

(No Model.)

J. H. BATES.
ELECTRIC ANNUNCIATOR.

No. 488,536.

Patented Dec. 27, 1892.

Fig. 1.

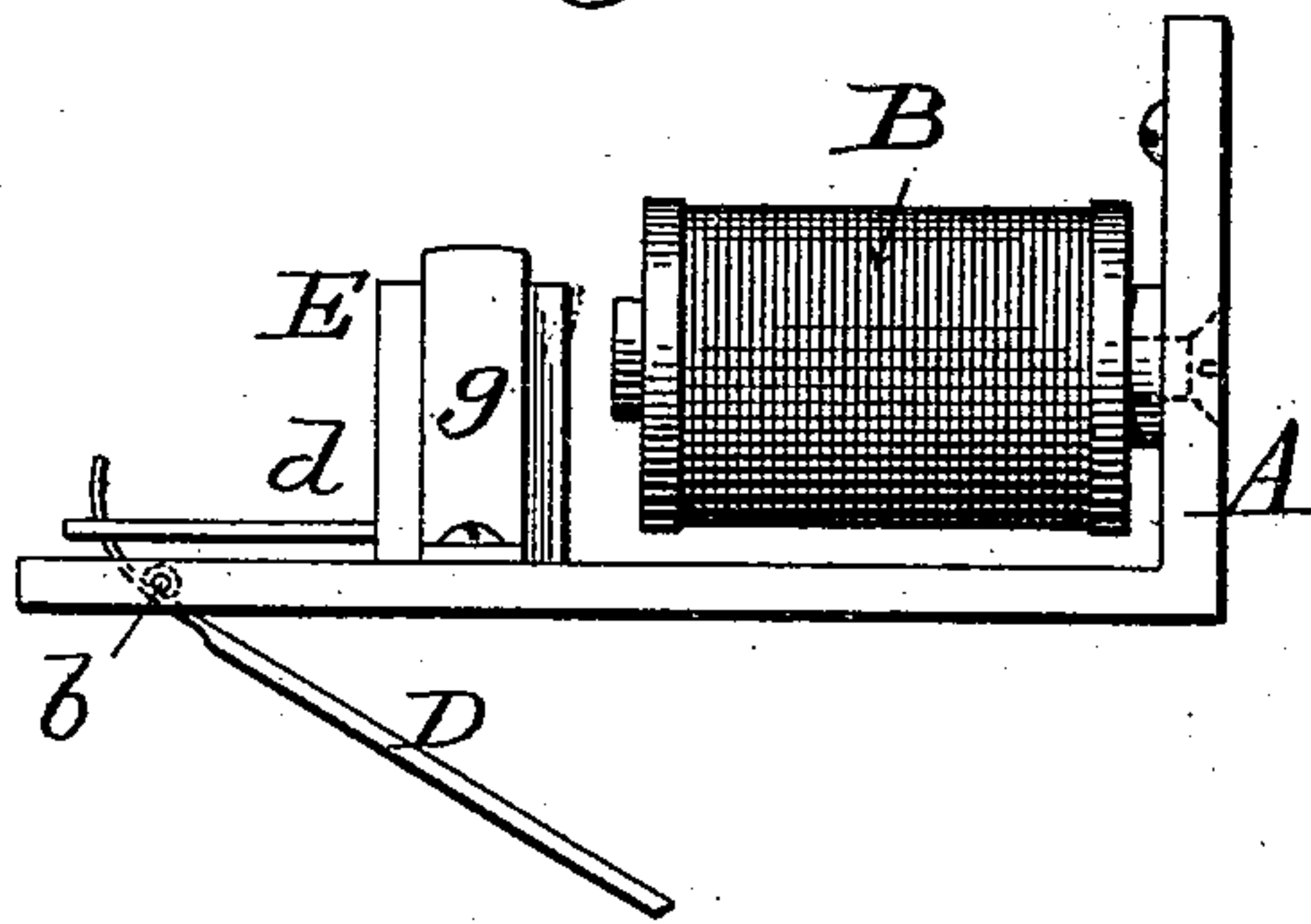


Fig. 2.

