

(No Model.)

2 Sheets—Sheet 1.

J. CAPRON.

ELECTRICAL INDICATOR FOR SPEAKING TUBES.

No. 283,073.

Patented Aug. 14, 1883.

Fig. 1.

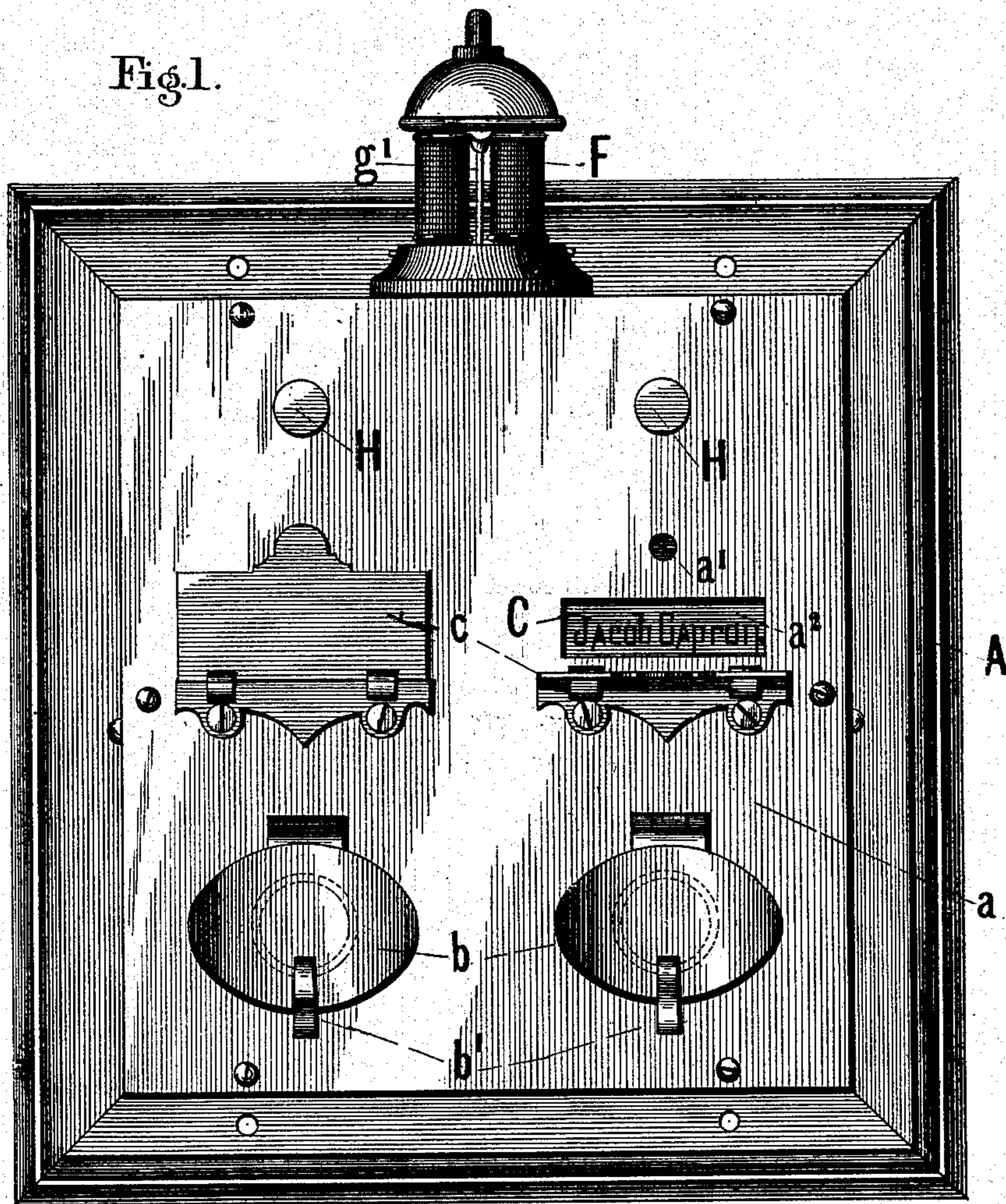
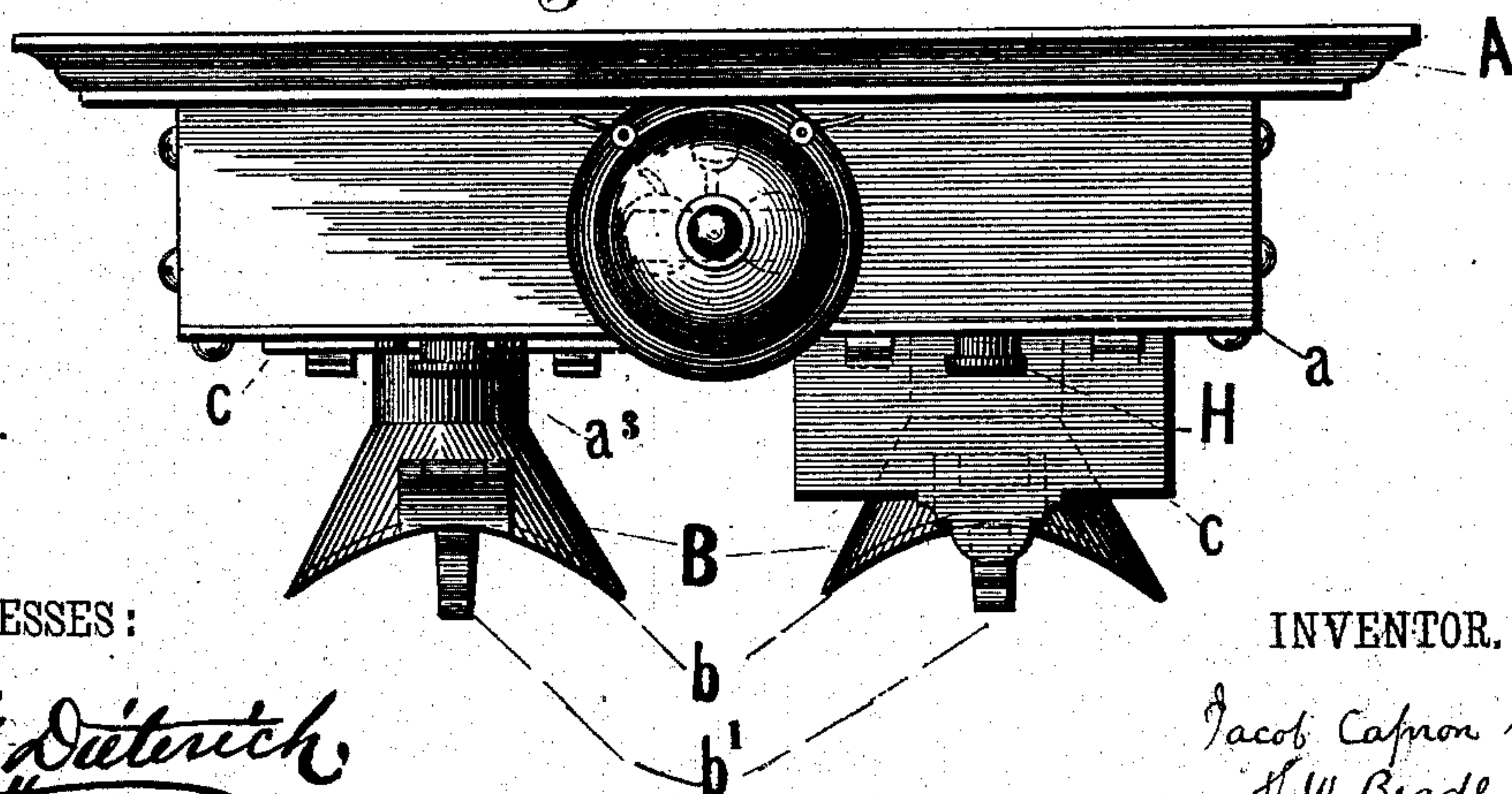


Fig. 2.



