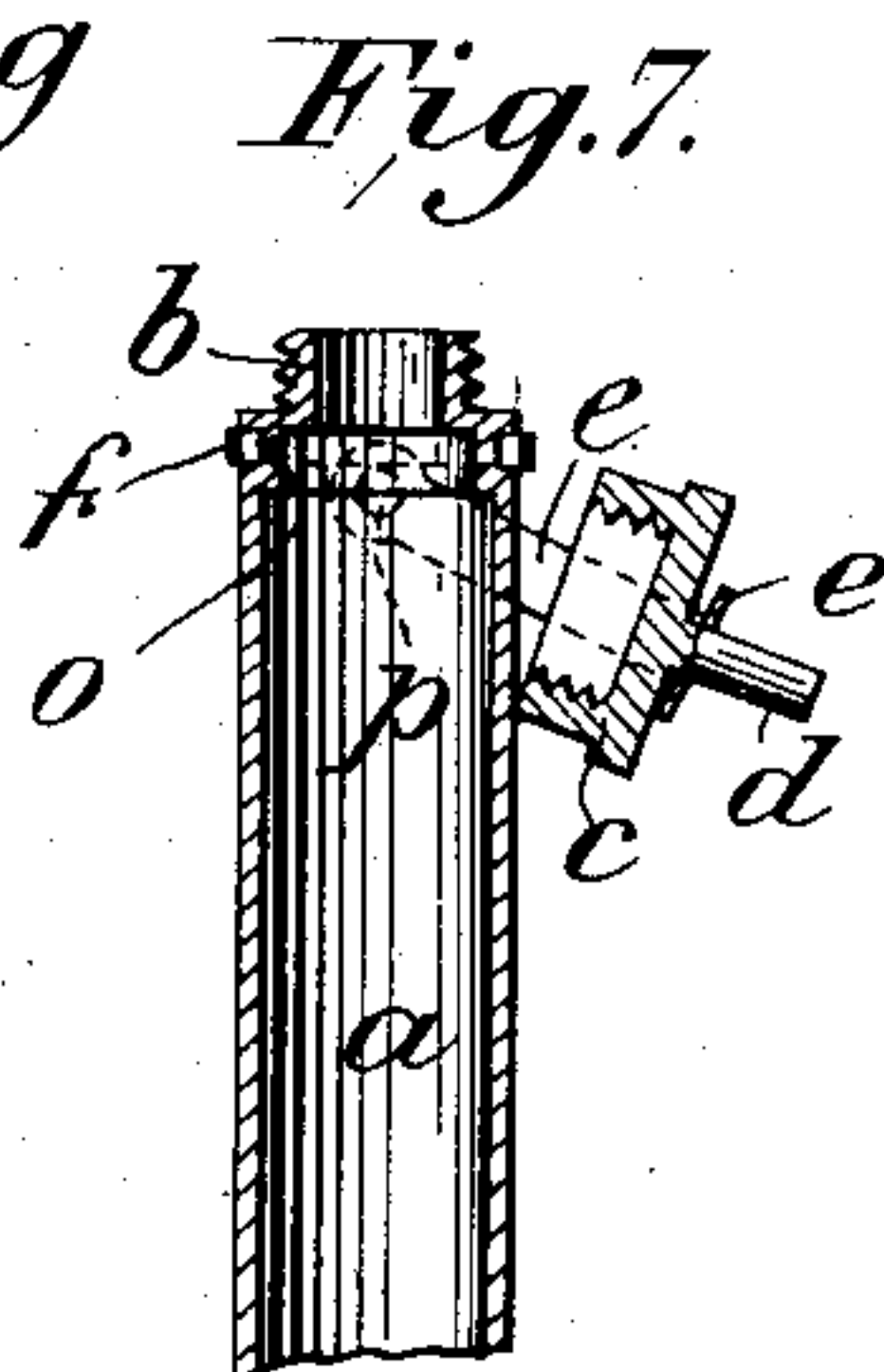
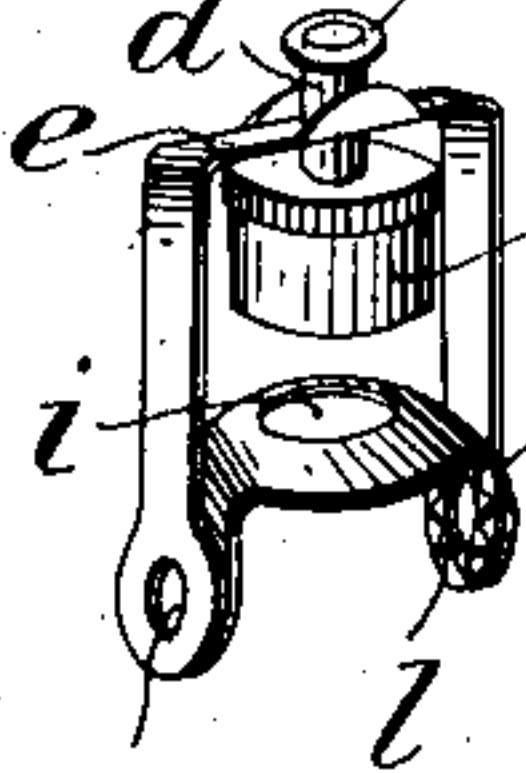
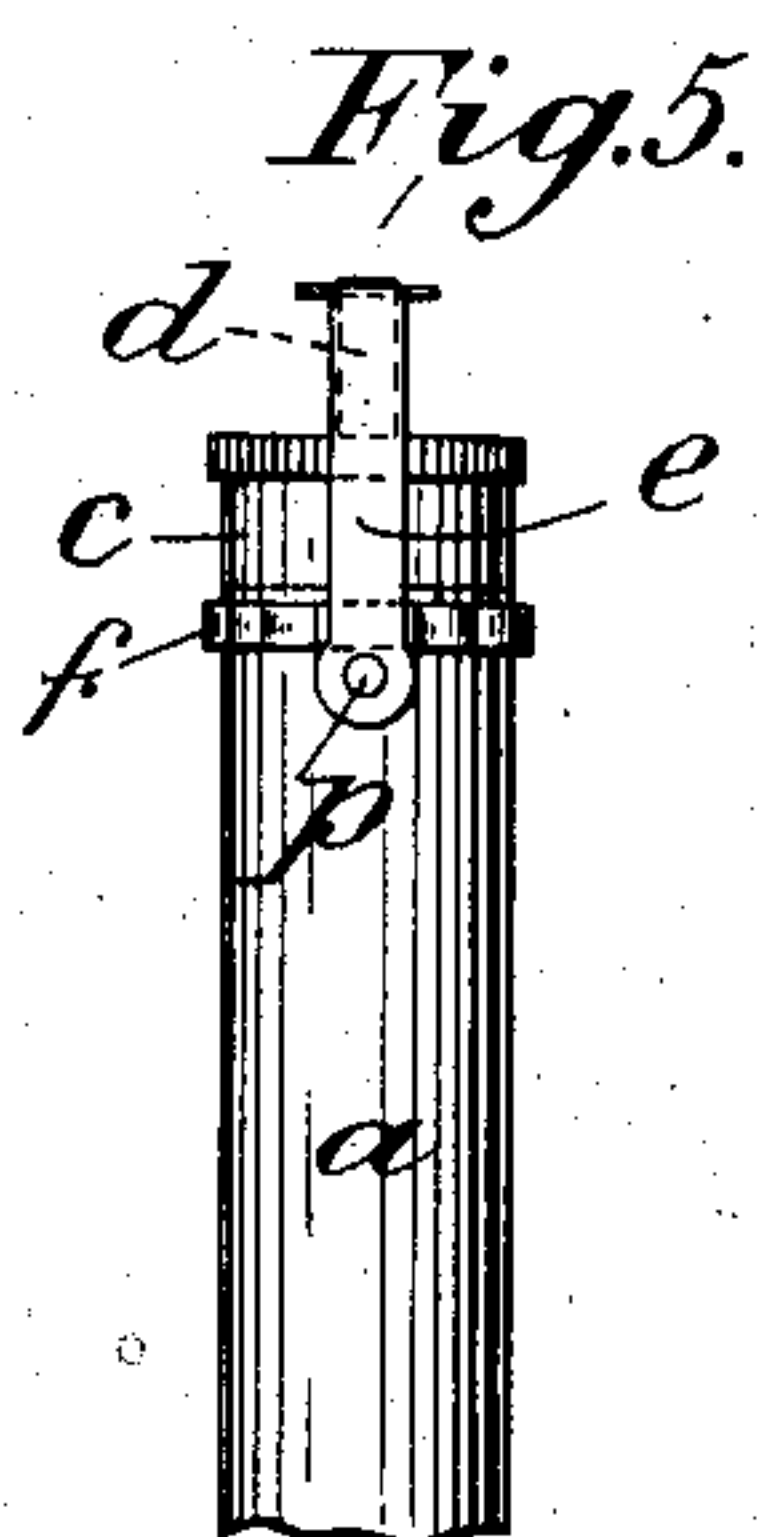
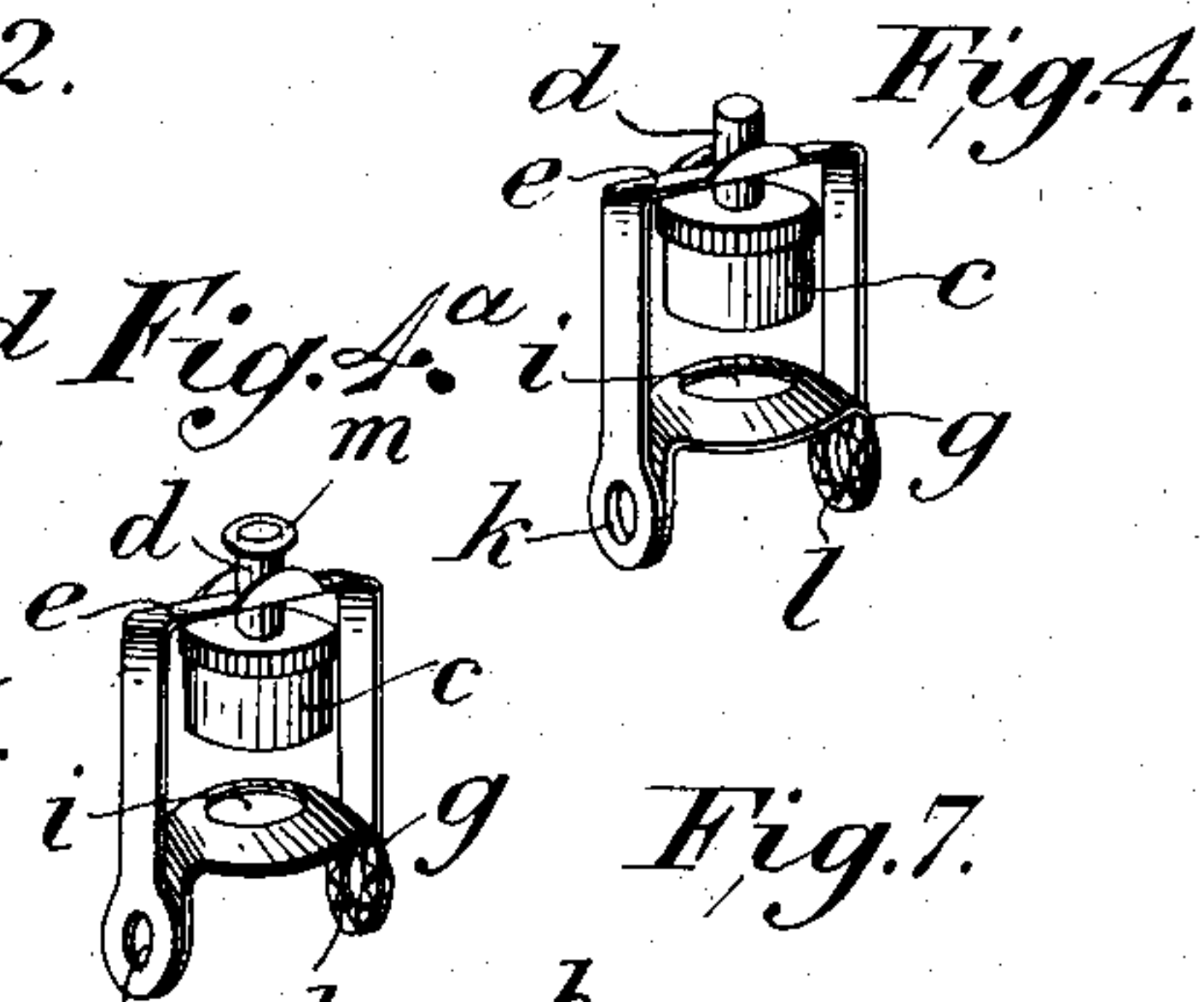
