

F. J. SEYBOLD.
Bottle-Stopper and Stopper-Fastener.

No. 206,493.

Patented July 30, 1878.

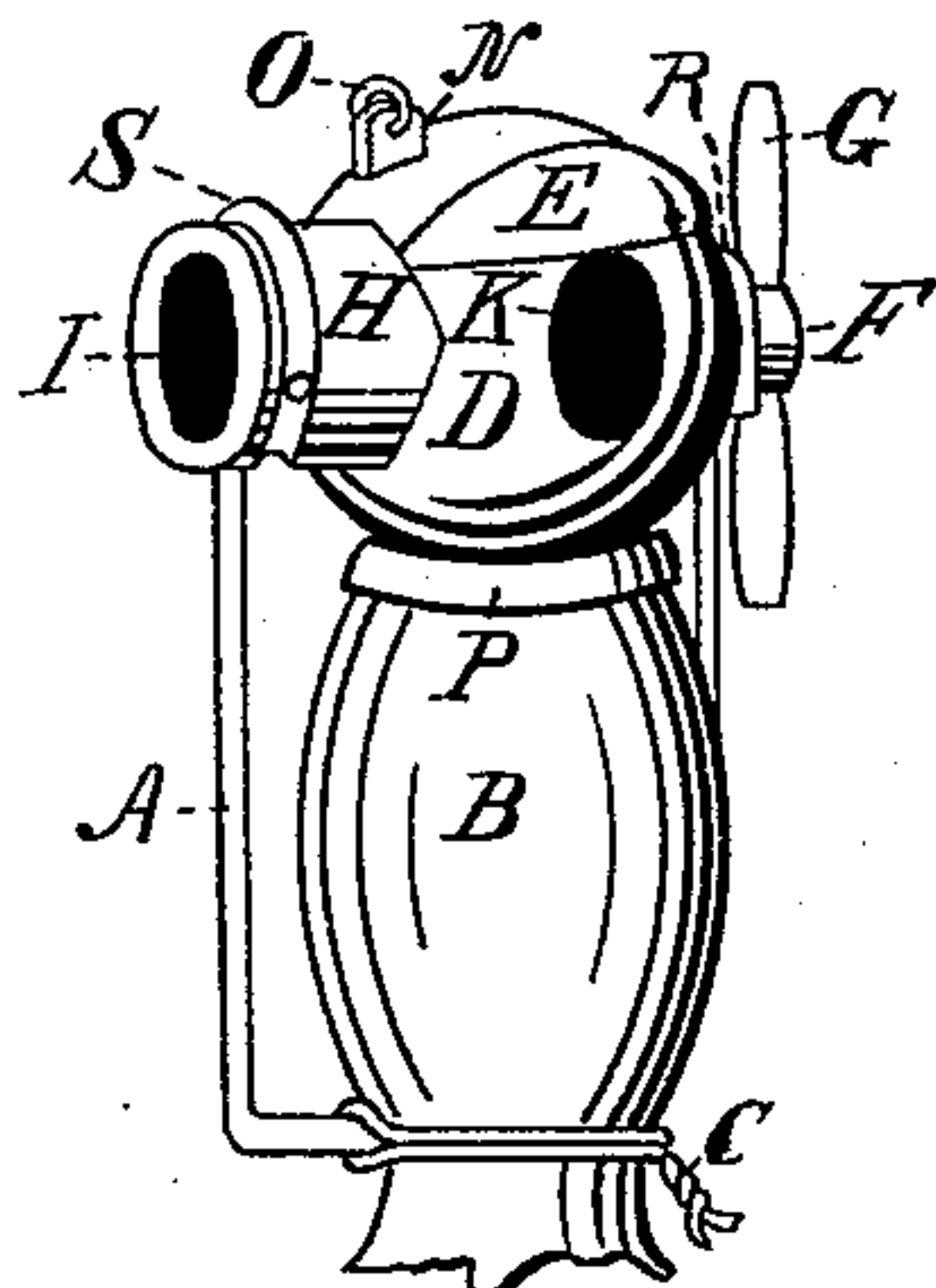


FIG. 1

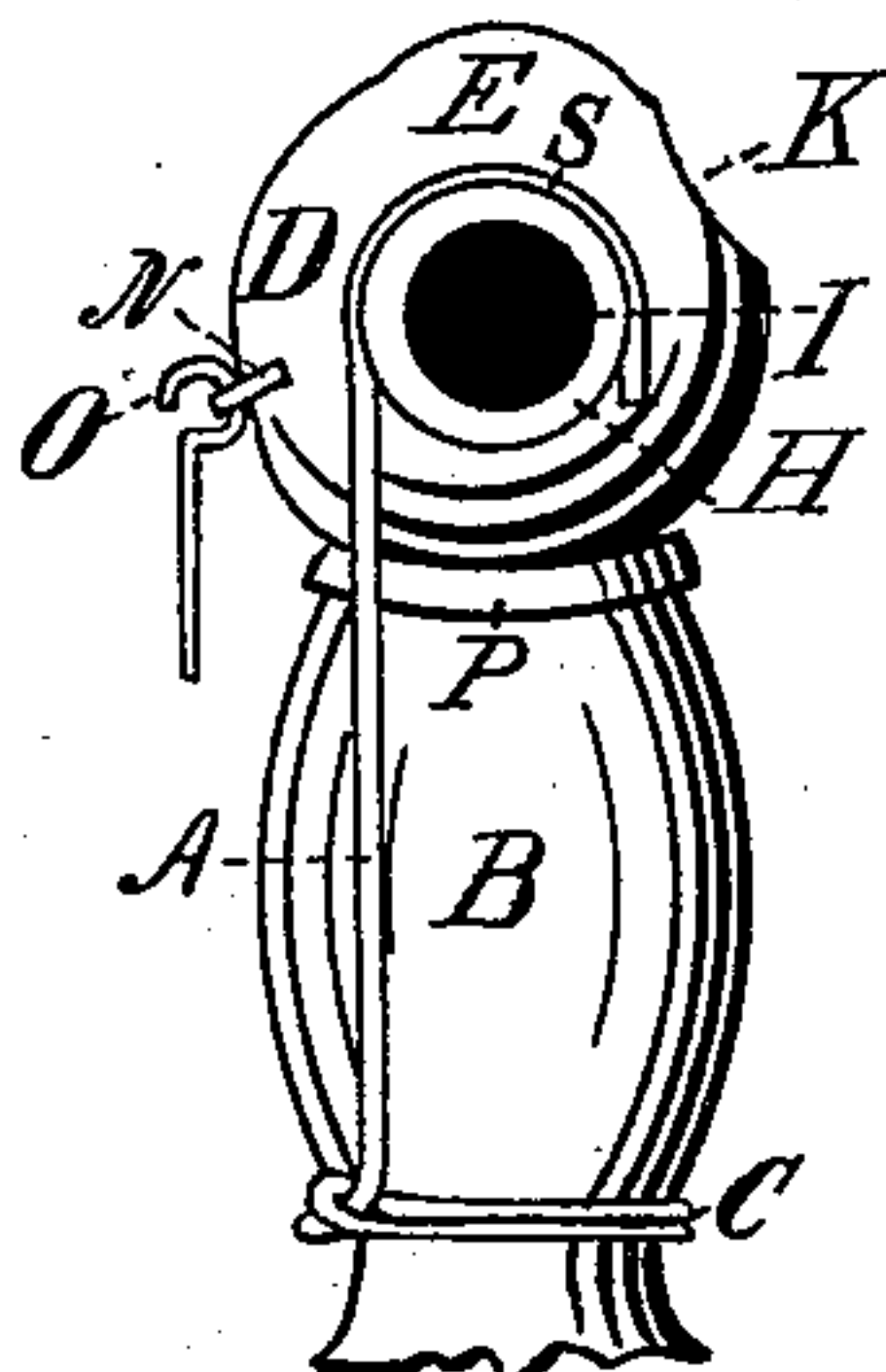


FIG. 3

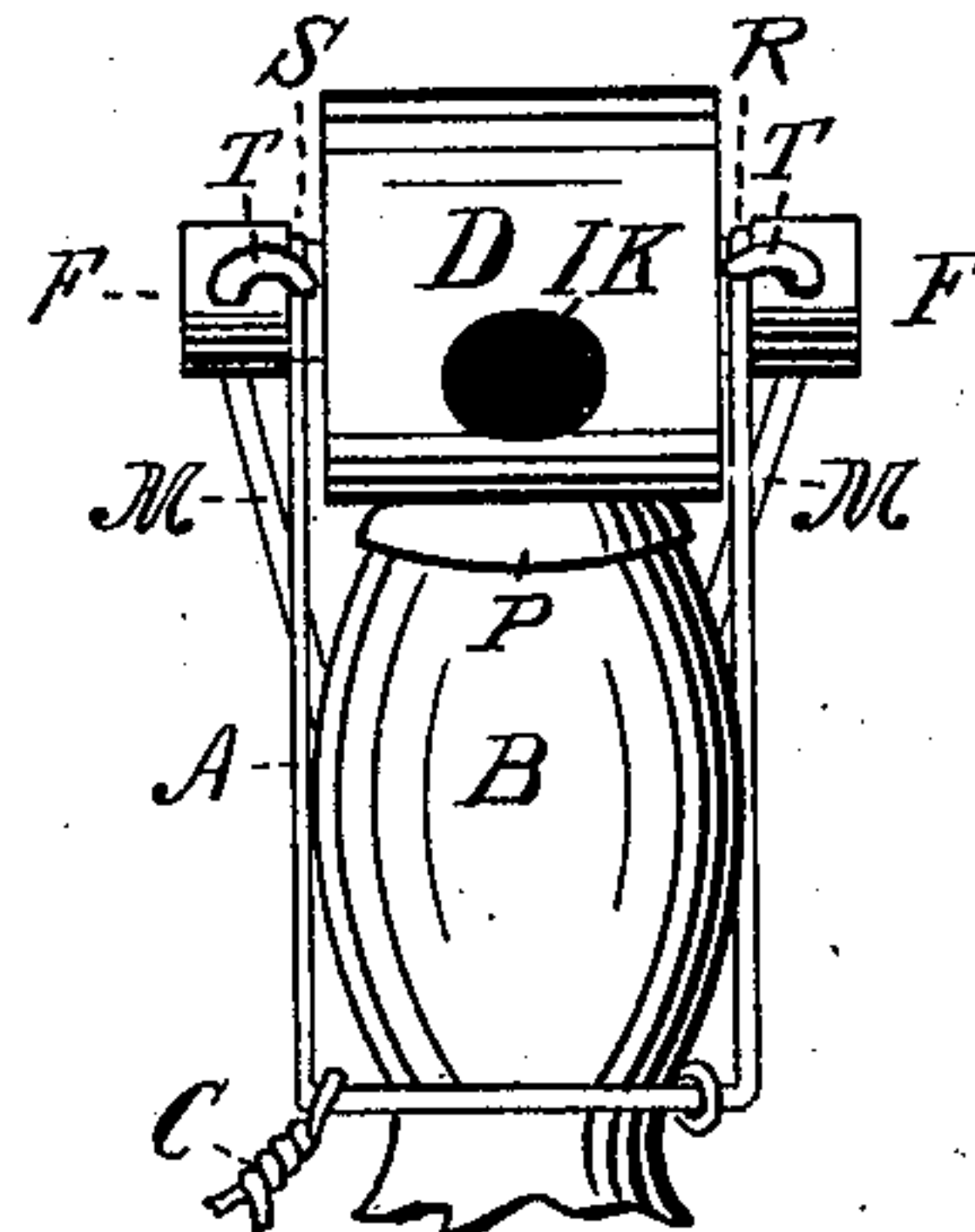


FIG. 4

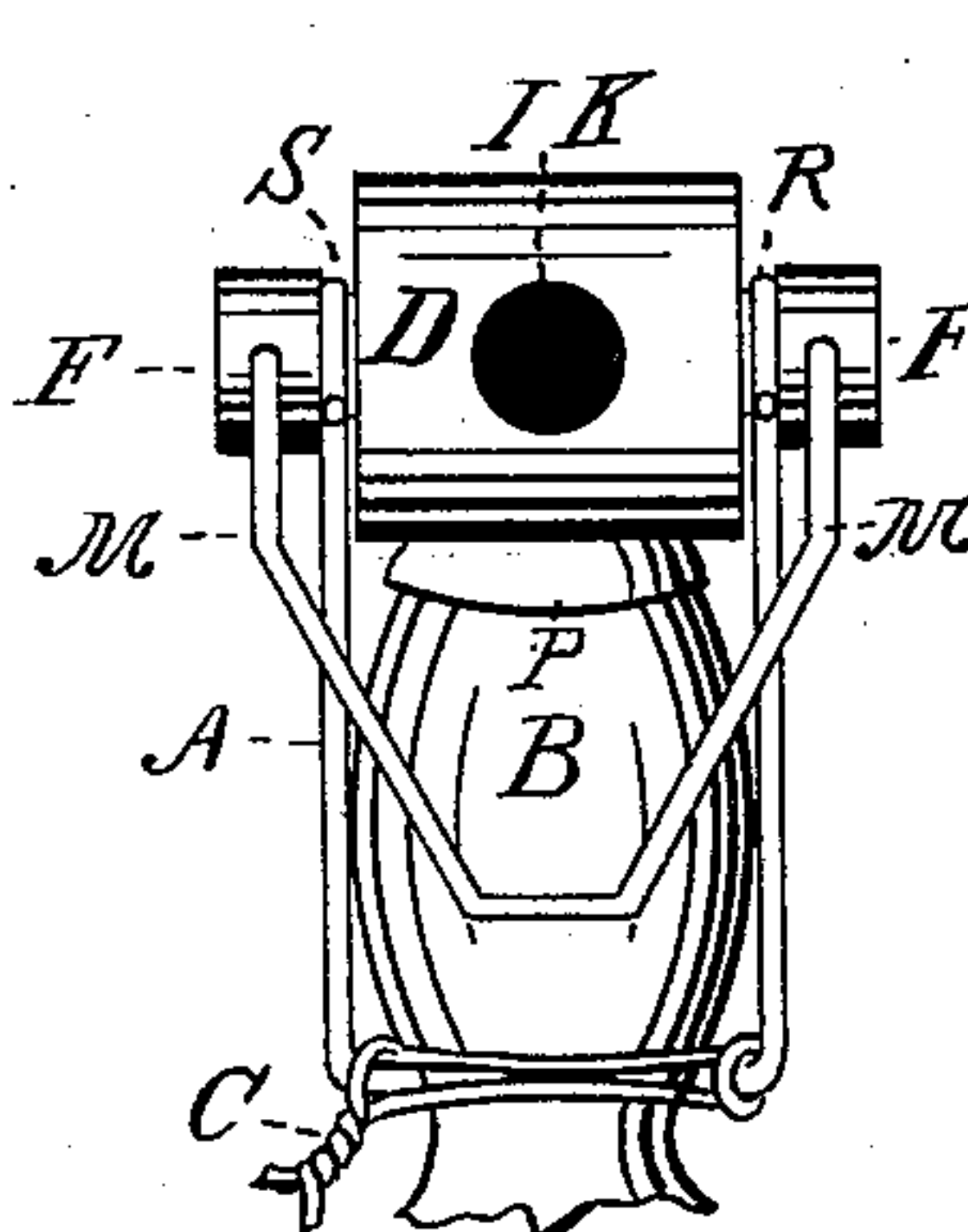


FIG. 9

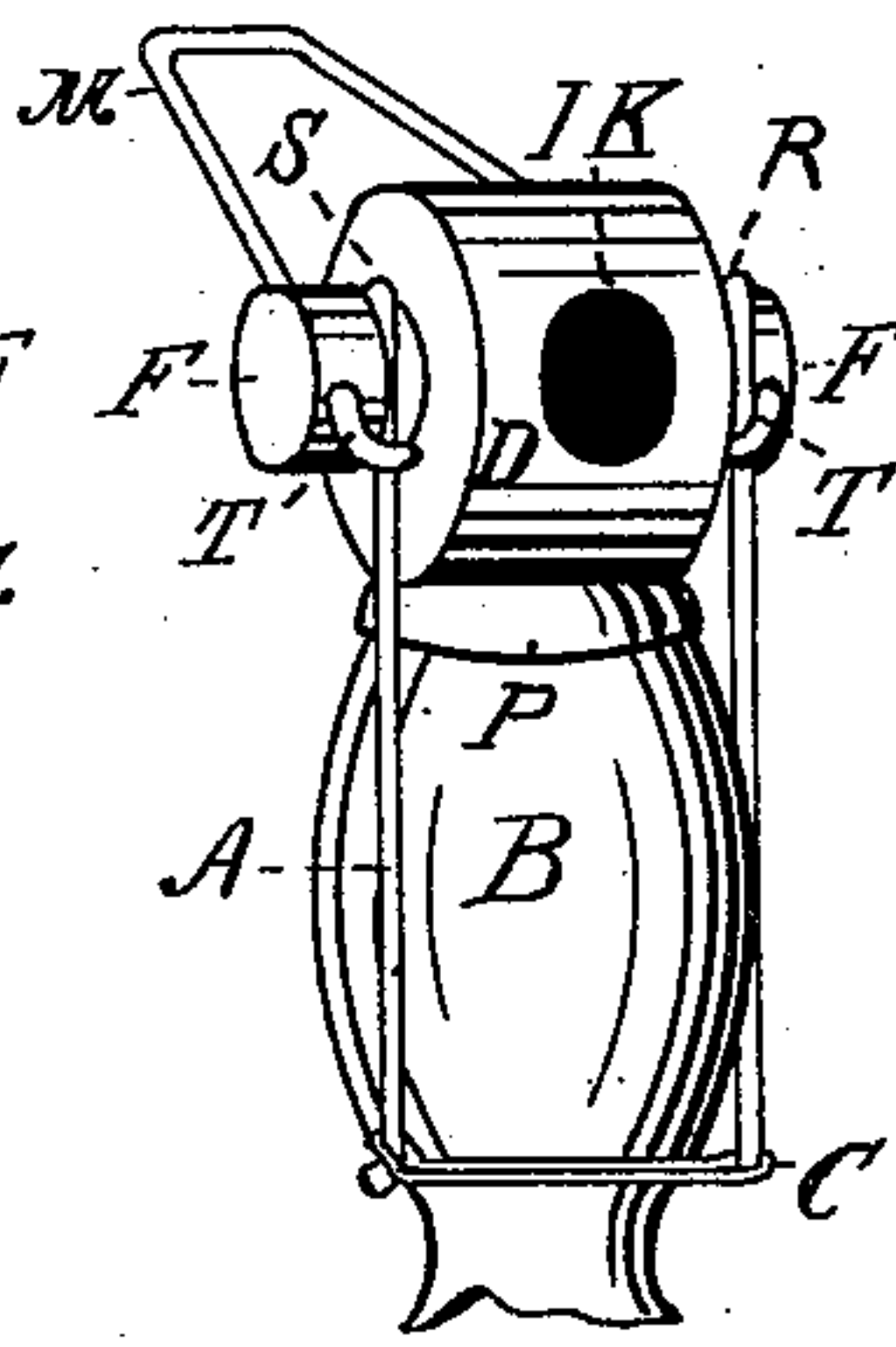


FIG. 7

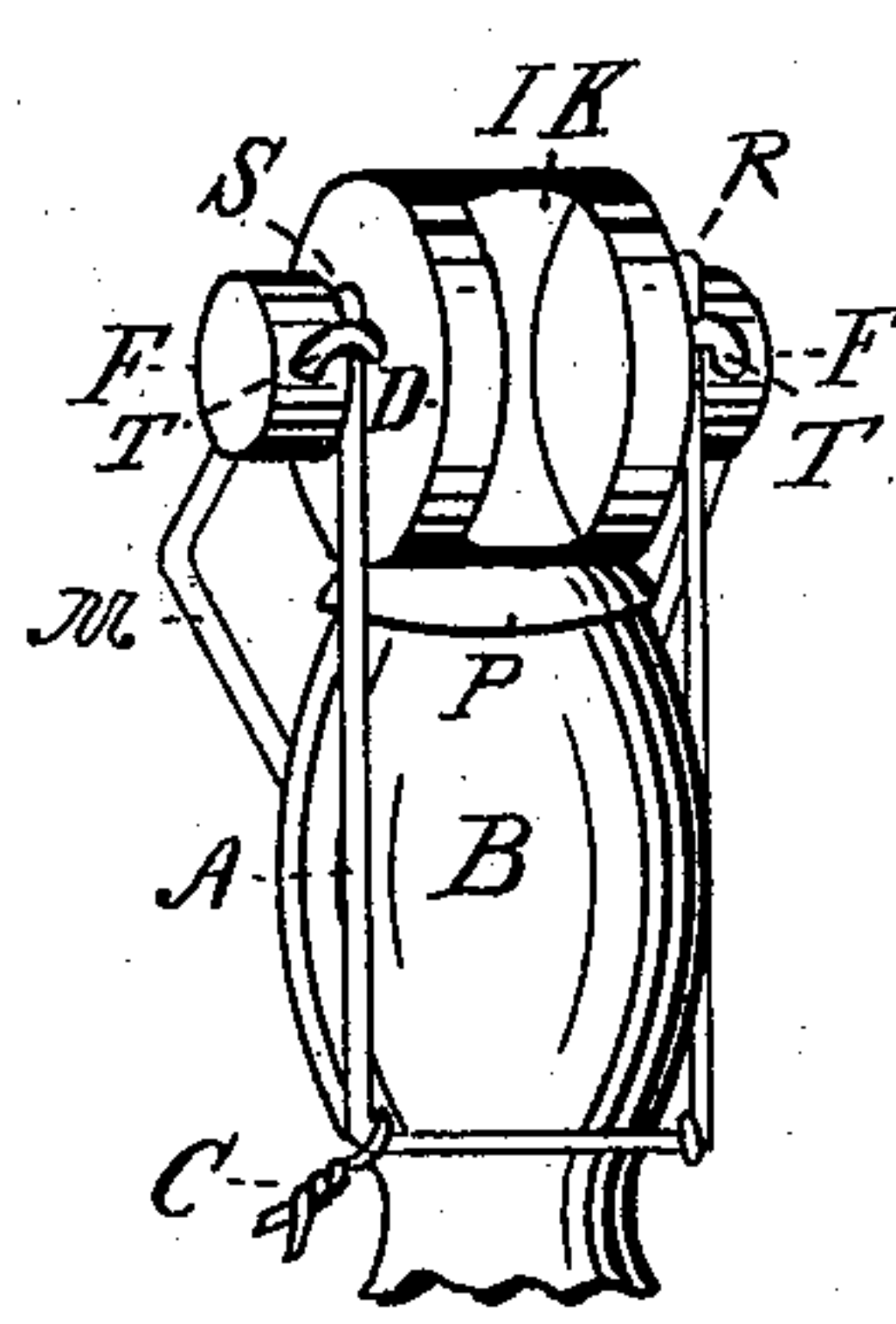


FIG. 11

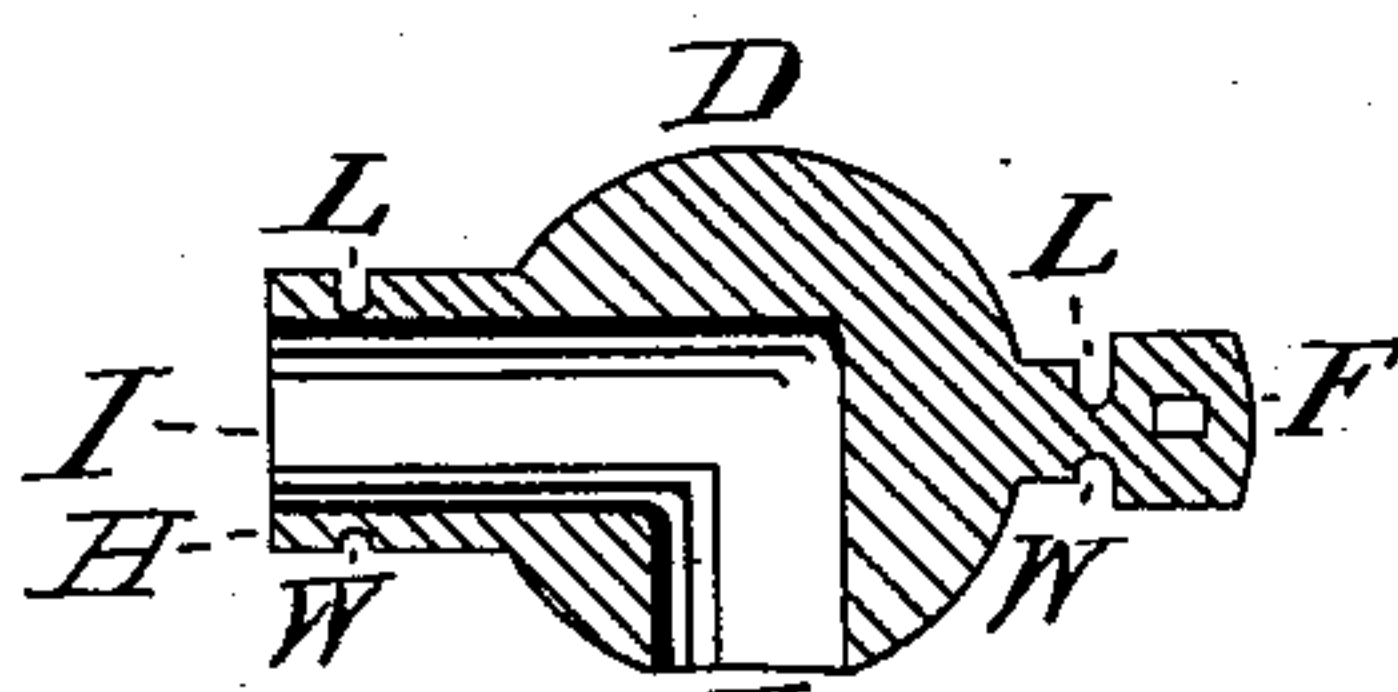


FIG. 2

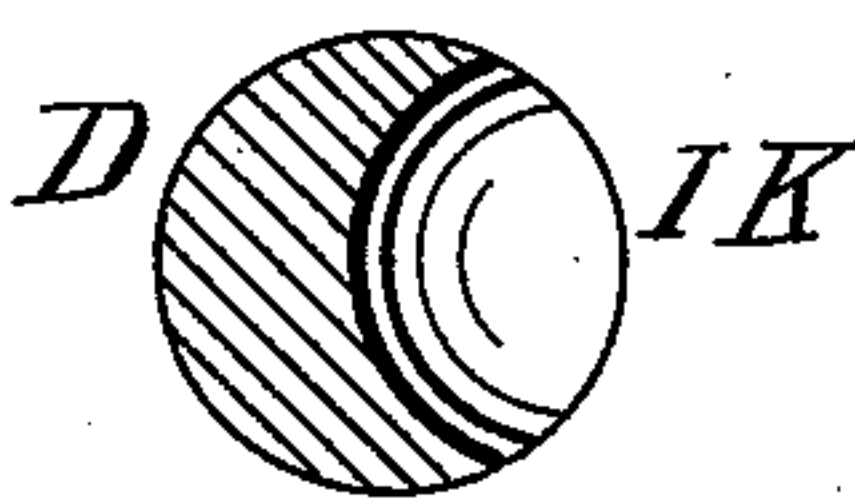


FIG. 12

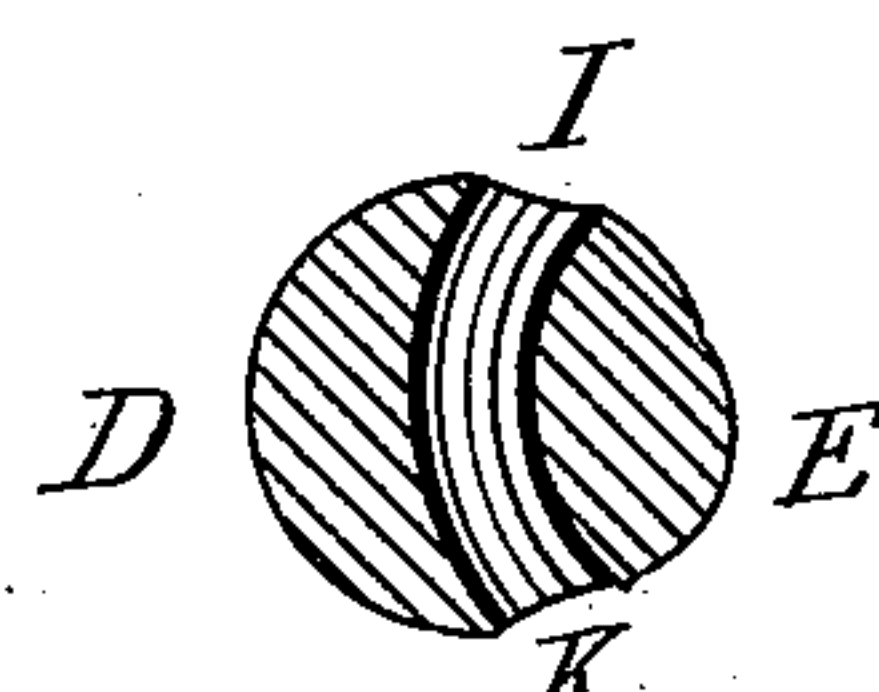


FIG. 5

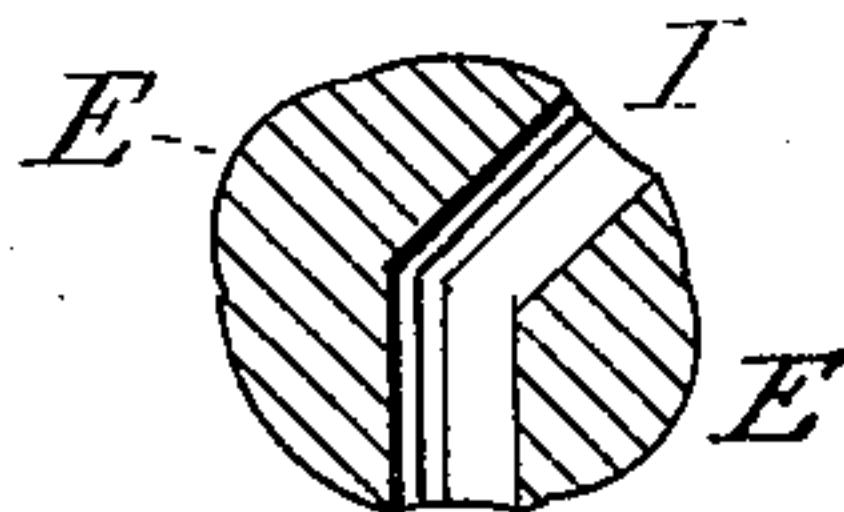


FIG. 6

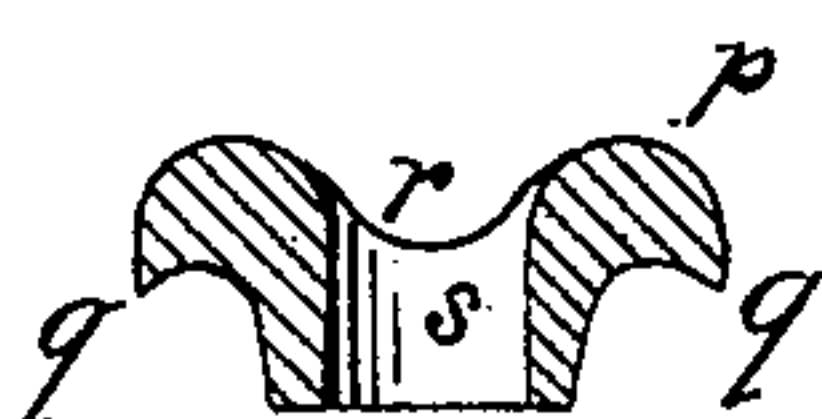


FIG. 10

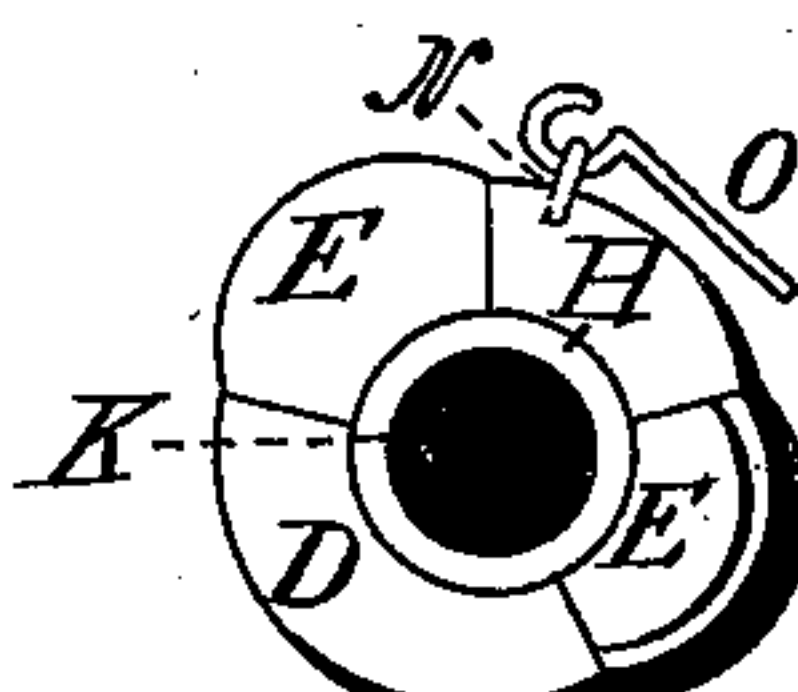


FIG. 8

ATTEST,
William J. Brooks
Julius J. Meyer

INVENTOR,
Frederick J. Seybold

UNITED STATES PATENT OFFICE.

