

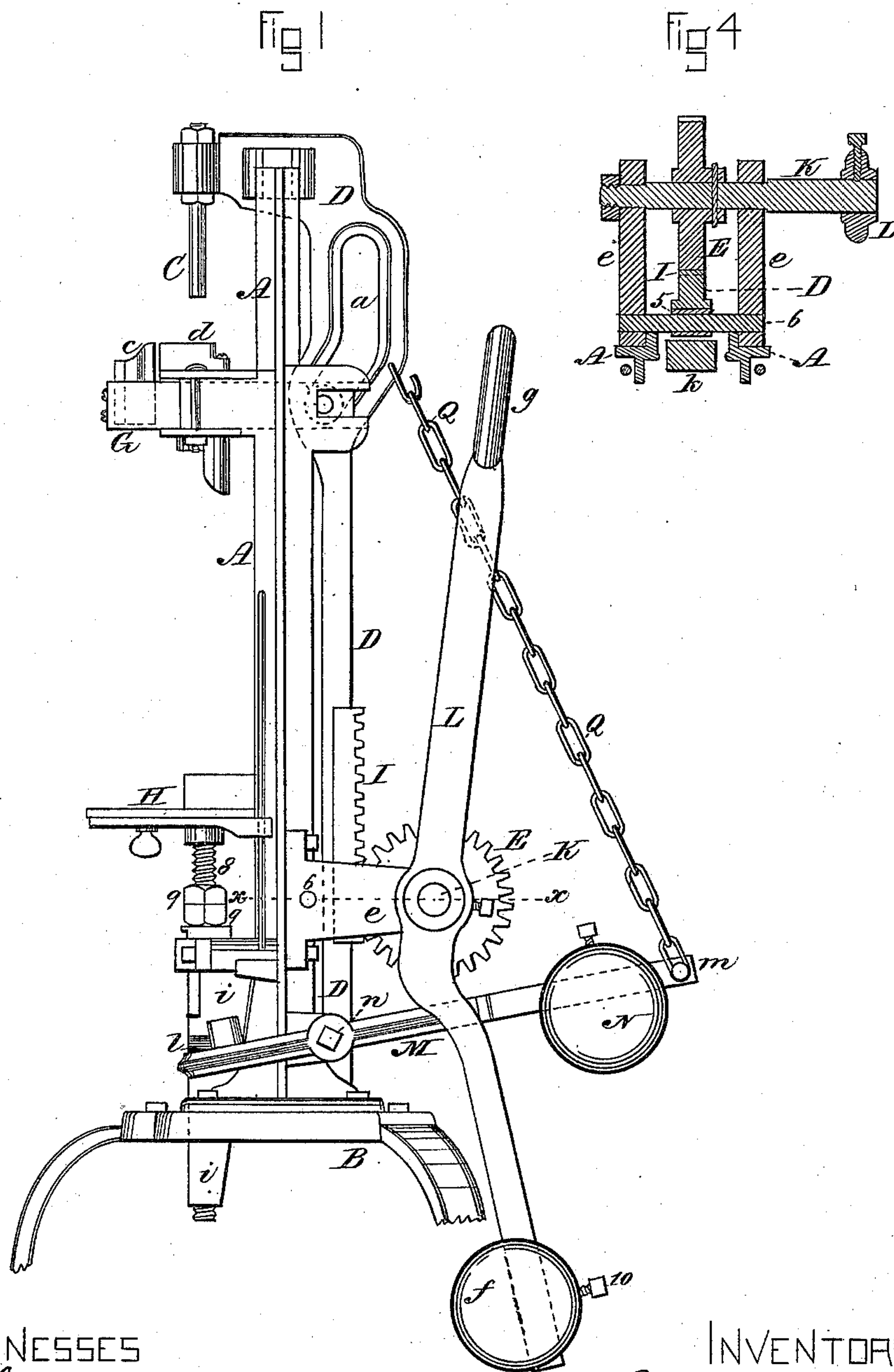
(No Model.)

2 Sheets—Sheet 1.

J. J. & G. J. DALEY.
MACHINE FOR CORKING BOTTLES.

No. 301,342.

Patented July 1, 1884.



WITNESSES
W. J. Cambridge
Chas. E. Griffin.

INVENTORS
John J. Daley
Geo. J. Daley
per P. C. Teschemacher
Atty.