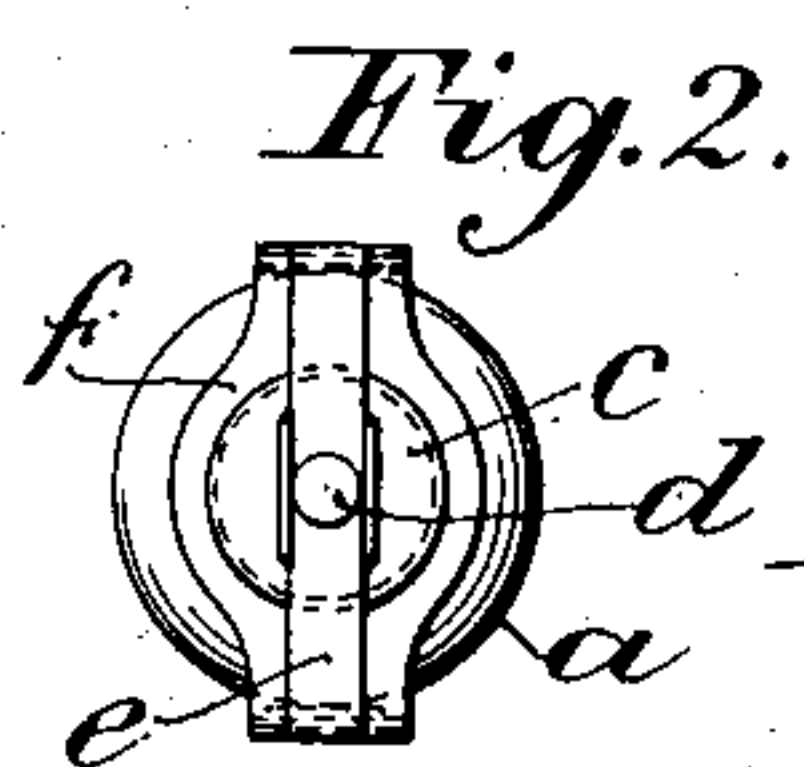
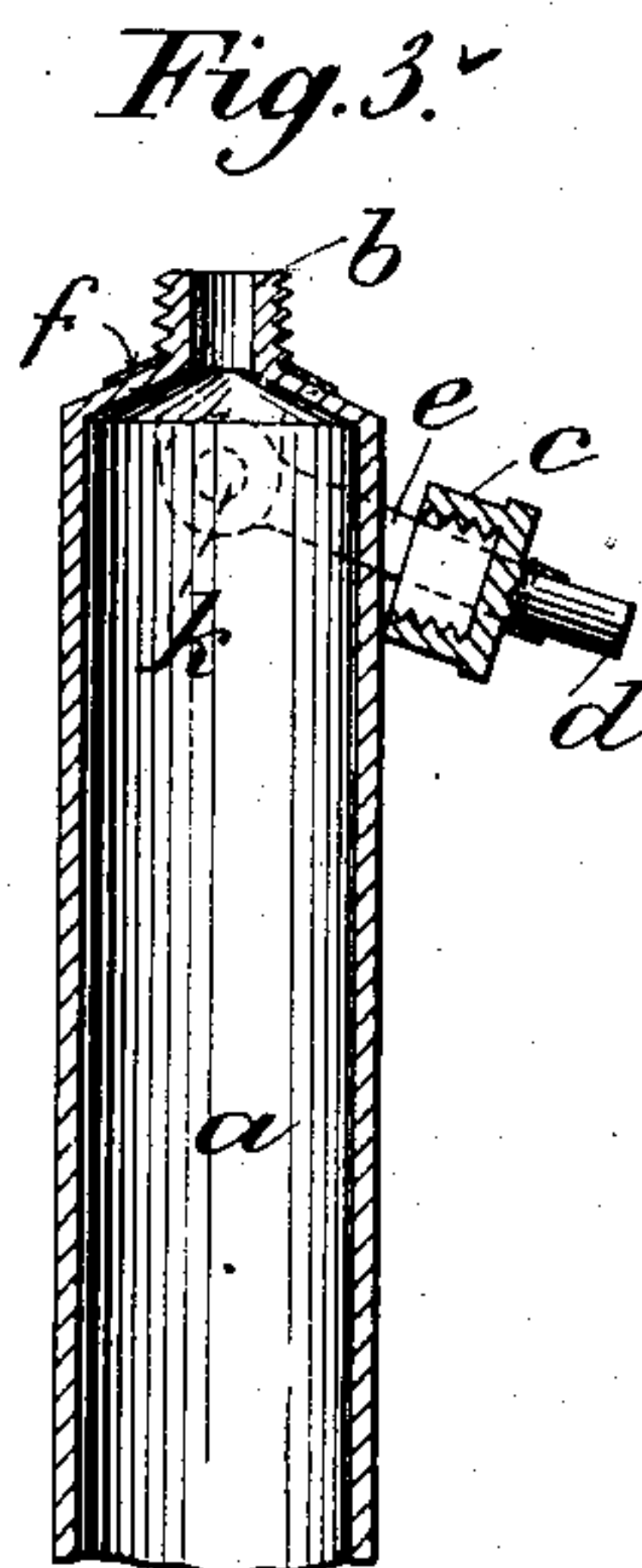
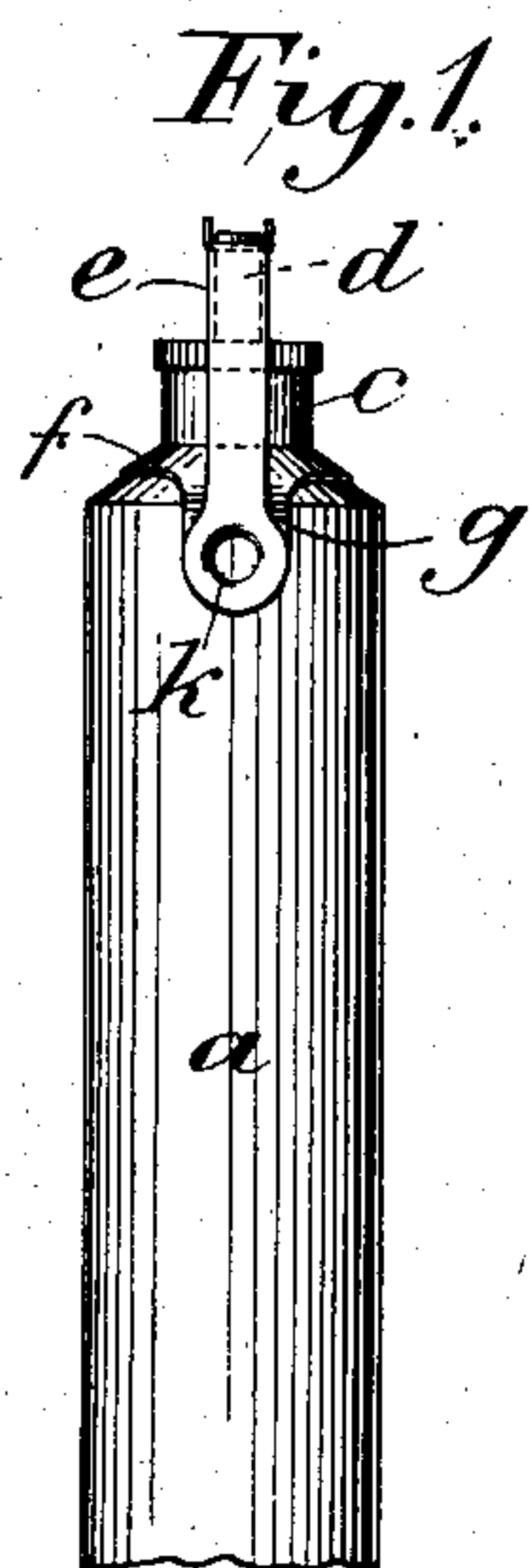
PATENTED OCT. 30, 1906.