FREDERICK J. SEYBOLD, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN BOTTLE-STOPPERS AND STOPPER-FASTENERS.

Specification forming part of Letters Patent No. **206,493**, dated July 30, 1878; application filed December 3, 1877.

To all whom it may concern:

Be it known that I, FREDERICK J. SEYBOLD, of the city of St. Louis, in the county of St. Louis and State of Missouri, have invented a new and useful Improvement in Stoppers and Stopper-Fasteners for Bottles and other receptacles, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

My invention pertains to that class of articles denominated in a general way "stoppers and stopper-fasteners."

It consists in the adaptation and application of a cylindrical or cylindroidal stopper transversely to a receptacle-mouth outside of the receptacle.

This stopper has an open gasket or ring intervening between the stopper and the material of the mouth of the bottle, jar, flask, or other receptacle, this gasket having its surface next to the stopper conformed in shape so as to hug the stopper closely and allow no gas or liquid to escape between the gasket and stopper. The stopper is so constructed that by turning the slot in the same or the aperture through the same into a line with the orifice of the bottle or other receptacle, by rotating the stopper on its axis or the axis of its journals or other suitable bearings, the liquid may pass from the bottle or other receptacle, through its orifice, into and through the slot or aperture in the cylinder. This stopper is closed by turning the same until the slot or aperture in the same is at right angles, or thereabout, with the aperture of the flask or other receptacle. The stopper is bound upon the mouth of the jar or other receptacle