

No. 627,606.

Patented June 27, 1899.

H. C. THOMSON.
ELECTRIC ANNUNCIATOR.

(Application filed Mar. 26, 1897.)

(No Model.)

Fig. 1.

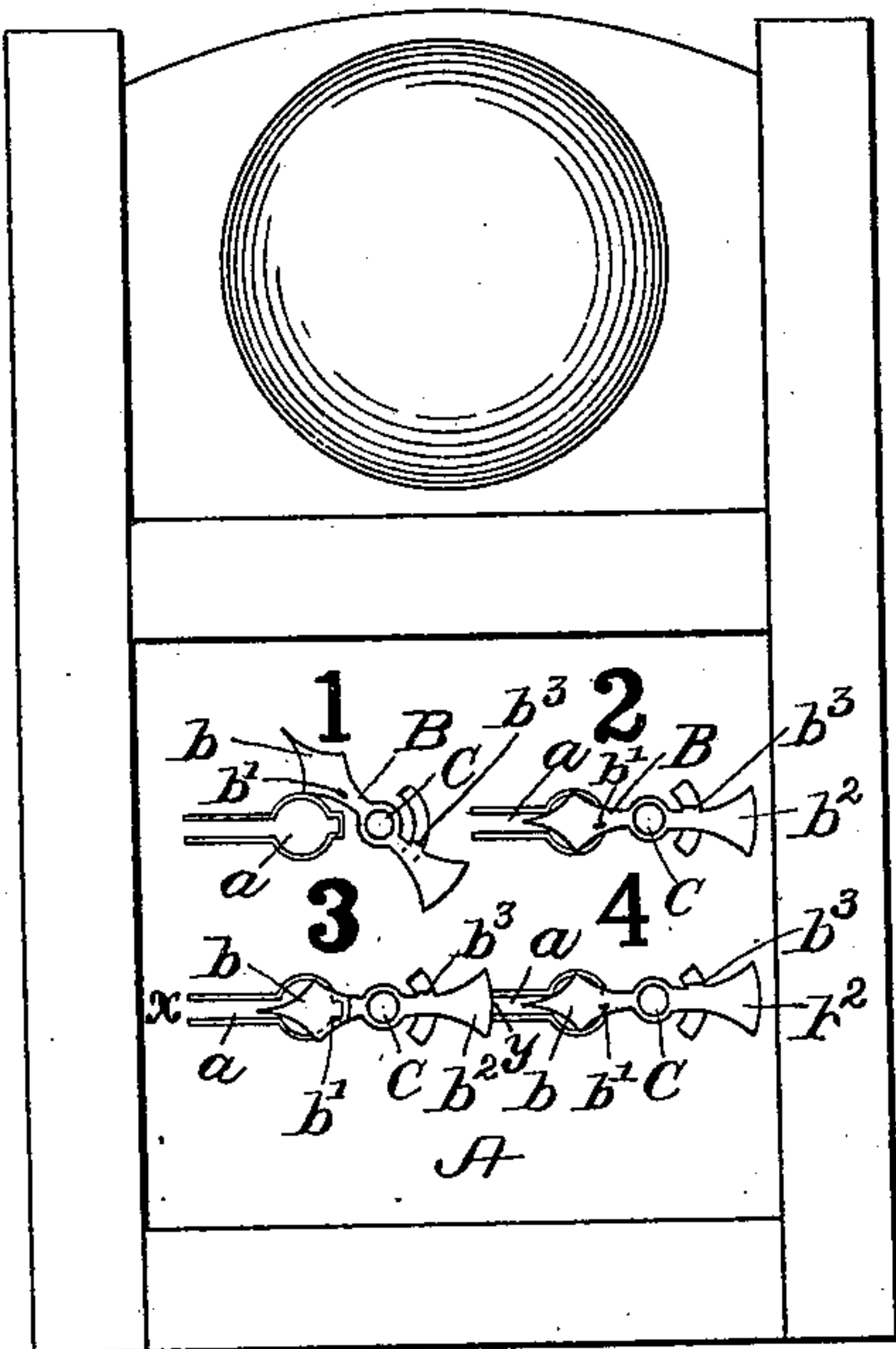


Fig. 2.