C. C. & W. S. NEWTON.

STOPPER FOR BOTTLES, TUBES, CONTAINERS, AND THE LIKE.

APPLICATION FILED FEB. 11, 1905.

3 SHEETS—SHEET 1.



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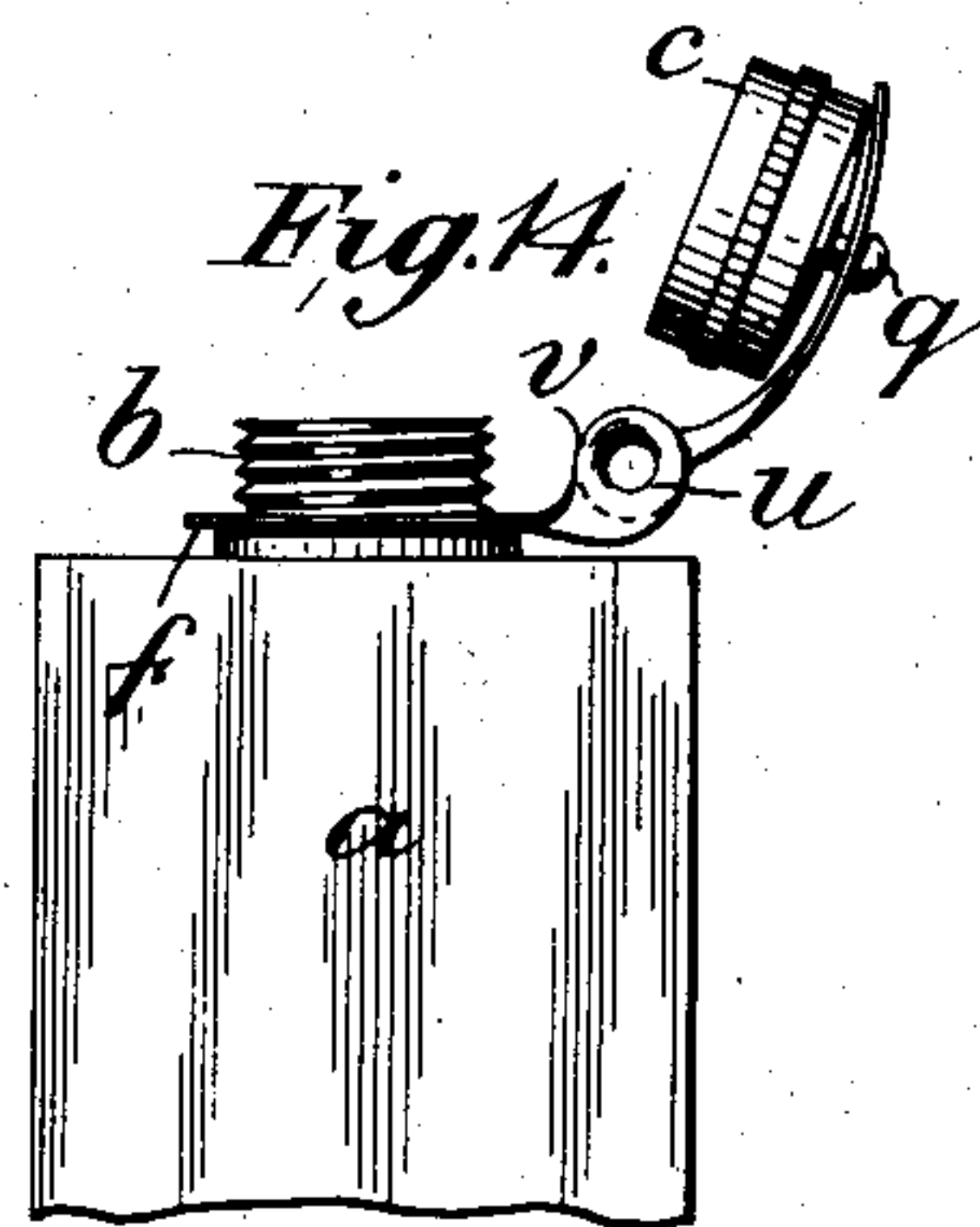
