

No. 691,867.

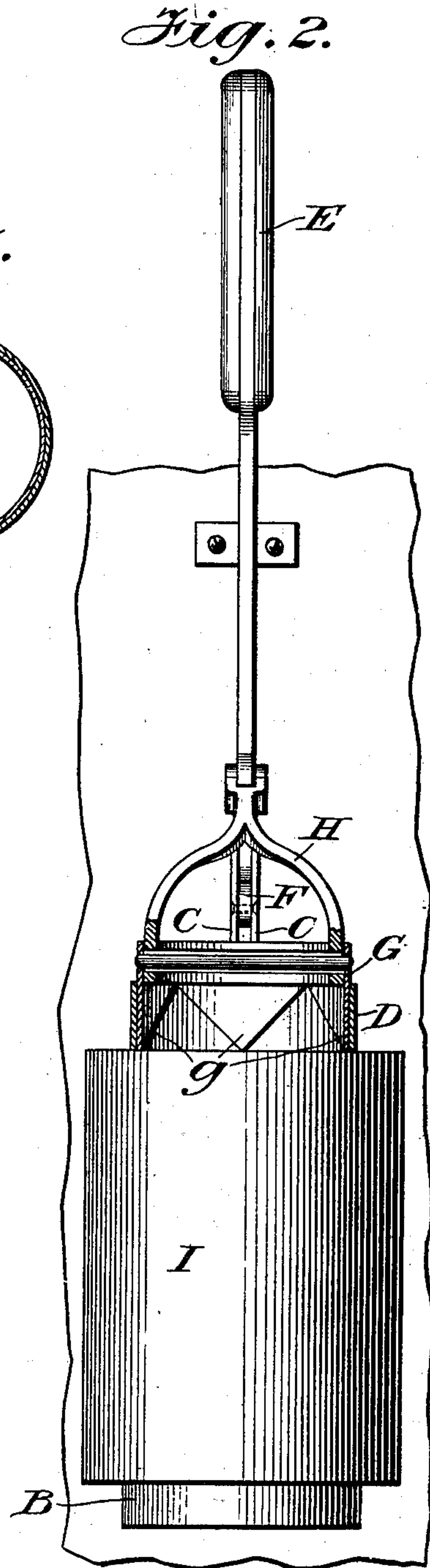
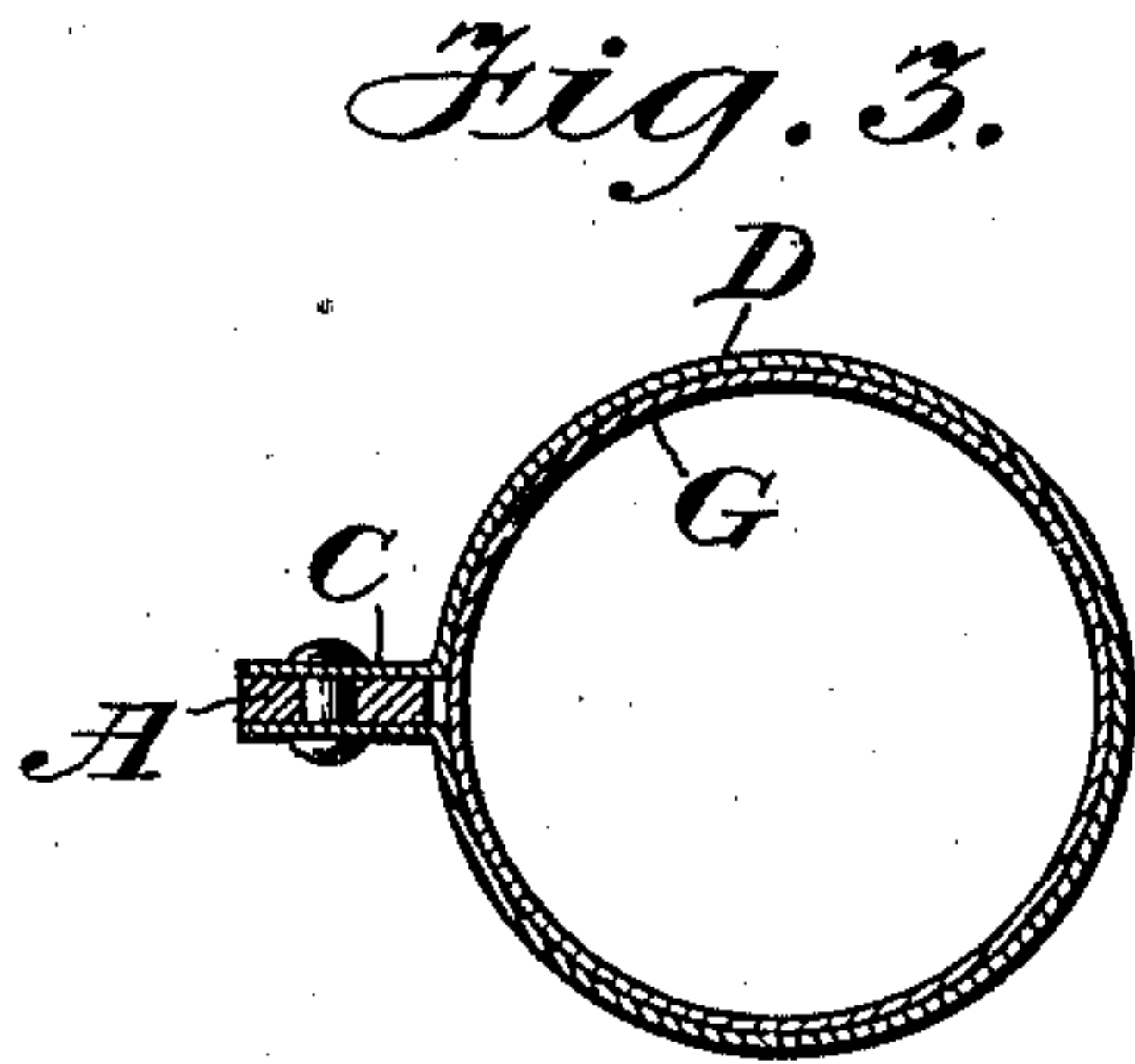