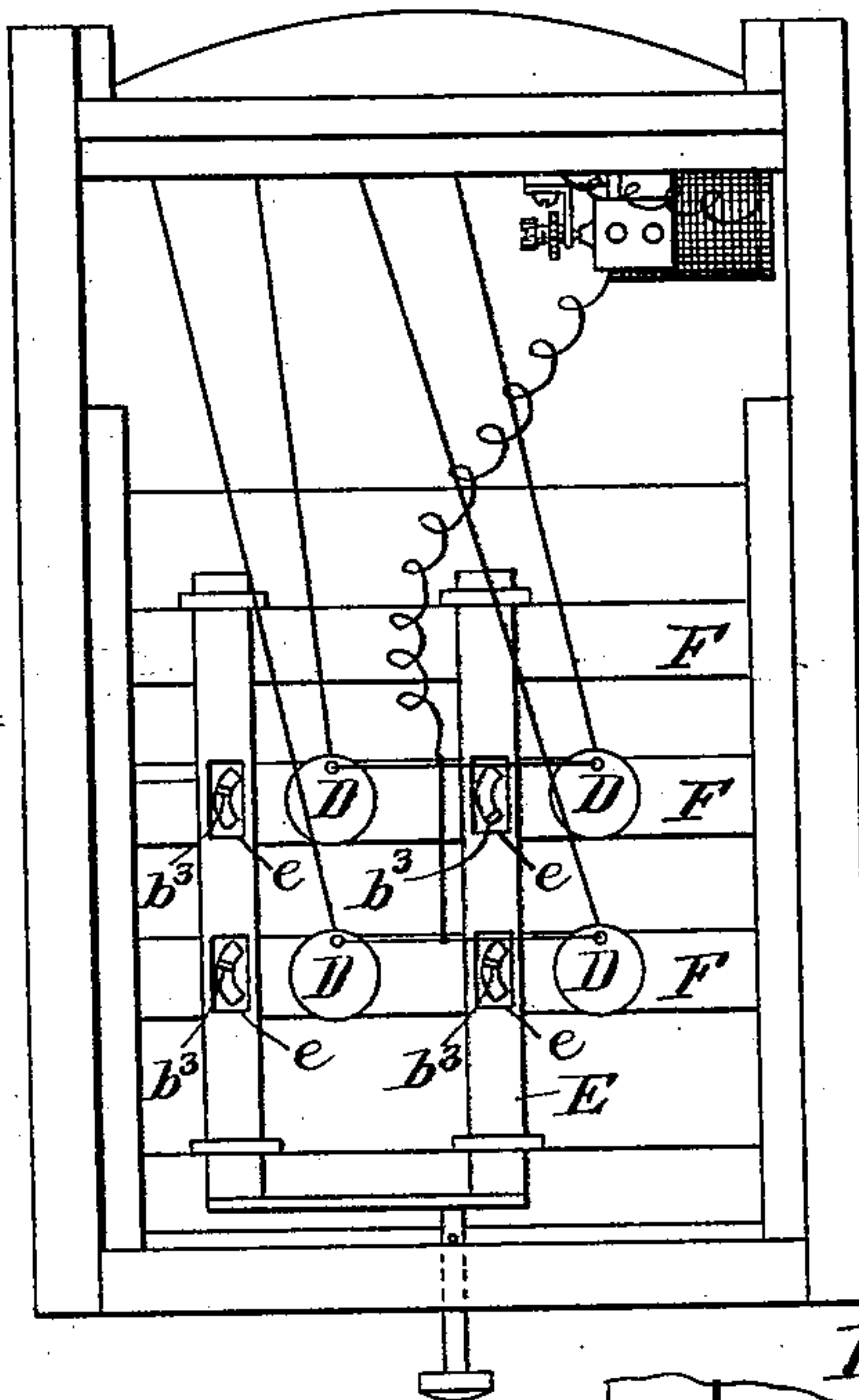


Fig. 5.

