

No. 798,981.

PATENTED SEPT. 5, 1905.

H. ROBINSON.
BOTTLE CAPPING MACHINE.
APPLICATION FILED FEB. 6, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

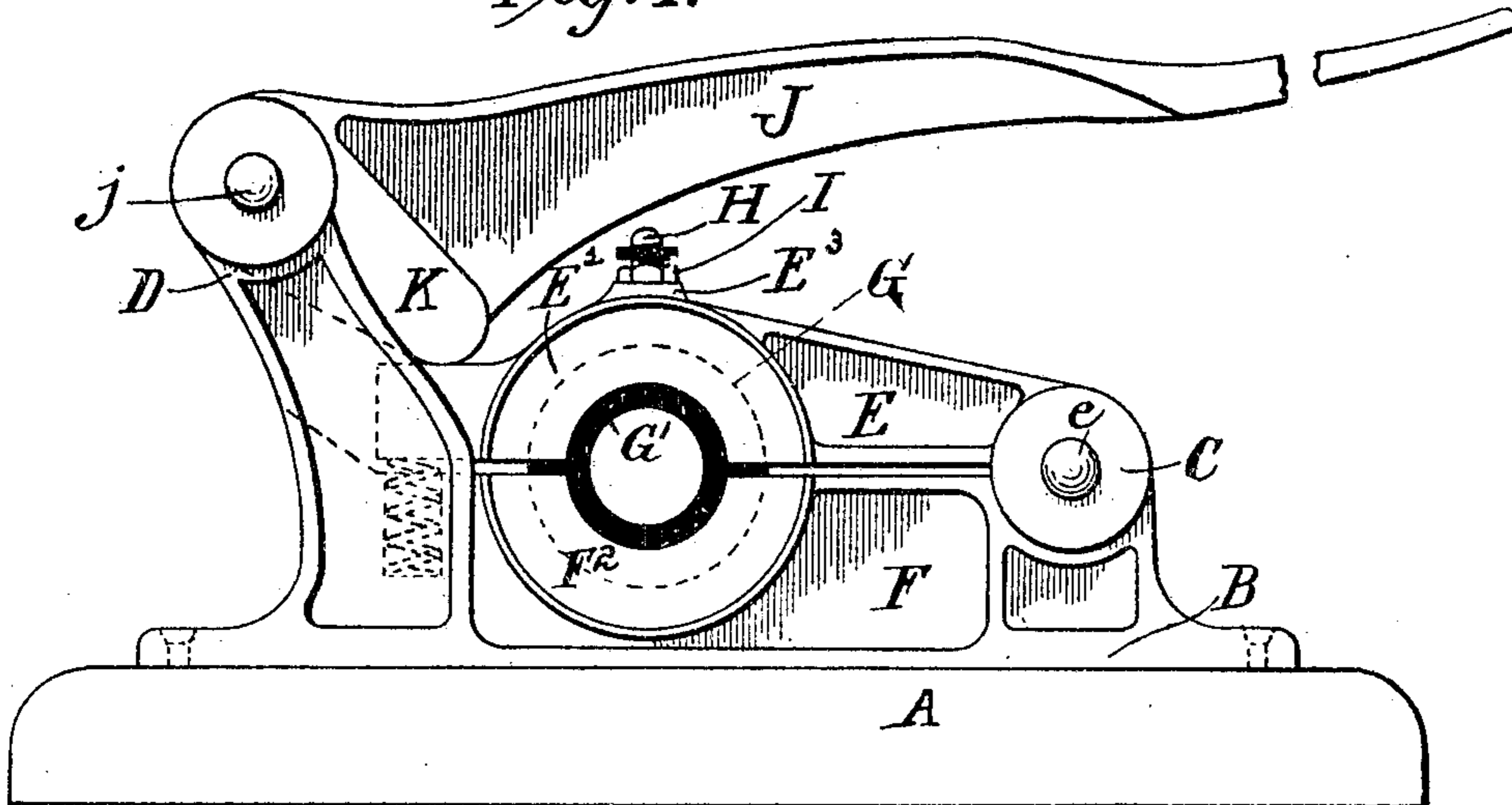


Fig. 2.