by means of a wire reaching up from the shoulder or protuberance on the neck of the bottle or other receptacle, and terminating in hooks or their equivalents, which catch over journals on the stopper. This wire, thus reaching up from the shoulder of the bottle or other receptacle, is held there by an auxiliary wire, which completes the circle around the bottle or other receptacle.

The stopper is operated, preferably, by a looped lever, the ends of which pass through holes in the journals of the cylinder, and are bent in such a manner as to catch against the upright parts of the neck-wire that holds the

stopper upon the bottle when the stopper is rotated to an open position, and stops the stopper in that position. When the stopper is in a properly-closed position it is stopped there by the looped lever coming down against the neck or side of the receptacle, preventing a further turning in that direction.

The cylinder may be made of any material desired. The gasket may be made of any material desired. The aperture in the cylinder may be straight through a diameter of the same, continuous and coincident with the aperture of the bottle or other receptacle when the stopper is in an open position; or, instead of this diametrical aperture through the stopper, there may be a curved or other slot in one side of the stopper; or the aperture in the stopper may have one of its ends or orifices coincident with the orifice of the receptacle at an open thereof, and the other end or orifice out of one of the journals of the stopper, the aperture passing angularly through the stopper; or the aperture through the stopper may pass through the same, with its longitudinal axis to one side of the