

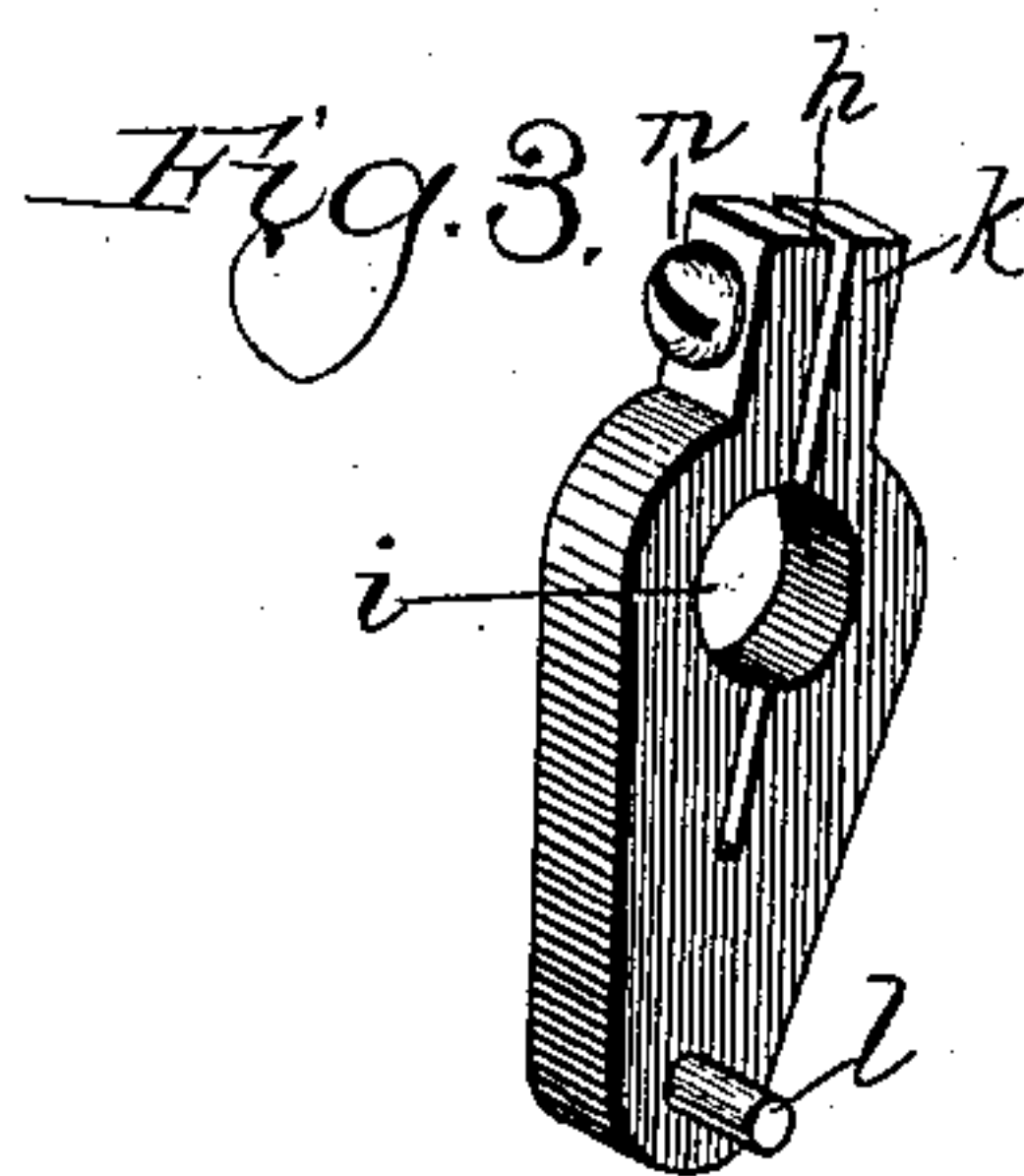
