

(No Model.)

G. D. COREY.
BOTTLE STOPPER.

No. 312,095.

Patented Feb. 10, 1885.

Fig. 1

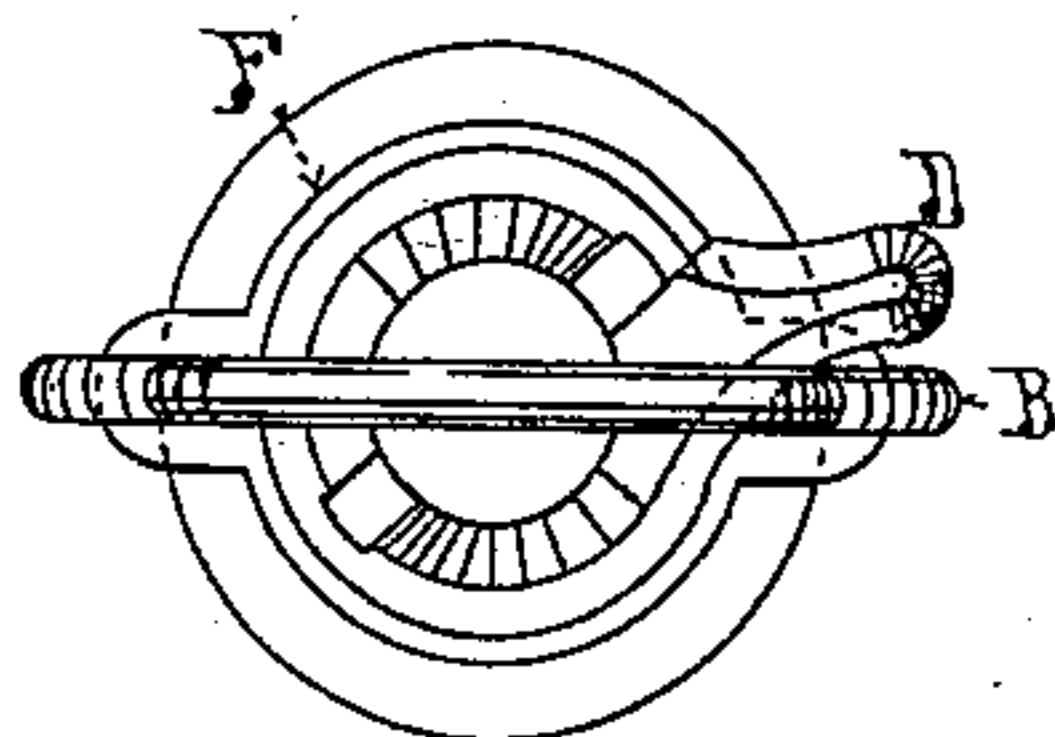


Fig. 2

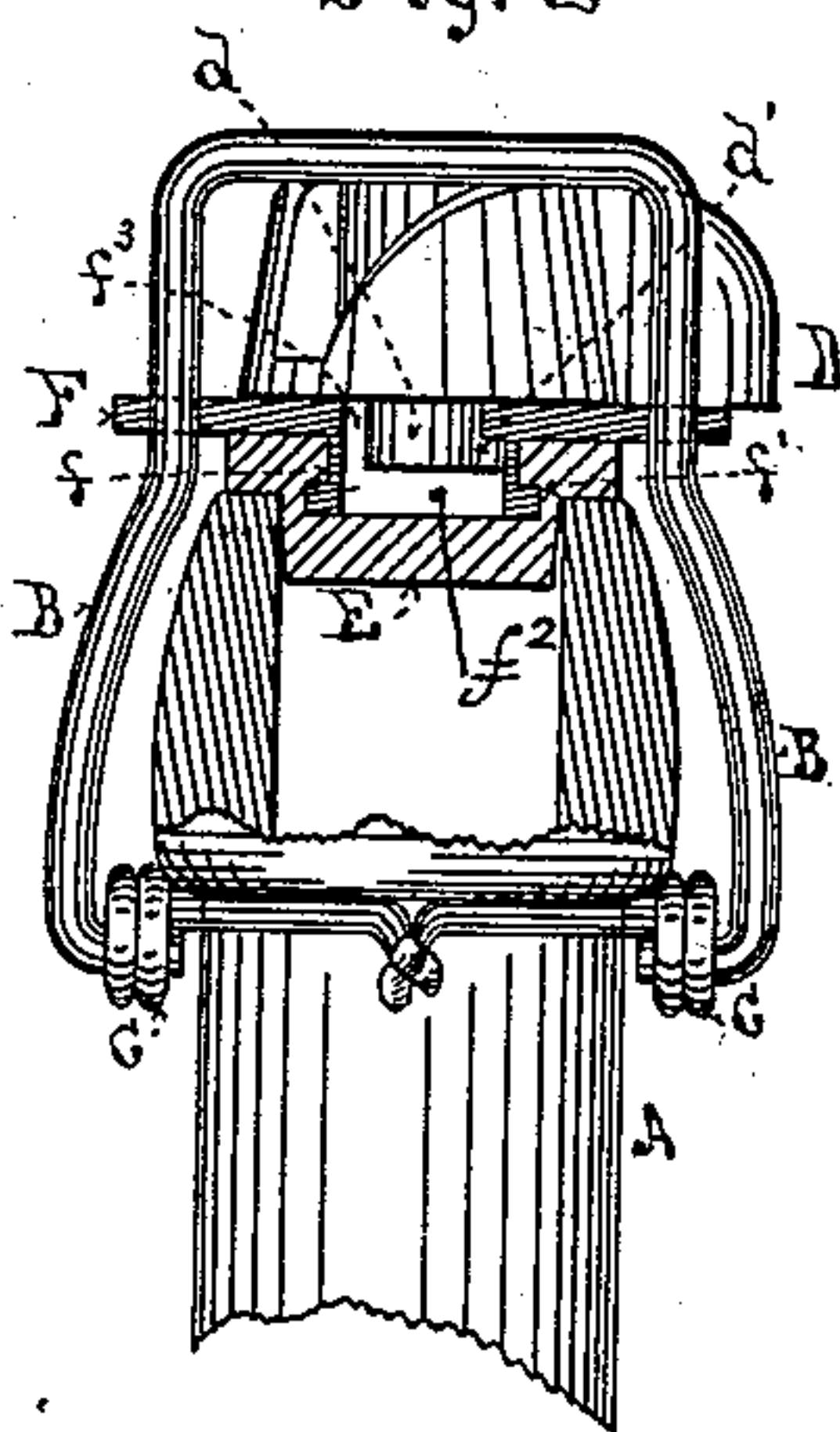


Fig. 3

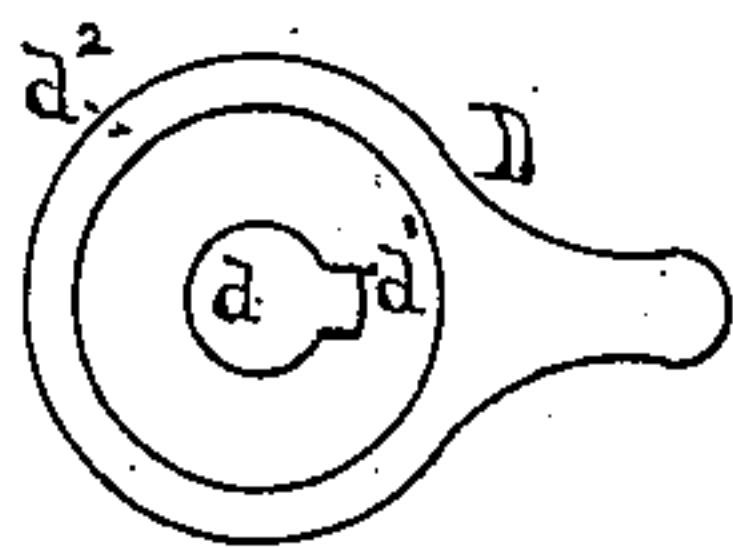


Fig. 4

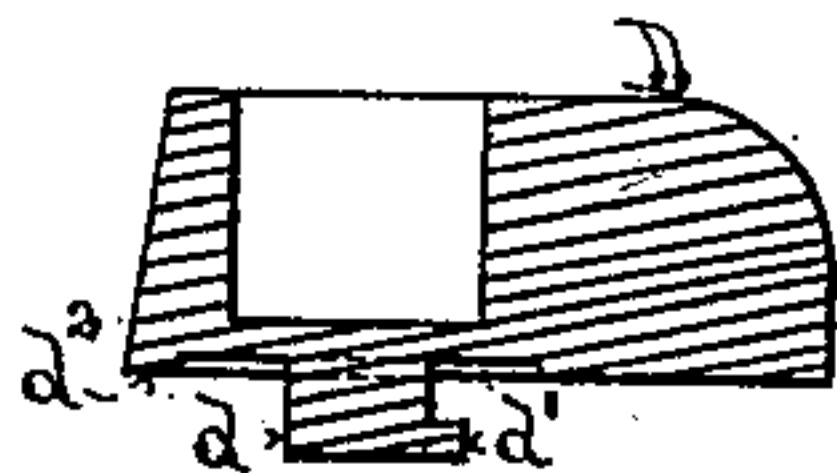


Fig. 5

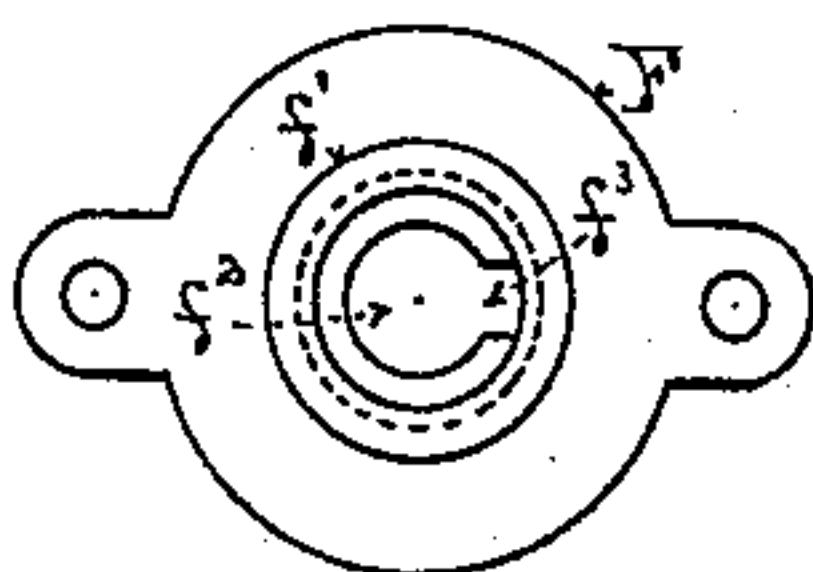


Fig. 6



Witnesses

Wm. D. Brown
A. P. Ockington

Inventor

George D. Corey
By David Hall Bee
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UNITED STATES PATENT OFFICE.

GEORGE D. COREY, OF LOWELL, MASSACHUSETTS, ASSIGNOR TO WOODS,
SHERWOOD & CO., OF SAME PLACE.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 312,095, dated February 10, 1885.

Application filed September 20, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE D. COREY, of Lowell, in the county of Middlesex and State of Massachusetts, have invented a new and
5 useful Improvement in Bottle-Stoppers, of which the following is a specification.

My invention relates to bottle-stoppers; and it consists in certain improvements upon the bottle-stopper patented to M. J. Hinden,
10 April 11, 1876, No. 175,981.

In the drawings, Figure 1 is a top view of the bottle-stopper as applied to the neck of a bottle containing my improvements. Fig. 2 is a side elevation of the same, partly in section, showing the method of attaching the
15 working parts of the stopper together. Fig. 3 is a bottom view of the revolving cam-piece. Fig. 4 shows a vertical section of the revolving cam-piece. Fig. 5 is a bottom view of the sliding plate upon which the cam-piece
20 works. Fig. 6 is a side elevation of the same.

