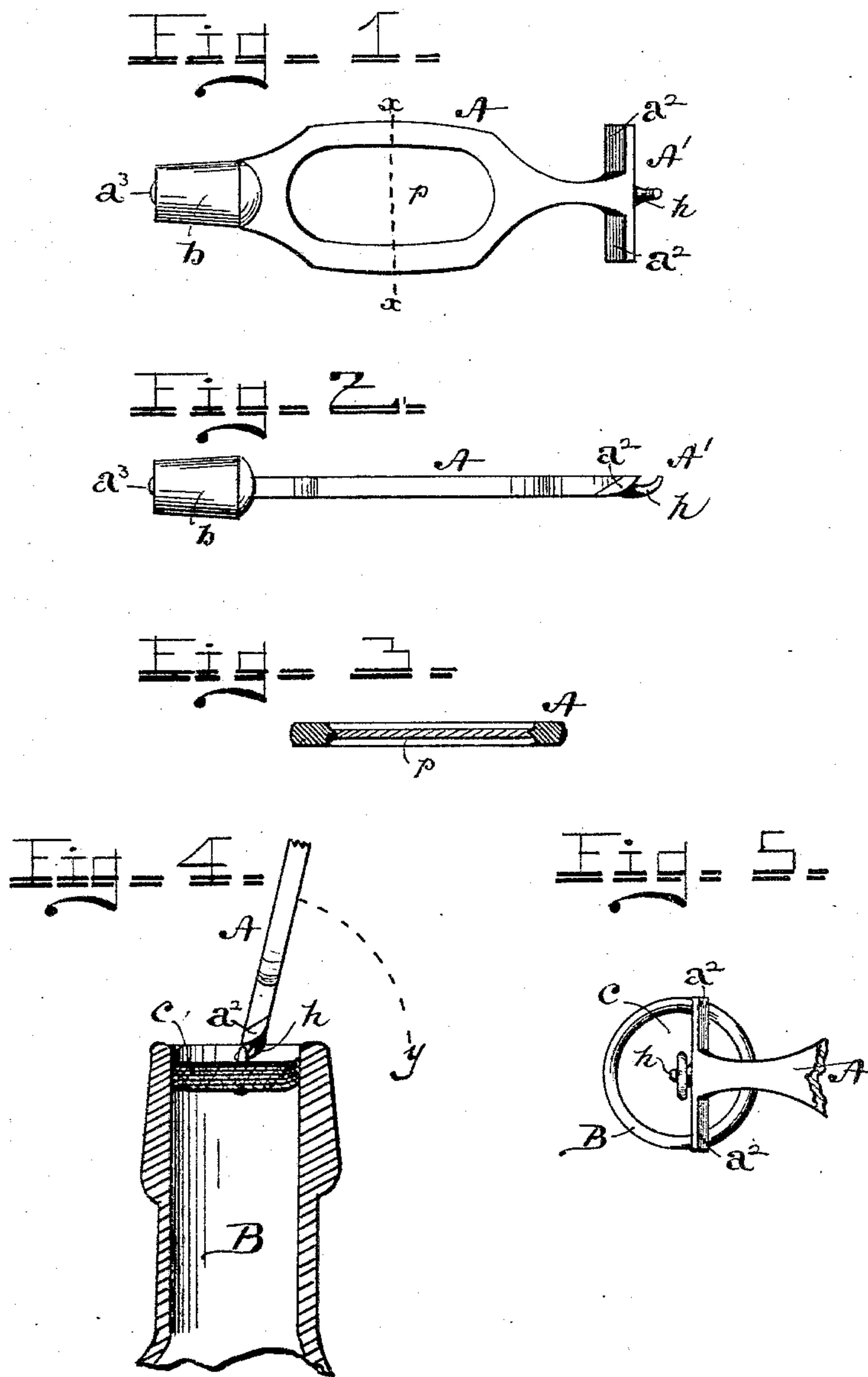


(No Model.)

E. R. BUHRMAN.
BOTTLE STOPPER REMOVER.

No. 597,874.

Patented Jan. 25, 1898.



Witnesses:

James L. Foley.
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UNITED STATES PATENT OFFICE.

EDWARD R. BUHRMAN, OF CINCINNATI, OHIO.

BOTTLE-STOPPER REMOVER.

SPECIFICATION forming part of Letters Patent No. 597,874, dated January 25, 1898.

Application filed August 16, 1897. Serial No. 648,382. (No model.)

To all whom it may concern:

Be it known that I, EDWARD R. BUHRMAN, a citizen of the United States, residing at Cincinnati, Ohio, have invented new and useful
5 Improvements in Bottle-Stopper Removers, of which the following is a specification.