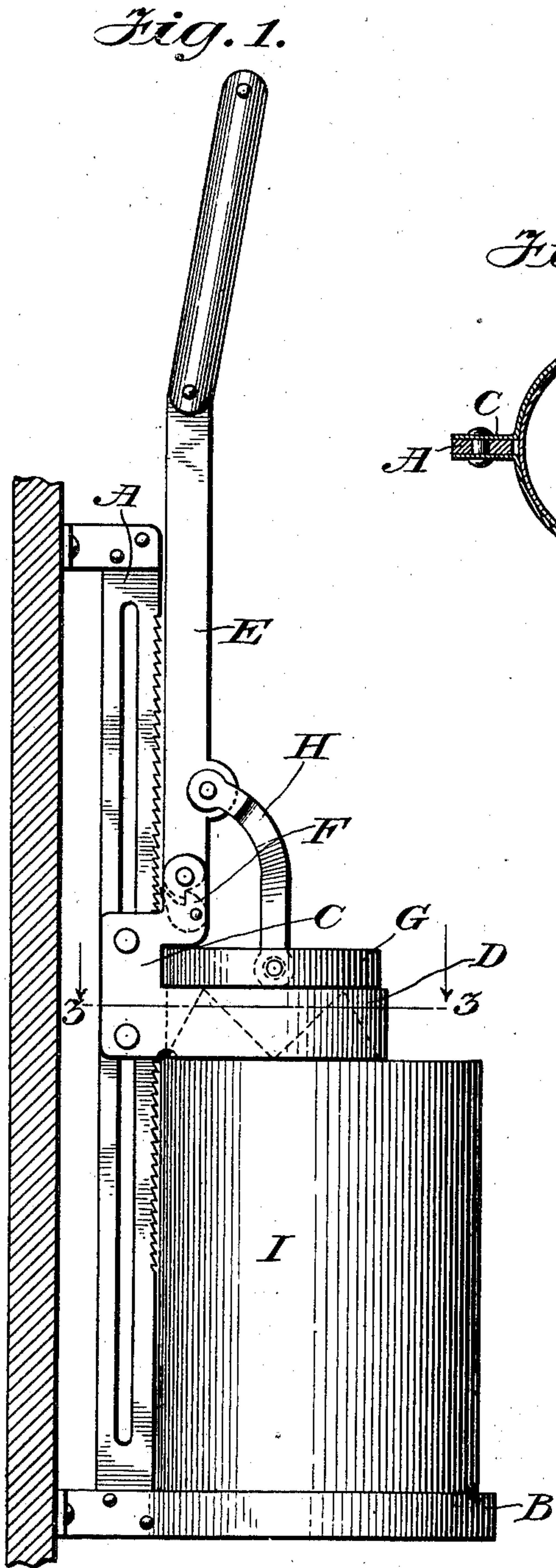
Patented Jan. 28, 1902.