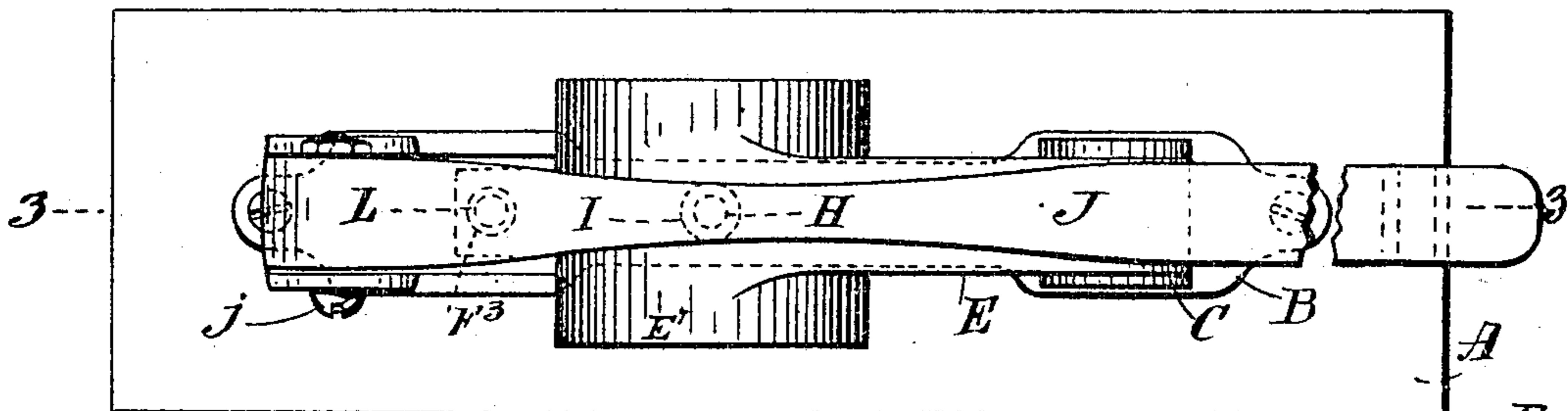
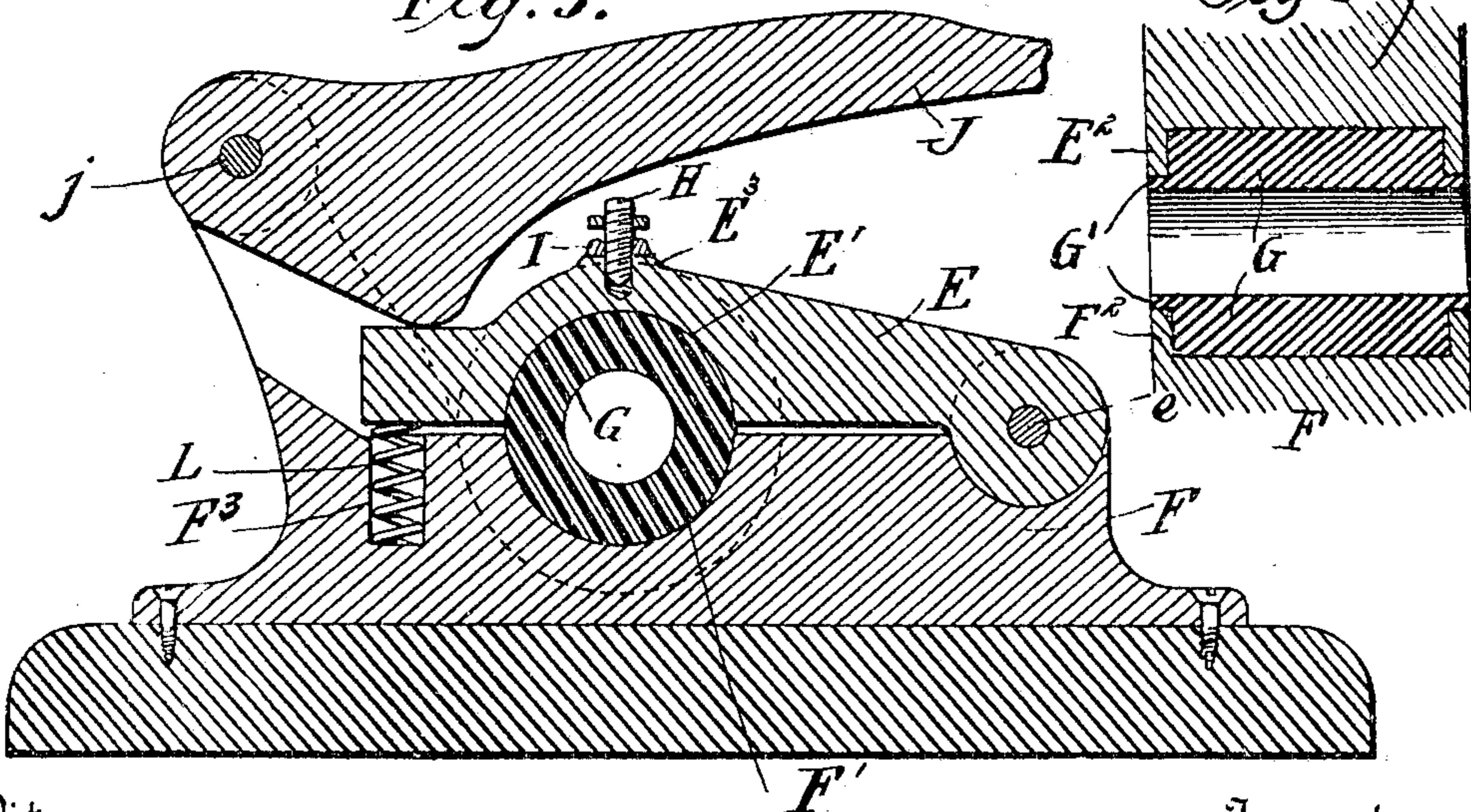