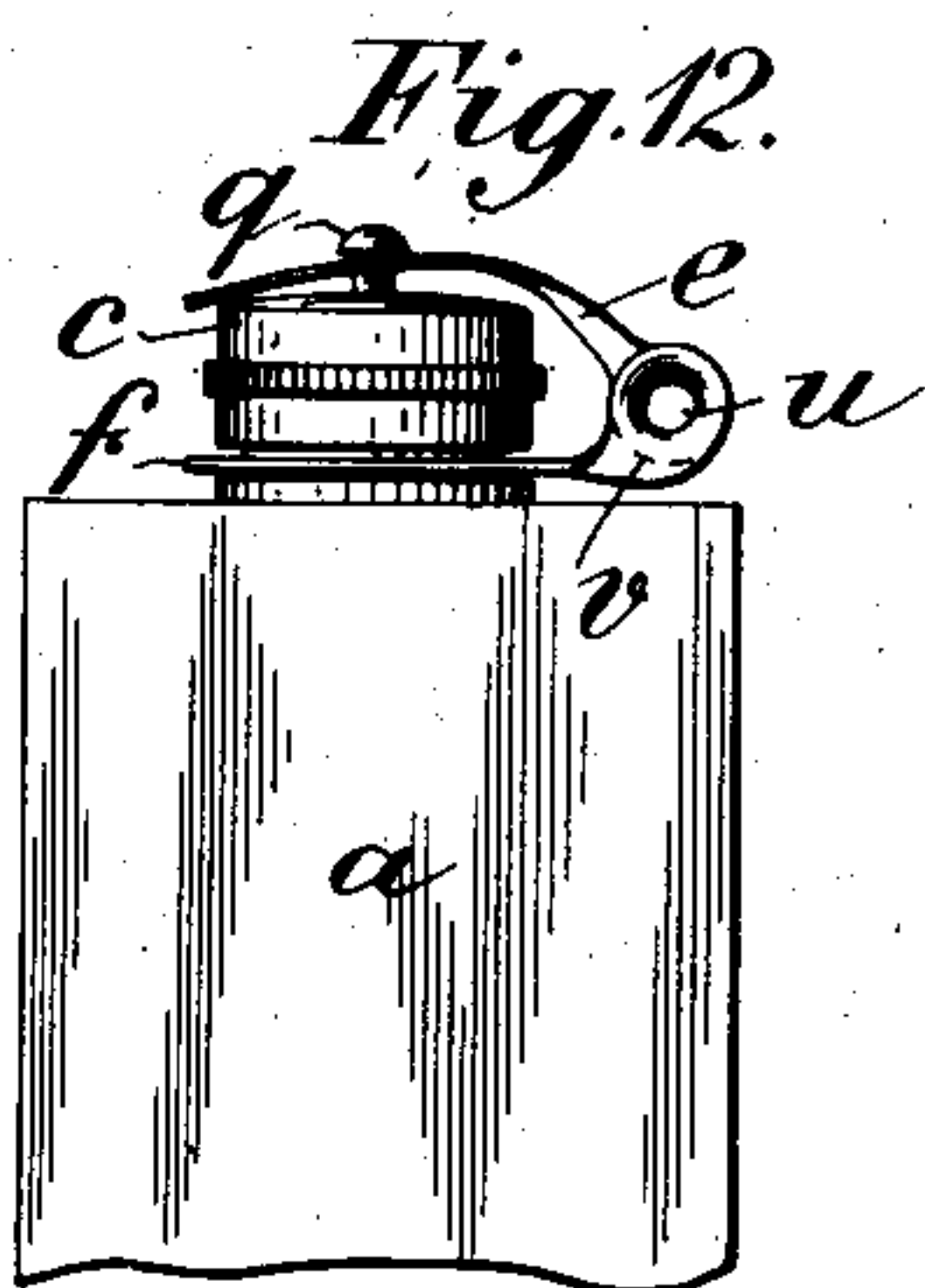
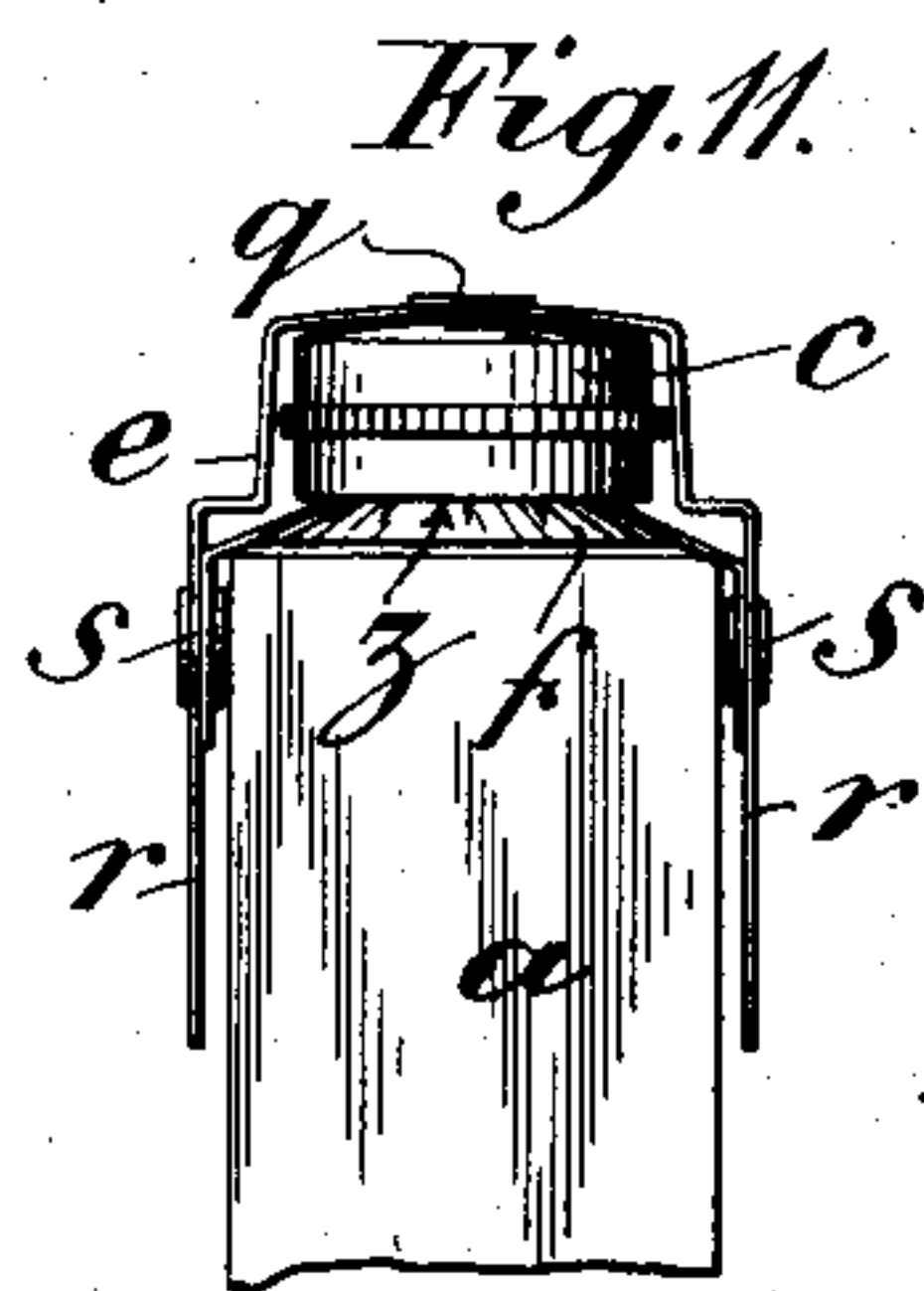
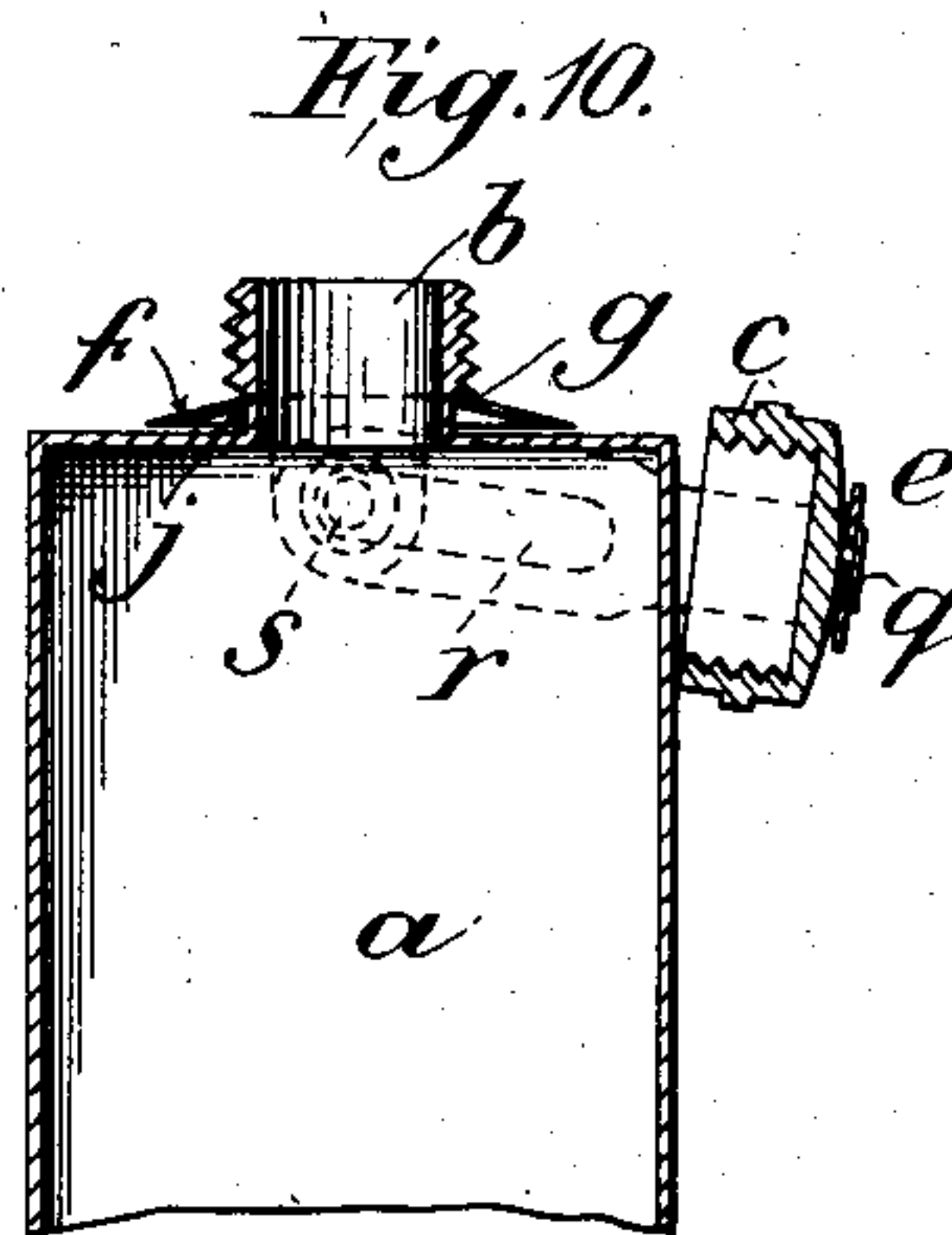
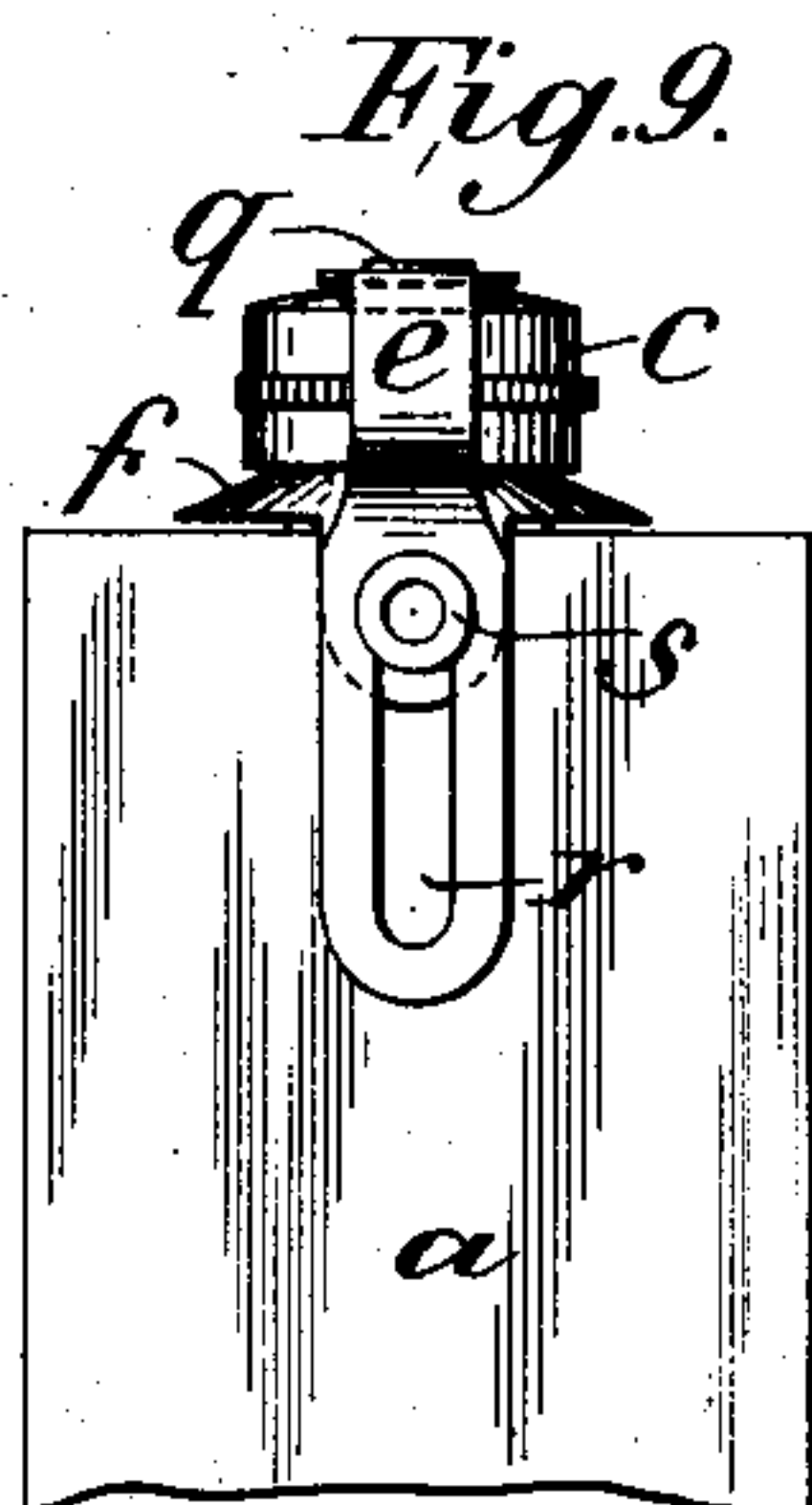
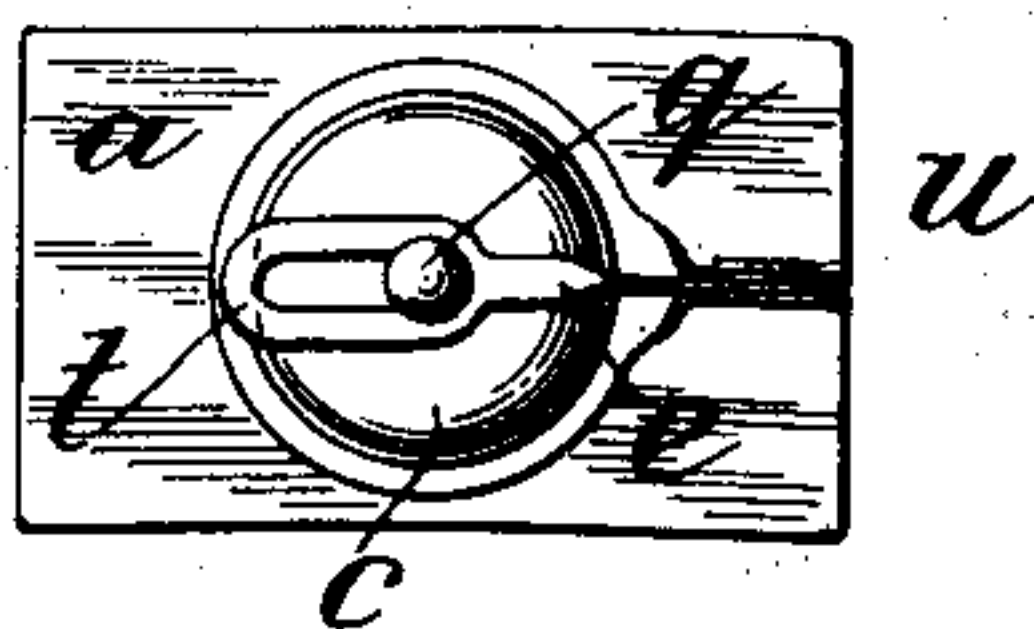