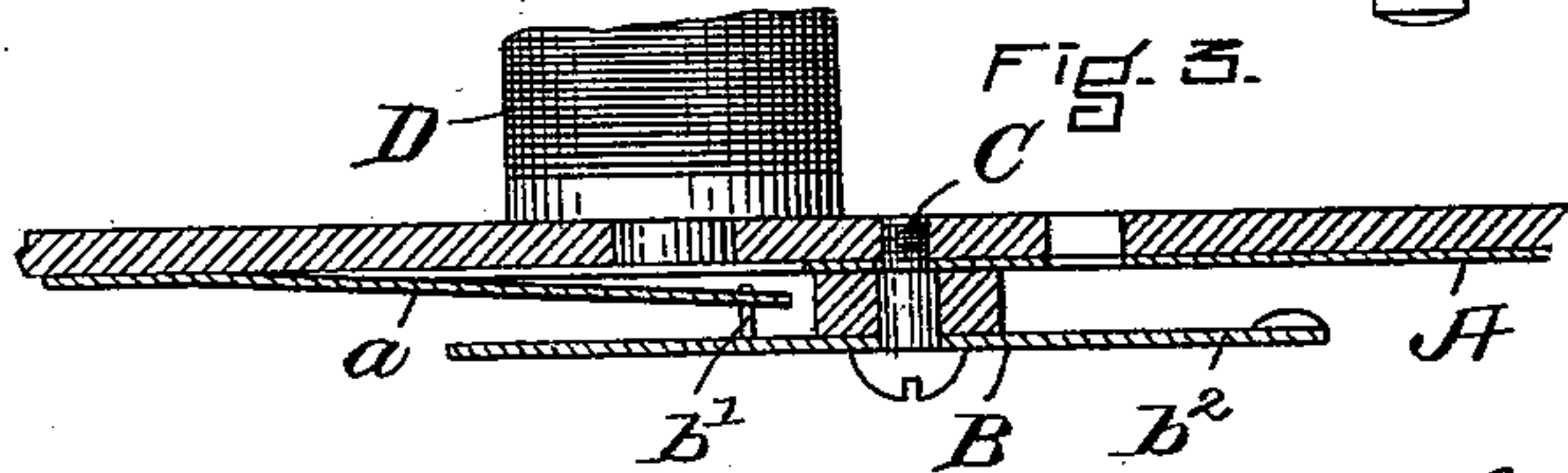
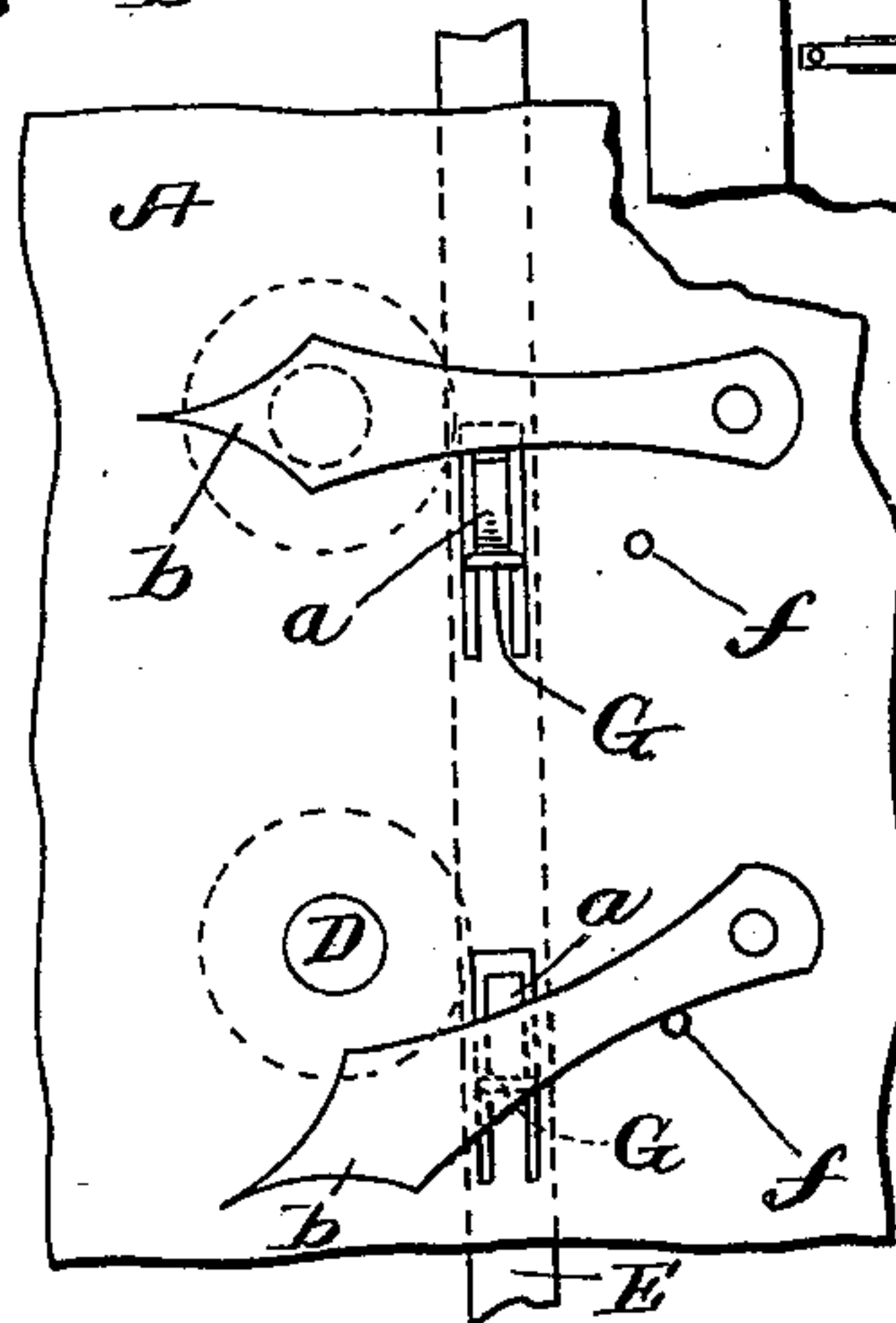