P. E. LAW.
CAN OPENER.

(Application filed Aug. 7, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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2 Sheets—Sheet 2.

Fig. 7.

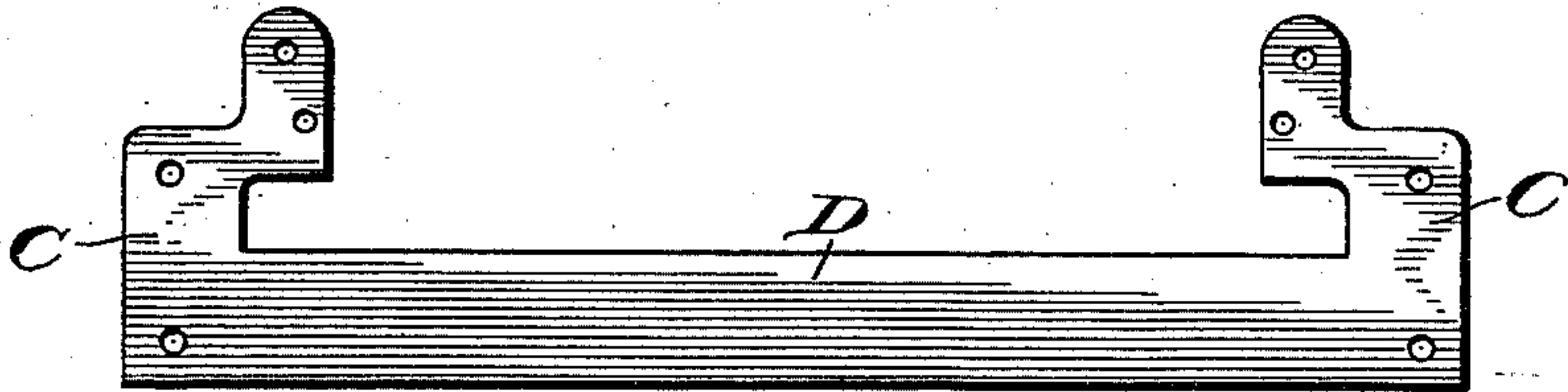


Fig. 8.

