

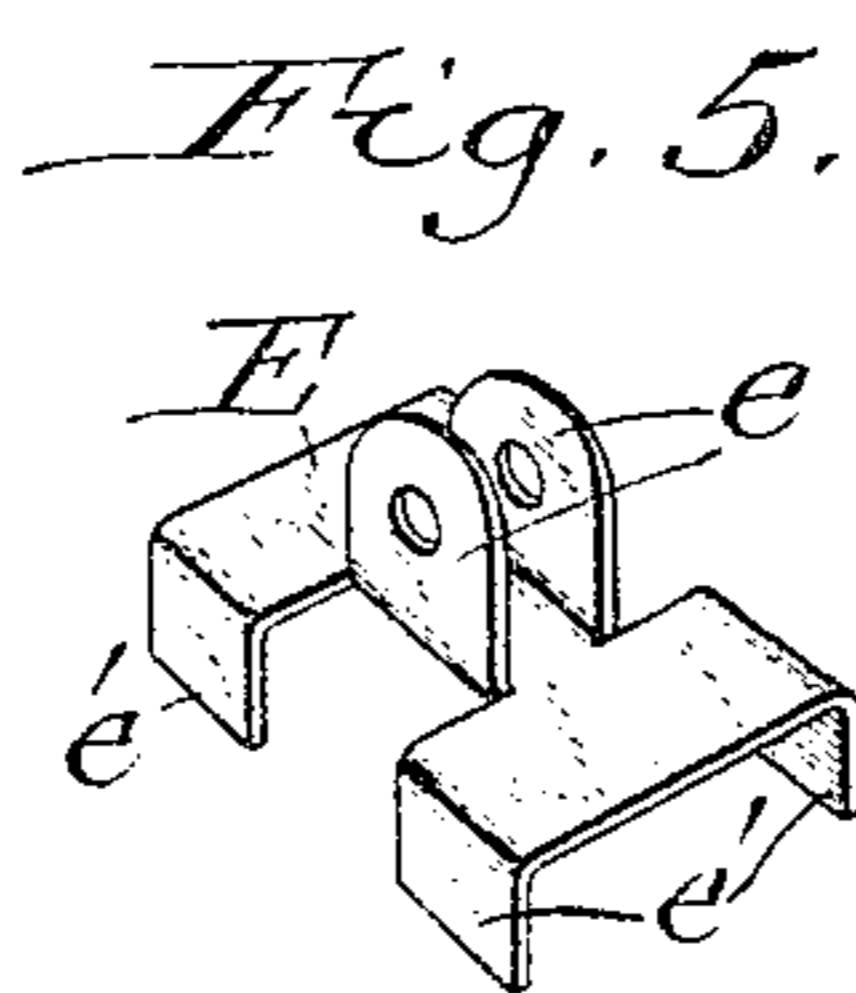