Fig. 4.



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ELECTRIC ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 627,606, dated June 27, 1899.

Application filed March 26, 1897. Serial No. 629,396. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. THOMSON, a citizen of the United States, residing at Boston, Massachusetts, have invented a new and useful Improvement in Electric Annunciators, of which the following is a specification.

My invention relates to improvements in electric annunciators in which magnets mediate or immediately control the movements of indicating-fingers which serve, when the apparatus is operated, to either point out some figure or by its movement to disclose a visual signal. The wiring, connections, restoring device, and gong are too well known in the art to require of the description here.

My invention primarily consists in utilizing a portion of the metal face-plate for a spring-piece as a detent for the indicator, said spring-piece being both an armature and detent, or simply a detent if the indicator be itself the armature. An evidently alternative equivalent consists in cutting away entirely a similar portion of the face-plate and then pivoting at such perforation a like spring-piece to serve an identical purpose.

My invention also consists in the adaptation and combination of the ingredients and in the apparatus as a whole.

My invention is shown in the accompanying drawings, in which—

Figure 1 is a front view of my apparatus, with several indicators, one of which is pointing out a number, the spring-pieces serving both as detents and as armatures. Fig. 2 is a rear view of Fig. 1, showing the lifting device. Fig. 3 is a cross-section of Fig. 1. Fig. 4 is a front view when the spring-piece is simply a detent and the indicator is itself the armature. Fig. 5 is a detail showing the spring-piece pivoted to instead of being integral with the face-plate.

I will now explain the construction of my apparatus.

In Fig. 1, A is the face-plate, usually made of thin japanned metal. Of course other substances—as, for instance, very thin wood—may be used therefor, and in such case instead of striking up a spring-piece from the metal face-plate a proper portion is cut out and the spring-piece pivoted at such perfora-

tion. Behind this spring-piece is the magnet D, properly supported by the framework, whose core comes in front of, but does not extend through, the above-mentioned perforation of the face-plate, so as to operate upon the spring-piece armature *a*; and so release it as a detent. In Fig. 5, *a* (shown as pivoted to the face-plate) would also be both the armature and the detent for the indicator. The indicator B is loosely pivoted upon the spindle C, running through the face-plate, and has the arrow part *b*, upon the inner face of which is a lug *b'*, beveled on its lower edge to permit it to slide over the spring-piece *a* when returned to position, while the rear portion *b*² has a projection *b*³, (shown in Fig. 2,) which passes through a slot in the face-plate to gear with the lift used for restoring the indicator.