longitudinal axis of the stopper, or in any manner, angle, curve, or direction desired, so that the receiving or incoming orifice is coincident with the orifice of the bottle or other receptacle at a full open thereof.

The stopper, instead of being a true cylinder, straight and plain, may, if desired, have an enlargement or protuberance in the part where it fits upon the gasket or ring in the mouth of the receptacle, so that it may settle more firmly in the mouth of the receptacle.

Instead of the looped lever described as operating the stopper, a simple thumb-wheel, attached to one of the journals, may be used; or a common lever may be used, passing through or attached to one of the journals, or attached to one end or the circumference of the stopper by a lug or lugs, or in any other suitable manner.

In the drawings, the same part of the stopper and fastener is designated by the same letter in the different figures.

Figure 4 represents a side view of the stopper on a bottle. D is the stopper; I K, the aperture in the same; B, the head of the bottle or other receptacle; and P, the gasket be-

tween the stopper D and the material *g* of the bottle or other receptacle B. F F are the journals on the stopper D. A is the neck-wire, with hooked ends S and R catching over the journals F F, holding the stopper upon the mouth of the bottle or other receptacle. M M are visible parts of the looped lever that operates the stopper D. T T are the curved ends of the lever M that catch upon the neck-wire A, stopping the stopper from going farther when it is turned to a properly-open position. C is an auxiliary neck-wire, securing the main neck-wire to the neck of the bottle or other receptacle.

