

(Model.)

2 Sheets—Sheet 1.

H. B. PORTER.
ELECTRIC ANNUNCIATOR.

No. 255,453.

Patented Mar. 28, 1882.

Fig. 1

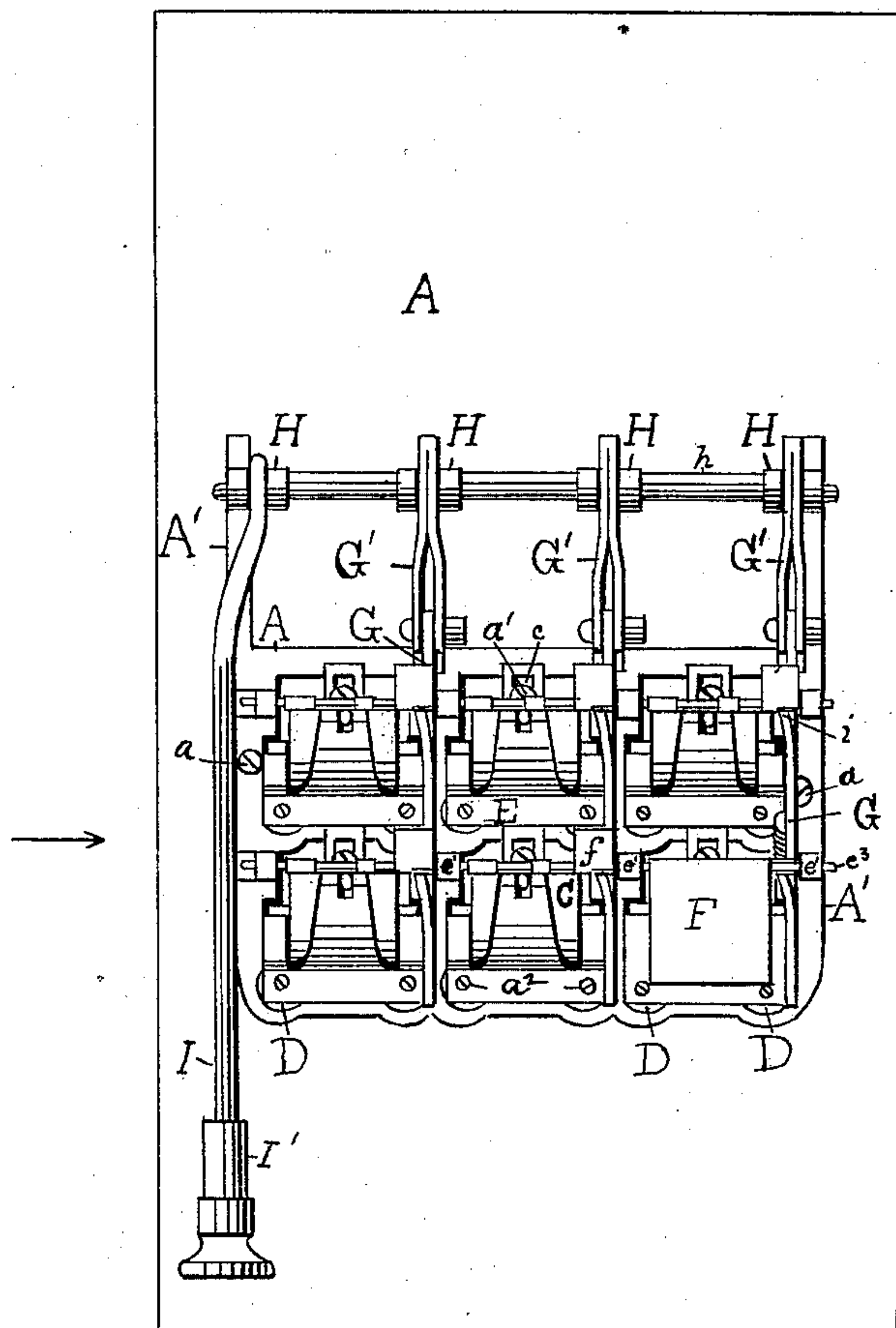


Fig. 2

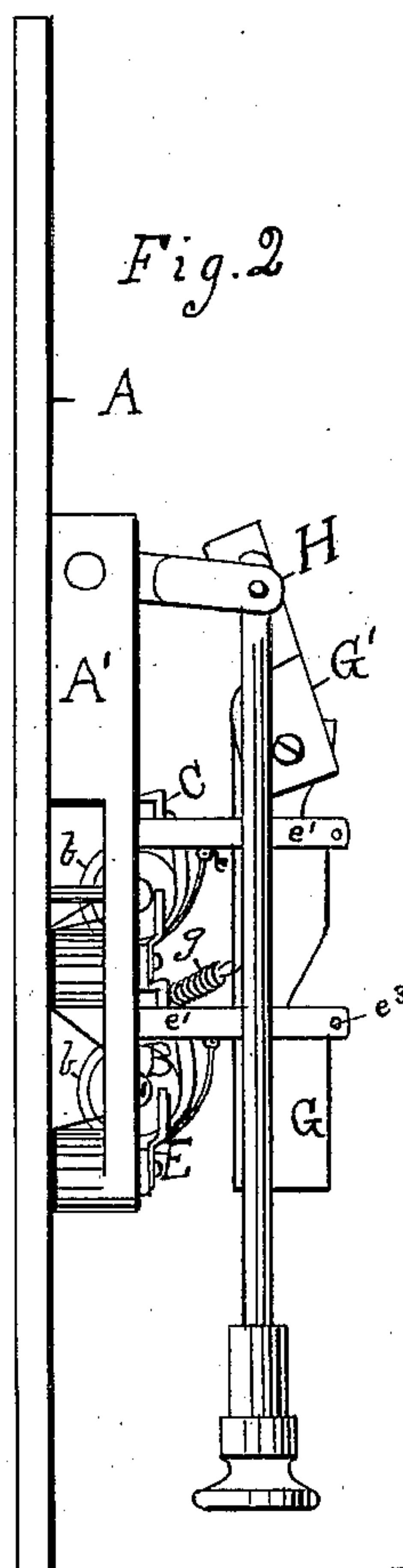


