

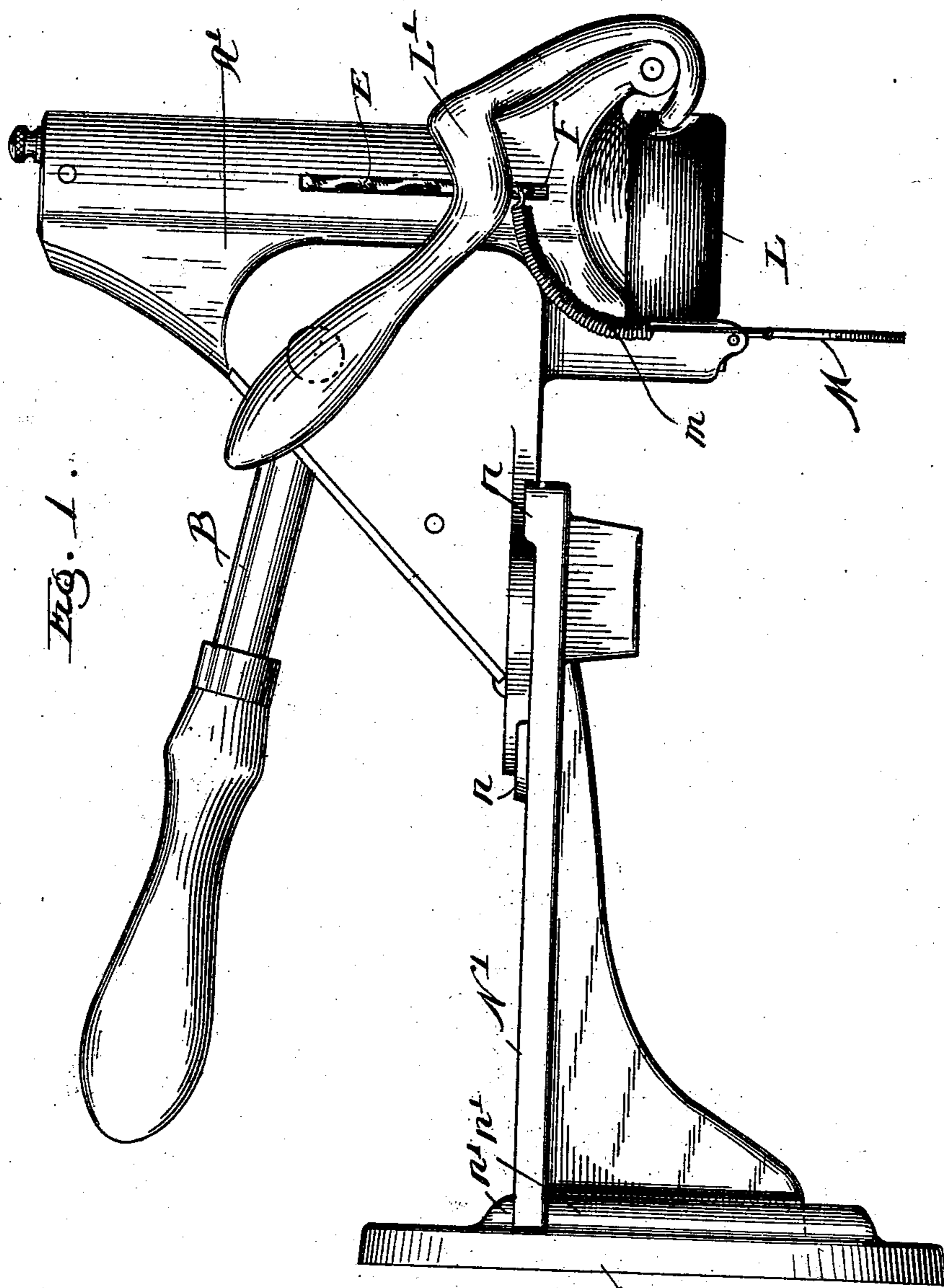
(No Model.)