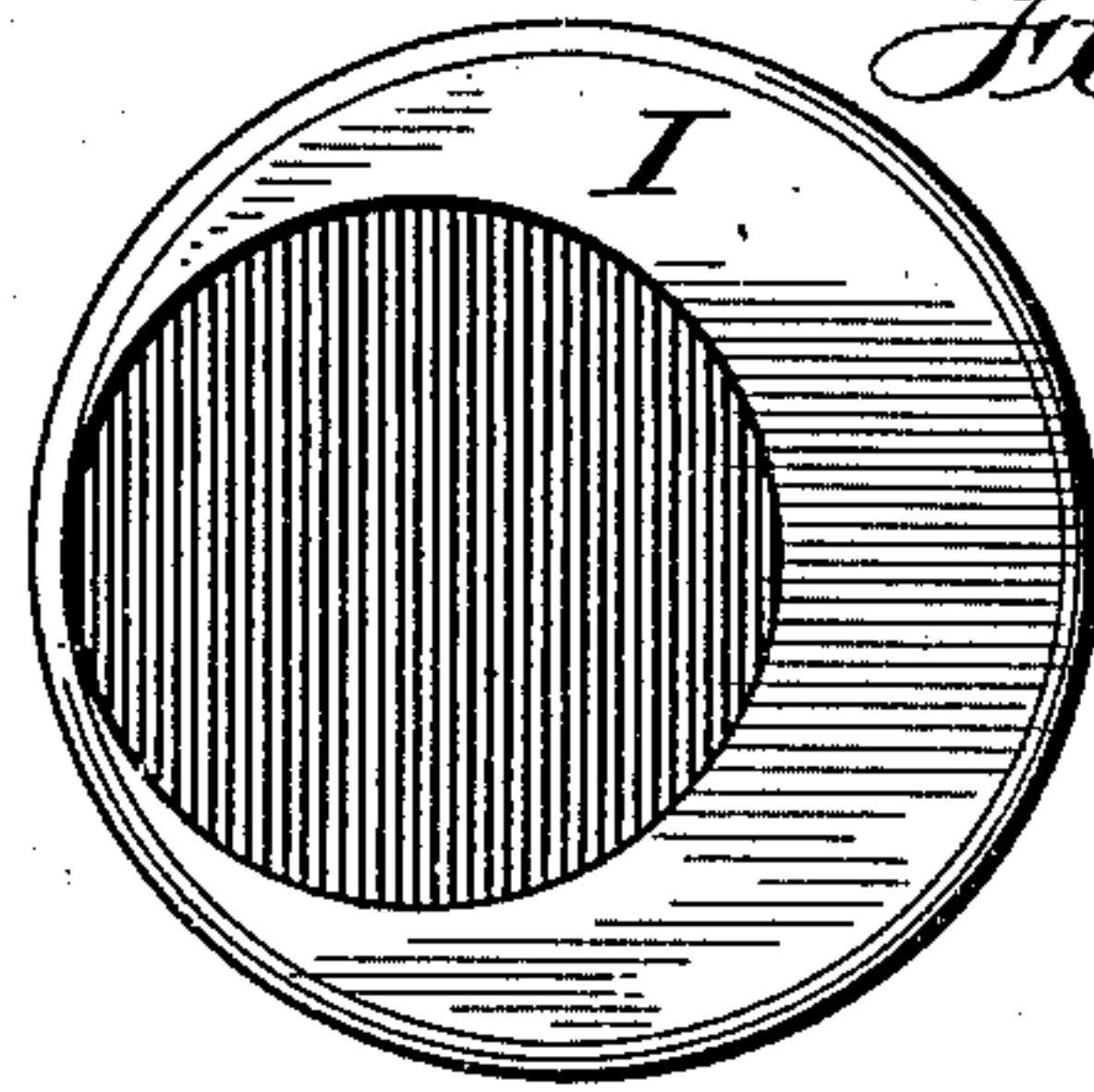


Fig. 4.