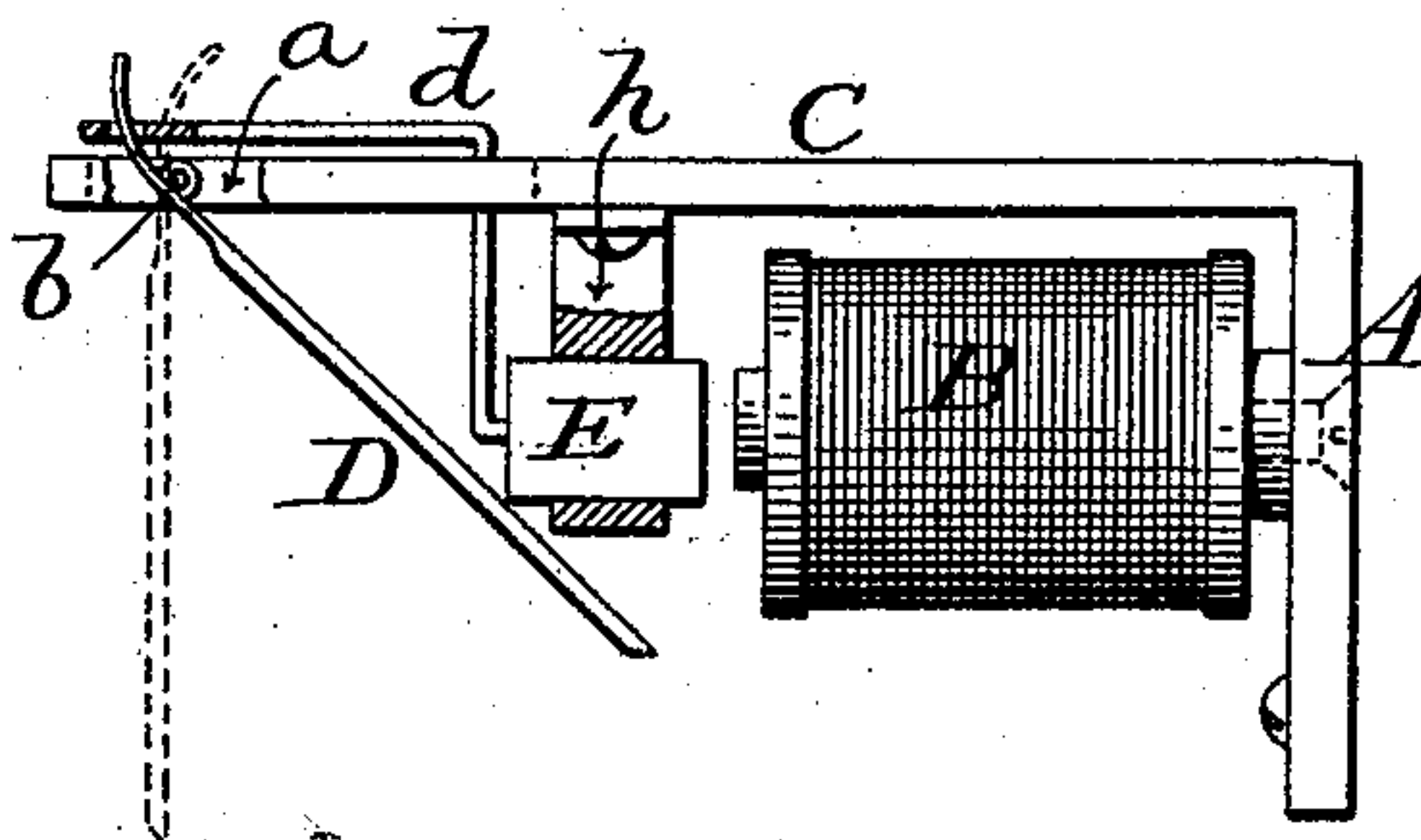


Fig. 3.