C. MORGAN.
CORK EXTRACTOR.

3 Sheets—Sheet 1.

No. 549,607.

Patented Nov. 12, 1895.



707

Witnesses:

Chas. Sherwin
A. J. H. C. C. C. C. C.

Inventor:

Inventor:
Charles Morgan,
by Niles G. Warner, Secy.
Attest

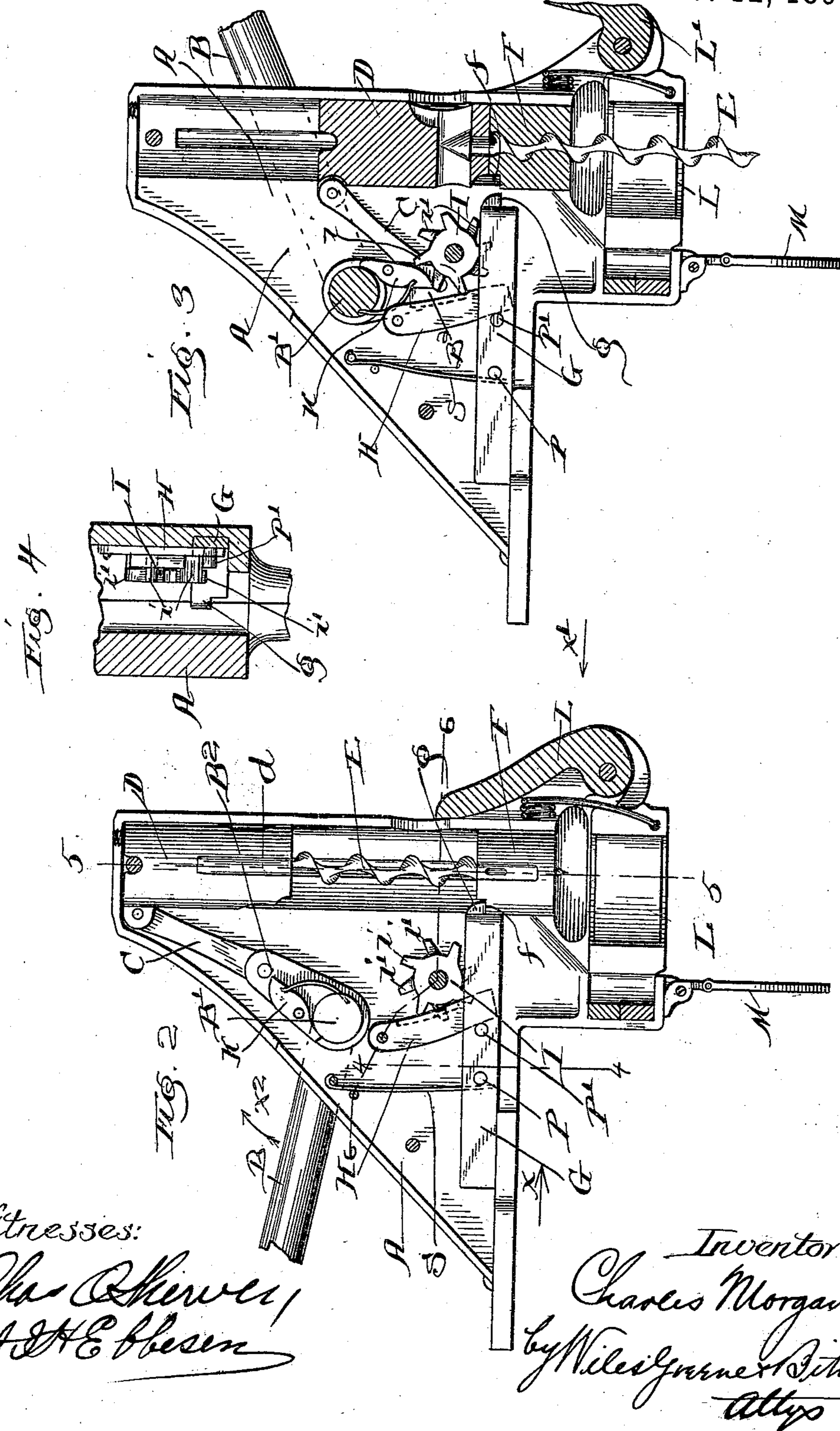
(No Model.)