Fig. 9 (like Fig. 4) is a side view of the closed stopper on the bottle, the view being of the opposite side from that in Fig. 4.

Figs. 5 and 6 show, respectively, a curved and angular form of the aperture I K in the stopper. The letter E shows protuberances on the surface of the stopper, which come against the gasket and prevent the stopper from turning farther when it is rotated to a proper open or closed position.

Figs. 11 and 12 show the recess I K. Fig. 10 represents a vertical sectional view of the gasket P, in which *r* is a concavity in the top end of the gasket, into which snugly fits the convex circumference of the stopper. *s* is the aperture through the gasket, opening downward into the bottle or other receptacle, and *q* is the concave flange on top of the gasket.

Fig. 1 is a perspective side and end view of the stopper D, with the protuberance E, the stopper being represented as secured to a bottle and in a closed position. K is the end or orifice of the aperture I K that coincides with the orifice of the gasket and bottle-neck in an open position of the stopper. The aperture I K extends from the end or orifice K up into the body of the stopper until near the center of the same, when it turns and passes out of the stopper through one of the poles or journals of the same. The end or orifice K of the aperture I K being turned downward upon the gasket P, the fluid finds its way out through the stopper by means of the outlet I K. The stopper is here represented as being operated by either the thumb-handle G or the lever O, which latter is connected to the surface of the stopper by means of the lug N.

Figs. 1 and 2 show a cam or eccentric construction of the journals, not by setting the central axis of the journals to one side of the central axis of the stopper, but by cutting the grooves in which the hooks S R rest deeper in the journals on one side than on the other. This is seen more clearly in Fig. 2, in which the grooves L L are represented as being cut deeper into the journals than they are at W W. In case there were no grooves cut in the journals the cam or eccentric principle could be secured by raising a protuberance at W W, also by setting the central axis of the journals to one side of the central axis of the stopper.

Fig. 2 is a horizontal longitudinal section

of the stopper shown in Fig. 1. Fig. 3 is an end view of the polar or journal-orificed stopper. Fig. 8 is an end view of the stopper D.

By the term "cylindroid" I mean a body having a greater diameter at E E, in the figures, than a diameter in a line at right angles to a line through E E. The cylindroidal feature is shown differently at E, Figs. 1 and 5, from what it is at E E, Figs. 3, 6, and 7.

I am aware that a spherical stopper having pintles has been mounted to rotate on the mouth of a bottle; but a stopper of that form is apt to turn in its seat, so that the pintles are twisted around horizontally and bend or strain the neck-fastenings.

A cylindrical or cylindroidal stopper can turn or twist in one way only—*i. e.*, that in which it turns to open or close the mouth of the receptacle.

I am aware that revoluble tubes have been inserted in apertures through or in the necks of bottles at right angles to the discharging-aperture of the neck, with the discharging-aperture in the tube entering the bore of the tube at right angles to the same, the bore of the tube opening out of the side of the bottle at right angles to the same.

Such a device as the latter is not only impracticable, but in construction requires a specially-constructed bottle with a hole through the neck at right angles to the same, which renders it liable to be broken off at the slightest knock, while my apparatus is entirely different in construction, attachment, and operation, and can be attached to any ordinary bottle.

The combination of a rotary pintled and apertured stopper, mounted on an open gasket, fitted to the mouth of a bottle, with means for rotating the stopper and for securing it onto the gasket and over the mouth of the bottle, is not claimed herein broadly, it being patented in a previous patent of mine.

What I claim as new and as my invention, and desire to secure by Letters Patent, in a stopper and fastener for bottles and other receptacles, is—

1. A cylindrical or cylindroidal stopper adapted to rest and be rotated over the mouth of a receptacle, having a filling and discharging passage in a plane substantially at right angles to its axis and provided with means for securely holding the bearing portions of a neck-fastening, as and for the purpose set forth.

2. A cylindrical or cylindroidal stopper adapted to rest and be rotated over the mouth of a receptacle, and having a curved or angular filling and discharging recess or passage laterally across it, as and for the purpose set forth.

3. A gasket having a tubular portion to fit the interior of the neck of a receptacle, a flange to rest on the neck, with its upper surface trough-shaped, as and for the purpose set forth.

4. A cylindrical or cylindroidal stopper

adapted to rest and be rotated over the mouth of a receptacle, and having a filling and discharging passage, in combination with a gasket having its lower portion adapted to fit into the mouth of a receptacle, and having a flange with its upper surface trough-shaped, as and for the purpose set forth.

5. A cylindrical or cylindroidal stopper adapted to be rotated over the mouth of a receptacle, and having a filling and discharging passage, in combination with a gasket adapted to rest on a bottle-mouth, and having a flange with its upper surface trough-shaped, and a neck-fastening having pintle-bearings, as and for the purpose set forth.

6. The combination of a cylindrical or cyl-

indroidal stopper adapted to be retained and rotated over the mouth of a receptacle, and having a filling and discharging orifice, with a gasket whose lower portion is adapted to fit into a receptacle-mouth, and having a flange trough-shaped on its upper surface, and with a suitable neck-fastening and a suitable means for rotating the stopper, as and for the purpose set forth.

FREDERICK J. SEYBOLD.

Witnesses:

Mrs. MARY E. GEER,
WILLIAM E. GEER.