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Fig. 3

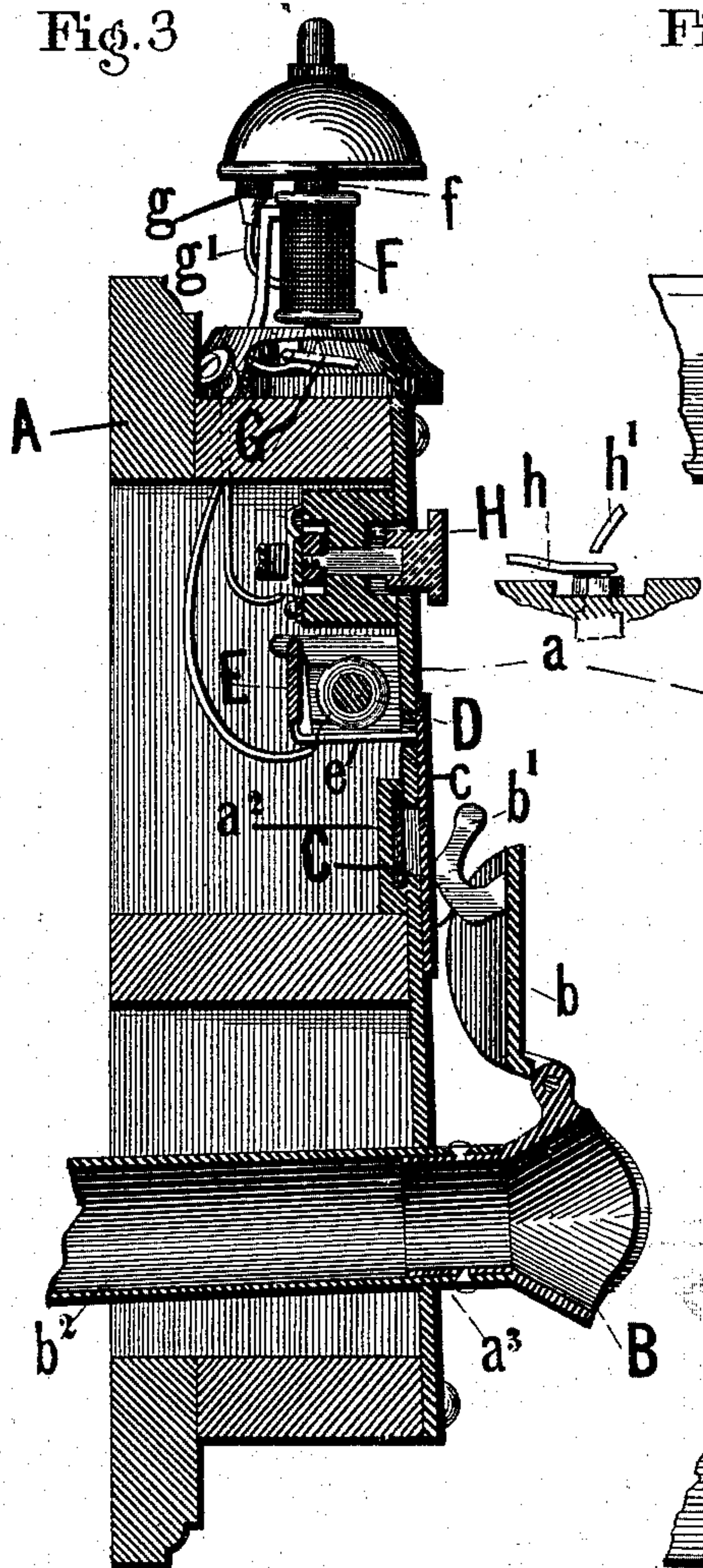


Fig.4.