3 Sheets—Sheet 2.

C. MORGAN.
CORK EXTRACTOR.

No. 549,607.

Patented Nov. 12, 1895.



Witnesses:

Chas Brewer,
A. H. E. Presen

Inventor:

Charles Morgan
by Niles Greene & others
Attys

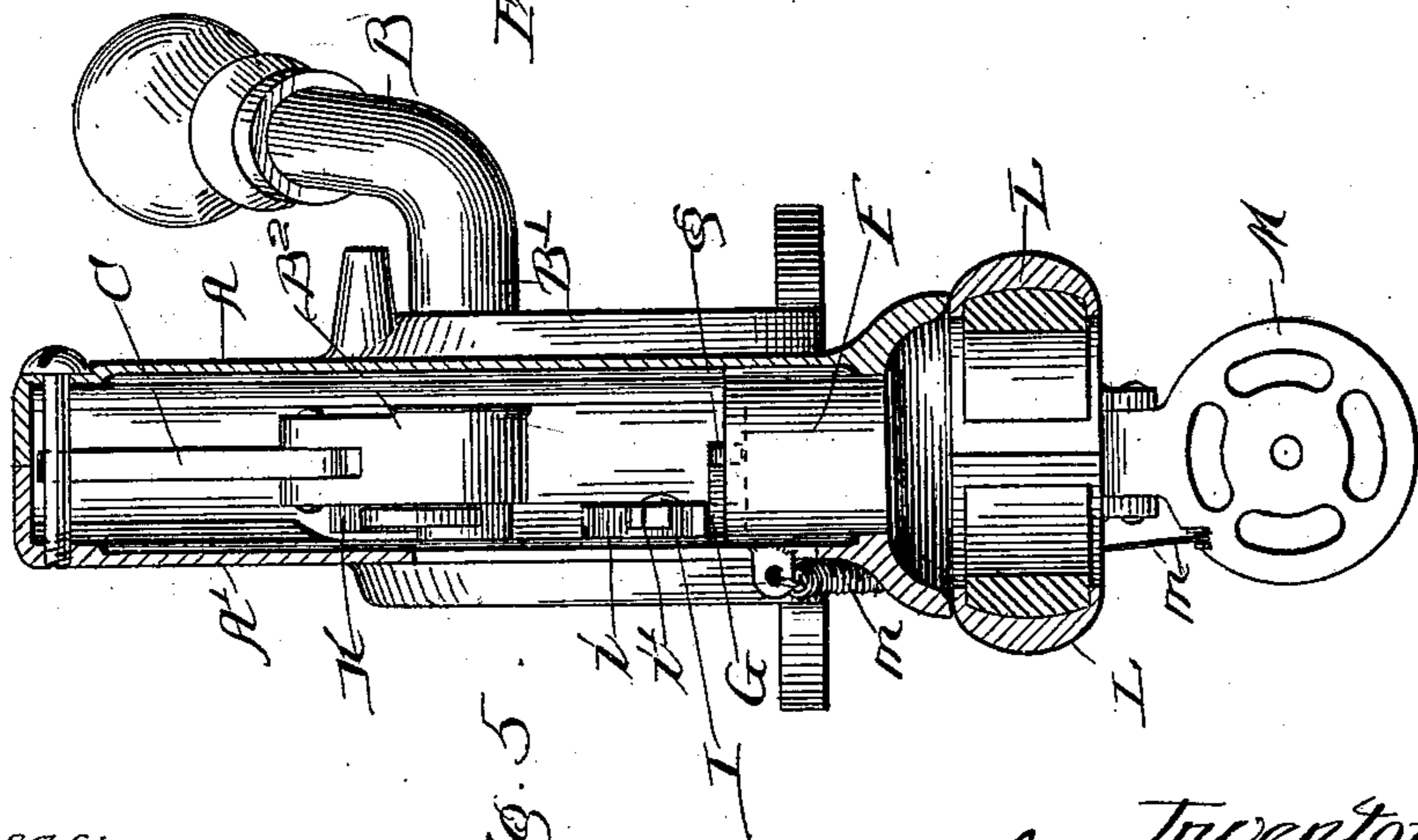