My invention relates to devices for removing bottle-stoppers such as are now commonly used in stopping beer-bottles, &c., these consisting of disks of rubber forced into the
10 mouth of the bottle by heavy pressure and having a metal hook or staple embedded therein to facilitate removal. With bottles thus secured is furnished a small prying-lever
15 with a hooked terminal adapted for insertion into the staple of the bottle-stopper, whereupon, using the edge of the bottle-mouth as a fulcrum, the stopper is pried out and released. These devices having gone so largely
20 into use as to supersede other modes of fastening to a great extent for beer-bottles, &c., a serious difficulty has developed of the nature following: In thus using the marginal curb of the bottle-mouth as a fulcrum a great
25 pressure is brought to bear directly beneath the lever because of the great resistance to disengagement offered by the stopper. Glass being of a brittle nature, this pressure in many or most cases causes the glass to flake
30 off or crack at the point of pressure, sometimes to an extent spoiling the bottle for further use and always leaving sharp cutting edges, which are dangerous, and frequently leaving small particles of glass liable to be
35 carried by the liquid poured from the bottle, with further attendant dangers. My invention furnishes an effective remedy for these evils by the construction of a stopper-removing implement with a peculiarly-formed head
40 extended into lateral wings having curved under surfaces and a central projecting hook to engage the staple of the bottle-stopper. The head is so formed, as hereinafter described, that the pressure is taken not in the
45 direct line of the lever, but at two opposite points of contact widely separated and by curved surfaces by which the stress of pressure is shifted by a rolling movement which effectually prevents breakage of the glass.

50 A second feature of my invention has reference to the attachment to the device of a

name-plate as a means of identifying the same as the property of the manufacturer or dealer.

My invention is illustrated in the accompanying drawings, in which—

Figures 1 and 2 are general face and edge views of my device complete, and Fig. 3 a cross-section in the line $x x$ of Fig. 1; Fig. 4, a side elevation of the device as applied in
60 actual use; Fig. 5, a plan view of the same.

Referring now to the drawings, A designates my improved stopper-remover, consisting of a suitably-formed handle terminated at one end by a head A' , having a central
65 hooked projection h , flanked by lateral wings $a^2 a^2$, and at the other by a stem a^3 , covered by a rubber bushing b in the usual manner of these devices.

The entire device excepting the rubber
70 bushing may be cast to form. I prefer to form the central portion wide and to perforate the same for the reception of a name-plate, which may be part of the original casting or formed of softer metal and by compression between dies in stamping the name thereon expanded into its frame and thus held in
75 place.

The head A' is extended laterally into the wings $a^2 a^2$, having curved under surfaces, 80 as indicated in Figs. 2, 4, and 5. In engaging the device with the stopper c the curved hook h engages the staple of the stopper c in the relation shown in Fig. 4, with the wings a^2 resting at opposite sides of the marginal 85 curb of the bottle-mouth, the handle of the device being approximately vertical. In this position the effective leverage of the device is exceedingly great, since the fulcrum-point (being in a line joining the resting-points of 90 the wings a^2 upon the bottle) practically coincides with the vertical plane of the point of engagement of the hook h . As the handle of the device is pressed backward, as indicated by the curved dotted line y , the contact-points shift by reason of the curved bearing-surfaces of the wings a^2 , and while relatively great "prying" force is exerted on the stopper, rendering its removal quite easy, the pressure upon the glass bottle is so distributed and shifted as not to endanger the glass in the slightest degree, the rolling mo- 100

tion of the device upon the bottle-curb acting as a perfect protection.

In the trade of supplying bottled beer to consumers it is customary to supply also a means of removing the stopper, and these are not usually returned, but are kept in anticipation of future use. The flat perforated handle not only facilitates the proper use of the device, but enables each bottler or purveyor to buy the devices from the manufacturer and by means of a suitable die-press secure in the hollow of the handle a name-plate of metal as a means of identification or as an advertisement of business.

I claim as my invention and desire to secure by Letters Patent of the United States—

1. A bottle-stopper remover consisting of a lever or handle provided with a head extended laterally into wings to give a prying support at two opposite points upon the marginal curb of the bottle-mouth, and having a hooked

projection central between the wings, substantially as set forth.

2. A bottle-stopper remover consisting of a handle terminating in a hooked projection flanked behind said projection with laterally-extended wings having curved under surfaces, substantially as set forth.

3. A bottle-stopper remover consisting of a flat handle having a name-plate inserted therein, and terminating in a hooked projection with laterally-extended wings behind the same, substantially as and for the purpose specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

EDWARD R. BUHRMAN.

Witnesses:

L. M. HOSEA,
HERBERT J. ALLSUP.