Fig. 3

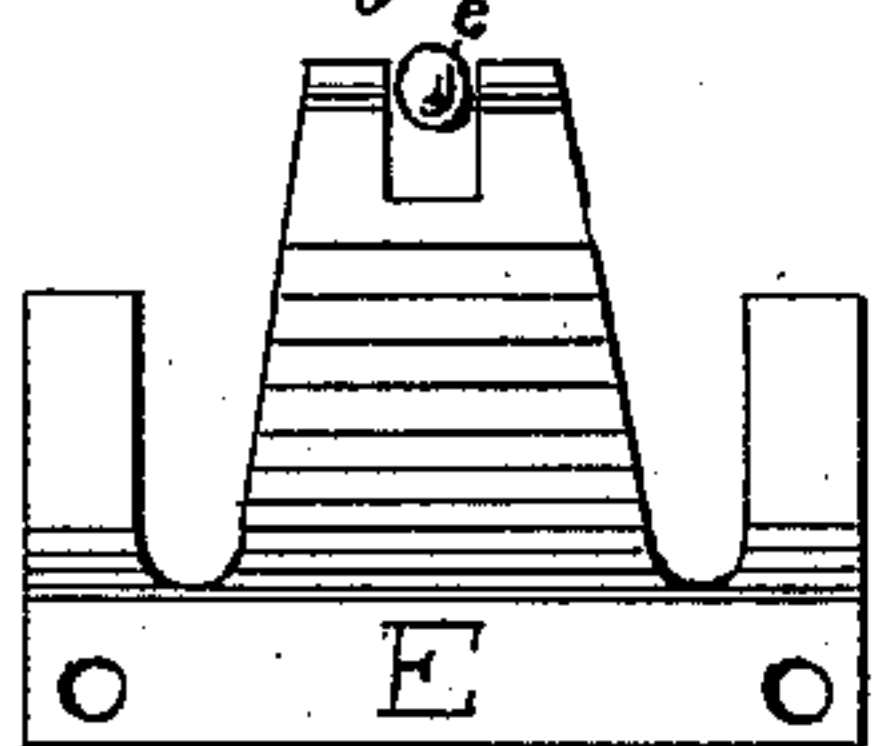


Fig. 4

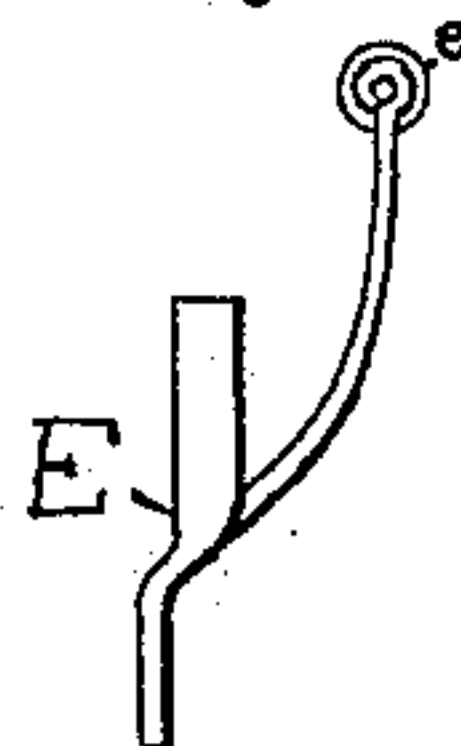


Fig. 9



Fig. 10



Fig. 5

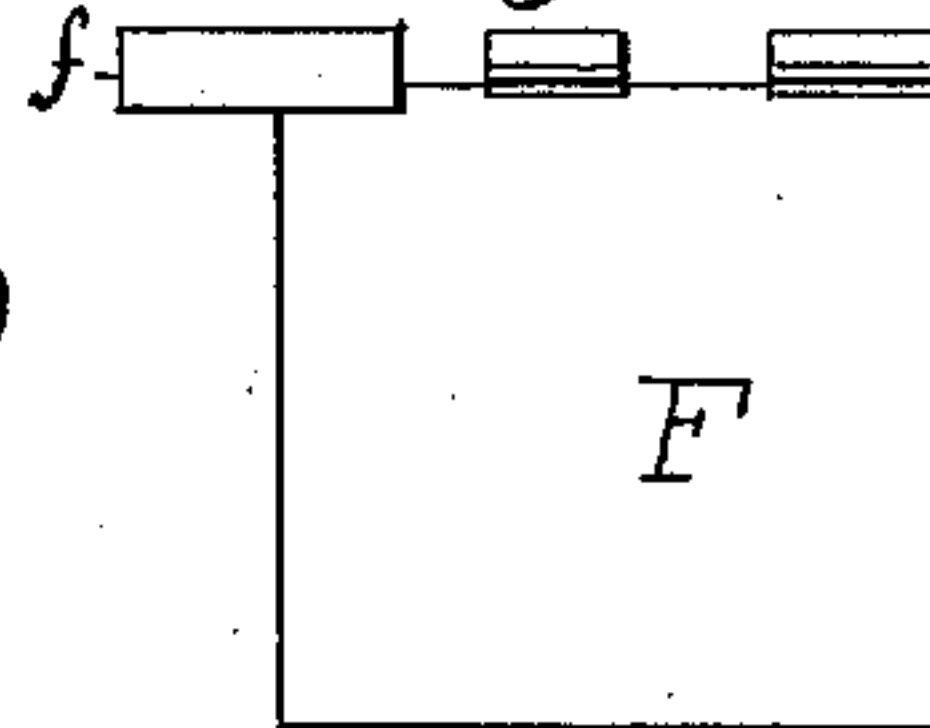


Fig. 6