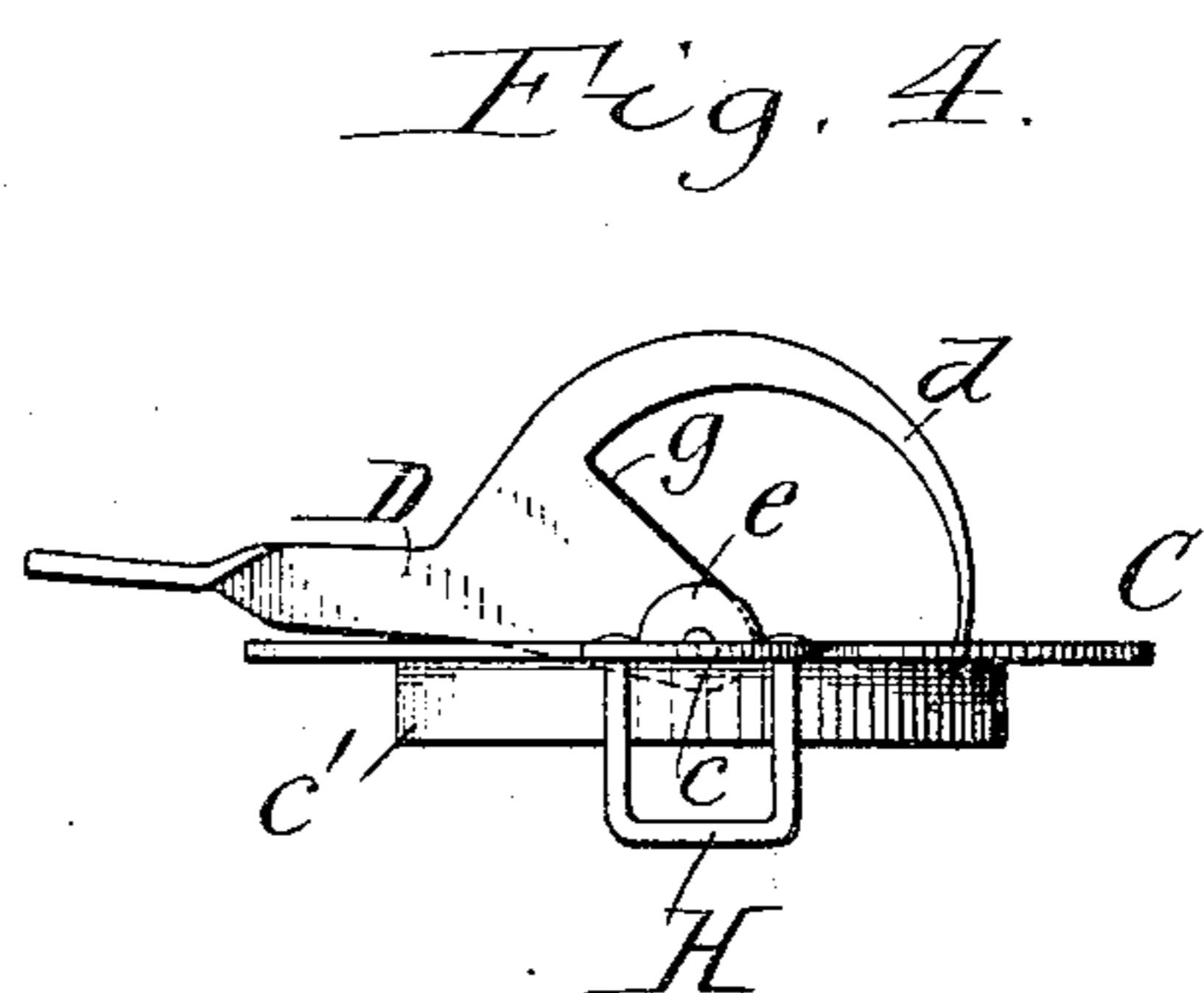
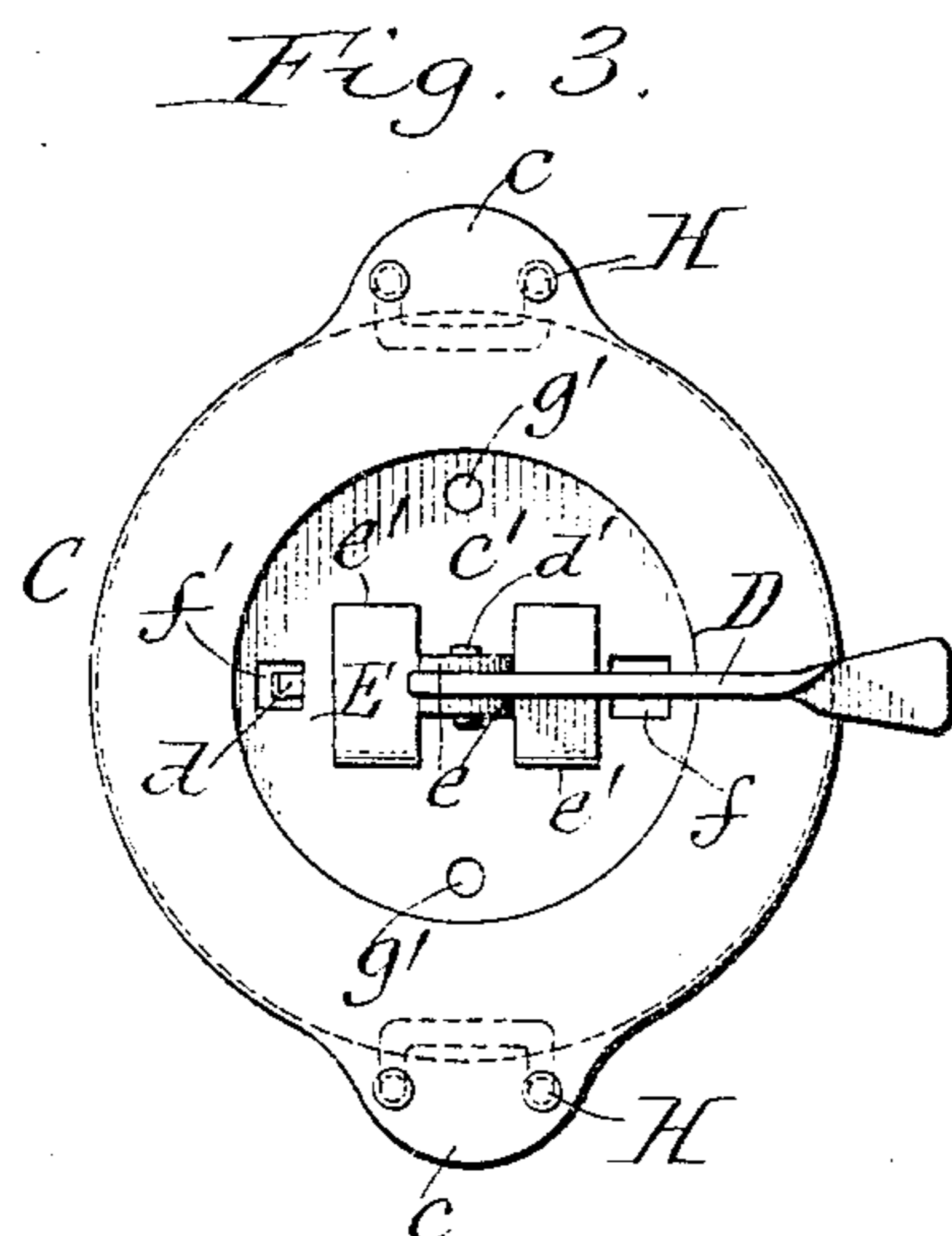