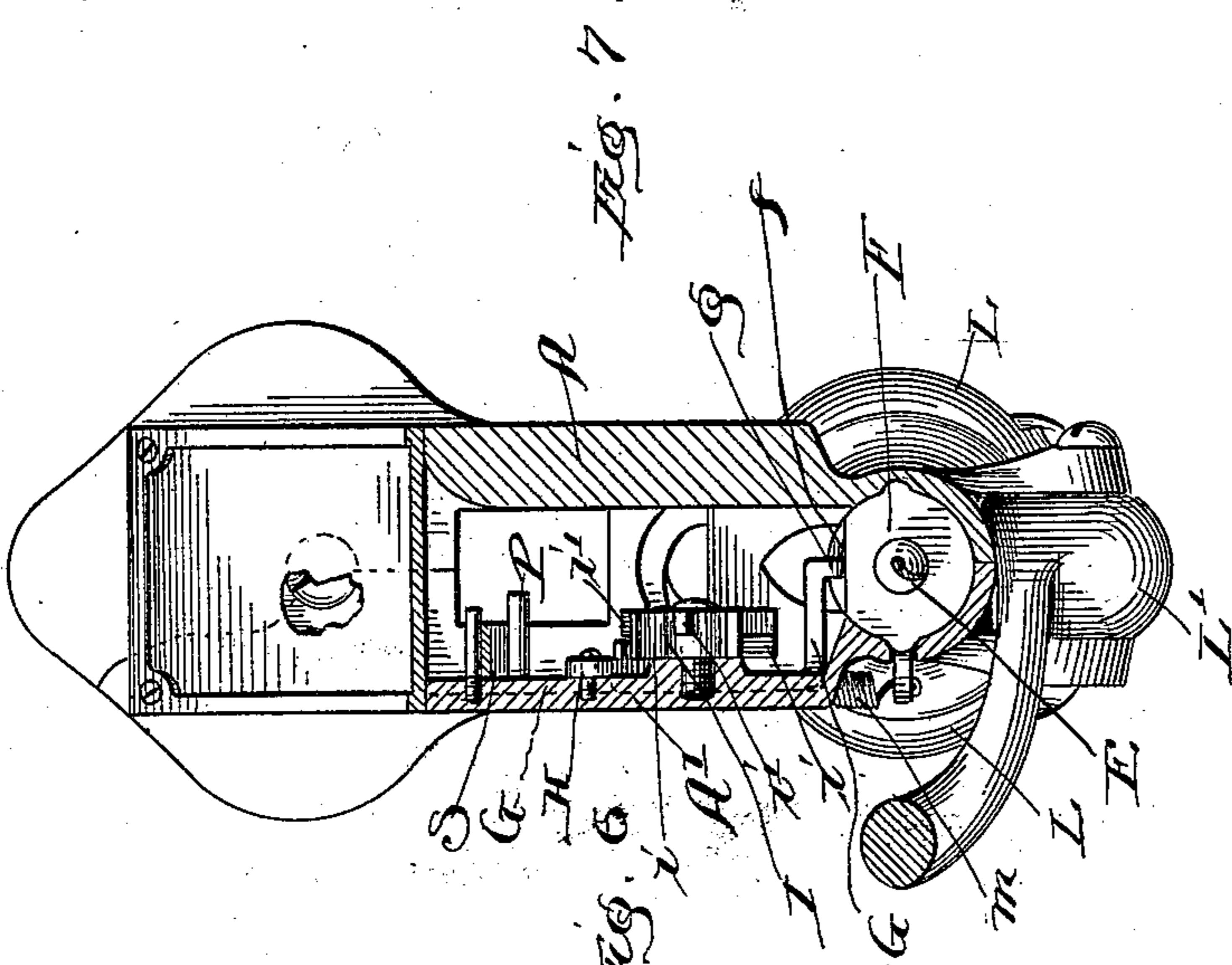
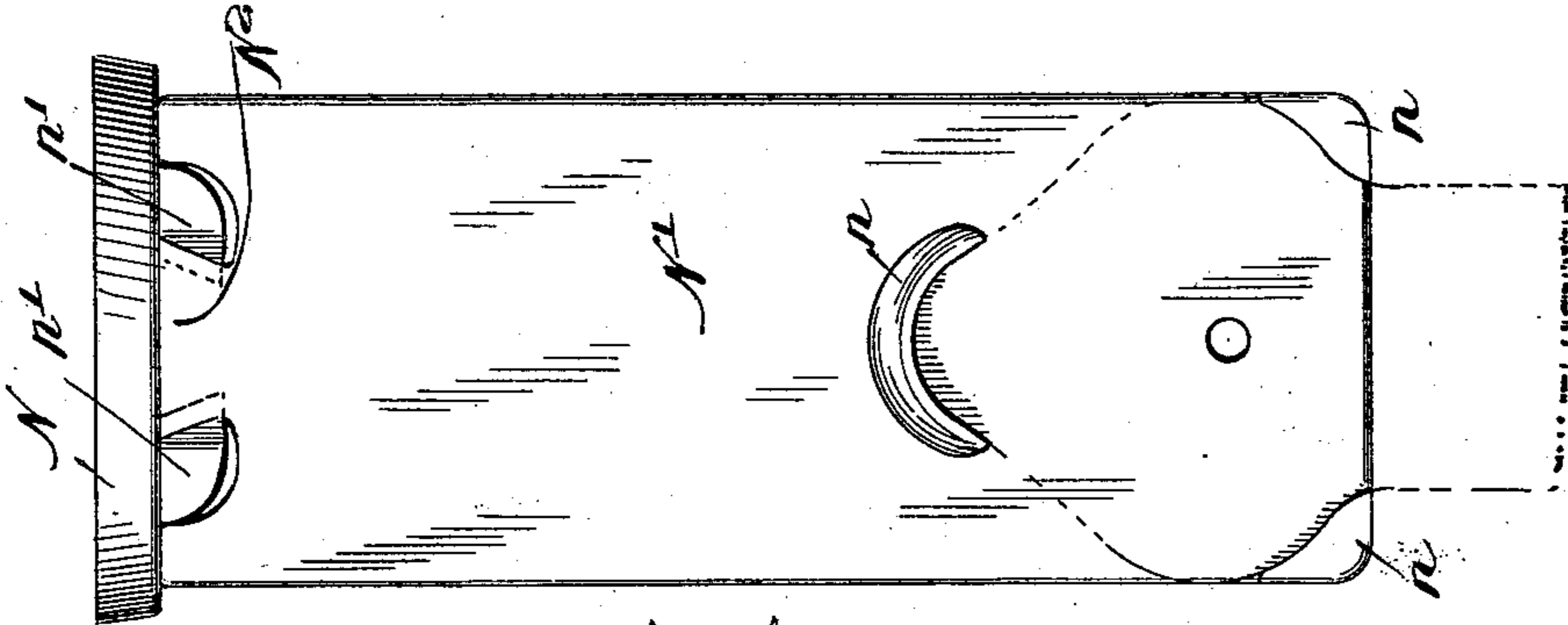
(No Model.)