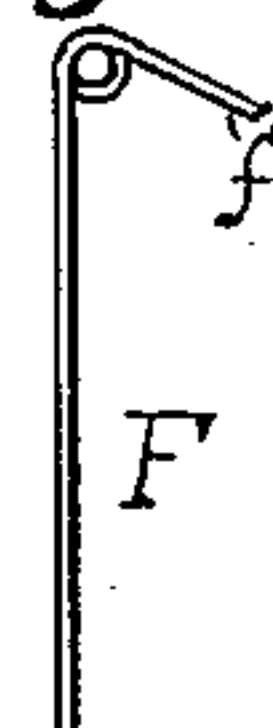


Fig. 7

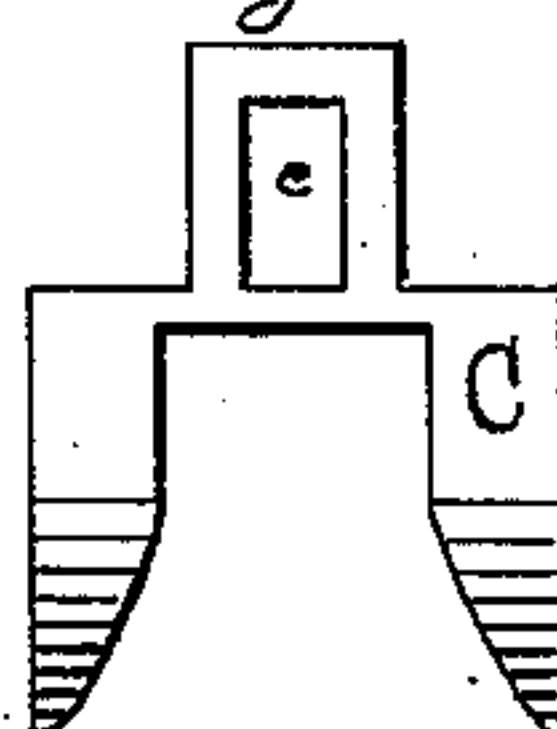


Fig. 8

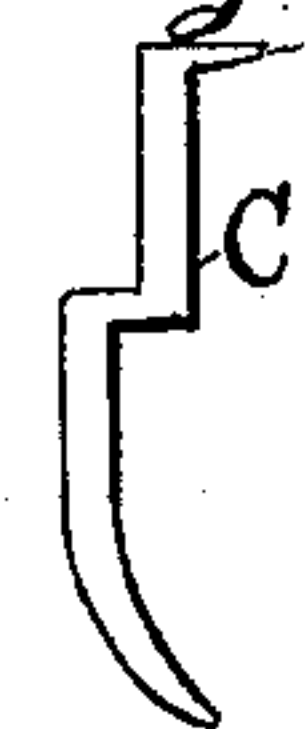


Fig. 11

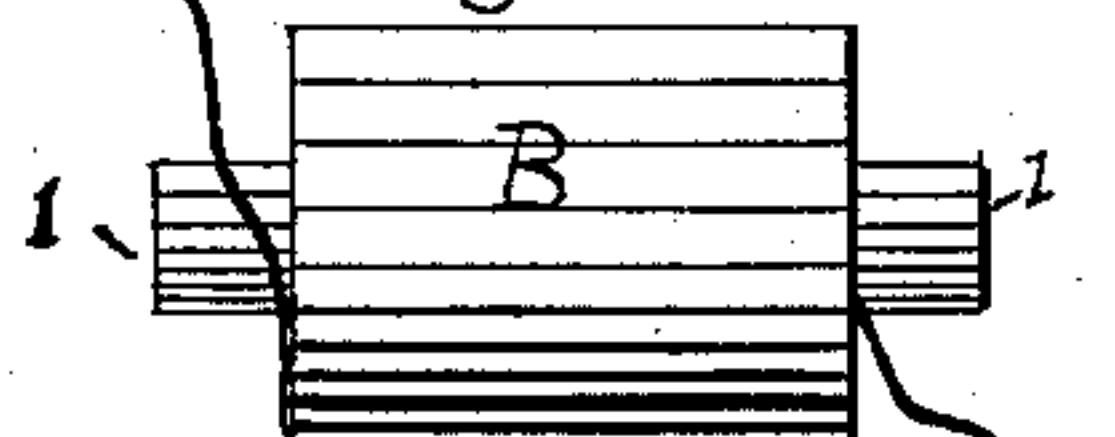
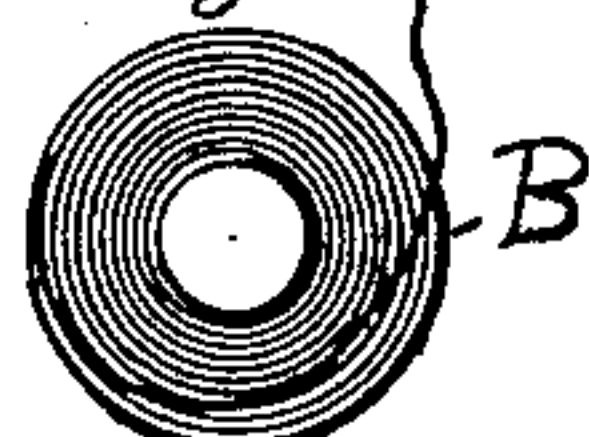


Fig. 12



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(Model.)

2 Sheets—Sheet 2.

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Fig. 13.