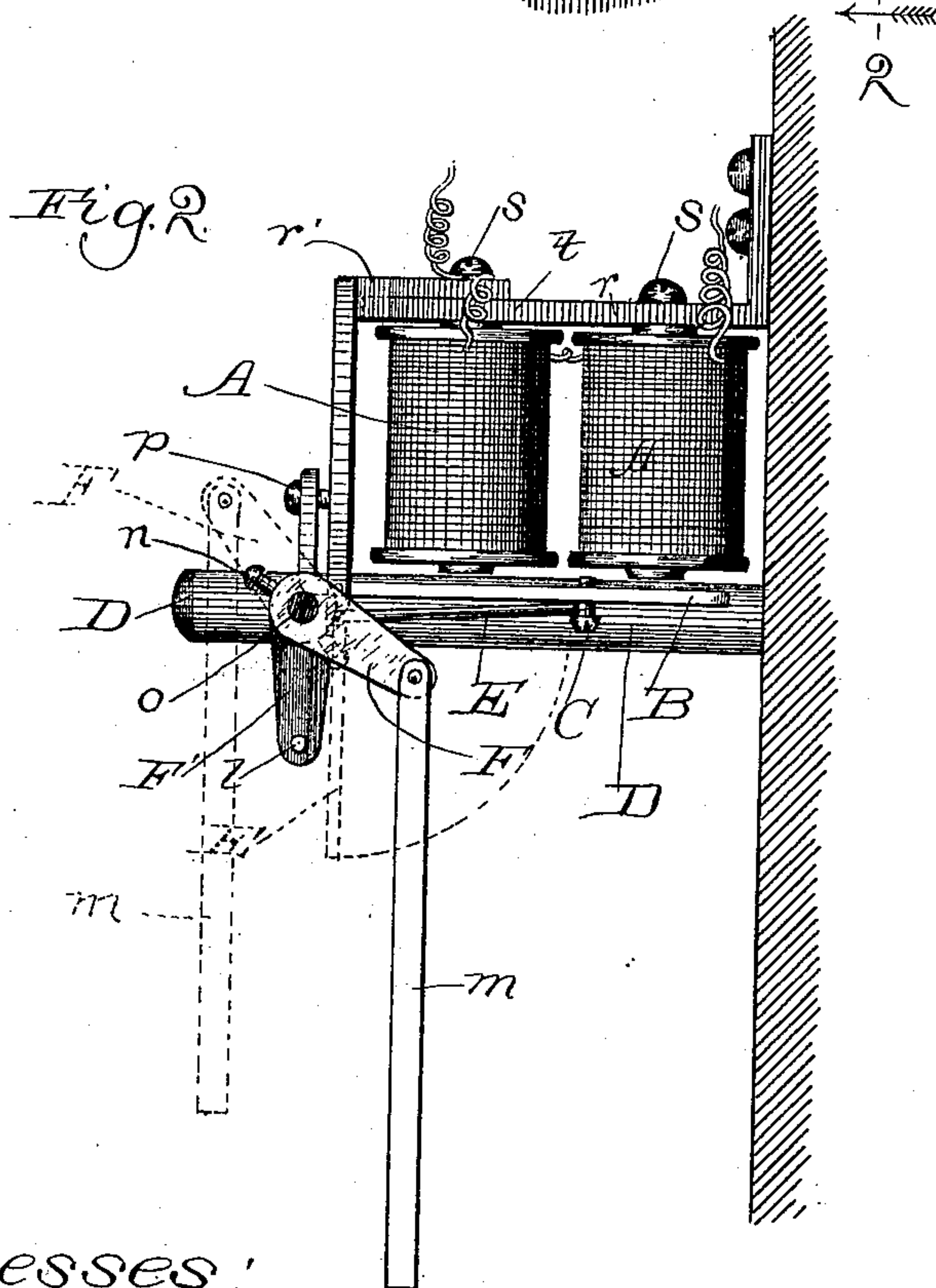
