No. 846,522. PATENTED MAR. 12, 1907.

W. M. THOMAS.

POLARIZED ELECTRIC SIGNAL BELL.

APPLICATION FILED AUG. 3, 1906.

2 SHEETS—SHEET 1.

Fig. 1

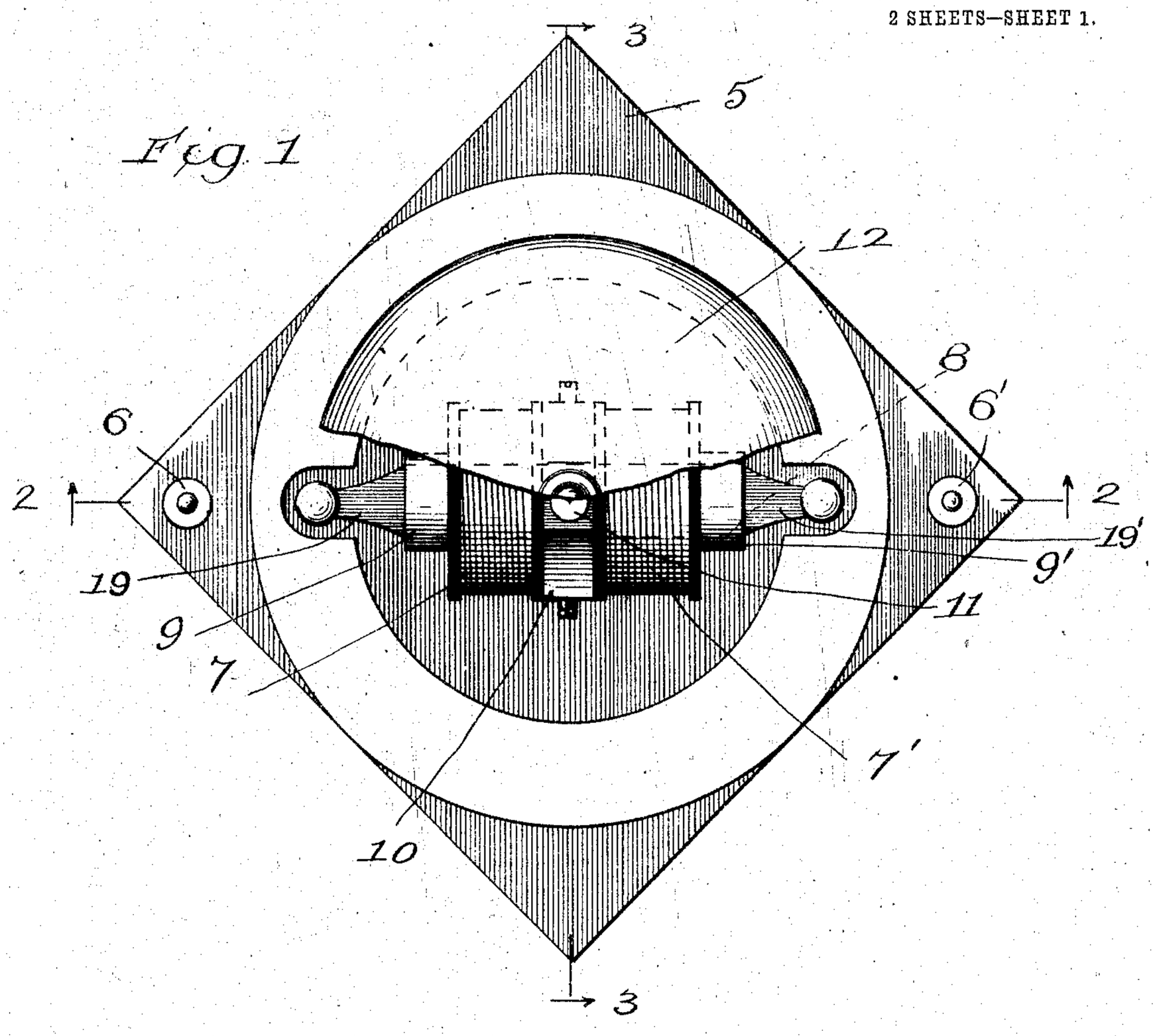
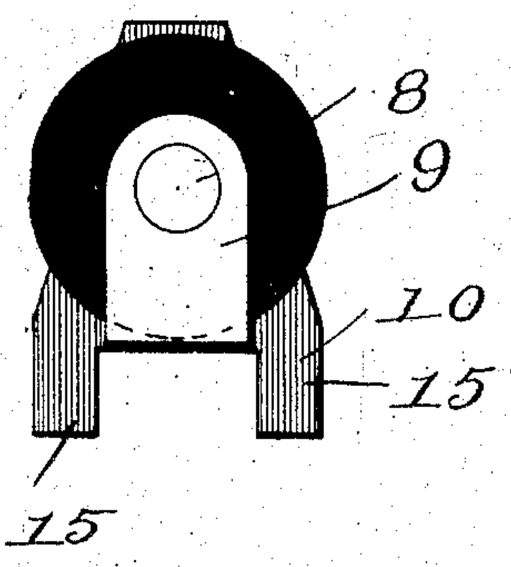