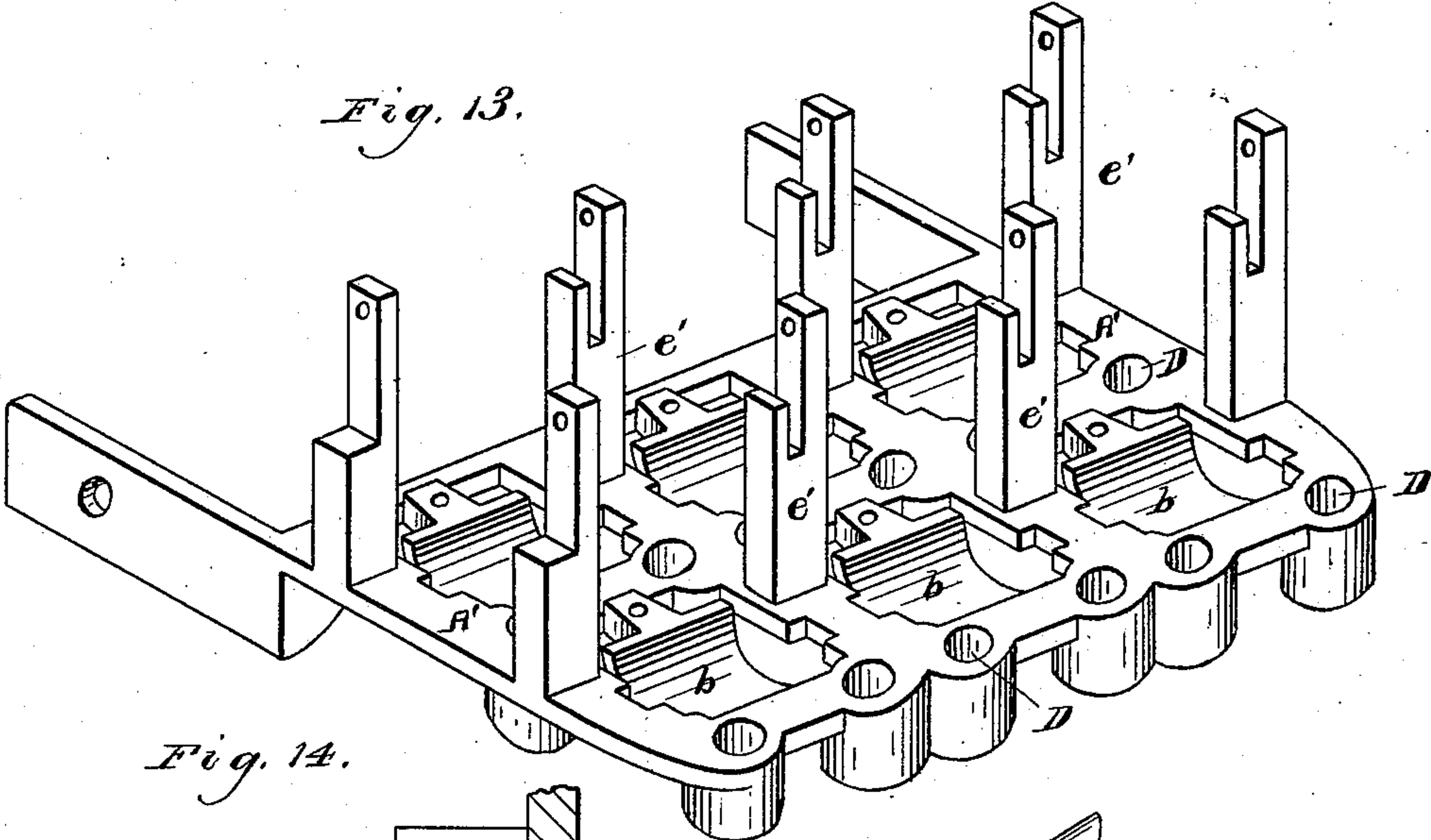


Fig. 14.