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

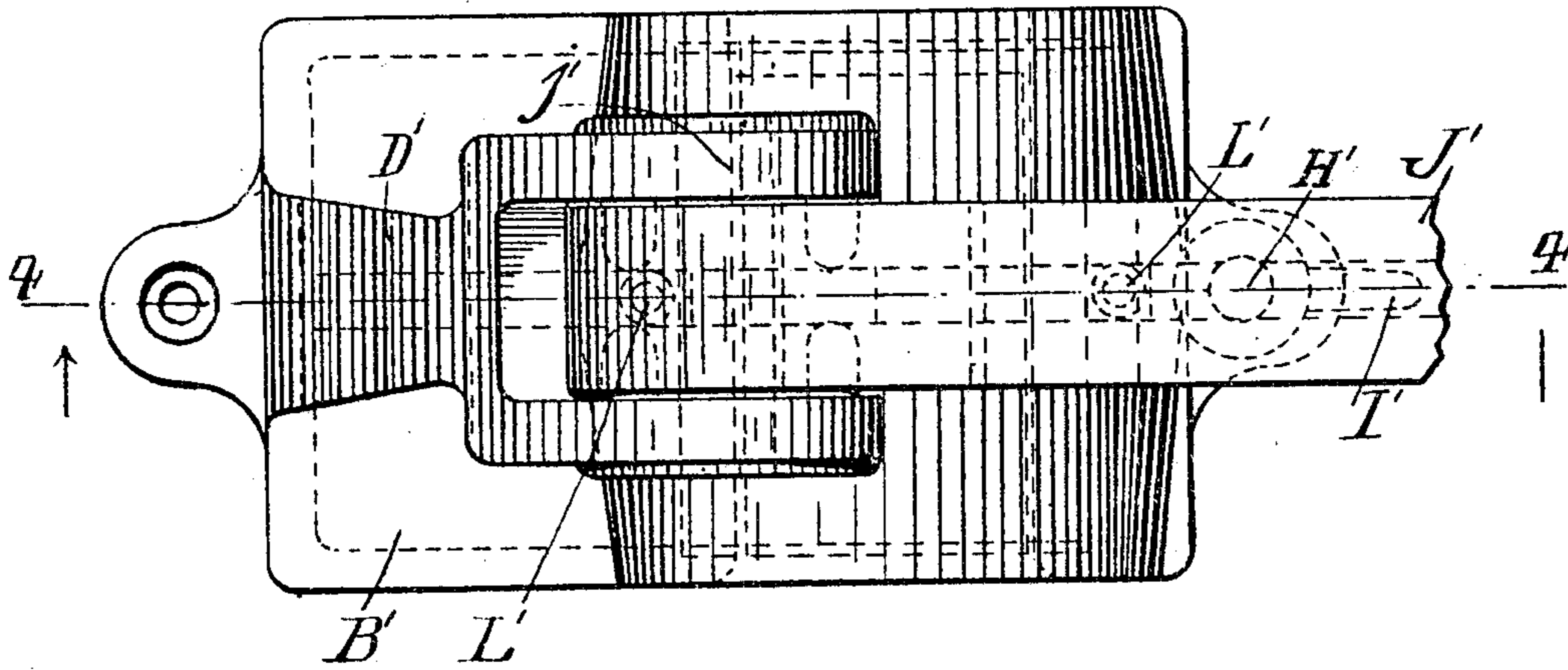
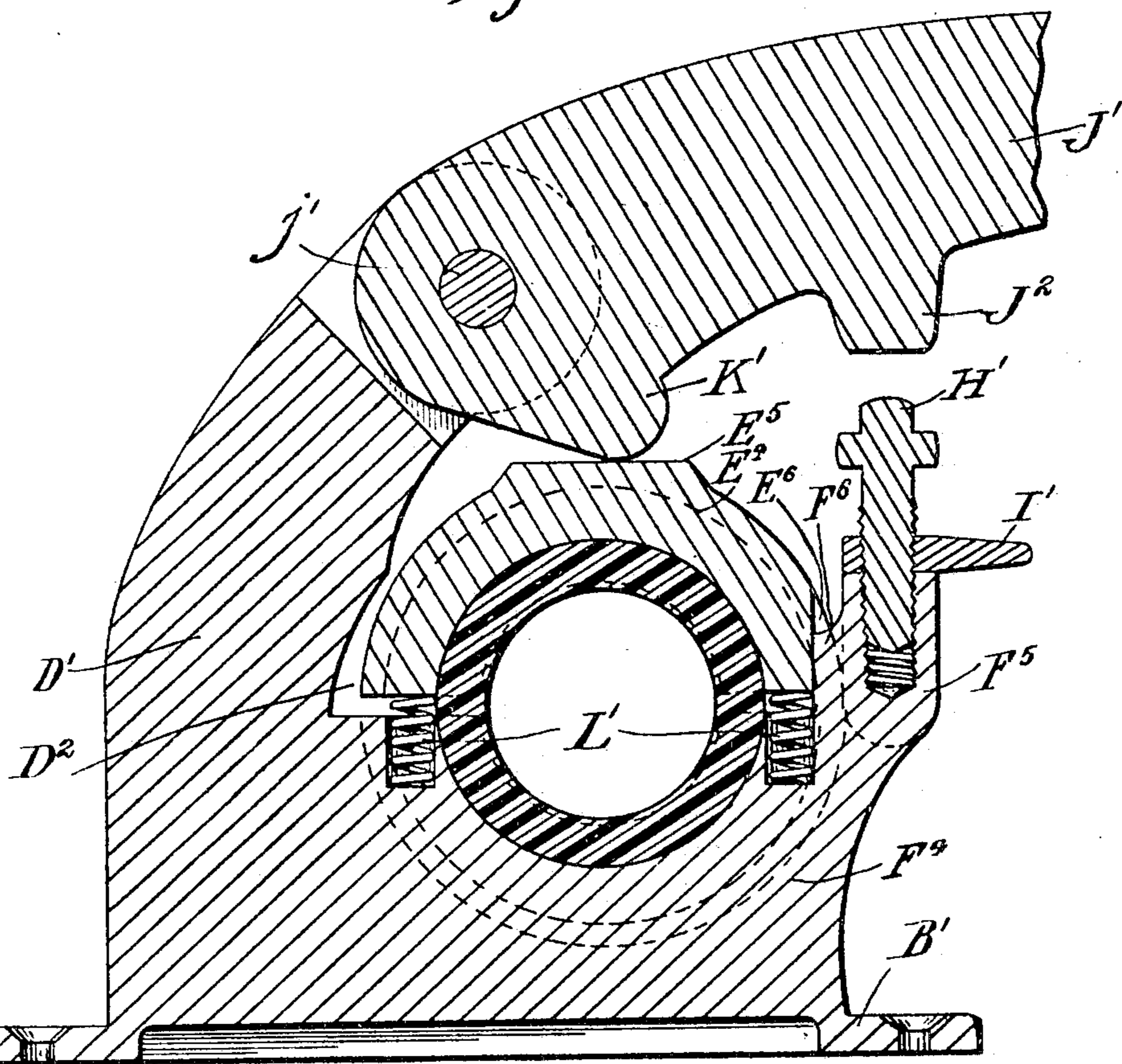


Fig. 5.