3 Sheets—Sheet 3.

C. MORGAN.
CORK EXTRACTOR.

No. 549,607.

Patented Nov. 12, 1895.



Witnesses:
Chas. Sherway
A. H. E. Olsen

Inventor:
Charles Morgan
by Niles G. Smith
attys

UNITED STATES PATENT OFFICE.

CHARLES MORGAN, OF FREEPORT, ILLINOIS, ASSIGNOR TO THE ARCADE
MANUFACTURING COMPANY, OF SAME PLACE.

CORK-EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 549,607, dated November 12, 1895.

Application filed March 2, 1895. Serial No. 540,284. (No model.)

To all whom it may concern:

Be it known that I, CHARLES MORGAN, a citizen of the United States of America, residing at Freeport, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Cork-Extractors, of which the following is a specification.

My invention relates to improvements in cork-extractors of that class in which the corkscrew proper is operated by means of a suitable lever, the objects of the invention being set forth herein and the invention itself being described in this specification and shown in the accompanying drawings, in which—

Figure 1 is a side elevation of a cork-extractor embodying my improvements, the cork-extractor frame being mounted upon a bracket adapted to be detachably secured to a vertical wall for the purposes hereinafter set forth. Fig. 2 is a side elevation of the internal mechanism of the cork-extractor, one side of the shell or frame being removed. Fig. 3 is a similar view, certain parts being shown in vertical section and the relative positions of the operating parts being different from those shown in Fig. 2. Fig. 4 is a transverse vertical section through the line 4 4, Fig. 2, the view being in the direction indicated by the arrow x in said figure. Fig. 5 is a view partly in elevation and partly in transverse vertical section, the plane of section being through the line 5 5, Fig. 2, and the view being in the direction indicated by the arrow x' in said figure. Fig. 6 is a horizontal section through the broken line 6 6, Fig. 2, the view being downward. Fig. 7 is a top plan of the bracket to which the frame of the extractor is attached, as shown in Fig. 1.

In the views, A A' are the two approximately symmetrical halves of a two-part shell, fastened together by suitable transverse rivets or screws; and B is a lever formed with a transverse crank-shaft B', journaled in the two parts of the shell and carrying a crank B², lying within the shaft. The free end of the crank B' is connected by means of a pitman C with a corkscrew-carrier D, sliding freely in the tubular front portion of the shell, but secured against rotation therein by means

of ribs d , sliding in vertical grooves in the shell, as indicated in Figs. 2, 3, and 6. The carrier D supports the corkscrew E, connected with it in the manner clearly shown in Fig. 3, and this corkscrew passes through a vertically-reciprocating non-rotating nut F, lying below the carrier D and adapted to cause rotation of the corkscrew when the latter moves vertically with relation to the nut.

The nut F has in its rear face, and preferably in its upper margin, a notch f , which is adapted to receive the end g of a horizontally-sliding pawl-bar G, lying in a groove in the wall A' of the shell, as indicated in Figs. 4 and 6. A spring S, supported upon the wall A', presses against a pin P on the bar G and tends to hold it normally in engagement with the nut F. A pivoted lever H, impinging upon a second pin P' on the bar G, may, however, be oscillated so as to overcome the force of the spring S and slide the end g of the bar out of engagement with the nut. A toothed wheel I, formed with alternate teeth i i' , is supported upon the pivot set in the wall A', the teeth i being in the plane of the lever H and the teeth i' being out of the plane of the lever. The relation of the toothed wheel to the lever is such that in the rotation of the wheel each of the teeth i , as it passes the lever, forces the latter backward from its normal position, carrying with it the pin P' and the bar G and disengaging the point g of the bar from the nut F. The step-by-step rotation of the wheel I is accomplished by means of a pawl K, pivoted on the crank B² and adapted, in each complete oscillation of the crank in the direction indicated by the arrow x^2 , Fig. 2, to strike one of the teeth i i' and impart a corresponding rotation to the wheel. The parts are so proportioned that each actuation of the wheel by means of the lever B and pawl K rotates the wheel through an angle corresponding to the angular space occupied by each of its teeth, so that at each such movement one of the teeth i i' passes in front of the lever H. The position of the teeth, as above set forth, is such that the movement of the teeth i' has no effect upon the lever H; but each movement in which one of the teeth i passes in front of the lever causes a backward movement of the lever

and a corresponding disengagement of the pawl-bar from the nut F. From this explanation it is evident that, while the alternate forward movements of the lever B disengage
5 the pawl-bar from the nut, the intermediate forward movements of the lever have no effect whatever upon the bar.