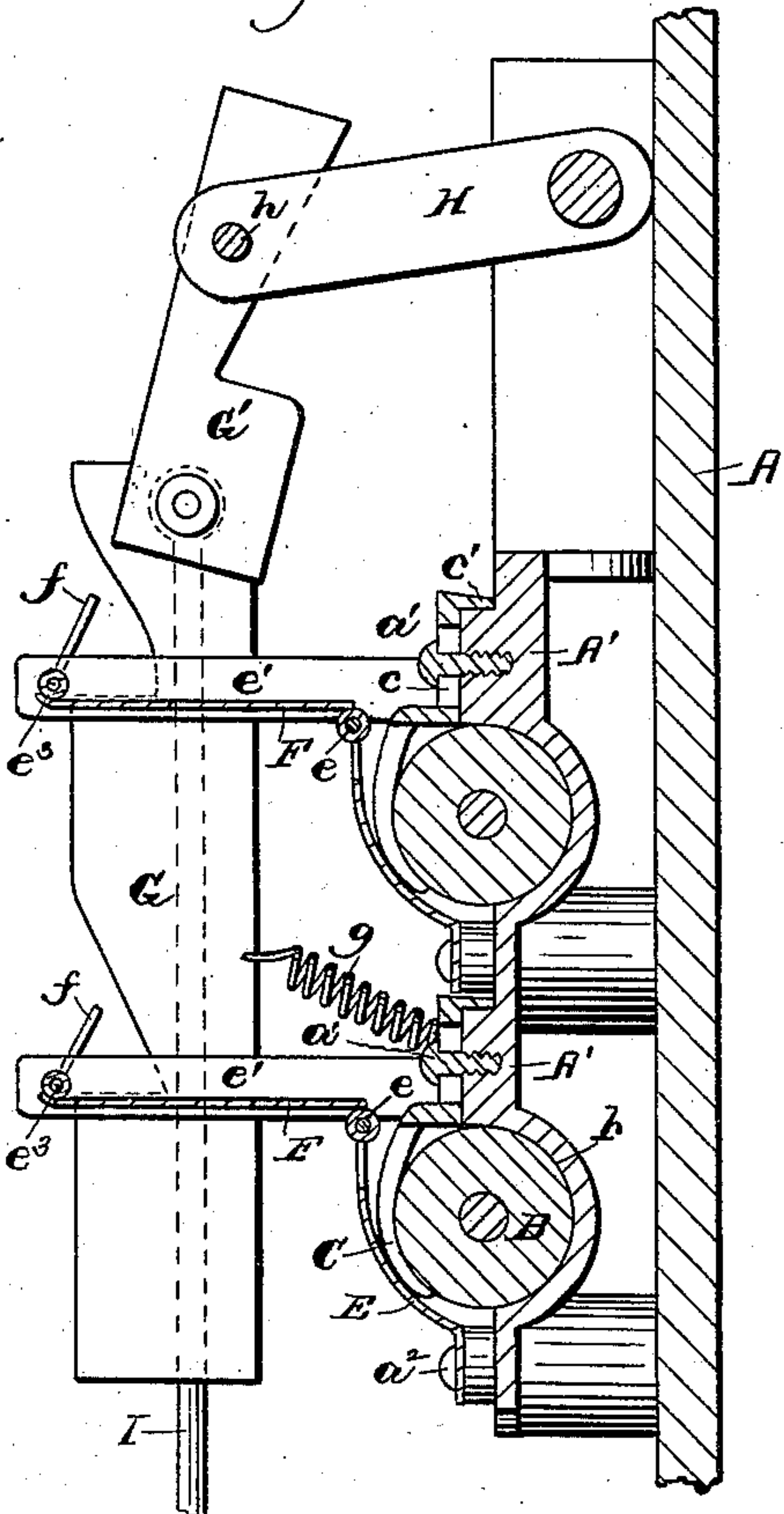


Fig. 15.



Witnesses.

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UNITED STATES PATENT OFFICE.

HENRY B. PORTER, OF CHICAGO, ILLINOIS.

ELECTRIC ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 255,453, dated March 28, 1882.

Application filed October 6, 1881. (Model.)

To all whom it may concern:

Be it known that I, HENRY B. PORTER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Electric Annunciators, of which the following is a specification.

The invention is designed to improve, simplify, and perfect the instrument and its operation as shown in Letters Patent of the United States, No. 214,261, granted to me April 15, 1879, for improvement in electric annunciators; and it consists in a modification of the E-shaped armature of said patent, a change of location of the horizontal arm of the curtain there shown bearing the annunciating-characters, and the substitution of vertical notched bars for the double crank or looped rod of said patent which operates the horizontal arms to elevate the curtains.

The invention consists, further, in supporting all the parts of the instrument in a solid metal frame made in one piece and shaped to receive the other parts.

The accompanying drawings illustrate the invention.

Figure 1 is a front view of the instrument attached to its base-board and having the face-plate removed. Fig. 2 is a side view, looked at in the direction of the arrow, Fig. 1. Figs. 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12 are details, showing respectively side and end or edge views of detached parts. Fig. 13 is a perspective of the metal frame having the parts of the instrument detached. Fig. 14 is a section on line *x*, Fig. 1. Fig. 15 is a detail in perspective.

Similar letters of reference refer to similar parts throughout all of the views.

