

(No Model.)

G. W. RODECAP.

DOOR CLOSER.

No. 378,807.

Patented Feb. 28, 1888.

Fig. 1.

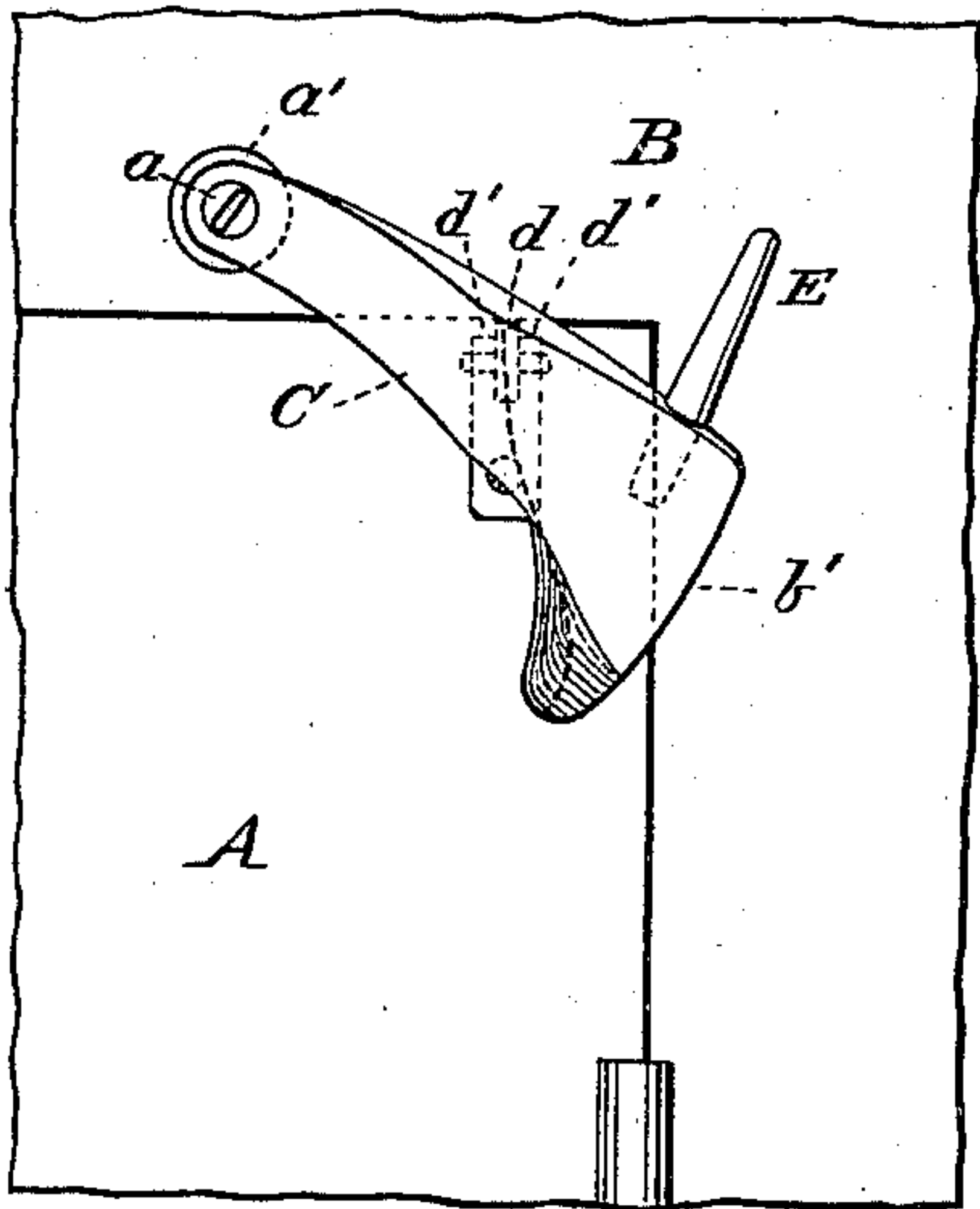


Fig. 2.