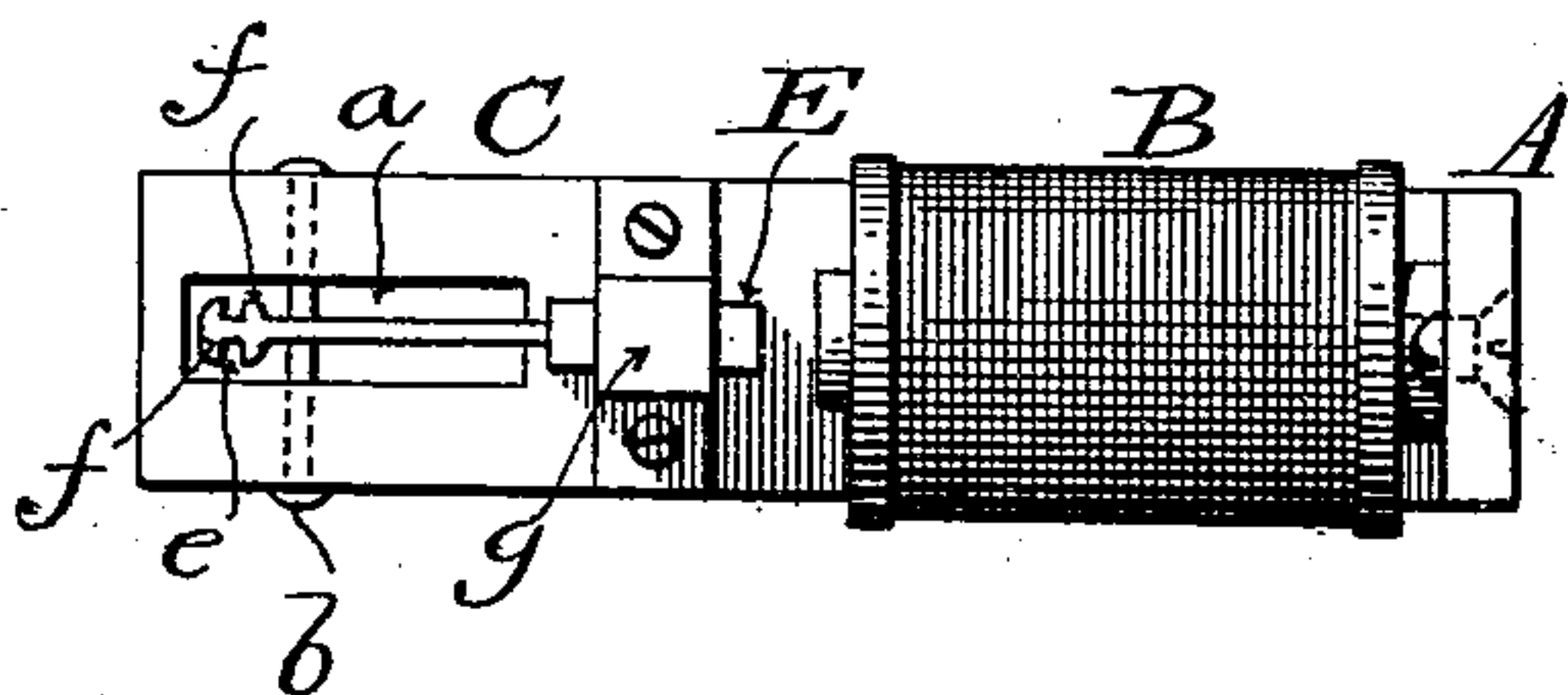


Fig. 4.