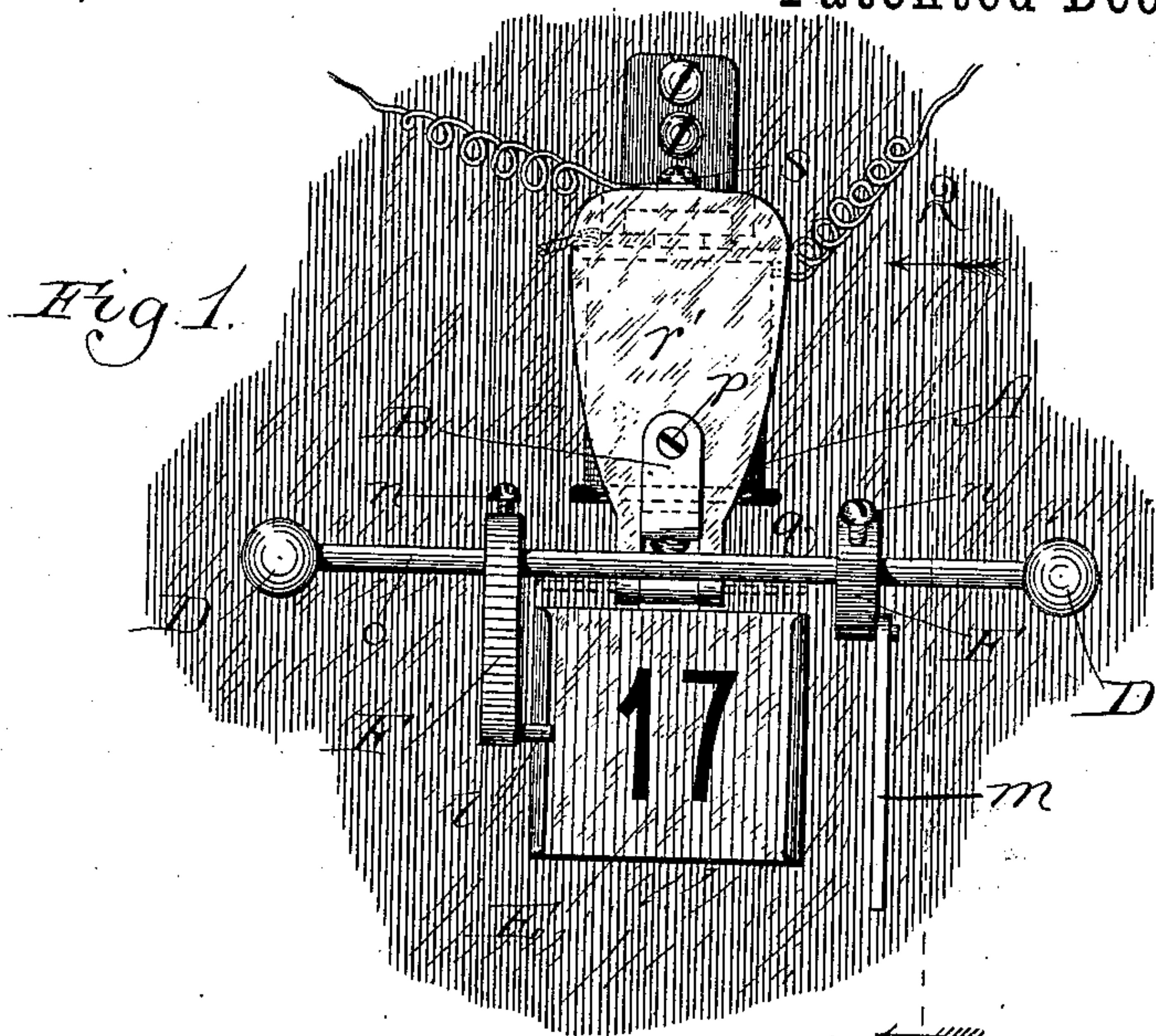
(No Model.)