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UNITED STATES PATENT OFFICE.

HENRY ROBINSON, OF MONTCLAIR, NEW JERSEY, ASSIGNOR OF ONE-HALF TO OSCAR HEYMAN, OF NEW YORK, N. Y., AND ONE-HALF TO OSCAR HEYMAN & CO., OF NEW YORK, N. Y., A FIRM.

BOTTLE-CAPPING MACHINE.

No. 798,981.

Specification of Letters Patent.

Patented Sept. 5, 1905.

Application filed February 6, 1904. Serial No. 192,371.

To all whom it may concern:

Be it known that I, HENRY ROBINSON, a citizen of the United States, and a resident of Montclair, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Bottle-Capping Machines, of which the following is a specification.

My invention relates to devices designed to apply caps or capsules to the neck of bottles; and its objects are, among others, to provide means for quickly and securely closing the said caps or capsules upon the necks of different-sized bottles without danger of breaking and with the use of a comparatively small amount of force in operating the machine.

The invention consists of certain structural changes and arrangements of parts hereinafter more particularly described and claimed, and illustrated in the accompanying drawings, referred to herein.

In the said drawings, Figure 1 is a side elevation of a bottle-capper embodying my improvements. Fig. 2 is a plan view of the same. Fig. 3 is a vertical longitudinal section on the line 3 3 of Fig. 2. Fig. 3^a is a sectional detail view specifically illustrating the elastic sleeve.

The base A, of wood or other suitable material, has the metal frame of the machine mounted thereon and secured by bolts or screws or other suitable means. This frame consists of the base-plate B, which has the posts C and D and the central upright portion F thereon and preferably integral therewith.

The portion F is cut out at F', forming a semicylindrical recess to receive the elastic sleeve G, semi-annular flanges F² being formed at the ends of said recess to hold the sleeve in position.

The upper jaw E, which is pivoted at one end between the posts C at e, has its opposite end free and is cut out to form a semicylindrical recess E', semi-annular flanges E² at the ends thereof completing a semicylindrical housing E', whereby the elastic sleeve G is housed, the opening between the flanges being smaller than that of the two recesses and a small annular portion G' of the sleeve G being seated between said flanges.

A compression-spring L is located in the vertical bore F³ of the portion between the

posts D directly beneath the free end of the jaw E. The upper end of this spring impinges against the under side of the jaw and holds the same a short distance above and removed from the lower portion or jaw F when pressure is not being applied to said upper jaw.

The lever J is pivoted between the posts D at j and extends in a direction opposite the jaw E for a considerable distance in order to give the proper leverage. A cam K with rounded outer surfaces is located near the hinged pivot or fulcrum of the lever J and impinges upon the top of the jaw E at its free end. It will be observed that in constructing the machine the leverage may be varied as required by locating this cam nearer or farther from the fulcrum of the lever.

On the upper surface of the jaw E the boss E³ is located, and through this boss and down a suitable distance into the metal of the jaw is a threaded hole to receive a thumb-screw bolt H, which has a lock-nut I thereon. The object of this arrangement is to provide means for adjustably checking the movement of the lever, and consequently the extent of the compression of the elastic sleeve between the jaws.

The sleeve G, being made of soft rubber or some other highly-elastic substance, is capable of considerable compression and may therefore accommodate bottles having necks of various sizes within certain limits; but it is obvious that it would not be advisable to compress the elastic sleeve to the same extent with all sizes of bottle-necks.

The adjustable check H makes provision for an adjustment to secure suitable compression for any size of bottle-neck within necessary limits. In operation the portion of the lever J between the power or extreme outer end and the weight or point of contact of the cam and upper jaw will come in contact with the check-pin H before the jaw E has been forced down to its lowest position, and the point of the application of power to the jaw will thus be transferred from the end of the jaw to a point near its middle and the leverage greatly reduced. This consequently reduces the amount of pressure on the bottle-neck and prevents any injury to the cap or capsule or the neck itself, and by careful adjustment of the check the pressure may be so regulated as to neatly and effectively apply the capsule to

the bottle-neck without danger of breaking or tearing the same.