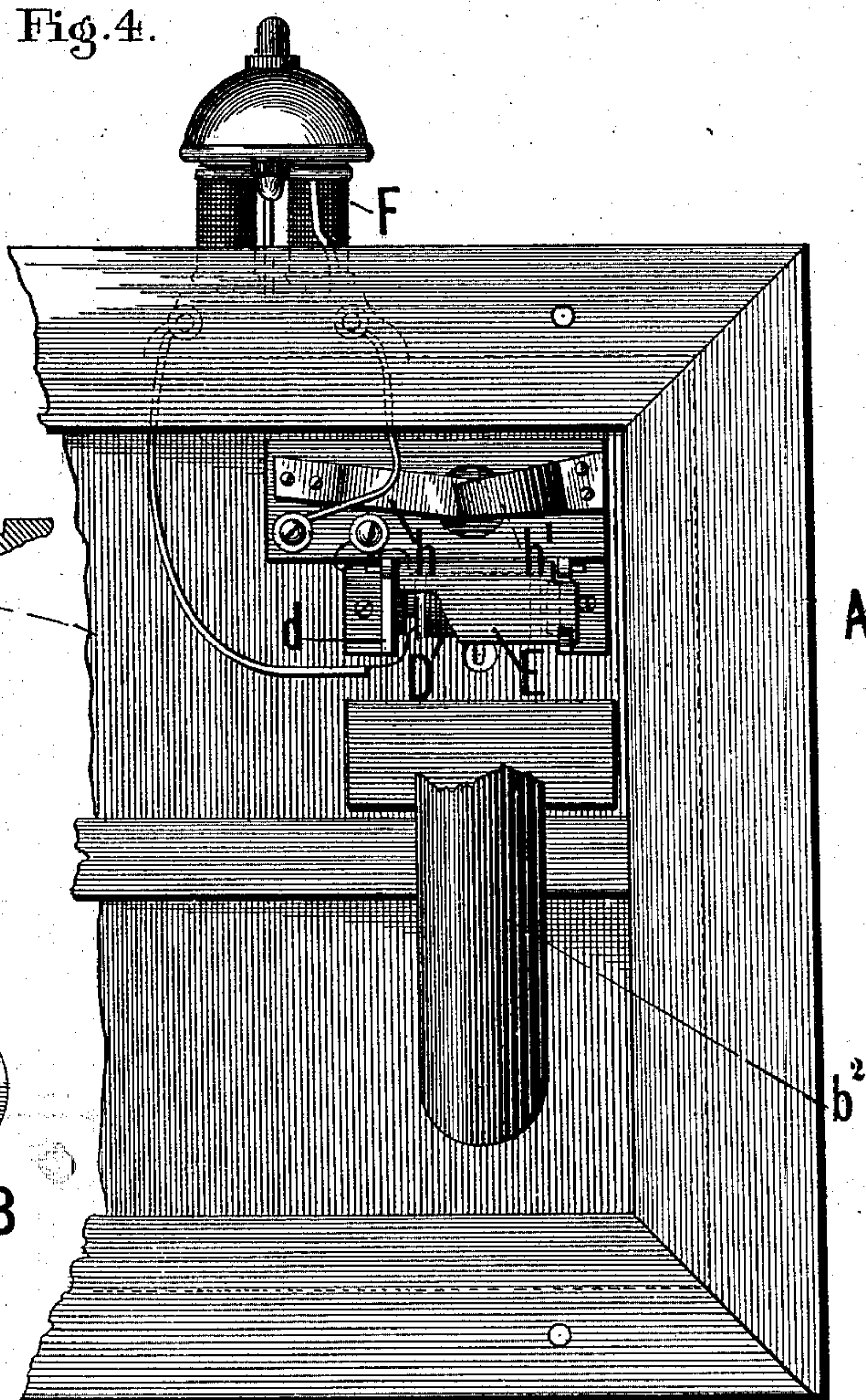