With the foregoing explanation in view, and the parts being in the relative positions
10 shown in Fig. 2, the succession of movements by means of which a cork may be drawn from a bottle and discharged from a corkscrew, are as follows: The neck of the bottle is placed in position in the lower end of the tubular
15 portion of the shell and held in place in any desired manner. The lever B is then thrown forward from the position shown in Fig. 2 to that shown in Fig. 3, the corkscrew-carrier and corkscrew being thus forced down and
20 the corkscrew being rotated as it passes through the nut and enters the cork in the bottle. In this movement of the lever B and its crank B' the pawl K causes such partial rotation of the wheel I as to bring one of the
25 teeth *i* into the position shown in Fig. 3, thereby pressing the lever II and pawl-bar G backward and disengaging the point *g* of the bar from the nut F. The reverse movement of the lever B must evidently raise the
30 corkscrew-carrier, the corkscrew, and the cork, and as the nut is now free from the pawl it must evidently rise with the other moving parts, thereby permitting the corkscrew to move upward without rotation,
35 whereby the cork is drawn from the bottle. The bottle is now removed from its position beneath the cork-extractor case and the lever B is again moved forward, depressing the corkscrew-carrier, the corkscrew, the nut, and
40 the cork, and in this movement of the lever the pawl K imparts another step of rotation to the wheel I, thereby freeing the lever II from the tooth *i*, permitting the lever and the pawl-bar G to slide forward and bring the
45 point *g* again into engagement with the nut, thereby holding it down in the position shown in Fig. 2. A second backward movement of the lever B again raises the corkscrew-carrier and corkscrew, the latter being rotated
50 in its upward movement through the nut and being thereby freed from the cork. This movement of the lever completes the cycle of the operation of the machine, the cork having been drawn and discharged and the
55 parts being in the position shown in Fig. 2 and ready for a new operation.

The neck of the bottle may be held in place in any desired manner, so far as the operation of the cork-extractor mechanism is concerned;
60 but I prefer to provide the machine with a suitable clamping device adapted to hold the neck of the bottle firmly and center it accurately. Such a device is shown in the drawings, and consists of two pivoted jaws L L and an oper-
65 ating-lever L', provided with cams operating on the jaws and adapted to press them together symmetrically. As this clamping

device is the same as that shown and fully described in my prior patent, No. 532,575, no detailed description of it is required. 70

From the above explanation of the operation of the cork-extracting mechanism it will be seen that the operating-lever B is in the position shown in Fig. 2 not only at the beginning of each operation, but also immediately after the drawing of the cork, before the
75 cork is discharged from the corkscrew. At this stage of the operation the corkscrew-carrier and nut are raised to their highest position and the cork is on the corkscrew and
80 wholly within the tubular vertical shell of the machine. As the machine under these circumstances has the same outward appearance as when the parts are in the positions shown in Fig. 2, the cork may sometimes be
85 left upon the corkscrew, and a person wishing to draw a cork may attempt to do so without discharging the cork already in the corkscrew. To avoid the possibility of placing
90 the neck of a bottle between the clamping-jaws, I have provided a device adapted to cover the bottom of the opening between the jaws when the nut is in its raised position. This device consists of a thin plate M, pivoted to the case at a point immediately in rear
95 of the opening between the jaws, this plate being connected with the nut by means of a coiled spring *m*, fastened at its lower end to the plate and at its upper end to the nut, as clearly shown in Fig. 1. This spring holds
100 the plate securely in its vertical position when the nut is down, but lifts it up when the nut is raised, thereby covering the opening between the jaws and making it impossible to insert the neck of the bottle between
105 them.