The foregoing description applies to what I term my "preferred" construction, which is shown in Figs. 1, 2, and 3; but the word "preferred" is merely used for the purpose of distinguishing and not because the said construction is superior to the modified form. (Shown in Figs. 4 and 5.)

Referring to the modified form of construction, Fig. 4 is a plan view and Fig. 5 is a vertical section on the line 4 4 of Fig. 4, the handle of the device in both instances being broken off to shorten the view. This modified form of construction is provided with a base B', by which it may be mounted upon a wooden base or table or the like and has an upright portion F⁴ and post D', preferably made integral with the base portion. The portion F⁴ is cut out to receive the elastic sleeve and has the general form of the similar parts shown in Figs. 1 to 3, inclusive. The parts of the upper and lower jaws adapted to hold and retain the elastic sleeve are also similar in general construction to the like parts shown in the preferred construction. This upper jaw, however, is not hinged, but instead of being hinged is adapted to move in a direct vertical line and is held in position by the recessed portion D² of the post D', which receives one side of it, and the lug F⁶, which is received by the vertical slot E⁶ in its opposite side. Springs L', similar in form and function and similarly located to the spring L of the preferred construction, are located beneath either side of the upper jaw E⁴ and hold it normally above the base of the sleeve-compressor F⁴. The jaw E⁴ is adapted to be pressed down by the cam K' near the pivot j' of the arm or lever J', which cam contacts with the boss portion E⁵ at the upper part of the jaw. The arm or lever J' is pivoted in the upper end of the post D' and may be of any suitable length and form to secure the desired leverage. It has a boss J² a short distance from its pivot and beyond the cam K', which is adapted to come in contact with a check-bolt H', threaded in the extension F⁵ of the lower portion F⁴. The object of this provision is to adjust the extent of the arm's downward movement and check the same at the proper point. The check-bolt H' is provided with a jam-nut I', adapted to stop it at any desired point within the limits of its adjustment. By the use of this modified form of construction it will be seen that a direct vertical pressure on the sleeve is obtained and an equal distribution of pressure around the bottle-neck insured. The

nature of the construction also admits of a comparatively large adjustment in the extent of the pressure, and consequently in the extent to which the elastic sleeve is compressed. It also provides for a very heavy pressure when desired.

What I claim is—

1. In a bottle-capping machine the combination of a compressible sleeve, a movable jaw adapted to bear upon and compress said sleeve, a spring adapted to raise the jaw from the sleeve, a lever pivoted near one end and adapted to bear upon the jaw at a point intermediate the lever-pivot and its free end and an adjustable check positioned with relation to the lever when depressed, between said point of contact with the jaw and the free end of the lever, said check being adapted to check the movement of said lever.

2. A bottle-capping machine comprising a compressible sleeve adapted to receive the neck of the bottle, a movable jaw partially surrounding said sleeve, a spring located adjacent to the sleeve adapted to raise the jaw therefrom, a cam-lever adapted to compress the sleeve, and a check on the jaw adapted to contact with the lever between the cam and the free end thereof.

3. A bottle-capping machine comprising a compressible sleeve adapted to receive the neck of the bottle, a movable jaw partially surrounding said sleeve, a spring located adjacent to the sleeve adapted to raise the jaw therefrom, a lever pivoted near one end and provided with a cam intermediate the pivot and its opposite end, adapted to bear upon the movable jaw and thus exert pressure upon the sleeve, and an adjustable check on the jaw adapted to contact with the lever between the cam and the free end.

4. In a bottle-capping machine, a compressible sleeve adapted to receive the neck of the bottle, a movable jaw partially surrounding said sleeve, a lever pivoted near one end, provided with a cam intermediate the pivot and its opposite end and an adjustable check on the jaw adapted to receive the impact of the lever after the said lever has come in contact with a portion of the jaw nearer its pivot than said check.

Witness my hand this 16th day of January, 1904, at the city of New York, in the county and State of New York.

HENRY ROBINSON.

Witnesses:

WILLIAM R. BAIRD,
S. J. COX.