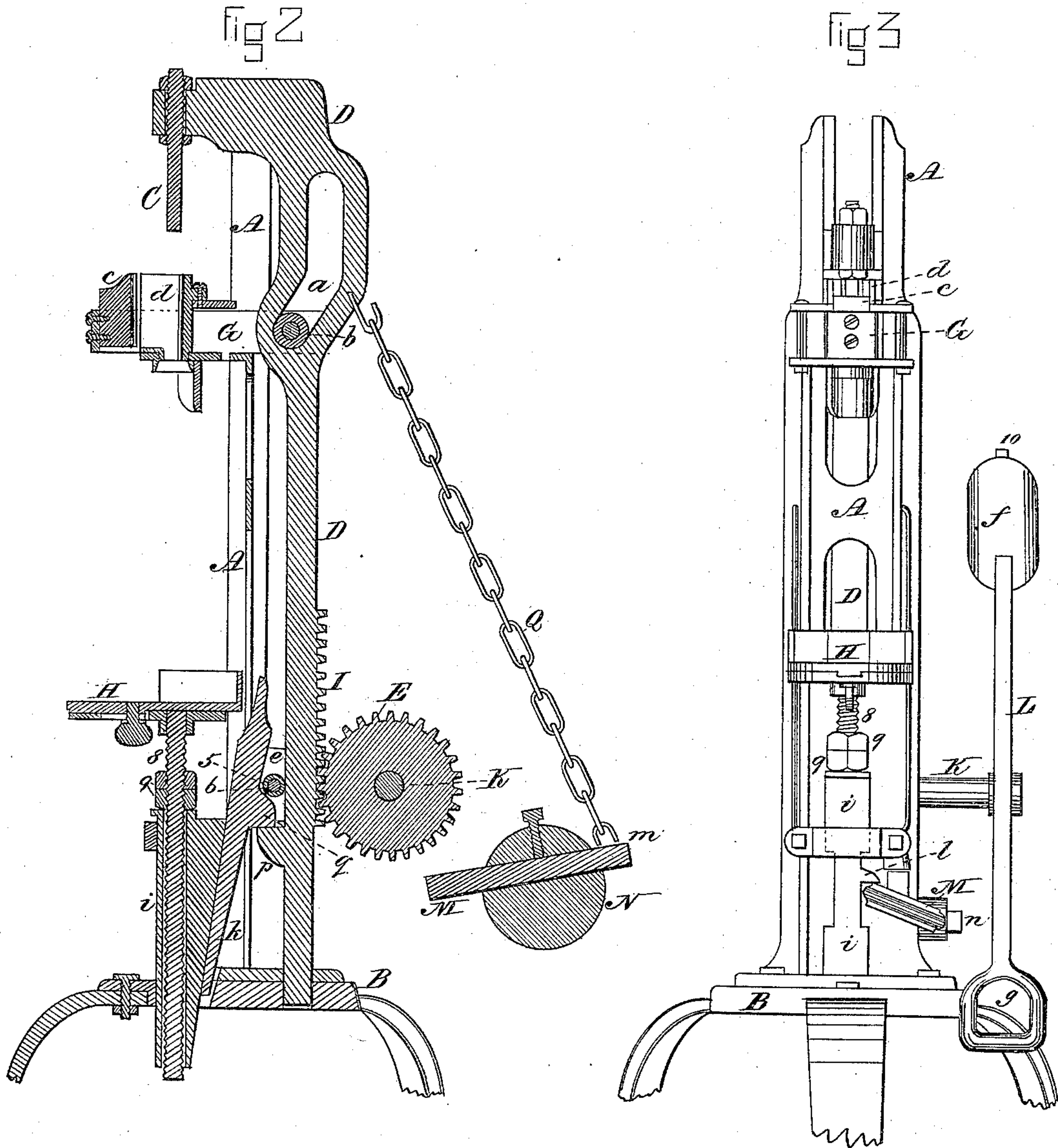
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UNITED STATES PATENT OFFICE.

JOHN J. DALEY AND GEORGE J. DALEY, OF BOSTON, MASSACHUSETTS,
ASSIGNORS TO JOHN POWER, OF SAME PLACE.

MACHINE FOR CORKING BOTTLES.

SPECIFICATION forming part of Letters Patent No. 301,342, dated July 1, 1884.

Application filed October 26, 1883. (No model.)

To all whom it may concern:

Be it known that we, JOHN J. DALEY and GEORGE J. DALEY, citizens of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Machines for Corking Bottles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side elevation of a bottle-corking machine constructed in accordance with our invention. Fig. 2 is a central vertical section of the same. Fig. 3 is a front elevation of the same. Fig. 4 is a horizontal section on the line *xx* of Fig. 1.

Our invention relates to certain improvements in bottle-corking machines, and has for its object to simplify the construction, and especially to render the machine capable of being operated by a person seated in front of the machine with the expenditure of much less power than heretofore, thus greatly facilitating the operation of corking bottles, and increasing the working capacity of the machine.

To this end our invention consists in the combination, with the vertical slide which carries the corking-plunger, and is provided with a cam-slot for operating the cork-compressing device, of a rack and pinion arranged at the rear of the slide, the pinion, which is located below the bevel of the cork-compressor, being mounted upon a horizontal shaft, to one end of which is attached a balanced hand-lever, which is located on one side of the frame-work in a convenient position to be operated by a person seated in front of the machine, by which construction and arrangement of parts the machine is rendered more compact, much more easily operated, and capable of performing an increased amount of work.