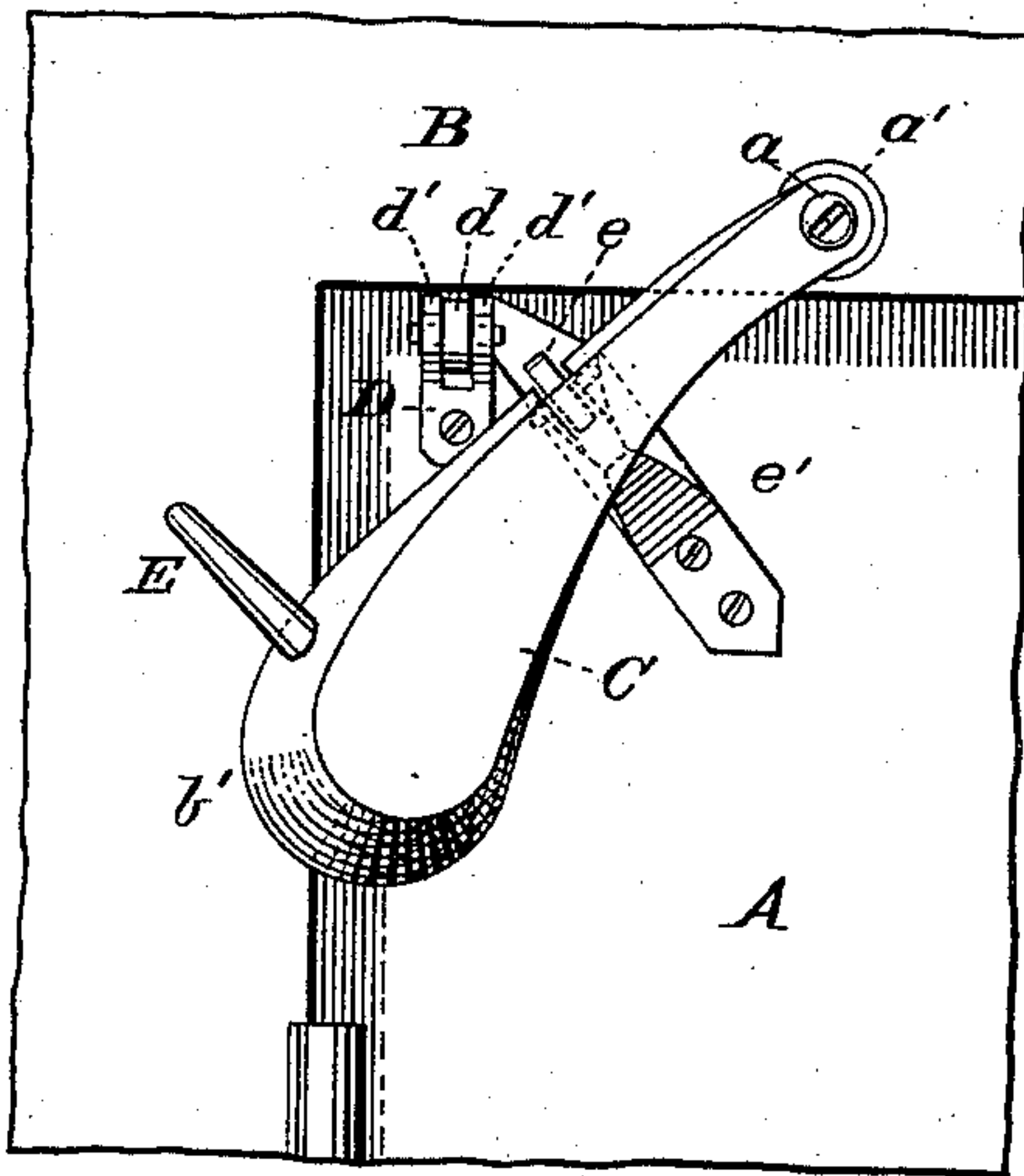


Fig. 4.