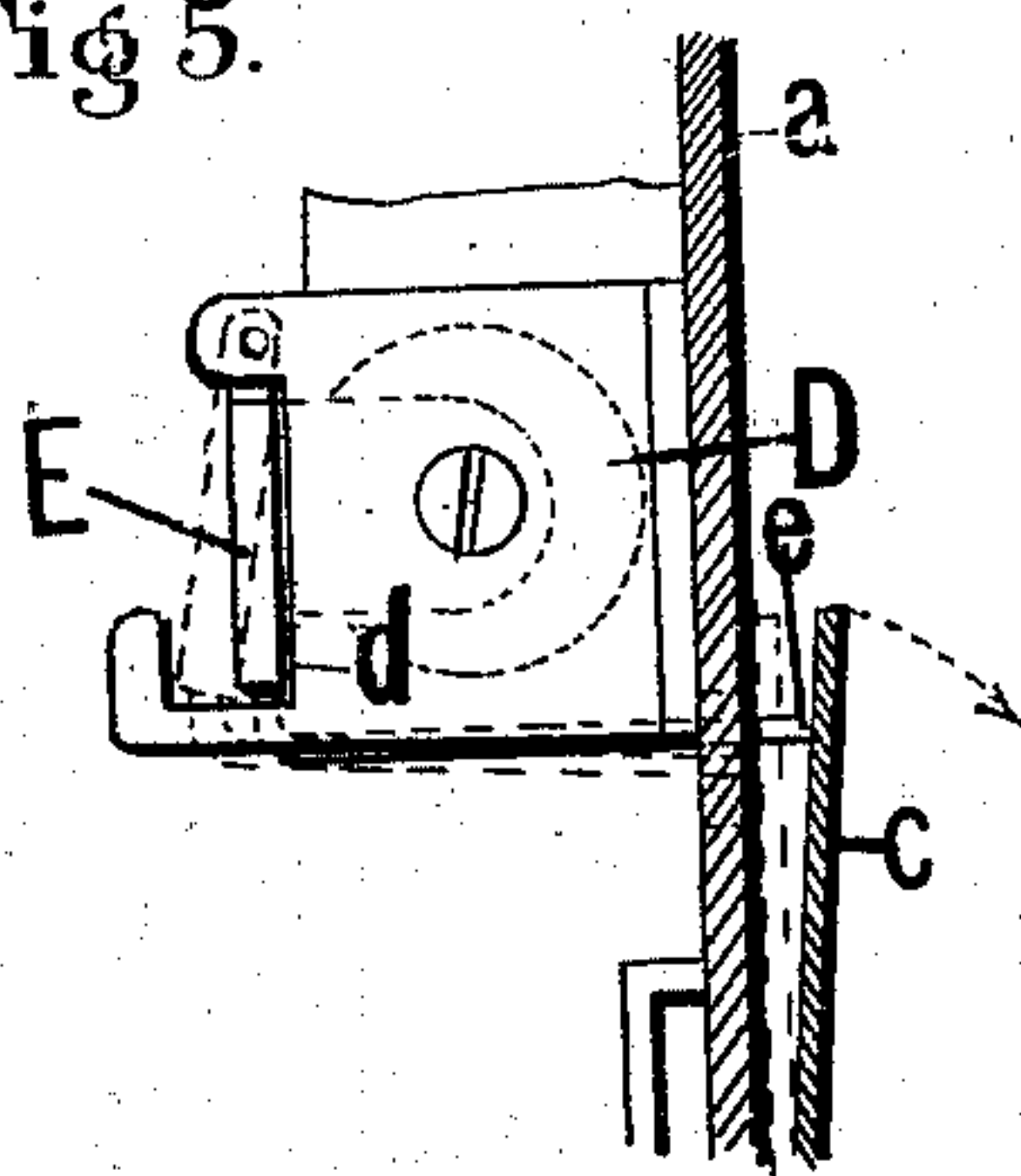


