

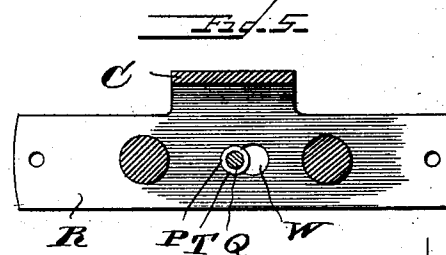
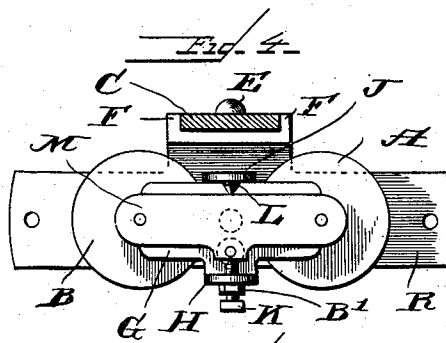
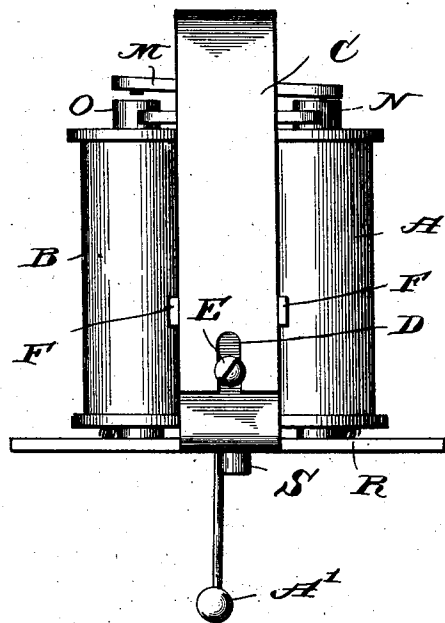
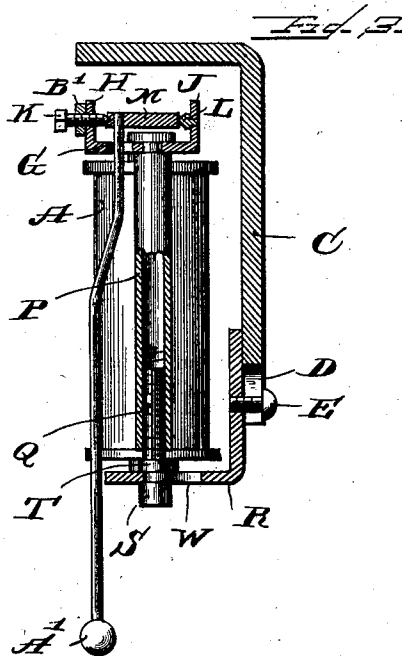
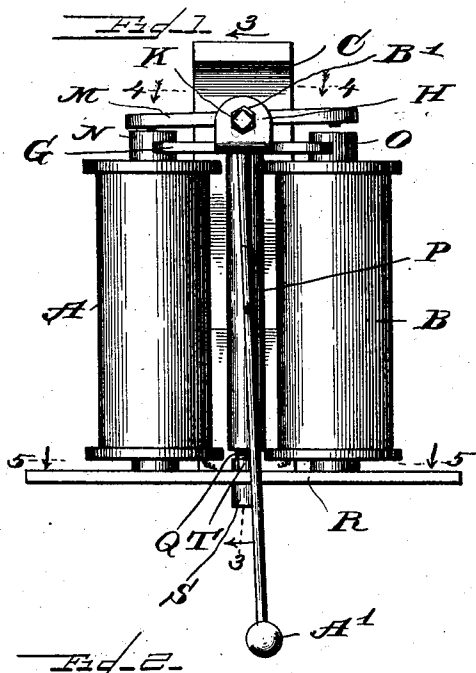
No. 720,082.

PATENTED FEB. 10, 1903.

C. H. THORDARSON.
MAGNETO BELL.

APPLICATION FILED MAR. 8, 1902.

NO MODEL.



Witnesses.

J. A. Pauberschmitt,
Chas. Seem

INVENTOR.

Chester H. Thordarson,
By Moore & Darby
ATTYS.

UNITED STATES PATENT OFFICE.

CHESTER H. THORDARSON, OF CHICAGO, ILLINOIS.

MAGNETO-BELL.

SPECIFICATION forming part of Letters Patent No. 720,082, dated February 10, 1903.

Application filed March 8, 1902. Serial No. 97,380. (No model.)