The cork-extractor is ordinarily fastened permanently in place upon a shelf or counter; but I have found that quite frequently it is desirable to fasten it against a side wall, and
110 that it is sometimes convenient to have it readily removable, in order that it may be put out of the way when not in use. For this purpose I have provided a bracket, (illustrated in Figs. 1 and 7,) this bracket being formed to receive and support the machine. The bracket consists of two parts—a plate N, adapted to be screwed to a vertical wall, and a bracket proper N', having at its front end lugs *nn*, adapted to embrace the edges of the base of
115 the cork-extractor and provided at its rear end with a vertical dovetail tenon adapted to slip down between corresponding ribs *n'* on the plate N. The base of the cork-extractor is screwed permanently upon the front
120 end of the bracket N', and the plate N, being screwed permanently to the wall, the cork-extractor and its bracket may be connected with or disengaged from the plate in a moment.

Having now described and explained my invention, what I claim as new, and desire to secure by Letters Patent, is— 130

1. In a cork extractor the combination with

a suitable frame, a corkscrew reciprocating longitudinally therein and a reciprocable non-rotating nut, embracing the corkscrew, of an oscillating lever adapted at each oscillation in one direction to force the corkscrew downward and at each oscillation in the opposite direction to raise the corkscrew, a pawl adapted to engage the nut and when in such engagement to secure it in its lowest position, and mechanism adapted to be actuated by the oscillating lever and to actuate said pawl, whereby the pawl may be in engagement with the nut during the alternate movements of the lever in a given direction and may be out of engagement with the nut during the intermediate movements of the lever in said given direction.

2. In a cork extractor, the combination with a suitable frame, a longitudinally reciprocating corkscrew and a non-rotating reciprocable nut embracing the corkscrew, of an oscillating lever adapted at each movement in one direction to force the screw downward and at each movement in the opposite direction to raise the corkscrew, a pawl normally in engagement with the nut and adapted when in such engagement to hold it in its lowest position, a rotating wheel having teeth, each adapted in passing through a given arc to force the pawl out of engagement with the nut and mechanism adapted to be actuated by the oscillation of the lever in one direction and to impart step by step rotation to said wheel, the number of steps in each complete rotation of the wheel being double the number of said teeth, whereby the alternate oscillations of the lever in said given direction may force the pawl out of engagement with the nut.

3. The combination with the frame, the corkscrew carrier, D, the corkscrew supported thereby and the nut, F, embracing the corkscrew, of the oscillating lever, B, having the crank, B², the pitman connecting the crank

and the corkscrew carrier, the pawl, G, adapted to engage the nut, the lever, H, adapted to force the pawl out of engagement with the nut, the toothed wheel, I, having teeth, *i*, adapted to actuate the lever, H, and the pawl, K, moving with the crank, B², and adapted to impart step by step rotation to the wheel, I, the wheel being provided with teeth, *i'*, intermediate the teeth, *i*, and all the teeth of the wheel being adapted to be actuated by the pawl, K, whereby the number of steps in each complete rotation of the wheel is double the number of the teeth, *i*.

4. In a cork extractor, the combination with a suitable frame, a longitudinally reciprocating corkscrew and a non-rotating reciprocable nut encircling the corkscrew, of an oscillating lever adapted by its movement to force the corkscrew alternately downward and upward, a movable plate adapted when in one position to lie in the path of movement of the corkscrew and to prevent the presentation of a bottle neck in working relation thereto, and means connecting the nut with said plate whereby, when the nut is in its raised position, the plate may assume the position described, and when the nut is depressed the plate may be forced out of said described position.

5. The combination with the shell, the corkscrew and the nut, of the oscillating lever adapted to move the corkscrew substantially as described, the swinging plate, M, adapted to be brought into or out of a position in the path of movement of the corkscrew and the spring, S, connecting the plate, M, with the nut whereby the movement of the nut may swing the plate from one limit of its movement to the other.

CHARLES MORGAN.

Witnesses:

C. KISTNER,
FRIEDRICH HANSEN.