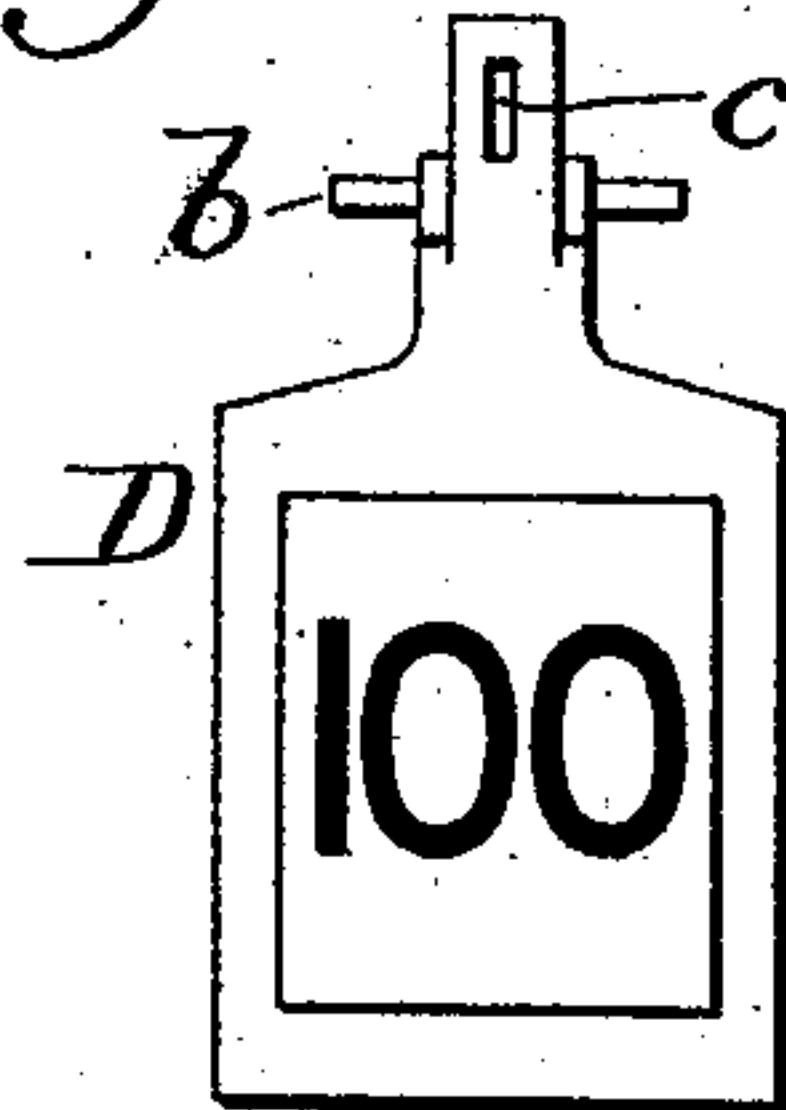


Fig. 5.