Fig. 4



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2 SHEETS—SHEET 2.

Fig. 2.

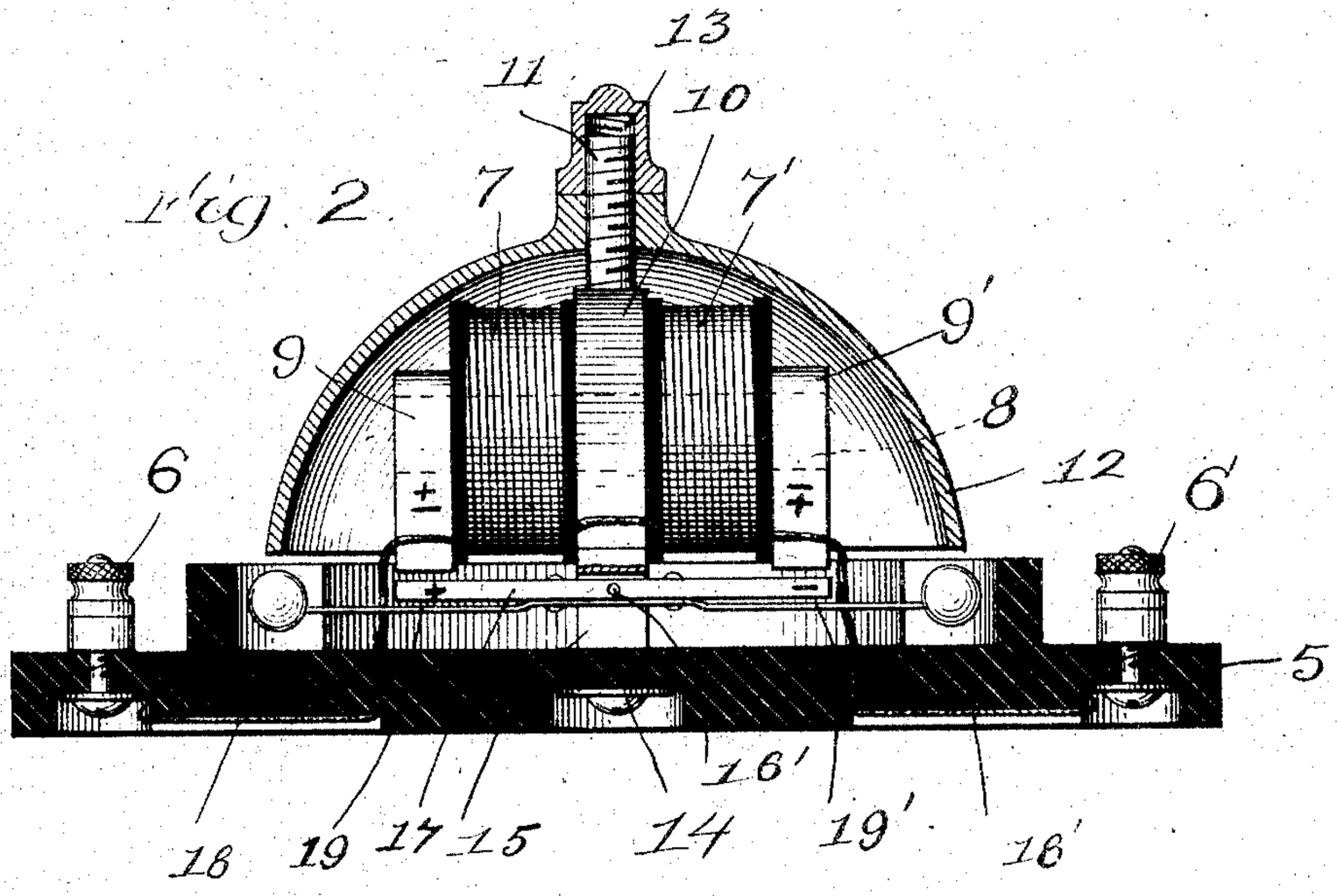
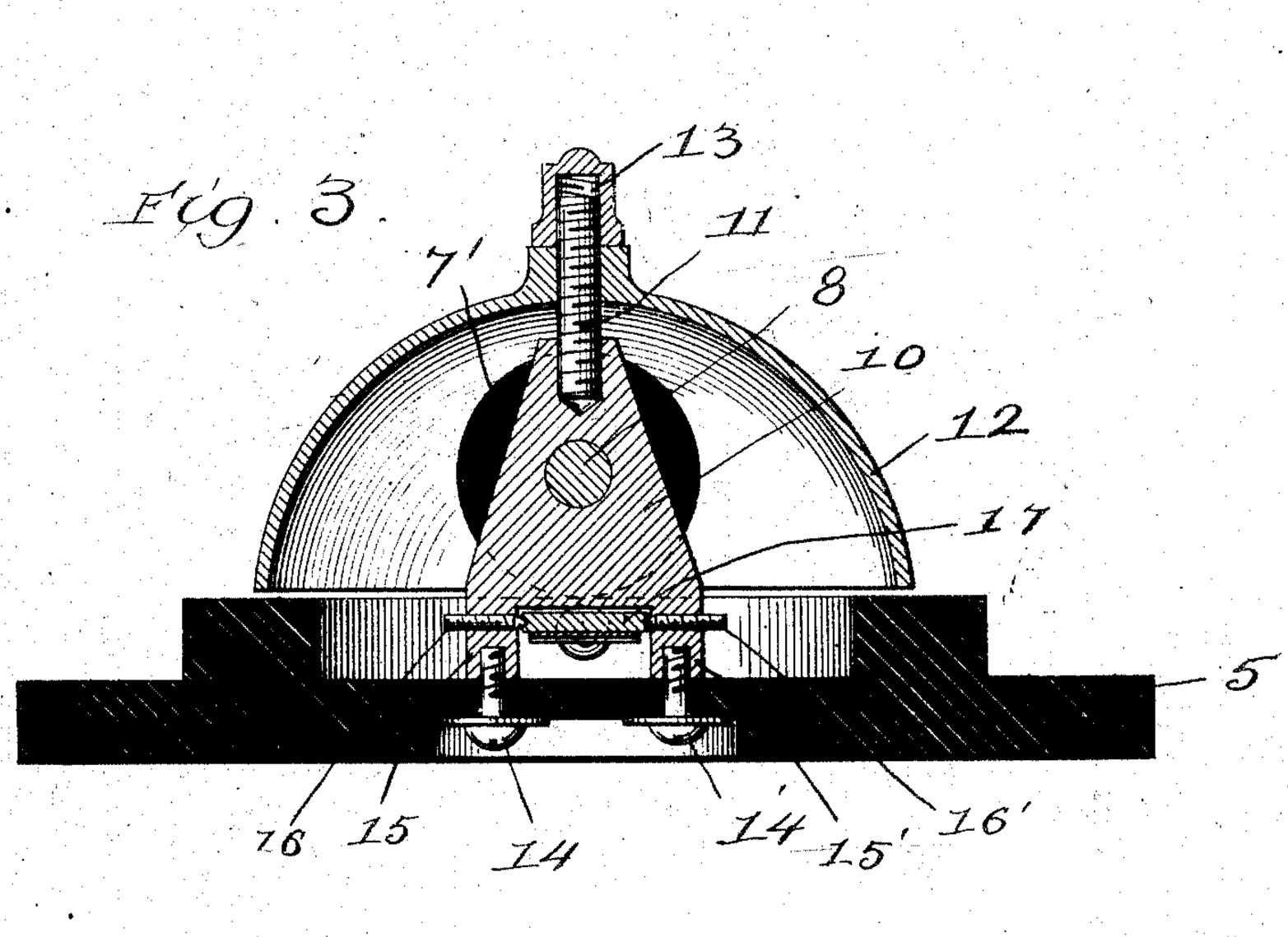


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM M. THOMAS, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO OTTO EISENSCHIML, OF CHICAGO, ILLINOIS.