Fig. 13.



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3 SHEETS—SHEET 3.

Fig. 15.

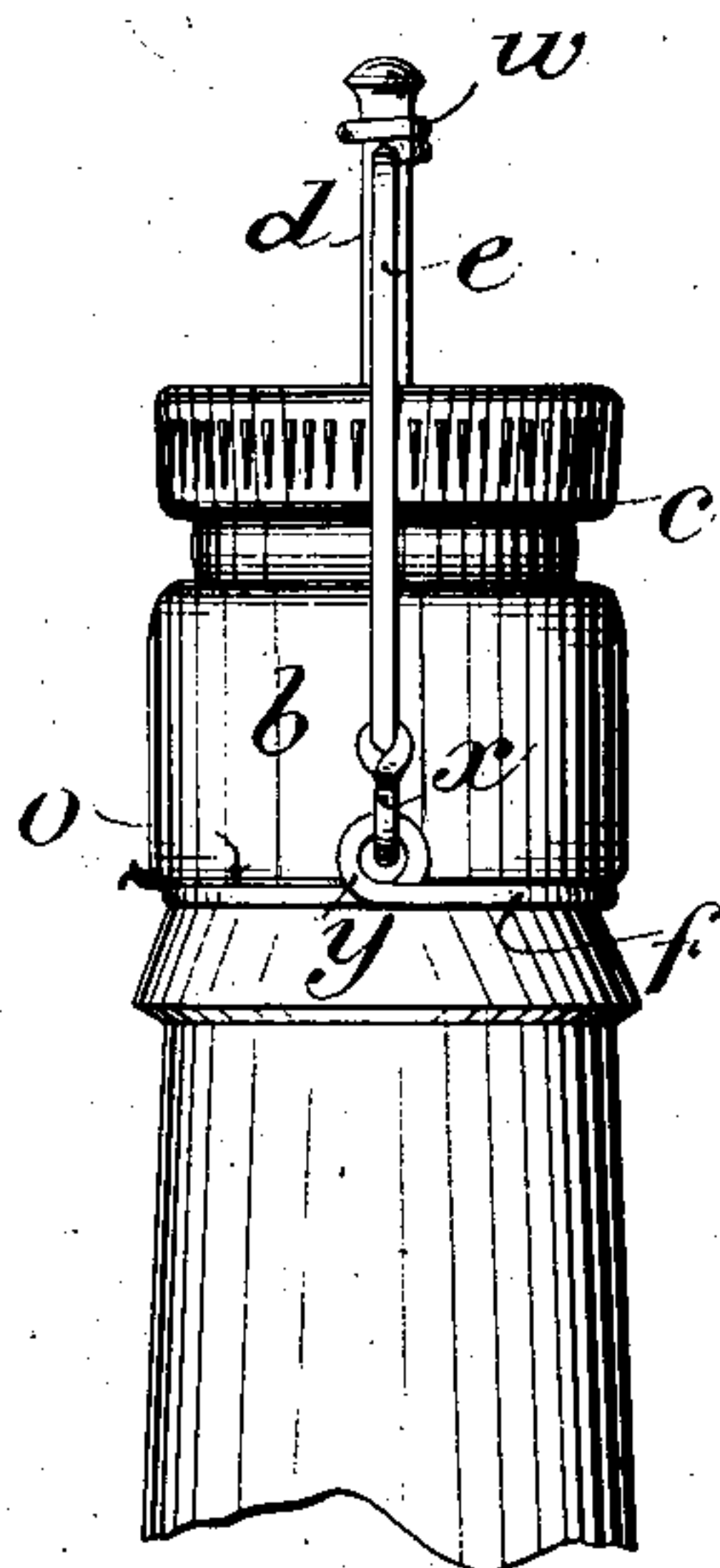


Fig. 16.