A designates the base-board, to which the supporting metal frame A', cast or formed in one solid piece and shaped or formed to receive the other parts, is secured by screw *a*. This frame is provided in its face or front part with numerous concave recesses, *b*, Fig. 2, each adapted to receive a single helix, B, and the projecting ends of its core 1, the latter being out of contact with the frame. The helix is held in the concave recess by means of a forked compressor or helix-holder, C, adapted to lie over the outer ends of the helix and leave an opening between. The holder is secured to

the frame over the helix by means of a screw, *a'*, passing through the opening *c* in the top into the frame, the pin *c'*, Fig. 8, passing into a small hole in the frame to aid the screw. The frame is also provided with holes D immediately below the recesses *b*, into which holes plugs D, of wood or other non-conducting substance, are driven, and to these plugs the armatures E are secured loosely at the bottom by screws *a''*, passing through holes in the armatures into the plugs. The armatures are made the same as shown in my former patent, except the central arm is extended to nearly twice the length of the outer arms, so that it shall move through greater space, and is provided at its tip end with a small anti-friction pulley, *e*, of non-conducting material, designed to more readily relieve the contact of the curtain therewith. The frame is also provided with arms *e'*, best made of one piece with the frame. Through the outer ends of these arms small wires *e''* pass, and to these wires the curtains F are hinged at the top. Vertical notched bars G are held in open slots in the arms *e'* by coil-springs *g*, attached to the frame and the rear of the notched bars. The notches of the bars are turned to one side, similar to the turning of saw-teeth in setting, as seen at *i*, Fig. 1, to enable them more perfectly to engage with the lips *f* of the curtains, which are placed at the curtain-hinge at one side of the curtain instead of its center, as in my said former patent.