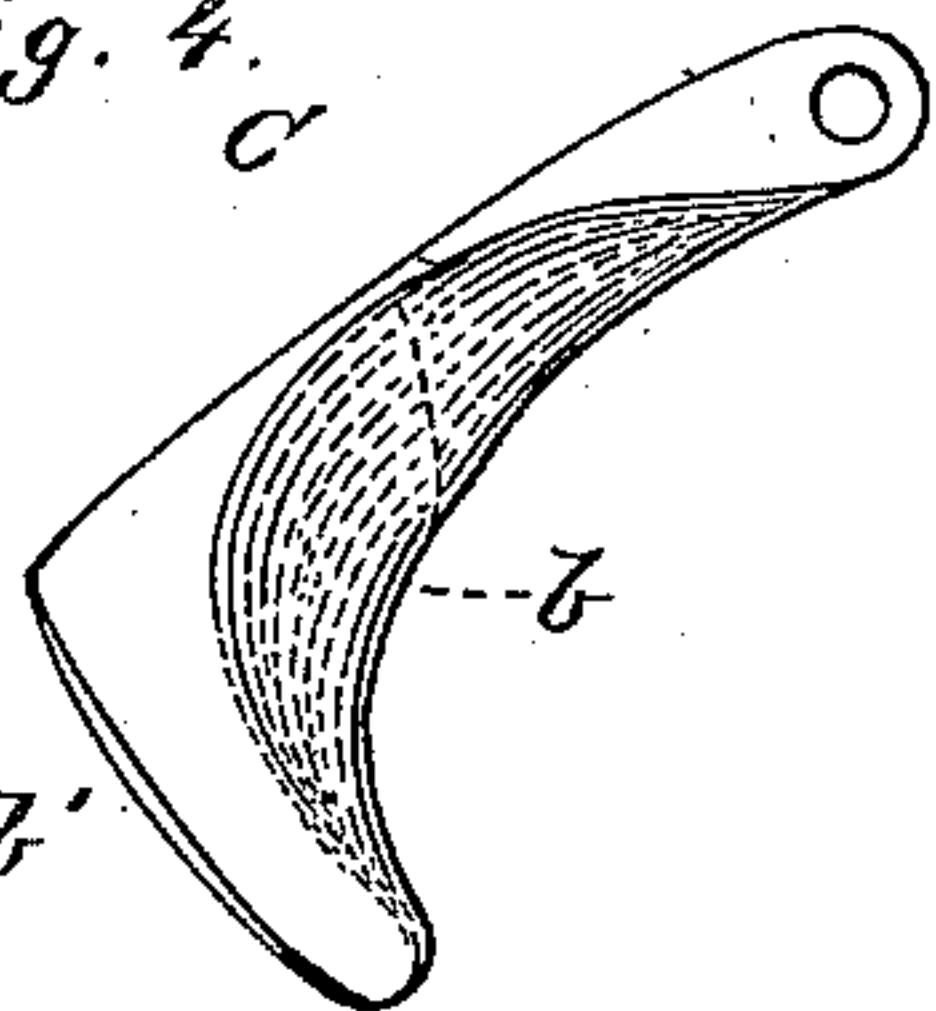


Fig. 5.

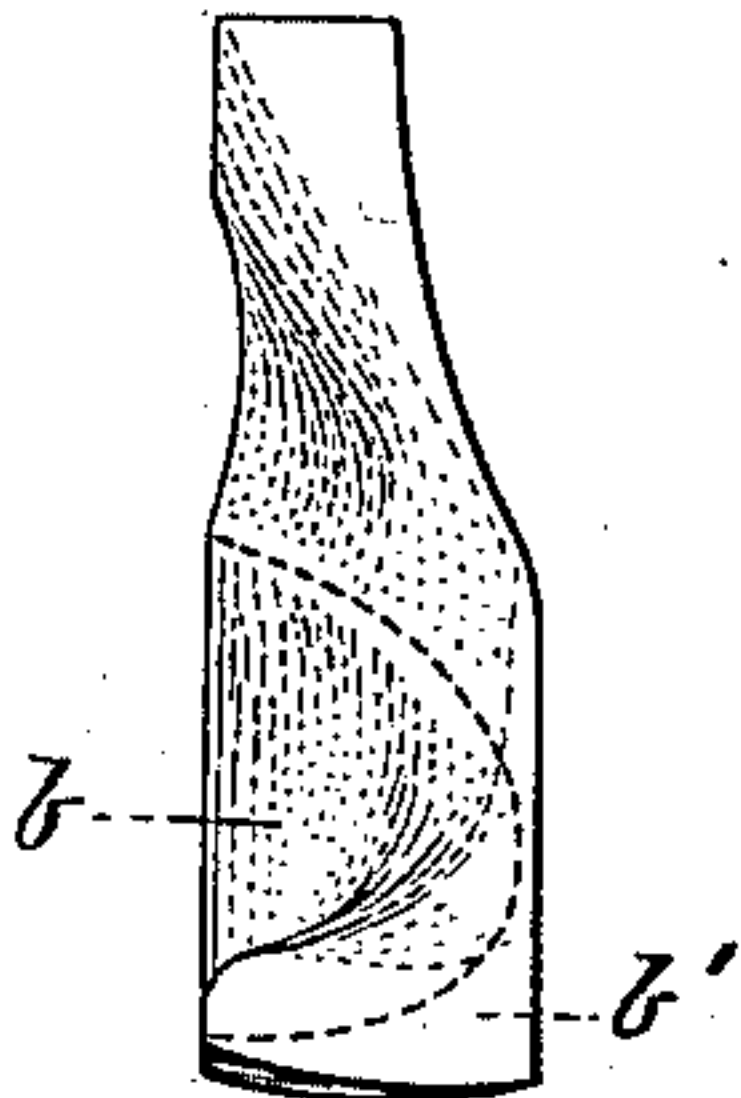


Fig. 3.