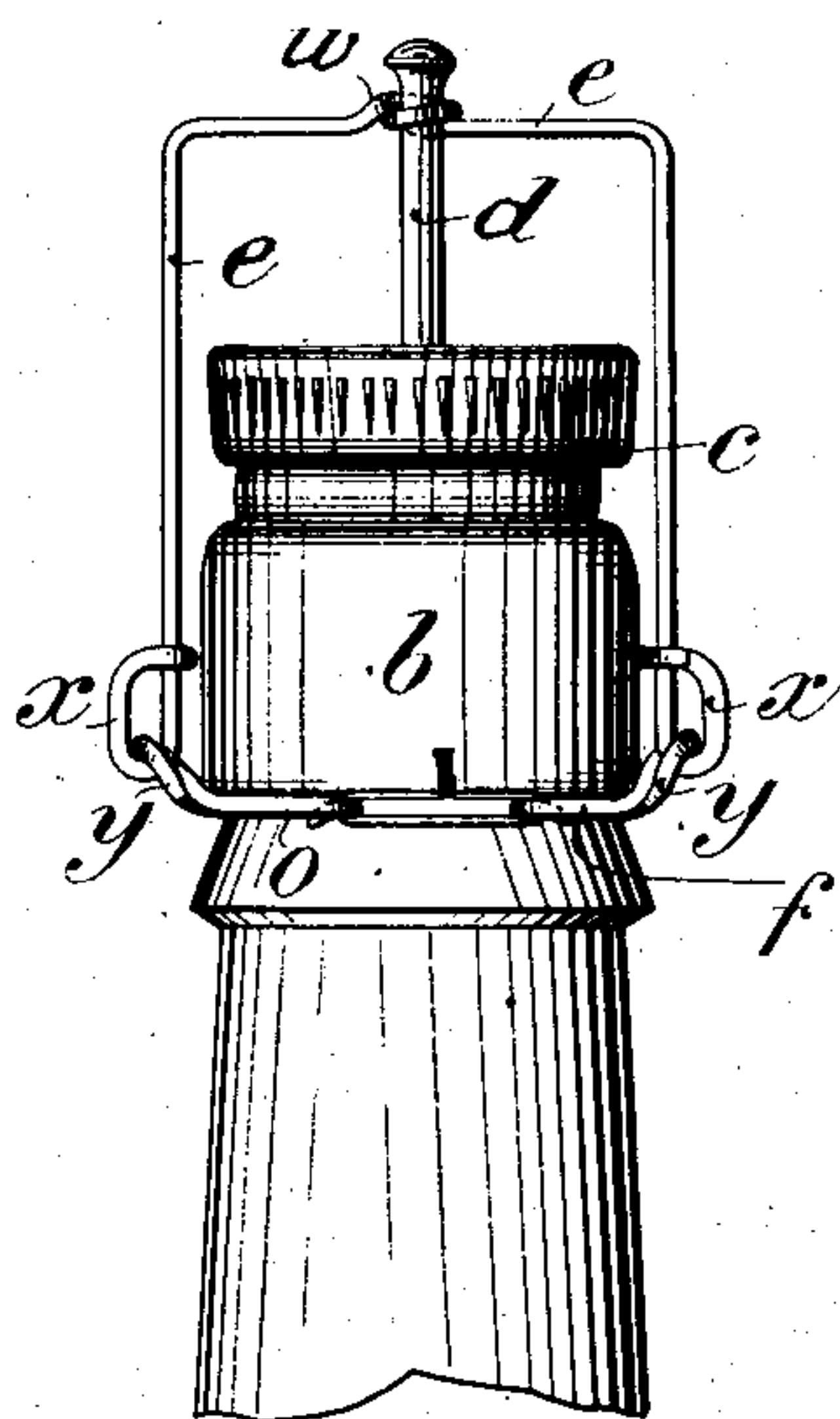


Fig. 17.

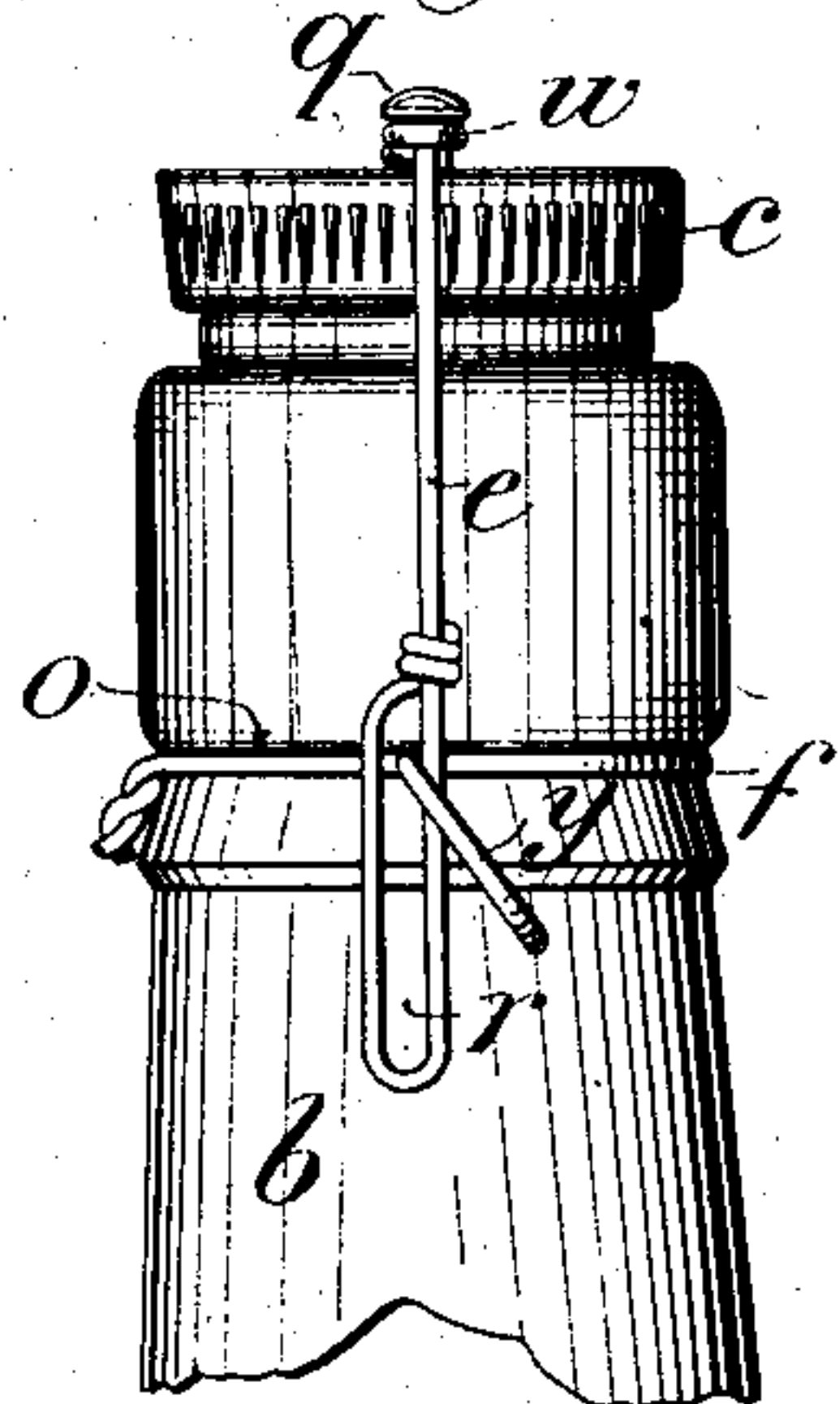
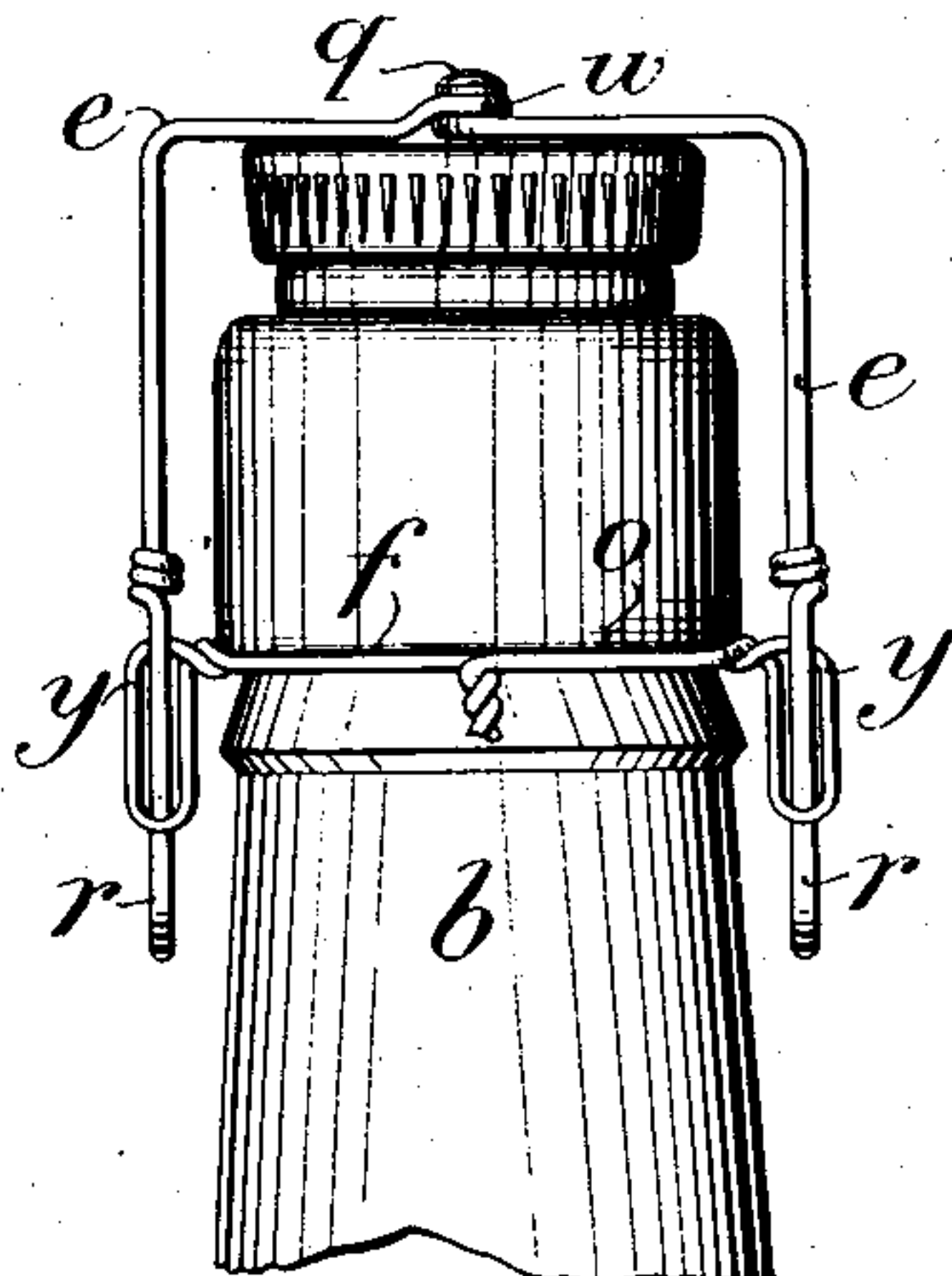