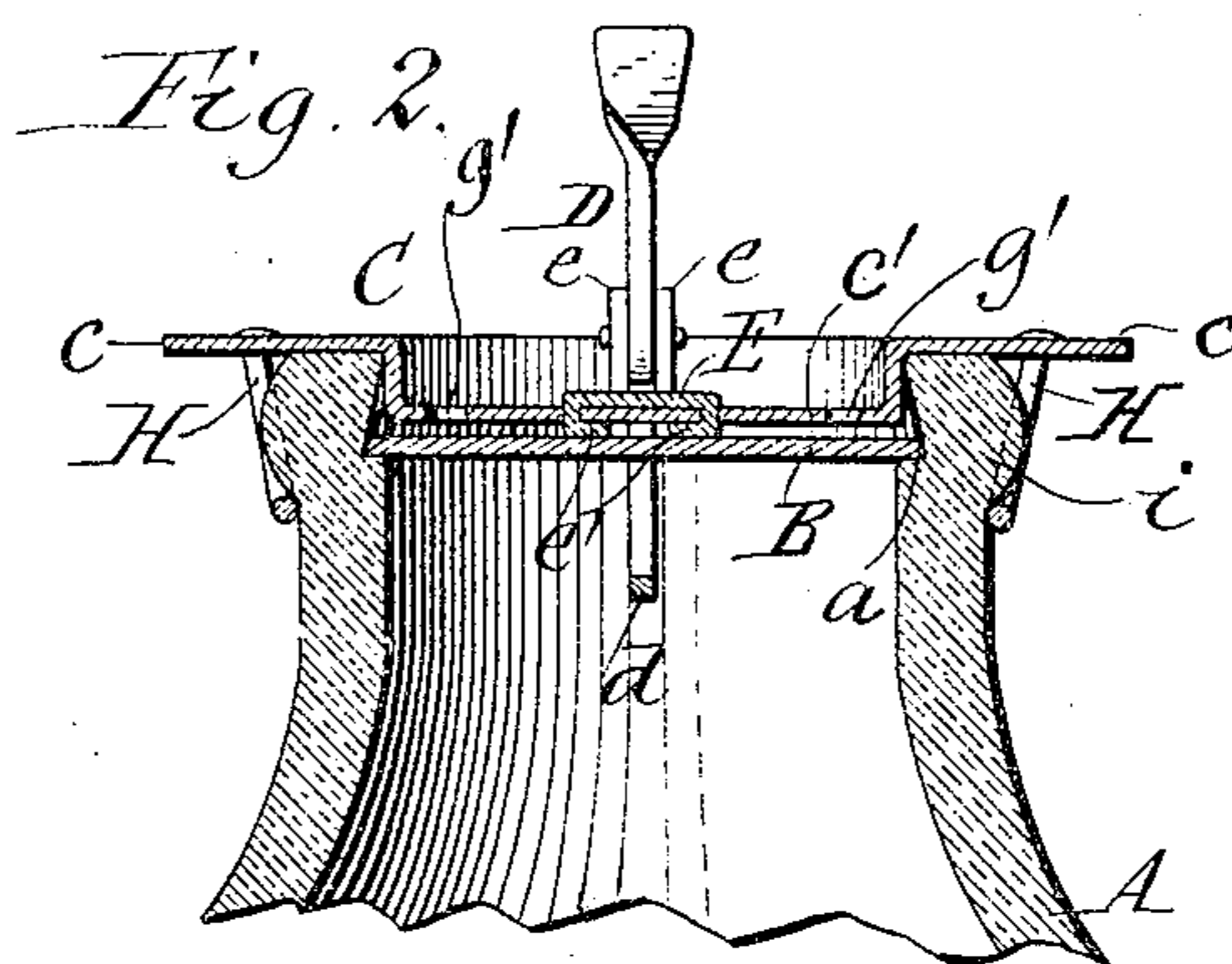