The operation is as follows: The parts being as shown by the three horizontal indicators in Fig. 1, the operator—for instance, the occupant of room No. 2—by the ordinary press-button admits a current of electricity to the magnet D. This being energized attracts its armature *a*, which has previously served as a detent for the indicator, whose lug *b'* catches against its under side. The armature, being attracted, ceases to operate as a detent for the indicator, but releases the same, which, by reason of its rear portion *b*² being heavier, assumes a position in which the indicator points at the figure “2.” One of the indicators in Fig. 1 is shown as having been operated and as pointing at figure “1.”

I will now describe the structure when my face-plate is utilized to furnish a spring-piece to be used only as a detent, the indicator being the armature. In Fig. 4 the face-plate and magnet are as in Fig. 1. The spring-piece *a* is not immediately in front of the pole of the magnet, but in such a position as to serve as a detent only and not as an armature. The indicator is loosely pivoted upon the spindle, as before, and rests upon the spring piece or detent *a*, its arrow-head *b* coming directly over the pole of the magnet. A stop *f* holds the indicator in its position before operating. The operation of the apparatus is that when the press-button is pushed, as before, the mag-

net attracts the indicator upward, and it is caught by the spring-detent, so that it assumes the position of the upper arrow in Fig. 4.

In either form the arrow is restored to position by the devices as shown in Fig. 2 in so well-known a manner as to require no further description except to say that in Fig. 4 the lift-arm is angled to enable it to press the detent flush with the face-plate to let the indicator fall.

What is said about the face-plate being made of wood and of the spring-detent being pivoted over a perforation in the armature instead of being struck up from the metal face-plate is equally applicable to the structure as shown in Fig. 4 as to that of Fig. 1.

It is in some cases desirable to have the annunciator-plate uniform in color, including the indicator, and in such case a distinguishing color, mark, or figure may be put upon the spring-detent and armature *a* of Fig. 1 and on the face-plate, behind the indicator, in Fig. 4, so as to be revealed upon movement of the indicator. Both plans are well known in various forms of annunciators.

It will be seen that the chief features of novelty in my invention are, first, constructing the detents for the indicator (the detent being also an armature or the indicator being an armature, as preferred) from portions struck up from the face-plate itself, or, especially if the face-plate be of non-resilient material, by cutting out a similar portion of the face-plate and there pivoting a spring-piece, as above set forth, the detent having in both cases the necessary springiness; second, all the mechanism except the magnets and the lift comes in front of the face-plate, which has been done before, so far as I am aware, only with magnetized pointers.

Having described my invention, I do not claim the particular parts or elements; but

What I do claim is—

1. In an electric annunciator, the combination of an electromagnet, a face-plate arranged

in front of said magnet and cut away as described, an indicator loosely pivoted in front of said face-plate, and a spring-piece rigidly attached to said face-plate, approximately conforming to said cut-away portion, and adapted to detain said indicator, substantially as described.

2. In an electric annunciator, the combination of the face-plate, a spring-piece rigidly attached to the face-plate, a magnet, and a loosely-pivoted indicator adapted to be detained by said spring-piece and released by the same, all substantially as described.

3. In an electric annunciator, the combination of an armature struck from the face-plate, a loosely-pivoted indicator adapted to be detained by said armature, and an electromagnet, substantially as described.

4. In an electric annunciator, the combination of the face-plate *A*, having one or more armature-pieces *a* rigidly attached to the face-plate, approximately conforming to said cut-away portion, magnets *D* operating said armature-pieces, loosely-pivoted indicators *B* having the rear end weighted and the forward end provided with a beveled catch *f'*, substantially as described and shown.

5. In an electric annunciator, the combination of a face-plate *A*, having one or more armature-pieces *a* struck up from the face-plate, magnets *D* operating said armature-pieces, loosely-pivoted indicators *B* having the rear end weighted and the forward end provided with catches *b'*, and projections *b³* extending through the annunciator-plate for restoring the indicators to position, substantially as described and shown.

In witness whereof I have hereunto subscribed my name this 2d day of March, A. D. 1897.

HENRY C. THOMSON.

In presence of—

L. C. SARGENT,
E. P. PAYSON.