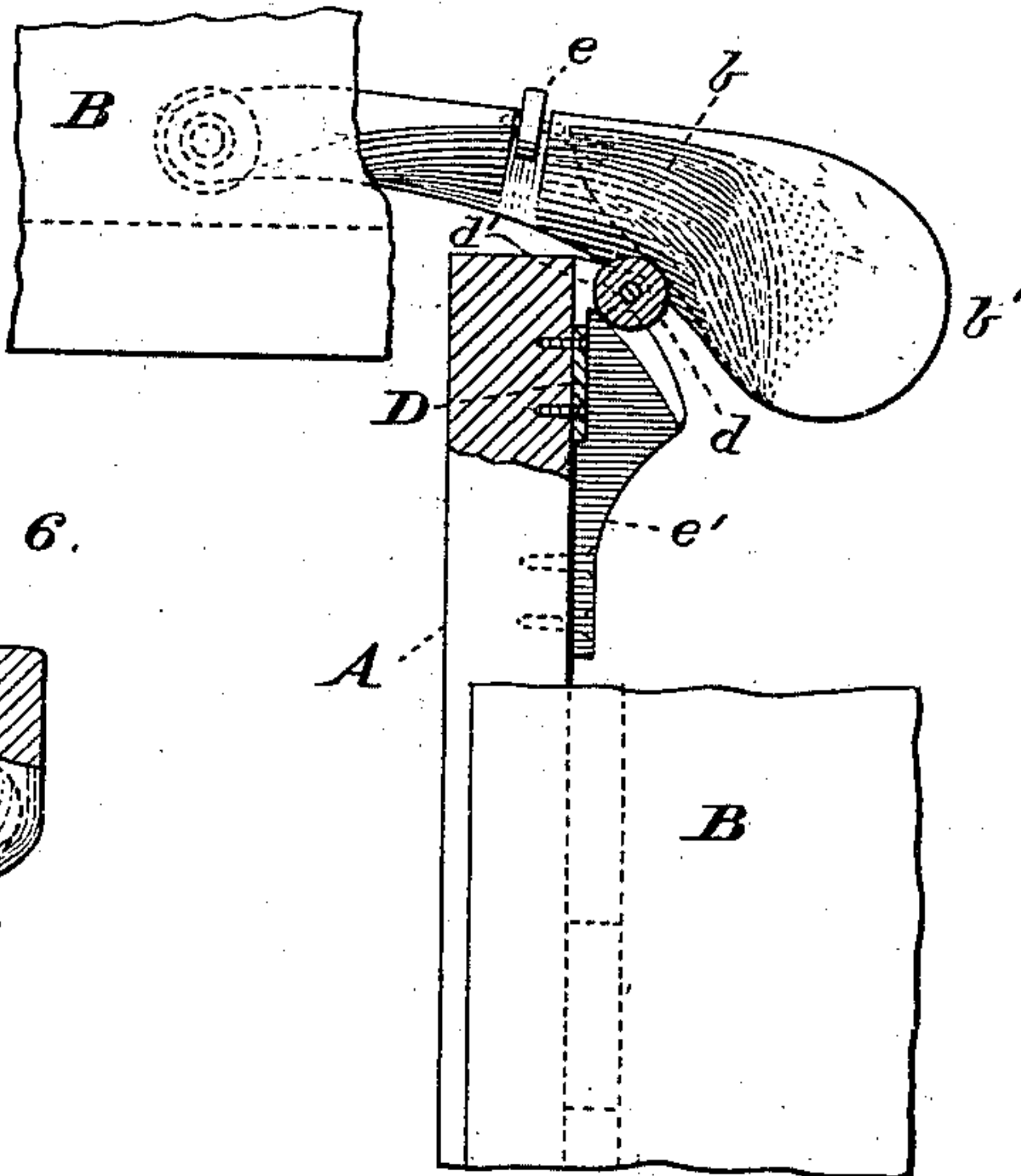
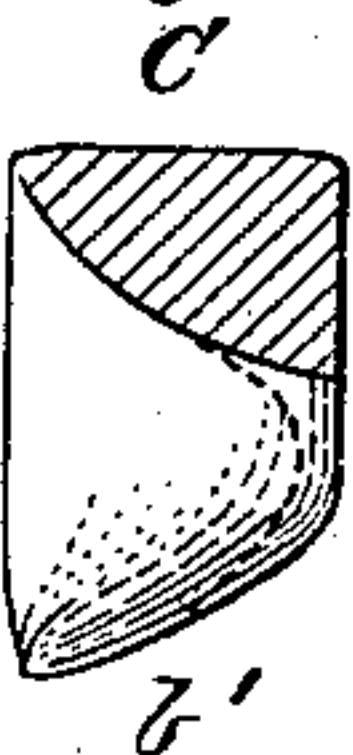


Fig. 6.