D. S. FOOTE.

ANNUNCIATOR.

No. 333,063.

Patented Dec. 22, 1885.



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# UNITED STATES PATENT OFFICE.

DELAVAN S. FOOTE, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE AMERICAN ELECTRIC MANUFACTURING COMPANY, OF SAME PLACE.

## ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 333,063, dated December 22, 1885.

Application filed November 10, 1884. Serial No. 147,480. (No model.)

*To all whom it may concern:*

Be it known that I, DELAVAN S. FOOTE, 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 Annunciators; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the class of annunciators commonly used in hotels, and actuated by an electric current, to indicate at the office any room from which a signal is given.

It is my object to provide a device in which the so-called "annunciator-drop" shall operate readily, and which shall afford a simple and comparatively inexpensive construction.

To this end my invention consists in providing an electro-magnet having an armature pivoted toward one extremity to lie below the electro-magnet, and provided with a catch, and a drop or curtain having means for raising it and hinged below the armature toward one end of the same, to afford, to the drop or curtain a swinging motion, whereby when the free end of the drop or curtain shall be raised to a horizontal or nearly horizontal position it shall be engaged by the catch on the armature and held by the weight of the latter, and released by the attraction of the armature to the electro-magnet and be allowed to fall by its own gravity.

My invention further consists in the means for raising the drop or curtain to a horizontal position after it shall have fallen; and my invention still further consists in certain details of construction and combinations of parts, all as hereinafter particularly set forth.

Referring to the drawings, Figure 1 is a front elevation of my improved annunciator, showing the drop down; Fig. 2, a sectional view of the same, taken on the line 2 2 of Fig. 1, viewed in the direction of the arrow-heads, and showing the drop or curtain supported in a position nearly horizontal; and Fig. 3, a detail view showing a modification.

A is an electro-magnet comprising two spools, though one may ordinarily be sufficient. The spools of the electro-magnet A are supported to hang from a frame, *t*, by means of screws *s*. The frame *t* comprises a

horizontal strip of metal, *r*, having one end bent to a right angle and secured to the frame-work inside the annunciator-case (not shown) and an angular plate, *r'*, secured by a screw, *s*, toward one end of its horizontal portion upon the plate *r*, which extends across the cores of the spools of the electro-magnet, and having its vertical portion provided toward its lower extremity with a slot, *g*. An armature, B, having one extremity bent to a right angle and inserted through the slot *g*, to cause it to project upward without the plate *r'* of the frame and to cause its horizontal portion to extend across the cores of the electro-magnet on its under side, is pivoted within the slot *g*. A set-screw, *p*, is provided in the vertical portion of the armature B, to impinge against the outer face of the vertical portion of the plate *r'*, to limit the play of the free end of the armature and permit adjustment of its proximity to the under side of the electro-magnet.

C is a screw inserted into the armature from the under side of the latter, to perform a function hereinafter described.

D D are parallel rods projecting forward in the same horizontal plane from the frame-work within the annunciator-case, and preferably having their upper surfaces on a level, or nearly so, with the lower extremities of the electro-magnet A. A rod, *o*, is journaled at its extremities to permit to it an oscillatory motion between the rods D D forward of the lower slotted end of the vertical portion of the plate *r'*, to which a numbered tag, forming the drop or curtain E, is hinged.

F is an arm, provided toward one end with an aperture of a size to permit the rod *o* to pass through it, upon which rod, toward one end, it is adjustably secured to oscillate with the same by means of a set-screw, *n*. A rod, *m*, is pivoted at one extremity toward the free end of the arm F, to afford means for actuating the latter.

F' is an arm similar in form to the arm F, and adjusted upon the rod *o* toward its opposite extremity by means corresponding with those employed in the adjustment of the arm F. The arm F' is provided toward its free extremity with an inwardly-projecting pin, *l*,



to engage with the forward surface of the tag E. The arms F and F' are adjusted upon the rod o at different angles.