Fig. 18.



Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES CARTER NEWTON AND WILLIAM SAVAGE NEWTON, OF
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STOPPER FOR BOTTLES, TUBES, CONTAINERS, AND THE LIKE.

No. 834,679.

Specification of Letters Patent.

Patented Oct. 30, 1906.

Application filed February 11, 1905. Serial No. 245,325.

To all whom it may concern:

Be it known that we, CHARLES CARTER NEWTON and WILLIAM SAVAGE NEWTON, subjects of the King of Great Britain and Ireland, residing at Weybridge, in the county of Surrey, England, have invented Improvements in or Relating to Stoppers for Bottles, Tubes, Containers, and the Like, of which the following is a specification.

As is well known, the stoppers used for closing bottles, collapsible and non-collapsible tubes or containers such as are used for holding semiliquid and liquid substances of various kinds and other like vessels, all hereinafter included in the term "bottles," are liable when removed from the bottles to be mislaid, dropped, or lost, and various means have heretofore been devised for obviating this disadvantage; but all such means, so far as we are aware, have been too complicated or costly to warrant their adoption, or unreliable in use.

Now this invention has for its object to provide a combined stopper and holding means of simple and comparatively cheap construction that can be readily applied to a bottle, and by means of which the stopper while free to be easily moved into the closed and open position will be prevented from becoming accidentally detached from the bottle and lost. For this purpose according thereto the stopper is connected to a pivoted carrier connected to a holder adapted to be readily attached to the discharging end of the bottle, the construction and arrangement of the parts being such that when applied to a bottle the stopper can be readily moved toward and from the bottle-mouth to respectively close and open the bottle, and in the latter case can be readily moved to one side of the bottle-mouth to allow of the contents of the bottle being partially or wholly removed, but will be prevented from becoming accidentally detached from the carrier and lost.

The bottle-stopper is or may conveniently be in the form of a screw-cap or plug adapted to screw onto or into the correspondingly screw-threaded portion of the neck or extension of a bottle (hereinafter called the "bottle-neck") and the carrier be jointed to a holder that is adapted to be readily attached to the bottle-neck or to the adjacent

portion of the bottle, the dimensions and relative arrangement of the various parts of the combined stopper and holding means being such that when applied to a bottle the stopper cannot become accidentally detached from its carrier.

As will be obvious, a combined stopper, carrier, and holder of the kind described can be constructed in various forms.

Figures 1 and 2 of the accompanying illustrative drawings show in side elevation and in plan, respectively, the upper portion of a container provided with a combined stopper and holding means constructed according to this invention. Fig. 3 is a vertical central section, the stopper being in its open position; and Fig. 4 is a perspective view of the device apart from the container. Fig. 4^a is a view corresponding to Fig. 4, showing a slight modification. Figs. 5, 6, 7, and 8 are similar views to Figs. 1, 2, 3, and 4, respectively, showing a modified construction. Figs. 9 and 10 are similar views to Figs. 1 and 3, respectively; and Fig. 11 is an elevation in a plane at right angles to that of Fig. 9, showing another construction specially adapted for use with bottles of rectangular cross-section—such, for example, as that of the bottle to which it is shown applied. Figs. 12 and 13 are a side elevation and a plan of a modification, and Fig. 14 is a similar view to Fig. 12 with the stopper open. Figs. 15 and 16 are elevations at right angles, showing another construction; and Figs. 17 and 18 are similar views showing a modified arrangement.

In the construction of device shown in Figs. 1 to 4, inclusive, adapted for use with a container or bottle *a*, having an externally-screw-threaded neck *b* in one with or permanently connected to the body of the bottle, the stopper is in the form of an internally-screw-threaded rotatable cap *c*, having a centrally-arranged pin or extension *d* on its upper end. The carrier is a saddle or yoke shaped frame *e*, formed of sheet metal, the central portion of which is formed with a hole through which the pin or extension *d* on the stopper loosely extends. The holder is formed of a piece of sheet metal *f*, that is formed with a central hole *i* and adapted to be screwed onto the screw-threaded bottle-neck *b*. The end portions *g* of the holder are

bent downward toward the side of the bottle and terminate opposite the ends of the carrier-frame *e*, to which they are pivotally connected. For this purpose each end of the frame *e* may, as shown, have therein a hole *k*, the edge portion of which is provided with a number of projections *l*, that are passed through a corresponding hole in the corresponding and adjacent end of the holder *f* and are bent against the inner side of the latter, so that the carrier can readily turn on the holder. The two parts may, however, if desired, be jointed together by pins or rivets. The length of the frame *e* and of the pin or extension *d* on the screw-cap are such that when fitted to the neck of a bottle the bottle will prevent the stopper becoming accidentally detached from the frame when the same is turned from a position directly over the neck of the bottle. (See Fig. 3.) The pin or extension *d* on the screw-cap may, as shown in Fig. 4^a, be formed with a head or enlargement *m* at its free end to prevent its detachment from the frame *e* when the same and the holder *f* are detached from a bottle.

In the modified construction shown in Figs. 5 to 8, inclusive, the holder *f*, to which the carrier *e* is jointed, consists of a ring of sheet metal bent to a wavy or equivalent shape and adapted to be sprung or pressed into an annular groove *o*, formed around the body of the bottle *a*, adjacent to the screw-threaded neck *b* thereof, and the holder *f* is pivoted to the carrier-frame *e* by rivets *p*, the construction in other respects being similar to that of the arrangement described with reference to and shown in Figs. 1 to 4.

The construction shown in Figs. 9 to 11, inclusive, is especially adapted for use with bottles *a* of rectangular cross-section. The screw-cap or stopper *c* is pivotally connected by a headed pin *q* to a saddle or yoke shaped sheet-metal carrier *e*, so that it can turn therein, but cannot move endwise relatively thereto, and the two lateral end portions of the carrier are slotted at *r* and arranged to embrace pivots *s*, that may conveniently be in the form of or resemble eyelets, attached to the bent-down ends *g* of a sheet-metal holder *f*, adapted to be passed over and extend around a bottle-neck *b*. The arrangement is such that when the holder *f* is attached to a bottle *a* the screw-cap *c* can be readily screwed onto or off the bottle-neck *b*, the slotted ends *r* of its carrier *e* then sliding along the pivots *s* on the holder, and when the cap *c* is disengaged from the neck it and the carrier *e* can be moved to a further extent from the bottle-neck *b* and turned over about the axis of the pivots *s*, so as to allow of the cap or stopper *c* being brought to one side of the bottle *a* and completely out of the way. (See Fig. 10.)

In the construction illustrated in Figs. 12 to 14, inclusive, the screw-cap or stopper *c* is

provided on its upper side with a headed pin or projection *q*, that engages with the slotted end *t* of an arm *e*, formed of sheet metal, and the other end of which is jointed at *u*—as, for example, in one or other of the ways hereinbefore described—to a bent-up eye-like portion *v* or between two such portions, of a flat sheet-metal annular holder *f*, adapted to be passed over and extend around a bottle-neck *b*, the arrangement being such that when so applied to a bottle the stopper *c* can by its slotted pivoted arm *t* be brought over and then screwed onto the bottle-neck, Fig. 12, and can afterward be screwed off the bottle-neck and turned to one side of the bottle, Fig. 14.

The frames *e* and holders *f* of combined stoppers and holding means of the kind hereinbefore described instead of being formed of stamped sheet metal, as described, may be made of wire bent to shape and formed with bent eyes or loops for pivotal engagement with each other and with the pins or extensions on the stoppers, which may be externally screw-threaded and adapted to screw into the mouths of bottles.