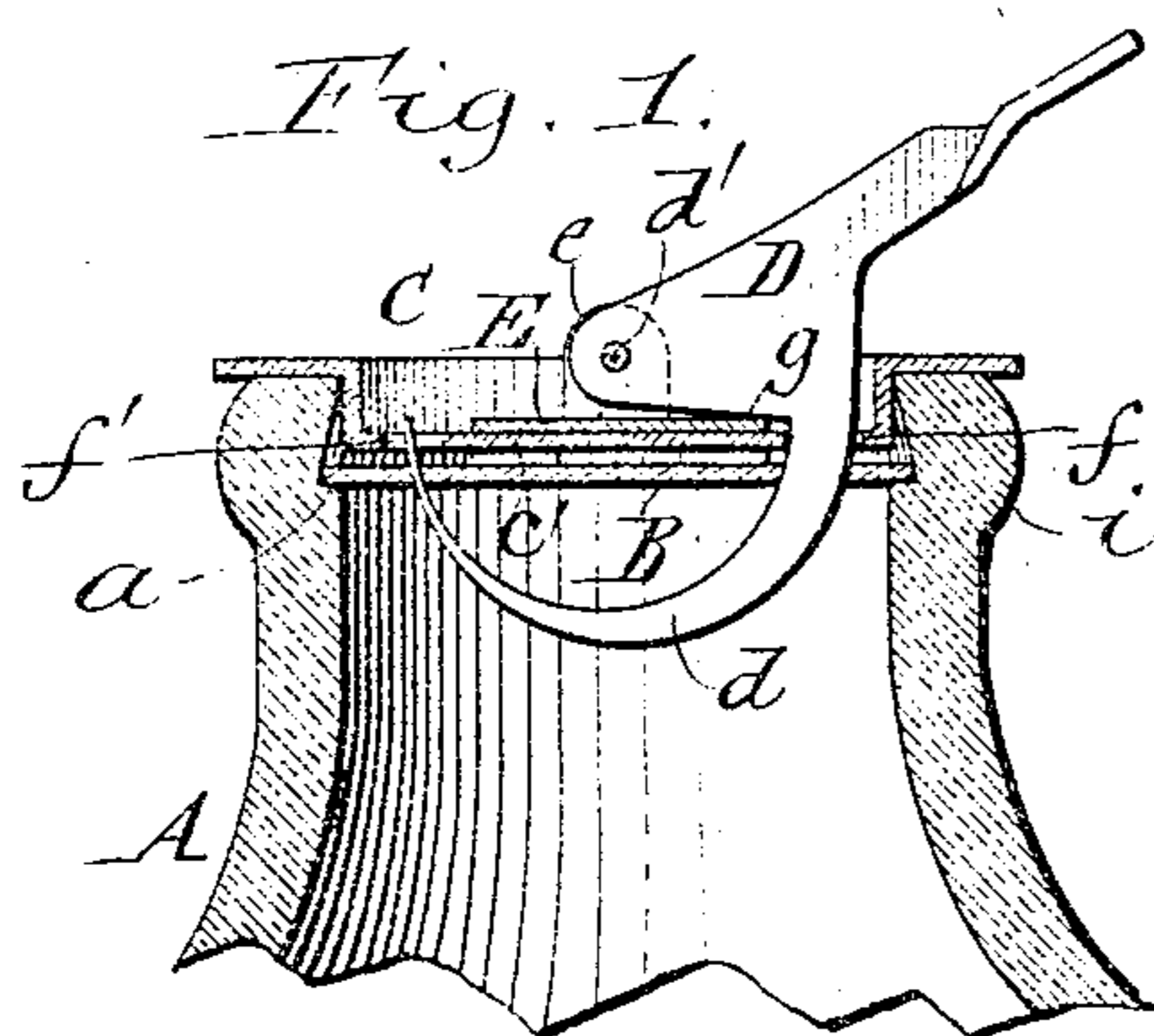
No. 792,437.