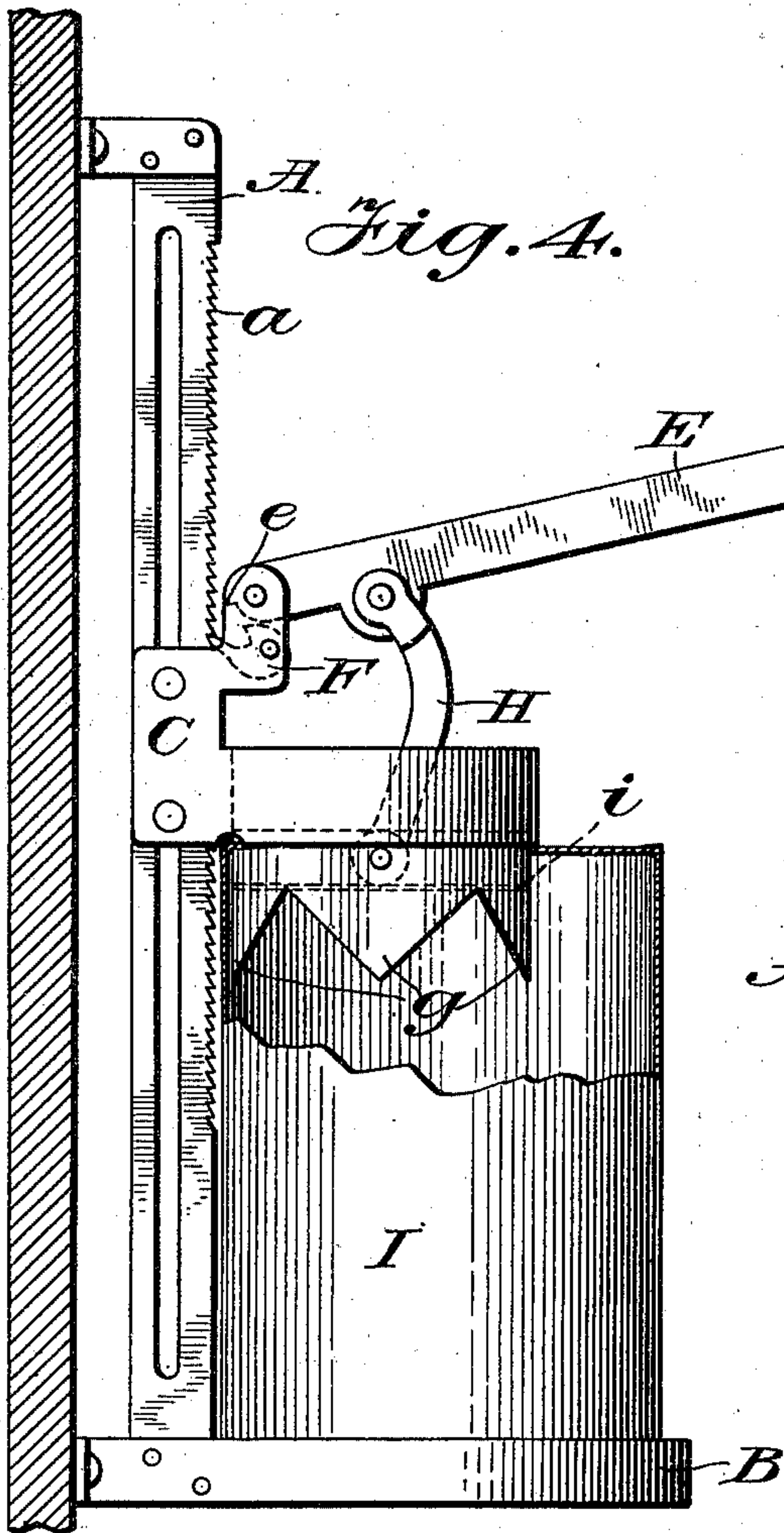
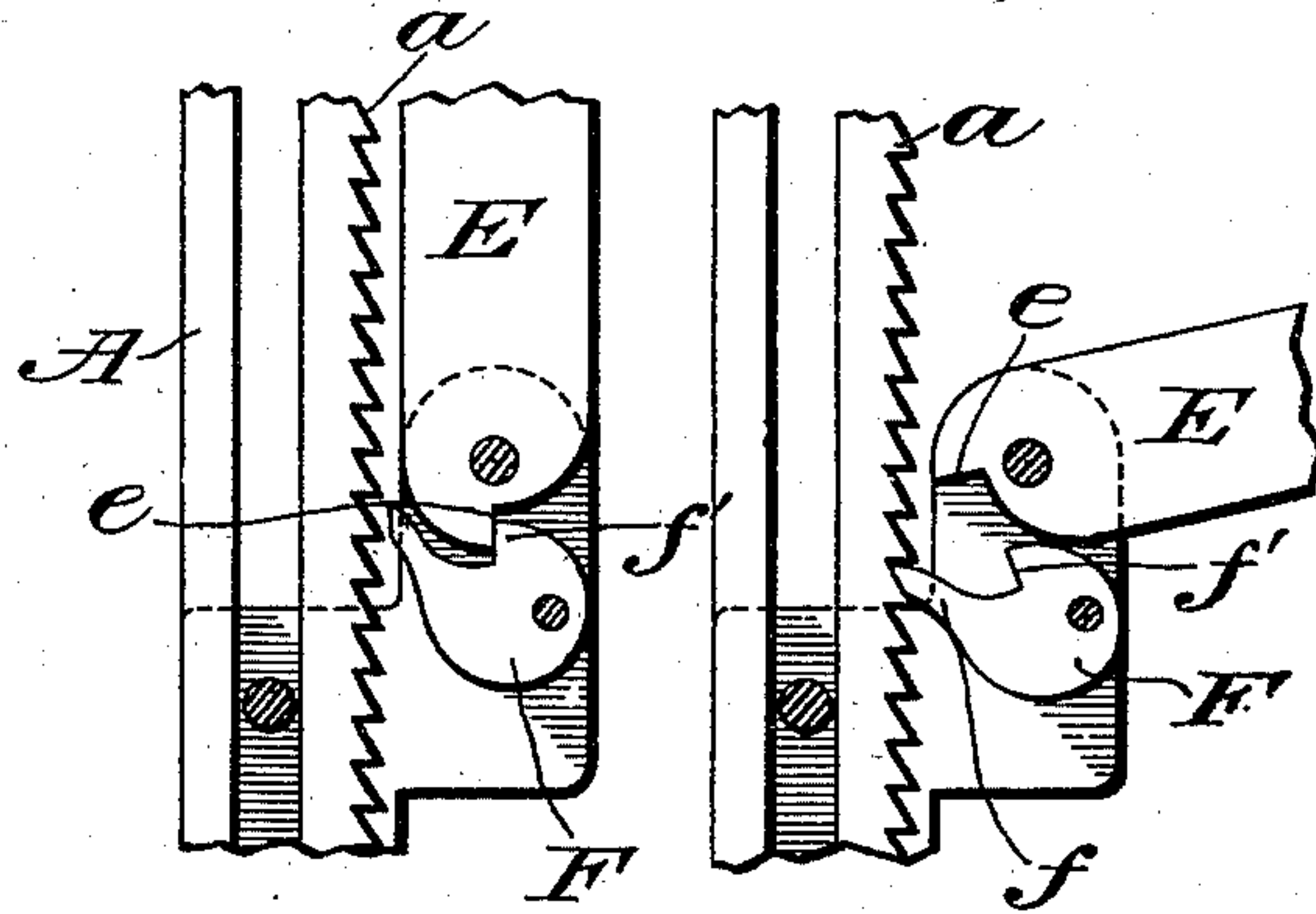