To the top of the frame are pivoted arms H, through the outer ends of which a rod, *h*, passes, and the bars G are connected through their upper ends to the rod *h* by means of short bars G', which are respectively hinged both at their connection with said rod and the upper ends of bars G. A push-rod, I, is also connected pivotally to the rod *h*, and extends down below the instrument, and is provided with a knob or handle for elevating it. It also has a rubber cushion, I', acting as a noiseless stop against the case. By elevating the push-rod the bars G are raised vertically and the notches come in contact with lips *f* of the curtains when the curtains are down, and turn them back to a horizontal position out of view, in which position they are held by resting their bottom edges on top of the pulley *e*.

When the armature is attracted to the core the central arm carrying pulley *e* is moved out of the radial sweep of the curtain, which, being thus left without support, falls to a vertical position and exposes the numeral or other annunciating-character thereon to view. All the curtains, or as many of them as may be down, are turned up by a single elevation of the push-rod, which, with the notched bars, drops back when released, ready for the next operation. Each armature being loosely attached at the bottom and held in a vertical position falls back of its own weight when the electric circuit is broken, so as to bring the end of the central arm within the radial sweep of the opposite curtain, which, in rising, passes above the pulley *e* and drops back upon it, the central arm being moved forward by the curtain in rising, and dropping back under the edge of the curtain as soon as the curtain passes beyond its reach. Fig. 1 shows only one of the curtains down.

In the instrument shown in my former patent the curtain is provided with a horizontal arm at the center of the top edge, where the curtain is hinged, and a double crank or looped rod is employed, in connection with the horizontal arm, to restore the curtain to its elevated position, in which it is held by resting its lower edge on the top of the central arm of the armature, the principle of operation being similar to that described in this patent; but the modification of the armature here shown gives the extreme end of the curtain-supporting arm greater movement and reduces its friction on the curtain. The changed position of the horizontal arm or lip *f* of the curtain from the center to one side permits the restoration by means of notched bars *G* operating on the lips outside of the path of the curtain. These changes make the instrument and its operation more perfect and certain than before.

The metal frame cheapens and facilitates

the manufacture of the instrument and makes it more compact and substantial.

What I claim, and desire to secure by Letters Patent, is—

1. In an electric annunciator, a vertical armature, *E*, having its central arm nearly twice the length of its outer arms, and provided with a pulley, *e*, at the tip, in combination with a helix with both ends of its core exposed at points opposite to the ends of the outer arms of the armature, substantially as shown.

2. In an electric annunciator, curtains *F*, hinged at the top edge to wires *e*³, so as to turn thereon, and provided with lips *f*, projecting radially from the hinge and transversely from and outside of the path of the curtain, as shown.

3. In an electric annunciator, vertical notched bar *G*, pivotal bar *G'*, pivotal arm *H*, and push-rod *I*, in combination with hinged curtains *F*, having lips *f* projecting radially from the hinge and transversely out of the path of the curtain, all operating as shown.

4. In an electric annunciator, an armature, *E*, whose central arm is considerably longer than the outer arm, and provided at its tip with a pulley, *e*, such armature being loosely secured at the bottom in a vertical position, in combination with a curtain, *F*, operating together, as shown.

5. In an electric annunciator, a helix, *B*, recessed in the frame and secured by a helix-holder, *C*, having an opening in the center for the central arm of the armature to play back and forth in.

6. In an electric annunciator, a metal frame provided with numerous concave recesses, *b*, openings *D*, and slotted arms *e'*, cast in one piece, as shown.

HENRY B. PORTER.

Witnesses:

JOHN H. WHIPPLE,

H. S. CHANDLER.