A is the neck of the bottle, having the neck-band C and the bail B attached to it. E is the
25 rubber stopper. F is the plate to which it is attached, sliding up and down on ears on the bail. D is the cam-plate resting on the plate F, and by the rotation of which the rubber stopper is compressed against the mouth of
30 the bottle. These parts are in general form and relation to the bail as heretofore constructed; but the mode of connecting the same together to form a cheap, durable, and convenient bottle-stopper is the subject of my
35 present improvement.

From the lower side of the cam-plate D, I project a pin, d , axially downward, and on one side of it, at its lower end and projecting laterally from it, I form a shoulder, d' . This
40 pin d is fitted to enter a corresponding hole, f^2 , in the plate F, and on one side of this hole I cut a notch, f^3 , corresponding with the projection d' of the pin d , and adapted to receive the same when the pin d is inserted in proper
45 position into the hole in the plate F. The cylindrical part of the pin d , between the lower face of the cam-plate D and the upper side of the projection d' , is made long enough to extend through the plate F, so that when
50 the pin d and projection d' have been insert-

ed into the hole f^2 and slot or notch f^3 the projection d' passes entirely through the plate F, and can then be turned around freely by the revolution of the cam-plate D, the construction of this connection of the cam-plate
55 D and plate F being somewhat similar to what is known as a "bayonet-joint."

The slot f^3 in plate F is in such a position with relation to the bail B when the plate F is slipped onto the bail that the thumb-piece
60 of the cam-plate D, coming against the bail on either side, will prevent the projection d' from coming opposite the slot f^3 and allowing the cam-plate D to escape from its connection with the plate F. At the same time, if desired, by
65 slipping the plate F off the bail, it may be detached instantly from the cam-plate D. By this construction the cam-plate D and its pin d may be cast in one piece, finished ready for
70 use, and a multiplicity of separate parts and expense in fitting the same together are avoided.

On the lower side of plate F, and around its axial hole f^2 , I form a hollow tubular downward projection, f , terminated at its end by
75 an outwardly-projecting annular flange, f' , and I form the rubber stopper-piece E with a corresponding cavity in its upper side, so that it can be sprung over the flange f' and tubular projection f , and be held united by its elasticity to the plate F, while at the same time it
80 cannot interfere with the pin d , which rotates within the tubular cavity of the projection f . I am enabled by this construction to cast the plate F and its tubular projection f and flange
85 f' in one piece, finished ready for use, and thus construct very cheaply and easily the connection between the rubber part E and it.

In order to avoid friction of the lower surface of the cam-plate D upon the plate F, I
90 form the cam-plate with an annular flange, d^2 , projecting slightly from its lower face and around its edge downward; so as to take a bearing upon the top surface of plate F, and in this manner the cam-plate is made to turn
95 more easily than when its entire lower surface, or substantially all of it, bears upon the plate F. It is obvious that my invention is not confined to the precise arrangement shown, although I consider that preferable. For instance, the
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annular flange d^2 may be made upon the top of the plate F, instead of the bottom surface of the cam-plate D; or the pin d and its projecting piece d' may be formed upon the plate F and project upward, working through the hole f^2 , and its slot f^3 correspondingly made in the cam-plate D, without departing from the spirit of my invention.

What I claim as new and of my invention is—

1. The combination of the cam-plate D, provided with the pin d and projection d' , with the plate F, provided with the corresponding hole, f^2 , and slot f^3 , substantially as described.
2. The combination of the cam-plate D, provided with the pin d , the plate F, provided with the corresponding hole, f^2 , the bail B, and

the tubular projection f , adapted to receive the lower end of the pin d and allow the same to rotate therein, with the elastic piece E, fitted around the outside thereof, substantially as described.

3. In combination with the bail B, the cam-plate D, provided with the pin d and projection d' , and the plate F, provided with the hole f^2 and slot f^3 , the latter being so placed as to prevent the pin from escaping from said hole when the plate F is slipped upon the bail, substantially as described.

GEORGE D. COREY.

Witnesses:

DAVID HALL RICE,
N. P. OCKINGTON.