PATENTED JUNE 13, 1905.

W. G. MIDGLEY.

BOTTLE OPENER.

APPLICATION FILED JUNE 8, 1904.



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UNITED STATES PATENT OFFICE.

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BOTTLE-OPENER.

SPECIFICATION forming part of Letters Patent No. 792,437, dated June 13, 1905.

Application filed June 8, 1904. Serial No. 211,701.

To all whom it may concern:

Be it known that I, WILLIAM G. MIDGLEY, a subject of the King of England, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Bottle-Openers, of which the following is a specification.

This invention relates to the devices which are employed for withdrawing the pasteboard caps or stopper-disks of milk-bottles. As is well known, the mouths of such bottles are somewhat contracted above their internal shoulders upon which the disks are seated, so as to retain the disks in place, thus requiring some force to be used in order to withdraw the disks. It has been the common custom to use a knife, fork, or similar implement for this purpose; but this practice is objectionable, because of the liability of breaking the bottle, spilling or spattering its contents, or injuring the hands.

One of the objects of my invention is to provide a simple and inexpensive device by which such stopper-disks can be conveniently withdrawn from the bottle and which avoids the above-mentioned objections incident to the use of such implements.

A further object of the invention is to combine with the bottle-opener a cover which may be used for closing the bottle after the removal of the stopper-disk and until its contents are consumed.

In the accompanying drawings, Figure 1 is a sectional elevation of my improved bottle opener and cover applied to a bottle, showing the hook or prong thrust through the disk preparatory to withdrawing it. Fig. 2 is a similar section at right angles to Fig. 1. Fig. 3 is a top plan view of the device. Fig. 4 is a side elevation thereof. Fig. 5 is a detached perspective view of the clip to which the hooked lever is pivoted.

Similar letters of reference indicate corresponding parts throughout the several views.

A indicates the mouth of a milk-bottle or the like, and *a* its internal shoulder, upon which the paper or pasteboard stopper-disk B is seated, the portion of the mouth above its

shoulder being undercut or tapered toward the top of the bottle in a well-known manner. 50

The improved opener consists, essentially, of a cap plate or support C, adapted to rest upon the top of the bottle, and a lever D, carried by the plate and having a hook or prong *d* adapted to pass through the plate and penetrate the stopper-disk B. The cap-plate is provided at opposite edges with projecting lugs or ears *c*, under which the fingers may be placed for conveniently lifting the plate off the bottle, and the central portion of the plate is preferably depressed or cupped, as shown at *c'*, and made of the proper diameter to fit the mouth of the bottle, as shown, so that the plate is held against lateral displacement on the bottle. The lever D may be attached to the upper side of the cap-plate C by any suitable means, but is preferably pivoted between a pair of upright lugs or standards *e*, formed on a clip E. This clip is provided at its lateral edges with depending lips *e'*, which pass through slits in the cap-plate and which are clenched against the under side of the plate, as shown in Fig. 2. The clip, with its lugs *e* and lips *e'*, may be stamped from a single blank of sheet metal by slitting the blank transversely on opposite sides of its center and then bending the portions between such slits upwardly to form the lugs and turning the end portions downwardly at their sides to form the lips. 80

The pivot *d'* of the lever is preferably located in the center of the cap-plate C, and its hook is substantially semicircular and concentric with the pivot of the lever, so that when the lever is swung forward to the position shown in Fig. 1 it penetrates the disk in two places located on opposite sides of its center. The cap-plate has openings *f f'* for the passage of the hook. The lever is preferably provided with a stop or shoulder *g*, arranged to come in contact with the upper side of the clip or the cap-plate when the lever has been turned far enough to thrust the point of its hook through the disk, thus preventing this point from rising above the plate to an objectionable extent. 95

In using the appliance for removing the stopper-disk the cap-plate C is placed upon the bottle, as shown in Figs. 1 and 2, with the lever D swung backward to the position illustrated in Fig. 4, so that its hook stands wholly above the depressed bottom of the cap-plate. The lever is then swung forward to the position shown in Fig. 1, whereby its hook is thrust through the pasteboard disk B first on one side and then on the opposite side of its center. The disk is thus practically coupled to the cap-plate by the hooked lever, and upon now lifting the plate off the bottle the disk is withdrawn from the mouth of the bottle with the cap-plate. As the lever is firmly held in position by the cap-plate, there is no liability of spilling the contents of the bottle in opening it, and as the hook of the lever passes below the cap-plate all danger of scratching or puncturing the fingers is obviated.