Fig. 5. Fig. 6



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UNITED STATES PATENT OFFICE.

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CAN-OPENER.

SPECIFICATION forming part of Letters Patent No. 691,867, dated January 28, 1902.

Application filed August 7, 1901. Serial No. 71,216. (No model.)

To all whom it may concern:

Be it known that I, PRENTIS E. LAW, a citizen of the United States, residing at Wilmette, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Can-Openers, of which the following is a specification.

My invention relates to improvements in that class of can-openers which are adapted to open cans by removing a section of the can from an end or side thereof.

The object of my invention is to provide such a device which is adaptable for use with cans of various sizes, which will quickly and accurately cut out a section of the can, which may be used so as to leave a regular cut edge turned downwardly, so that there shall be no ragged projections, which may be relied on to cut close to the edge of the can at at least one point, so that the entire contents may be quickly and completely removed from the can, which may be readily adjusted to cans of different heights, which will automatically set itself to open cans of varying heights, and which may be automatically unlocked so as to be reset. These and such other objects as may hereinafter appear are attained by the devices illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my improved can-cutter ready for use. Fig. 2 is an end elevation of the same. Fig. 3 is a sectional view on line 3 3 of Fig. 1 looking in the direction indicated by the arrows. Fig. 4 is a side elevation of my can-cutter, showing the position of the parts after the knife has been forced into a can. Fig. 5 is an enlarged detail of my automatic locking mechanism in unlocked position. Fig. 6 is the same, showing the parts in locked position. Fig. 7 is a detail of a preferred form of my combined slide and knife-guide; and Fig. 8 is a diagrammatic view of the top of a can, showing a section cut out of the same by the can-cutter shown in Figs. 1, 2, and 4.

Like letters of reference indicate the same parts in the several figures of the drawings.

Referring by letter to the accompanying drawings, A indicates a vertically-disposed rack-bar, which is mounted upon a base B.

Upon the rack-bar A is mounted the slide C, which is guided thereby and has sliding engagement therewith. The slide C carries the knife-guide D, the operative lever E, which is pivotally mounted upon the slide C, and the dog F, which preferably is also pivotally mounted upon said slide. The lever E is operatively connected with the knife G by means of a link H, which is pivotally attached at one end to the lever E and at the other end to said knife.

In the simpler and preferred form of my device the knife G is cylindrical in form, having the cutting edge thereof formed with teeth *g* and is mounted so as to reciprocate vertically within the collar or knife-guide D. The dog F is pivotally mounted upon the slide C, so as to engage the teeth *a* of the rack-bar A. These teeth, as shown in the drawings, are so formed that the dog F may slide freely over them in a downward direction; but the tongue *f* of the dog will engage the teeth of the rack-bar whenever the slide carrying the dog is moved upwardly.

I prefer to construct and mount the dog, as shown in the drawings, so that normally its weight or a spring will throw the tongue *f* in engagement with the teeth *a* upon the rack-bar. In order to automatically disengage the dog from the rack-bar, I also mount the dog adjacent to the pivoted lower end of the lever E and provide it with the shoulder *f'*, which will be engaged by a corresponding shoulder *e* upon the lower end of the lever E whenever the lever E is thrown to its extreme upward position. This will throw the dog out of engagement with the teeth of the rack-bar, as is shown in Fig. 5, and will leave the slide C and its connected parts free to be moved upwardly upon the rack-bar.