Fig 5.



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UNITED STATES PATENT OFFICE.

JACOB CAPRON, OF NEW YORK, N. Y.

ELECTRICAL INDICATOR FOR SPEAKING-TUBES.

SPECIFICATION forming part of Letters Patent No. 283,073, dated August 14, 1883.

Application filed February 5, 1883. (No model.)

To all whom it may concern:

Be it known that I, JACOB CAPRON, of New York city, county of New York, and State of New York, have invented new and useful Improvements in Electrical Indicators for Speaking-Tubes; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention consists, mainly, in the combination of the armature-plate of an electro-magnet, having a stud or pin projecting therefrom, with the hinged cover-plate of a name or number indicator.

It consists, further, in the combination of the foregoing with certain other parts, as will be fully described hereinafter.

In the drawings, Figure 1 represents a front view of my invention; Fig. 2, a top view of the same; Fig. 3, a vertical sectional view; Fig. 4, a rear view; and Fig. 5, a detached view, illustrating the action of the armature-plate in throwing down the cover-plate of the indicator.

To enable others skilled in the art to make my invention and properly use the same, I will proceed to describe fully its construction and manner of operation.

A represents a base or foundation piece of any proper form and size, which is adapted to be secured to the wall by screws or other proper fastenings.

a represents a face-plate secured to the base-piece in any proper manner, which is provided with the opening a' , Fig. 1, for the projection of the stud or pin of the armature-plate, hereinafter referred to, with recesses a^2 for the slip or plate upon which the indicator name or number is inscribed, and with extensions a^3 of the speaking-tubes, adapted to take the mouth-pieces, as shown.

B B represent the mouth-pieces of the speaking-tubes, any number of which may be attached to a face-plate of proper size by means of a corresponding number of extensions, a^3 .

b represents the hinged cover of the mouth-piece, which is provided with the handle b' , as shown.

b^2 , Fig. 4, represents one of the speaking-tubes extending away to any desired point in the building, in the manner well understood.

C represent the indicators, which may con-

sist of slips or plates having the proper name or number inscribed thereon, which are inserted in the recesses a^2 of the face-plate, as shown in Fig. 3. If desired, however, the name or number may be inscribed directly upon the face-plate itself.

c c represent the cover-plates of the indicators, which are hinged to the face-plate in any proper manner.

D represents the coil of an electro-magnet located in convenient proximity to the opening a' in the face-plate, upon the rear side of the latter, which is provided at each end with a polar extension, d , as shown in Fig. 4.

E represents an armature-plate hinged to any proper supports in convenient proximity to the coil, in such manner that when in its normal position it does not lie in contact with the surface d , but at a little distance therefrom, as shown in Fig. 3.

e represents a stud or pin attached to the lower edge of the armature-plate, which is adapted to project through the opening a' of the face-plate, to throw down the cover-plate of the indicator when the armature-plate is moved from its normal position into contact with the bearing-surfaces $d d$, as shown in Fig. 5.

F represents a pair of vertical coils, located at any convenient point; and f , Fig. 3, a standard supporting a bell.

G represents an armature-plate, which, when in its normal position, is held out of contact with the adjacent ends of the coils by the action of gravitation, but is capable of being swung up against them when moved by a proper force.

g represents the tongue of the bell, which is attached by means of a proper rod or shank, g' , to the armature-plate G, as shown.

H represents a movable button, located at any proper point in the building, which rests against the spring h , the free end of which latter lies, when in its normal position, in close proximity to the plate h' , but not in contact therewith. The spring h and plate h' form the terminals of a circuit which extends through the coils D and F.

A separate electro-magnet, D, and armature E must be employed for each indicator; but the same signal-bell will answer for all the series.

The operation is as follows: When the parts

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are in their normal positions, the cover-plate of the indicator is closed, and the electrical circuit is broken by the non-contact of the spring *h* with the plate *h'*. By pressing in the button *H* these parts are caused to come in contact, and the electrical circuit is thus completed. By the completion of the circuit the armature-plate *E* is caused by the magnetic action to swing against the surface *d*, and this causes the pin *e*, attached thereto, to project through the opening *a'* of the face-plate and throw down the cover-plate, as indicated in Fig. 5. By the completion of the circuit also the armature-plate *G* is caused by the magnetic action to swing up against the end of the coil in opposition to the action of gravitation and cause the tongue *g* to strike the signal-bell. When the button is released the current is again broken, and no further electrical action takes place, the armatures of the magnets then returning to their normal positions. By

opening the cover-plate of the mouth-piece to answer the call the cover-plate of the indicator is returned to its normal position, as shown in Fig. 3.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In combination with a face-plate, *a*, having a hinged mouth-piece cover-plate, *b*, and a hinged indicator cover-plate, *c*, a magnet, *D*, having armature *E*, with stud *e*, the armature plate and stud being adapted to throw down the hinged indicator-plate *C*, and the hinged plate *b* being adapted to return it to its normal position.

This specification signed and witnessed this 3d day of January, 1883.

JACOB CAPRON.

Witnesses:

A. S. NEWMAN,
R. SPARKS.