POLARIZED ELECTRIC SIGNAL-BELL.

No. 846,522. Specification of Letters Patent. Patented March 12, 1907.

Application filed August 3, 1906. Serial No. 329,018.

To all whom it may concern:

Be it known that I, WILLIAM M. THOMAS, 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 Polarized Electric Signal-Bells, of which the following is a specification.

My invention relates to improvements in electric signal-bells.

The object of my invention is to provide a new and improved polarized electric signal-bell which is highly efficient in operation, cheap to construct, ornamental in apperance, and so arranged and constructed as to be substantially bug-proof.

Other objects of my invention will become apparent to those skilled in the art from the following description, taken in conjunction with the accompanying drawings.

In the drawings, Figure 1 is a plan view of my bell, showing part of the gong broken away, revealing the internal mechanism. Fig. 2 is a section taken on line 2 2 of Fig. 1. Fig. 3 is a section taken on line 3 3 of Fig. 1. Fig. 4 is an end view of the electromagnet and its support.

In all of the views the same numerals of reference indicate similar parts.

In the drawings, 5 is a base-plate, which may be of insulating material, as shown in the drawings, or it may be of metal with the binding-posts 6 6′ properly insulated therefrom. The binding-posts 6 and 6′ are the terminals of the coils 7 and 7′. The coils 7 and 7′ are shown connected in series and in the proper direction with reference to each other, for the purpose of causing the responsive armature thereof to respond to alternating impulses of electric current that may be sent through them.

8 is the core of the electromagnet provided with terminal pole-pieces 9 and 9′, the latter being shown more plainly in Fig. 4. A support 10, which may be of any desired material—such as brass, iron, or the like—is located, with reference to the core 8 and its respective pole-pieces, midway between the said pole-pieces, the core 8 fitting snugly in a perforation made through said support. The support 10 is perforated from its top surface to receive the threaded stem 11 for the purpose of securing the gong 12 in place thereon, said gong being held in position by reason of its threaded engagement with the threaded stem 11 and by means of the nut 13. The gong may be vertically adjusted by the means employed for its support.

Screws 14 and 14′ pass through the base 5 into threaded perforations made in the legs 15 15′ of the support 10. Pointed pivotal screws 16 16′ take through threaded perforations made in the legs 15 15′ and form a pivotal axis upon which the armature 17 is adapted to be vibrated. The armature 17 is preferably made of a bar of steel hardened and permanently magnetized when it is desirable to use the bell for response to alternating impulses of electricity. Hammers 18 and 18′, adapted to strike the under edge of the gong 12 when the armature is vibrated, are supported on either end of the armature 17 by means of flexible spring-arms 19 and 19′, respectively.

The operation of the device is as follows: When an impulse of electricity in a given direction is sent through the coils 7 and 7′, the polarized armature 17 will be vibrated in accordance therewith. One end of the armature 17 will be repelled by a given pole-piece 9 and the other end will be attracted by the opposite pole-piece. When an impulse of electricity is sent in the opposite direction to that of the first-named impulse, the end of the armature that was previously repelled will be attracted and the other end will be repelled, so that impulses of electricity at frequent intervals and passing through the coils in respective opposite directions will serve to vibrate the armature and cause the hammers or clappers 19 and 19′ to alternately strike the under side of the gong 12, and thereby cause the gong to sound for causing the desired alarm.

The bell may be placed in any position on the walls or the ceiling or in any desirable situation without materially affecting the operation thereof.

While I have shown and described only a single embodiment of my invention, it is apparent that considerable variation may be made therefrom without departing from the spirit and scope thereof.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A signal-bell comprising a base, a horizontally-disposed electromagnet-core, hav-

ing downwardly-projecting poles, a support, carrying said core located intermediate the poles thereof, a stem vertically projecting from said support, a gong adjustably secured to said stem, and an armature centrally pivoted to said support, the ends whereof confront the poles of said magnet.

2. In combination, a magnet-core having projecting pole-pieces, a centrally-located triangular support having legs for attachment to a base, an armature pivoted to said support by pivot-studs taking through said legs, the ends whereof confront said pole-pieces, and coils on the ends of said magnet-core between the support and pole-pieces respectively.

In testimony whereof I hereunto set my hand in the presence of two witnesses.

WILLIAM M. THOMAS.

In presence of—

FORÉE BAIN,

MARY F. ALLEN.