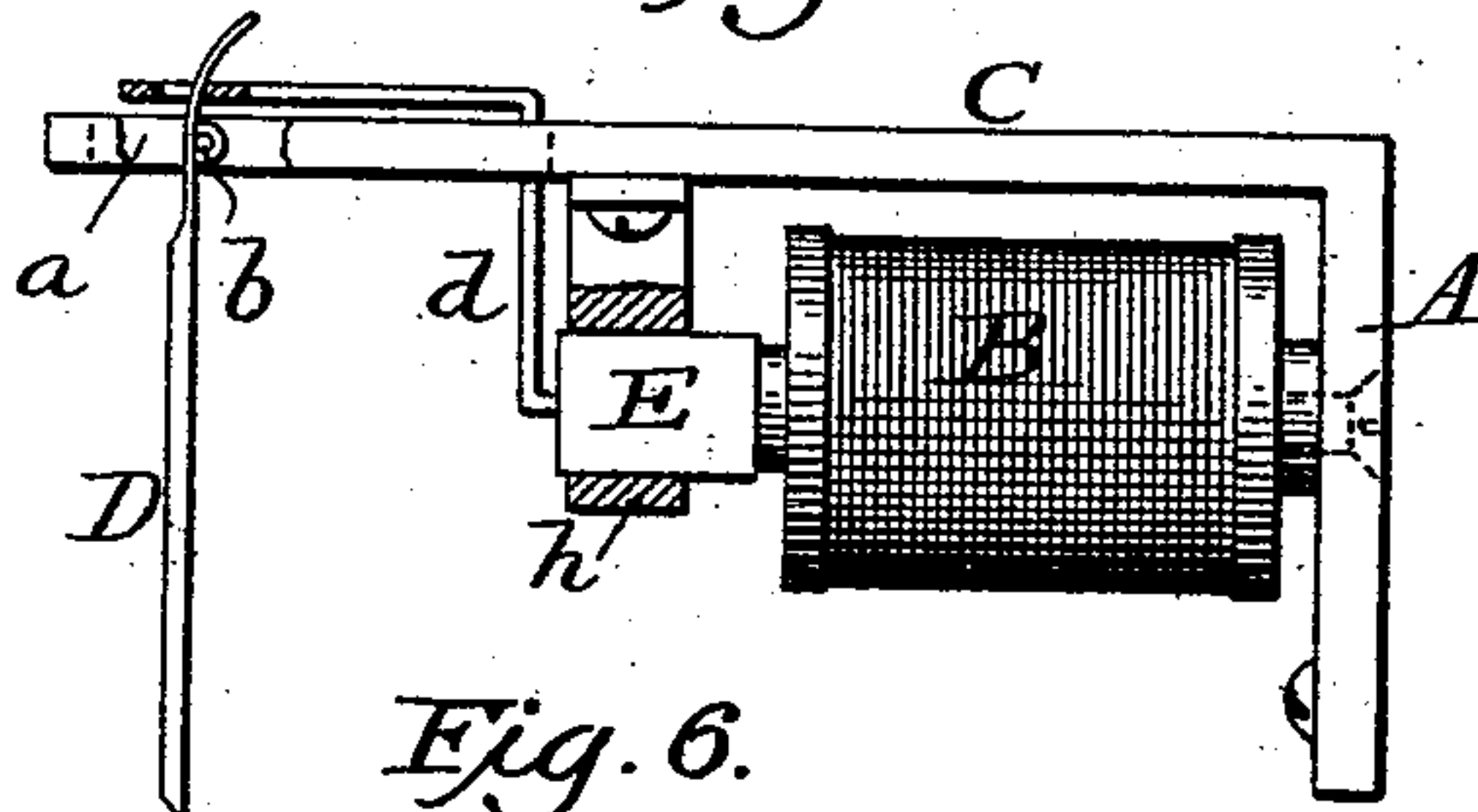
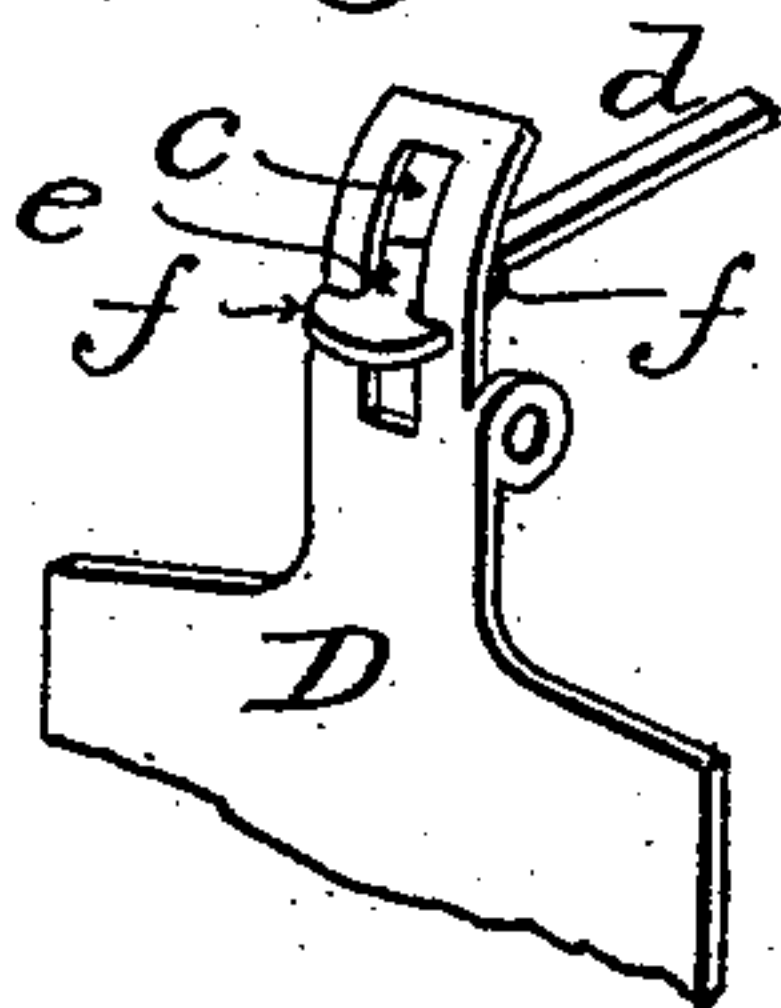


Fig. 6.



Witnesses:

James F. Duhamel
Horace A. Dodge.

JAMES H. BATES,
Inventor,

by Dodge & Sons,
Ass. Atty.

UNITED STATES PATENT OFFICE.

JAMES H. BATES, OF HOBOKEN, NEW JERSEY.

ELECTRIC ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 488,536, dated December 27, 1892.

Application filed June 27, 1892. Serial No. 438,102. (No model.)

To all whom it may concern:

Be it known that I, JAMES HERVEY BATES, a citizen of the United States, residing at Hoboken, in the county of Hudson and State of New Jersey, have invented some new and useful Improvements in Electric Annunciators, of which the following is a specification.

My invention relates to electric annunciators, and consists in so arranging the indicator that it shall be thrown into visible position, positively, by the magnet, instead of being simply released by the magnet.