To all whom it may concern:

Be it known that I, CHESTER H. THORDARSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Magneto-Bells, of which the following is a specification.

This invention relates to magneto-bells.

The object of the invention is to simplify and improve the construction of magneto-bells and to render the same more efficient in operation.

The invention consists, substantially, in the construction, combination, location, and arrangement of parts, all as will be more fully hereinafter set forth, as shown in the accompanying drawings and finally pointed out in the appended claims.

Referring to the accompanying drawings, and to the various views and reference-signs appearing thereon, Figure 1 is a view in front elevation of a construction of magneto-bell embodying the principles of my invention. Fig. 2 is a similar view of the reverse side of the apparatus. Fig. 3 is a view in longitudinal section on the line 3 3, Figs. 1 and 2. Fig. 4 is a view in transverse section on the line 4 4, Fig. 1, looking in the direction of the arrows. Fig. 5 is a view similar to Fig. 4, taken on the line 5 5, Fig. 1, looking in the direction of the arrows.

The same part is designated by the same reference-sign wherever it occurs throughout the several views.

In the construction of magneto-bells it is desirable to provide means whereby the pivoted or movable armature to which the clapper is connected may be suitably adjusted toward and from the poles of the magnets. It is also desirable to provide means for efficiently clamping and holding said armature in its adjusted positions. It is also desirable to provide means for adjusting the permanent magnet employed, so as to bring the pole thereof into closer or more remote proximity to the electromagnetic poles. It is also desirable to provide a support for the armature, which is not only efficient and which holds the armature in the desired position, but which also detracts nothing from the electrical and magnetic efficiency of the device.

It is among the special purposes of my in-

vention to accomplish these desirable objects in a most simple and efficient manner.

In the accompanying drawings, wherein I have shown a construction embodying the principles of my invention, reference-signs A and B designate the electromagnets of a magneto-bell and which may be of the usual or any well-known construction and arrangement.

C is the permanent magnet. In the ordinary construction this permanent magnet is of U shape or horseshoe form with the poles thereof extended over or in proximity to the poles of the electromagnets. In such constructions, however, the distance between the poles of the permanent magnet remains fixed and it is not possible to adjust said poles nearer together or farther apart when necessary or desired. In accordance with one feature of my invention I propose to provide such an adjustment and I accomplish the desired object by constructing the permanent magnet in two parts and adjustably connecting the same together. I have shown a simple construction embodying this idea, wherein one of the parts of the permanent magnet is provided with a slot D, extending longitudinally of said part, adapted to receive a binding or clamping screw E, carried by the other part of said magnet. If desired, one of the relatively adjustable parts of the permanent magnet may be provided with lugs or projections F, arranged to form a guide to receive and efficiently brace the other member or part of said magnet, as clearly shown. By this construction it will be seen that I secure in a most simple and efficient manner a desirable adjustment of the length of permanent magnets.

G designates a supporting-plate having upturned flanges H J, in which are received the pivot pins or studs K L of the armature-plate M. The ends of supporting-plate G are arranged to partially embrace the poles N O of the electromagnets B and A, respectively, as clearly shown in Figs. 1 and 2, whereby said plate is efficiently held against rocking movement and also against endwise movement. This plate is secured to a tubular stem P, arranged to extend between and parallel with respect to the electromagnets A B and is internally threaded at its lower end. Into this

threaded end of said supporting-stem is received a split screw Q. Said screw is arranged to pass freely through an opening in the part R of the permanent magnet and is provided with a head S, bearing against the under side of said flange or part R, and is also provided with a shoulder or collar T, bearing against the upper side or face of said flange or part R, as most clearly shown in Fig. 3. By this construction it will be seen that in rotating the head L said screw will be held against longitudinal movement, and through the threaded connection of said screw with the screw-threads of tubular support P said support is raised or lowered by turning or rotating said screw, thus raising or lowering or adjusting the supporting-plate G, and consequently also the armature M, with reference to the poles N O of the magnets A B. In order to afford a convenient means for applying the adjusting-screw Q with its bearing-head S and shoulder T upon opposite sides or faces of the flanged part R of the permanent magnet, I provide said flanged part R with an enlarged opening W therethrough (see Figs. 3 and 5) and of sufficient area to receive the collar T therethrough. This opening W is arranged alongside of and in communication with the opening which receives the portion of the adjusting-screw Q and which lies between the head S and collar T, as clearly shown in Fig. 3. In this manner I am enabled to readily apply or remove the adjusting-screw.