My device is used as follows: The handle or lever E being thrown into the position shown in Fig. 1, the slide C and the parts attached thereto are lifted upon the rack-bar sufficiently to allow a can to be placed under the knife G and against the forward edge of the rack-bar A. The slide and attached parts are then allowed to slide downwardly until the under edge of the knife-guide D rests upon the top of the can. The handle or lever E is

then swung in a forward and downward direction. The first movement of the lever E in this direction releases the dog F, which immediately and automatically falls into engagement with the teeth *a* upon the rack-bar A, thereby automatically locking the device against the top of the can which is about to be cut. The forward and downward movement of the lever E is continued, and the engagement between the dog F and the teeth of the rack-bar insuring a firm and rigid fulcrum for the lower end of the lever the knife is forced downwardly through the top of the can, thereby cutting out a complete disk *i*. (Shown in dotted lines in Fig. 4.) The movement of the lever is then reversed, and the knife is withdrawn from the can and will usually carry with it the disk *i*. The effect, however, of the cutting operation of my device in forcing the knife with a uniform pressure downwardly through the top of the can is to give the cut edge of the can a distinct inward and downward bevel, thereby avoiding all troublesome and dangerous ragged edges and to leave an opening which by reason of the thickness of the knife is materially larger than the diameter of the disk cut out, so that such disk, if it drops within the can, can be readily removed through the opening cut in the can.

Another advantage of my construction is that my knife operates so close to the rack-bar, which serves also as a guide or stop in placing the can, that the opening cut with my device will always come close to the edge of the can at some one point, as is shown in Fig. 8. Of course if the can is one of small size, such as a salmon-can, this opening will be cut close to the edge of the can around its entire circumference. Of course, also, the knife may be made of any desired diameter; but I refer to the advantages inherent in my device when provided with the smallest-sized knife that will ordinarily be deemed desirable. It will also be noted that with my construction the knife-guide D may be formed of a sufficient depth to furnish a reliable guide, and yet in carrying the lever E from one extreme position to the other the knife will be carried so far below the guide and so far above it that all parts of the knife are accessible for cleaning purposes.

While I have shown my device in the drawings in its preferred form, I have found in practice that the knife-guide D and the slide C may well be made in different parts. So, also, the dog F may be so constructed as to require manual operation in throwing it into or out of engagement with the teeth upon the rack-bar. So, also, the form of the knife may be changed—as, for instance, it might perhaps be made with less than the number of teeth shown or without any teeth, or of any desired contour, or so as to only partially cut away the can-top, so that instead of removing a section or disk of the can the part cut may be

bent away from the opening while remaining attached to the can; but these and various like modifications are contemplated by my invention and do not constitute a departure from the spirit thereof.

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

1. In a can-cutter, the combination with a support, of a slide mounted thereon, a knife-guide carried by said slide, knife-reciprocating means carried by said slide, means upon said slide for engaging said support so as to automatically lock said knife-guide against a can in contact therewith, and means automatically operated by the upward movement of said knife-reciprocating means for unlocking said device, substantially as described.

2. In a can-cutter, the combination with a support, of a slide mounted thereon, a knife-guide carried by said slide, a knife mounted to reciprocate within said knife-guide, a knife-reciprocating means mounted upon said slide, means carried by said slide for automatically locking the slide against movement in one direction whenever said knife-reciprocating means is operated to reciprocate said knife in the direction to cut a can, and means operated by the reverse movement of said knife-reciprocating means for automatically unlocking said slide, substantially as described.

3. In a can-cutter, the combination with a vertically-disposed rack-bar, of a slide mounted thereon and guided thereby, a knife-guide carried by said slide, a knife mounted so as to reciprocate within said knife-guide, means mounted upon said slide for reciprocating said knife, a dog so mounted upon said slide as to automatically lock the same against movement in an upward direction, and means operated by the upward movement of said knife-reciprocating means for automatically releasing said dog from said rack-bar, substantially as described.

4. In a can-cutter, the combination with a vertically-disposed rack-bar, of a slide mounted upon and guided thereby, a knife-guide carried by said slide, a knife mounted to be reciprocated within said guide, a dog mounted upon said slide so as to normally engage the teeth of said rack-bar and lock said slide against movement in an upward direction, a lever pivoted to said slide and operatively connected with said knife, a shoulder upon said dog and a corresponding shoulder upon said lever, all so arranged that, when said lever is moved in an upward direction, the shoulder on said lever will abut against the shoulder on said dog so as to automatically disengage said dog from said rack-bar, substantially as described.

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