In the drawings,—Figure 1 is a side view showing the indicator held out of view; Fig. 2, a side view, partly in section, of a slightly modified arrangement; Fig. 3 is a plan view of the construction shown in Fig. 1, but with the indicator removed; Fig. 4, a face view of the indicator; Fig. 5, a side view, partly in section, showing the indicator thrown down into position to be seen; and Fig. 6, a perspective view showing the connection between the indicator and the armature.

A indicates a base plate to which the electro-magnet B is secured in any suitable manner, and C indicates an arm projecting forwardly from the base plate as shown in Figs. 1, 2, 3, and 5. The outer end of the arm C is slotted as at *a*, to receive the upwardly-projecting end of the indicator D which is hinged or pivoted within the slot by means of a pin *b*, as shown in Figs. 1, 2, 3 and 5.

Upon reference to Figs. 4 and 6, it will be noticed that the upper end or arm of the indicator is slotted as at *c*, to receive the forward end of an arm *d* secured to and projecting from the armature E, the connection between the armature arm *d* and the indicator being above the pivot of the latter. The end portion of the arm *d* will be provided with a neck *e* to fit within the slot *c*, and with lugs *f f* to bear against the front and rear faces of the indicator, thereby insuring a positive movement of the latter whenever the armature is drawn toward the magnet. While this is a very simple and inexpensive construction, I do not wish to be understood as limiting myself thereto; as this may be reversed,—the end of the indicator arm projecting up through a slot in arm *d*, as shown in Figs. 1, 2 and 5.

The armature E which carries the indica-

tor-actuating rod *d*, is confined in proper position by means of a clip *g* through which it slides, as shown in the drawings,—the armature in such case sliding upon the arm C. Or, if desired, the magnet may be arranged beneath the arm C as shown in Figs. 2 and 5, and the armature move through a block *h* (carried on the under side of arm C) instead of sliding upon the arm.

In the arrangement shown in Figs. 2 and 5, the actuating arm *d* is bent upward and forward and passes through the slot *a* which is elongated to receive it.

To avoid unnecessary complication, I have omitted the means for returning the indicator to its non-visible position. Such means forms no part of my invention.

While I have spoken of the arm *d* as being secured to the armature, I do not mean to imply that it is necessarily made separate and attached thereto. The arm *d* should be positively connected with or jointed to the indicator D so that the latter will be actuated positively in both directions.

I am aware that it is not new to provide the armature with an indicator which shall be brought into visible position upon the energization of the magnet, and I am also aware that an annunciator has been patented in which the indicator rests upon a rod interposed between such indicator and the armature. Under both of these constructions, which I hereby disclaim, the weight of the indicator is thrown wholly upon the armature thereby requiring a greater force to throw the indicator into visible position than is required under my construction where there is no additional weight whatever thrown upon the armature. In both of these plans to which I have alluded, dependence is placed upon the magnetic retention of the indicator in the visible position, which requires nicety of adjustment. Under my construction the indicator is pivoted in the frame independently of the armature, and upon energization of the magnet, it is only necessary to tip or rock the indicator upon its pivot, thus throwing no appreciable work upon the armature. It will also be observed that when the indicator is thus thrown into visible position, it becomes immaterial whether or not the magnet remains

energized, as I do not depend upon the retention of the indicator in visible position by the magnetic attraction.

Having thus described my invention, what
5 I claim is:—

1. In an electric annunciator, the combination with a frame or base, of an electro-magnet, an indicator normally out of view, and an armature for the magnet, independent of the
10 indicator, but jointed to the indicator substantially as shown and described, whereby the armature is adapted to positively actuate the indicator.

2. The combination with the base or frame
15 A, of the electro-magnet B carried thereby; an arm C projecting from the base or frame; an indicator D pivoted in said arm C independently of the armature; the armature E; and an arm *d* jointed to the armature and the

indicator, whereby the indicator shall be act- 20
uated positively.

3. The combination with the base or frame A having the slotted arm C, the electro-magnet B and its armature E; of the indicator D
25 pivoted in the slotted arm; and an arm *d* secured at one end to the armature, and having at its opposite end a slotted connection with the indicator, whereby the indicator shall be actuated positively.

In testimony that I claim the foregoing as
30 my invention I have signed my name, in presence of two witnesses, this 14th day of June, 1892.

JAMES H. BATES.

Witnesses:

WALTER D. GRAHAM,
FRED. SCHMIDT.