From the foregoing description it will be seen that I provide a most simple and efficient arrangement, wherein the supporting-stem P and plate G are held against rotative displacement, said plate G partially embracing the poles N O of the electromagnets and holding said stem and plate against rotative adjustment. It will also be seen that by arranging the supporting-plate G to only partially embrace the holes N O, I efficiently brace the parts without detracting from the electric and magnetic efficiency of the device, which would be the case if the arms of plate G, which embrace the poles N O, entirely surrounded said poles. It will also be seen that by rotating the adjusting-screw Q the support P and plate G, together with the armature M, may be adjusted to increase or decrease, as may be desired, the distance between the armature and the poles N O of the electromagnets, and also to adjust the extent of the arc described by the clapper A'. It will also be seen that by employing a split adjusting-screw Q, as clearly shown in Fig. 3, a clamping effort is exerted by said screw upon tubular support P by the springing apart of the sections of the split screw and which serves to efficiently hold said tubular support in any desired position of adjustment. The clapper A' is suitably connected to the armature M in the ordinary manner, whereby when said armature is rocked about its pivot-studs K L the clapper is vibrated. If desired, one of the pivot-studs of armature

M—as, for instance, pivot-stud K—may be made screw-threaded and provided with a set-nut B', whereby said pivot-stud is made removable and is capable of being suitably and conveniently adjusted. 70

Having now set forth the object and nature of my invention, I desire it to be understood that many variations and changes in the details of construction and arrangement would readily occur to persons skilled in the art and still fall within the spirit and scope of my invention. I do not desire, therefore, to be limited or restricted to the exact details shown and described; but 80

What I claim as new and useful and of my own invention, and desire to secure by Letters Patent, is—

1. In a magneto-bell, the combination with 85 electromagnets, an armature and clapper, of a permanent magnet made in parts, said parts being relatively adjustable upon each other, as and for the purpose set forth.

2. In a magneto-bell, the combination with 90 electromagnets, an armature, a clapper carried by said armature, of a permanent magnet made in parts, one of said parts being longitudinally slotted and the other of said parts carrying a clamping-screw adapted to be received through the longitudinal slot in the other part, whereby said parts may be relatively adjusted upon each other to vary the distance between the poles of said permanent magnet, as and for the purpose set forth. 95 100

3. In a magneto-bell, the combination with the usual electromagnets, armature and clapper, of a permanent magnet of substantially U shape, said permanent magnet made in sections, one of said sections being longitudinally slotted, a clamping-screw carried by the other of said sections and operating through said slot, whereby said parts may be adjusted with respect to each other to vary the distance between the poles thereof, one of the parts of said permanent magnet having lugs arranged to engage the other of said parts to form a guide therefor, as and for the purpose set forth. 105 110

4. In a magneto-bell, the combination with electromagnets and the permanent magnet, 115 of a supporting-plate having lugs or ears, an armature pivotally supported upon said plate between said lugs or ears, an internally-threaded supporting-stem for said plate, an adjusting split screw tapped into the threaded end of said support, as and for the purpose set forth. 120

5. In a magneto-bell, the combination with the electromagnets and permanent magnet, of a supporting-plate having lugs or ears, an 125 armature pivotally supported in said lugs or ears, a tubular support for said plate, said tubular support being internally threaded, an adjusting-screw tapped into the threaded end of said support, and means for holding said screw against longitudinal movement, all combined and arranged as and for the purpose set forth. 130

6. In a magneto-bell, the electromagnets

and permanent magnets, a supporting-plate having lugs or ears, an armature pivotally supported between said lugs or ears, a tubular support for said supporting-plate, said tubular support being internally threaded, an adjusting-screw tapped into the threaded end of said tubular support, said screw provided with a head arranged to bear upon one side of a flange or part of the permanent magnet and having a collar or shoulder bearing upon the other side of said flange or part, whereby said adjusting-screw is held against longitudinal movement, but is permitted to rotate to adjust said tubular support, as and for the purpose set forth.

7. In a magneto-bell comprising electro-magnets and a permanent magnet, said permanent magnet having openings therethrough arranged in proximity to each other, one of said openings being enlarged, an armature,

a support therefor, an adjusting-screw for said support, said adjusting-screw provided with a head and a collar or shoulder, said collar or shoulder adapted to pass through the enlarged opening in said permanent magnet to enable said screw to be received in the smaller opening in said permanent magnet with the head bearing on one side of said permanent magnet and the collar or shoulder bearing on the opposite side of said permanent magnet, all combined and arranged as and for the purpose set forth.

In witness whereof I have hereunto set my hand, this 5th day of March, 1902, in the presence of the subscribing witnesses.

CHESTER H. THORDARSON.

Witnesses:

E. C. SEMPLE,
C. H. SEEM.