One arrangement of this kind suitable for screw-stoppered beer-bottles is illustrated in Figs. 15 and 16. The yoke-shaped wire frame *e* is formed with a central bent eye or circular portion *w*, loosely embracing a headed pin *d* on the externally-screw-threaded stopper *c* and with bent loop-shaped end portions *x* engaging bent eye-like portions *y* on the wire-holder *f*, which is adapted to be firmly secured in a groove *o* around a bottle-neck *b*, as by twisting its ends together, the arrangement being such that the pin *d* on the stopper is free to move endwise in the frame *e* while the stopper *c* is being screwed into or out of the bottle-mouth, and that the frame *e* is free to turn on the holder *f* when the stopper is out of the bottle-mouth, but the stopper cannot become detached from the frame.

In the modified arrangement shown in Figs. 17 and 18 the centrally-arranged bent eye portion *w* of the frame *e* embraces a short headed pin or screw *q* on the top of the stopper *c*, so that little or no endwise movement of the stopper relatively to the frame is possible, and the ends of the wire frame are bent into elongated loops *r*, engaging other similar loop-like portions *y* of the holder *f*, so as to provide for the necessary endwise movement of the stopper when screwing the same into or out of the bottle-mouth.

Combined stoppers, carriers, and holders, such as hereinbefore described, can be easily and cheaply constructed and quickly applied to bottle-necks. The holders *e* may in some cases screw over the bottle-necks *b*, so as to be readily removable therefrom, or the edge portions of the holes *i* in such holders may, when of sheet metal, be adapted, as by forming them into projections or notched

flanges 2, (see Figs. 10 and 11,) to be readily pressed into annular grooves 7, formed in the lower end or base of the externally-screw-threaded bottle-necks 6, so as to become firmly connected thereto.

What we claim is—

1. A bottle-closing device comprising a screw-stopper adapted to engage with a correspondingly-screw-threaded part of a bottle, a holder adapted to be readily attached to a bottle so that it has no operative movement thereon, and a carrier which engages the holder and carries the stopper, said stopper being mounted to move in said carrier so that it can be readily moved into its closed and open positions and in the latter position can be moved clear of the bottle-neck by said carrier while still attached to the bottle, as set forth.

2. A bottle-closing device comprising a screw-stopper adapted to be engaged with a correspondingly-screw-threaded part of a bottle and provided at its upper end with a centrally-arranged pin, a carrier formed with a hole in which said pin is free to rotate, and a holder adapted to be attached to a bottle and to which said carrier is jointed.

3. A bottle-closing device comprising a screw-stopper adapted to be engaged with a correspondingly-screw-threaded part of a bottle and provided at its upper end with a centrally-arranged pin, a carrier formed with a hole in which said pin is free to rotate and slide, and a holder adapted to be attached to a bottle and to which said carrier is jointed.

4. A bottle-closing device comprising a holder formed of sheet metal with downwardly-bent ends integral therewith and with a central hole therethrough, a yoke-shaped carrier formed of a single piece of sheet metal bent to shape and having a centrally-arranged hole extending therethrough, the lower ends of said carrier being mounted to turn on the downwardly-bent ends of said holder, and a screw-stopper mounted to rotate in said carrier.

5. A bottle-closing device comprising a holder formed of sheet metal with downwardly-bent ends integral therewith and with a central hole therethrough, a yoke-shaped carrier formed of a single piece of sheet metal bent to shape and having a centrally-arranged hole extending therethrough, the lower ends of said carrier being pivoted to the downwardly-bent ends of said holder, and a screw-stopper mounted to rotate in said carrier and adapted to move endwise relatively thereto.

6. A bottle-closing device comprising a carrier having a hole extending therethrough, a screw-stopper adapted to engage a correspondingly-screw-threaded part of a bottle, a pin projecting from said stopper and adapted to extend through said hole, and a holder

pivoted to said carrier and adapted to be readily attached to a bottle, said pin being adapted to rotate and slide in said hole, as set forth.

7. A bottle-closing device comprising a carrier having a hole extending therethrough, a screw-stopper adapted to engage a correspondingly-screw-threaded part of a bottle, a pin projecting from said stopper and adapted to rotate and to slide in said hole, and a holder connected to said carrier and adapted to be readily attached to a bottle, the length of said pin being such that when said holder is attached to a bottle, the stopper will be prevented from becoming detached from said carrier, as set forth.

8. A bottle-closing device comprising a carrier having a hole extending therethrough, a screw-stopper adapted to engage with a correspondingly-screw-threaded part of a bottle, a pin projecting from said stopper and adapted to extend through said hole, and a holder pivoted to said carrier and adapted to be readily attached to the neck of a bottle, said pin being adapted to rotate and to slide endwise in said hole and the length of said pin being such that when said holder is attached to the bottle, the stopper will be prevented from becoming detached from said carrier, as set forth.

9. The combination of a holder adapted to be readily attached to a bottle, a carrier consisting of a yoke-shaped frame pivotally connected to said holder and having a hole formed in its central portion, a screw-stopper adapted to engage a correspondingly screw-threaded portion of a bottle, and a pin projecting from said stopper and adapted to rotate and to slide in said hole, as set forth.

10. The combination of a holder adapted to be readily attached to a bottle, a carrier consisting of a yoke-shaped frame pivotally connected to said holder and having a hole formed in its central portion, a stopper, and a pin projecting therefrom and adapted to rotate and to slide endwise in said hole, the length of said pin being such that when said holder is attached to the bottle, the stopper will be prevented from becoming detached from said carrier, as set forth.

11. A combined stopper and holding device, comprising a holder formed with a central hole, adapted to fit over the neck of a bottle, a carrier formed with a hole and pivoted to said holder, and a stopper having a pin adapted to rotate and slide in the hole of said carrier, as set forth.

12. A combined stopper and holding device, comprising a holder formed with a central hole, adapted to fit over the neck of a bottle, a carrier formed with a hole and pivoted to said holder, and a stopper having a pin adapted to rotate and slide in the hole of said carrier, the length of said pin being such

that, when said holder is attached to the bottle, the stopper is prevented from becoming detached from said carrier, as set forth.

13. A combined stopper and holding device, comprising a holder having bent end portions and formed with a central hole adapted to fit over the neck of a bottle, a carrier consisting of a yoke-shaped frame the central portion of which is formed with a hole and the ends of which are pivotally connected to the bent end portions of said holder, and a stopper having a pin adapted to rotate and slide in the hole of said carrier, as set forth.

14. A combined stopper and holding device, comprising a holder having bent end portions and formed with a central hole adapted to fit over the neck of a bottle, a carrier consisting of a yoke-shaped frame the central portion of which is formed with a hole and the ends of which are pivotally connected to the bent end portions of said holder, and a stopper having a pin adapted to rotate and slide in the hole of said carrier, the length of said pin being such that, when said holder is attached to the bottle, the stopper is prevented from becoming detached from said carrier, as set forth.

15. A combined stopper and holding device, comprising a holder formed of sheet metal with a central hole adapted to fit over the neck of a bottle, and having bent end portions each formed with a hole, a carrier consisting of a yoke-shaped frame the central portion of which is formed with a hole and the ends of which are each formed with a hole whose edge portion is provided with a number of projections that are passed through the hole in the corresponding bent end portion of the holder and are bent against the inner side of the latter, and a stopper having a pin adapted to rotate and slide in the centrally-arranged hole of said carrier, as set forth.

16. A combined stopper and holding device, comprising a holder formed of sheet metal with a central hole adapted to be screwed over the externally-screw-threaded neck of a bottle, and having downwardly-bent end portions, a carrier consisting of a yoke-shaped frame the central portion of which is formed with a hole and the ends of which are pivotally connected to the downwardly-bent end portions of said holder and an internally-screw-threaded cap-stopper having a pin adapted to rotate and slide in

the centrally-arranged hole of said carrier, as set forth.

17. The combination with the discharging end of a bottle, of a screw-stopper adapted to engage a correspondingly-screw-threaded part of the bottle and to close the discharge-orifice therein, a holder connected to said discharging end, and a carrier formed with a hole and pivotally connected to said holder, said stopper having a pin adapted to rotate and slide in said hole, as set forth.

18. The combination with the discharging end of a bottle, of a screw-stopper adapted to close the discharge-orifice therein, a holder connected to said discharging end, and a carrier formed with a hole and pivotally connected to said holder, said stopper having a pin adapted to rotate and slide in said hole, the length of said pin being such that the stopper will be prevented from becoming detached from said carrier, as set forth.

19. The combination with a bottle having a screw-threaded neck of a bottle-closing device comprising a sheet-metal holder formed with a central hole and adapted to screw over the neck of said bottle and to rest upon the shoulder of the bottle, a carrier pivotally connected to said holder, and a screw-stopper connected to said carrier and adapted to engage the correspondingly-screw-threaded neck of the bottle, as set forth.

20. The combination with the discharging end of a bottle having an externally-screw-threaded neck of smaller diameter than the bottle, of a holder connected to said discharging end of the bottle, a carrier formed with a hole and pivotally connected to said holder, and a screw-stopper adapted to screw onto said neck and close the discharge-orifice therein and having a pin adapted to extend through the hole in said carrier, as set forth.

21. A bottle-closing device comprising an internally-screw-threaded stopper adapted to be engaged with a corresponding externally-screw-threaded neck of a bottle, a carrier in which said stopper is free to rotate, and a holder formed of sheet metal adapted to be screwed onto said bottle-neck and to which said carrier is jointed.

Signed at London, England, this 24th day of January, 1905.

CHARLES CARTER NEWTON.

WILLIAM SAVAGE NEWTON.

Witnesses:

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F. L. RAND.