If desired, the disk may be replaced in the bottle while remaining attached to the cap-plate by simply pressing the same into the mouth of the bottle by means of the plate, or the disk may be removed from the plate and the latter used as a cover for the bottle for preserving the remainder of its contents until the bottle is empty. The hook by passing through the disk at two points prevents lateral displacement of the same on the cap-plate, thus always keeping these parts in their proper concentric positions for readily entering the mouth of the bottle in replacing the disk. The plate is preferably provided with openings *g'* for aerating the contents of the bottle when the plate is used as a cover for the same.

The cap-plate may simply be held in place on the bottle by hand, or, if desired, it may be provided with suitable clasps or holders H for attaching it to the bottle. In the construction shown in the drawings these holders consist of U-shaped wire loops depending from the lugs *c* of the cap-plate and adapted to be sprung over the usual bead *i* at the upper end of the bottle and interlock therewith for retaining the plate in place. These clasps normally converge downwardly and are properly spaced apart to cause the same to be deflected outwardly in riding over the bead *i* and to engage under the latter when the plate is seated on the bottle, as shown in Fig. 2.

My improved bottle-opener comprises but few parts, enabling it to be produced at small cost, and as it serves also as a cover which can be used with or without the stopper-disk it forms a very useful household accessory.

I claim as my invention—

1. As an article of manufacture, a bottle-opener comprising a plate constructed to rest upon the mouth of a bottle, and a hook pivoted to said plate and adapted to penetrate the stopper-disk of the bottle, substantially as set forth.

2. As an article of manufacture, a bottle-

opener comprising a plate constructed to rest upon the mouth of a bottle and provided with means for holding the same against lateral displacement thereon, and a hook pivoted to said plate and adapted to penetrate the stopper-disk of the bottle, substantially as set forth.

3. A bottle-opener, comprising a support, and a lever pivoted to said support and having a hook which is substantially concentric with the pivot of the lever and adapted to penetrate the stopper-disk of the bottle, substantially as set forth.

4. A bottle-opener, comprising a cap-plate having portions arranged to project laterally beyond the mouth of a bottle, and a lever pivoted to the cap-plate and having a hook adapted to penetrate the stopper-disk of the bottle, substantially as set forth.

5. A bottle-opener, comprising a cap-plate having a depressed central portion adapted to enter the mouth of a bottle, and a lever pivoted to the cap-plate and having a hook adapted to pass through the same and penetrate the stopper-disk of the bottle, substantially as set forth.

6. A bottle-opener, comprising a cap-plate constructed to rest upon the mouth of a bottle and having a depressed central portion constructed to enter said mouth, said plate having an opening in its depressed portion, and a lever pivoted centrally to the upper side of said cap-plate and having a semicircular hook which is substantially concentric with the lever-pivot and adapted to pass through the opening of the plate and penetrate the stopper-disk of the bottle, substantially as set forth.

7. A bottle-opener, comprising a cap-plate constructed to rest upon the mouth of a bottle and having a pair of openings, and a lever attached to the upper side of the cap-plate by a pivot located between said openings and having a curved hook adapted to pass through both of said openings and the stopper-disk of the bottle, substantially as set forth.

8. A bottle-opener, comprising a cap-plate having spring-clasps adapted to engage the outer side of the mouth of a bottle and a depressed central portion adapted to enter said mouth, and a lever pivoted to the cap-plate and having a hook adapted to penetrate the stopper-disk of the bottle, substantially as set forth.

9. A bottle-opener, comprising a cap-plate having slits, a sheet-metal clip having upwardly-turned lugs and depending lips passing through the slits of the cap-plate and clenched against the under side thereof, and a lever pivoted between said lugs and having a hook adapted to penetrate the stopper-disk of a bottle, substantially as set forth.

Witness my hand this 3d day of June, 1904.

WILLIAM G. MIDGLEY.

Witnesses:

THEO. L. POPP,

E. M. GRAHAM.