WITNESSES

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UNITED STATES PATENT OFFICE.

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DOOR-CLOSER.

SPECIFICATION forming part of Letters Patent No. 378,807, dated February 28, 1888.

Application filed November 26, 1887. Serial No. 256,238. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. RODECAP, a citizen of the United States, and a resident of Middletown, in the county of Henry and State of Indiana, have invented certain new and useful Improvements in Door-Closers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of this invention, and shows a front view with a portion of the door, which is closed. Fig. 2 is a modification, a front view with the door closed. Fig. 3 is a back view of the same modification, the door open on the other side of the casing. Figs. 4, 5, and 6 are detail views showing the first-described cam-lever, Fig. 4 being a back view, Fig. 5 being a view of the concave side and back, and Fig. 6 a cross-section.

My invention relates to improvements in devices for closing doors; and it consists in the construction and novel combination of parts as hereinafter specified, illustrated in the drawings, and pointed out in the claims.

My object is to provide an automatic door-closer of cheap and simple construction, not liable to breakage or to get out of order. The closer may also be applied to swinging gates.

In the drawings, A represents a portion of a door, and B a part of the door-casing.

C is a metal cam-lever fulcrumed to the casing B by the screw or bolt *a*, passing through an opening in the cam-lever and entering the casing, and to prevent wear to the wooden casing a washer, *a'*, is interposed between the lever and the casing at the fulcrum-point. The outer or free end, *b'*, of the lever C is thickened in each direction and by its weight is designed to bear downward and close the door automatically. The lower face of the lever is of concave form longitudinally, as shown at *b*, the cam-face being rounded in cross-section, so that the cam-base extends upward obliquely and inward toward the door and below the plane of the pivotal point *a*.

A plate-piece, D, is securely fastened to the door-surface, the upper end of which is bifurcated and provided with the roller *d*, having journal-bearings in the legs *d'*.

When the door is closed, the roller *d* bears against the inner side or concavo-convex face of the lever C, and during the movement of the door in opening the roller *d* moves under the face of the lever, raising the lever on its pivotal bearing, the free or weighted end moving upward. Upon releasing the door the weighted end of the lever-cam falls by gravitation and the concave inclined cam-face forces the roller back to its normal position and thus closes the door.

It will be observed that when the door is wide open the cam-lever engages its roller by the more inclined portion of its concave face, while when the door is nearer the jamb the lever engages the roller by that portion of the cam-face which is more nearly in the plane of the length of the lever. At the same time it will be seen that the leverage of the cam-lever is exerted more strongly when the door is nearly closed because of the approach of the roller-bearing toward the fulcrum.

A pin, E, is seated in the upper rear portion of the lever C, upon which extra weights may be placed, if found necessary, to operate on heavy doors or gates, or the effect of the weighted end may be increased by attaching one end of a cord to the pin, the lower end of which engages a spiral spring secured to the door-frame or floor.

The device above described is used more particularly on doors having the face flush with the casing. To use the device on doors standing in or beyond the plane of the casing to which the lever is pivoted, a roller is journaled in the inner side of the lever, as shown at *e* in Figs. 2 and 3, and an upwardly-inclined guide-track, *e'*, is secured to the door. Upon opening the door the guide-track *e'* bears against the roller *e* and lifts the lever to its engaging-point with the roller *d* on the door.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A gravitating door-closer consisting of a weight-lever pivoted at one end to the door-

casing and having the integral thickened outer or free end and inclined concavo-convex lower face, substantially as specified.

2. In a gravitating door-closer, the combination of the inclined concave cam-lever, the pin seated therein, and the roller secured to the door-surface, substantially as specified.

3. In a door-closer, the combination, with the door and the door-frame, of the inclined

concave cam-lever C, the pivot *a*, the pin E, the rollers *d e*, and the guide-track *e'*, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE W. RODECAP.

Witnesses:

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GEO. W. COCKS.