Our invention also consists in connecting the mechanism which operates the rising and falling support for the bottle with the plunger-slide operated by the rack and pinion, whereby the entire mechanism is operated by the single rack and pinion connected with the hand-lever in a simple and effective manner.

In the said drawings, A represents the frame-

work of the machine, the base of which rests upon a suitable stand, B.

C is the corking-plunger, which is secured to a vertical slide, D, which moves in suitable guides in or on the frame-work A. The upper end of the slide D is enlarged, and is provided with a cam-slot, *a*, in which works a friction-roll, *b*, on the horizontal slide G, which carries the movable portion *c* of the cork-compressor, which, together with the stationary portion *d*, forms the usual cork-guide, through which the cork is forced by the descent of the plunger C into the bottle resting upon the adjustable support H. The construction of the cork-compressor, and the method of operating the same by means of the roll *b* and cam-slot *a*, form, however, no part of our present invention, and will not, therefore, be more particularly described.

We will now describe the peculiar construction and arrangement of the mechanism for operating the corking-plunger slide and parts connected therewith, which form the subject of our present invention.

On the outside of the slide D, near its lower end, is a rack, I, with which engages a pinion, E, keyed to a horizontal rock-shaft, K, which is located below the level of the cork-compressor, and is supported in bearings in lugs *e*, projecting rearwardly from the frame-work A, the rack being kept in contact with the pinion E by means of a friction-roll, 5, on a horizontal shaft, 6, supported between the lugs *e*. One end of the shaft K projects out on the right-hand side of the frame-work, and has secured to it a hand-lever, L, the lower arm of which is provided with a balance or counterpoise weight, *f*, made adjustable thereon, and held in place by a set-screw, 10, while the upper arm is provided at its extremity with a loop or handle, *g*, which is located in a convenient position to be grasped by the hand of the operator when seated in front of the machine. The hand-lever L is nearly balanced by the counterpoise-weight *f*, and as it is depressed into the position seen in Fig. 3 by the operator drawing it forward toward him the pinion E is oscillated, which movement depresses the rack I, carrying down the slide D, and causing the plunger C to force the cork

through the compressor into the bottle, after which the counter movement of the hand-lever will cause the parts to be returned to their normal positions. By thus combining the rack and pinion with the plunger-slide under the arrangement shown and described, and locating the hand-lever connected with the shaft of the pinion on one side of the machine, so that it can be depressed by drawing it forward toward the operator, as shown, the power is applied in a most effective and economical manner, as an exceedingly powerful leverage is obtained, and the machine rendered capable of being operated more easily and rapidly and with much less fatigue than heretofore—advantages of great importance in machines of this description while at the same time the machine is rendered more compact—as the hand-lever L assumes a nearly vertical position when the machine is not in use.

The adjustable support H, upon which the bottle to be corked is placed, is attached to a screw-shaft, 8, which fits within a vertical aperture in a heavy slide, *i*, which is adapted to move vertically in suitable guides in the frame-work, and is provided with an inclined face, which rests against the correspondingly-inclined face of a wedge, *k*, which also slides in vertical guides in the frame-work, the shaft 8 being held in the desired position by nuts 9, made adjustable thereon. The slide *i* and with it the support H are raised by the upward pressure of a lever, M, against the under side of a projection, *l*, on the slide *i*, the opposite end, *m*, of the lever M, which is fulcrumed at *n*, being provided with a heavy weight, N, made adjustable thereon. This end *m* of the lever M is connected by means of a chain, Q, with the upper portion of the plunger-slide D, and as the latter is depressed the chain is slackened, which permits the lever M to be vibrated by the weight N, which causes the bottle-support H to be auto-

matically raised, as before described. On the ascent of the vertical slide D a projection, *p*, thereon strikes a projection, *q*, on the wedge *k* and raises the latter, when the slide *i* will descend by its own gravity, carrying with it the bottle-support H.

The construction of the support H and the method of operating the mechanism connected therewith by the lever M and projection *p* on the slide D form no part of our present invention, which, however, consists in connecting the lever M directly with the plunger-slide D by means of a chain or bar, by which construction all of the moving parts of the machine are adapted to be operated simultaneously by the single rack I and pinion E, actuated by the hand-lever L, which is a convenient and economical arrangement.

We are aware that the plunger of a bottle-corking machine has been operated by a rack and pinion, and therefore make no broad claim to the employment of such a device for this purpose, confining ourselves to our novel construction and arrangement of parts.

What we claim as our invention, and desire to secure by Letters Patent, is—

In a machine for corking bottles, the combination, with the vertical plunger-slide D, the rack I, pinion E, shaft K, and balanced hand-lever L, secured thereto, of the movable bottle-support H and its actuating mechanism, and the chain Q, extending directly from the slide D to the lever M, all constructed and arranged to operate substantially in the manner and for the purpose described.

Witness our hands this 23d day of October, A. D. 1883.

JOHN J. DALEY.
GEORGE J. DALEY.

In presence of—

P. E. TESCHEMACHER,
JOSEPH H. DALEY.