The operation of my device is as follows:

- 5 Suppose the drop or curtain E to occupy the horizontal or nearly horizontal position shown in Fig. 2 of the drawings, in which it is sustained by the catch C. Owing to the downward and outward pressure of the free end of the armature B, which, owing to its pivotal adjustment, occupies a position out of contact with the ends of the electro-magnet A, a current passed through the electro-magnet will attract the armature in an upward direction, releasing the drop or curtain E from the catch by removing the pressure of the armature, and permitting it to fall to a vertical position, presenting to view the number of the room in which the signal is given. The drop or curtain E is then readjusted to its normally horizontal or nearly horizontal position by pushing upward upon the rod m, whereby the arm F is turned, and with it the rod o and arm F', provided with the pin e, which abuts against one edge of the forward surface of the drop or curtain E and operates to raise it. The arms F and F' are so adjusted upon the rod o that when the arm F' occupies a vertical position, as shown in Fig. 2 of the drawings, the arm F will project obliquely inward in order to prevent in the lifting-arm F a dead-center.

- If desired, the arm F may project upward and forward, as shown by dotted lines in Fig. 2 of the drawings, instead of downward and inward, the arm F' occupying the vertical position already described, when the adjustment of the drop or curtain E to its horizontal position may be effected by pulling downward upon the rod m. As, however, the device forms but one of several in a horizontal row in the annunciator-case, which contains several such rows, the manner of adjustment last set forth of the arm F may be less desirable than that first mentioned, owing to the fact that unless set far back in the case, necessitating increased depth of the latter, it would strike against the inner surface of the front portion of the case. The rod o forms the axis for all the arms F' in each horizontal row of annunciator-drops within the case, one arm F only being provided at the end of each such row, all of which arms F in the vertical end row are connected together, in order that any drop may be raised, or any number of drops, by operating a single suspended projecting rod, m.

- Fig. 3 presents a modified form of construction of the arms F and F', (preferred as a substitute for the arm F',) showing a projection, k, extending from the upper end of each arm, through which projection a vertical slot, h, is cut, extending below the opening i in the arm, formed to encompass the rod o. By this construction the set-screw n, instead of impinging against the surface of the rod o and indenting the same, to maintain the arms in their adjusted relative positions, passes

transversely through a threaded opening formed to receive it in the projection k of each arm, and permits the latter to be more firmly adjusted by binding around the rod.

The set-screw p, inserted through the vertical portion of the armature B, permits ready adjustment of the latter with reference to the electro-magnet, according to the strength of current employed.

Although a screw, C, is shown and described as affording a catch to engage with the free end of the drop or curtain E, other suitable contrivances upon the armature, either stationary or adjustable, will answer the same purpose.

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

1. In an electric annunciator, the combination, with the electro-magnet, of the armature pivoted toward one end below the electro-magnet and extending across its core or cores, and provided with a suitable catch, the drop or curtain hinged below the electro-magnet toward one end of the armature, to engage with the said catch when raised to a horizontal or nearly horizontal position, and means for raising the said drop or curtain to its said horizontal position when it shall have been released therefrom, substantially as described.

2. In an electric annunciator, the combination of the following elements, viz: an electro-magnet, A, supported to hang within a suitable frame, r r', to be supported within the annunciator-case, an adjustable armature, B, pivoted toward one end within the said frame and extending across the under side of the core or cores of the said electro-magnet, a catch, C, provided upon the said armature, a drop or curtain, E, hinged to the said frame, to hang vertically below the said armature, an oscillating rod, o, supported within suitable bearings to extend transversely across the plane of the said electro-magnet, an oblique arm, F, operated by a rod, m, to turn the said rod o, and an arm, F', upon the rod o, provided with a pin, l, to engage with the drop or curtain E in raising the said drop or curtain to its horizontal or nearly horizontal position, the whole being constructed and arranged to operate substantially as described.

3. In an electric annunciator, the combination, with the rod o, supported to oscillate in suitable bearings, of the adjustable arms F and F', provided with apertures i, to permit their adjustment on the said rod o, a projection, k, upon one end of each arm, a vertical slot, h, extending through the said projection below the said aperture, a set-screw, n, passing transversely through the said projection, a projection, l, upon the arm F', and means for turning the arm F to oscillate the rod o, substantially as described.

DELAN S. FOOTE.

In presence of—

GEORGE WILSON,  
R. WISEMAN.