

No. 715,683.

Patented Dec. 9, 1902.

W. E. McCORMICK.
ELECTRICAL CALL BELL.
(Application filed Dec. 16, 1901.)

(No Model.)

Fig. 1.

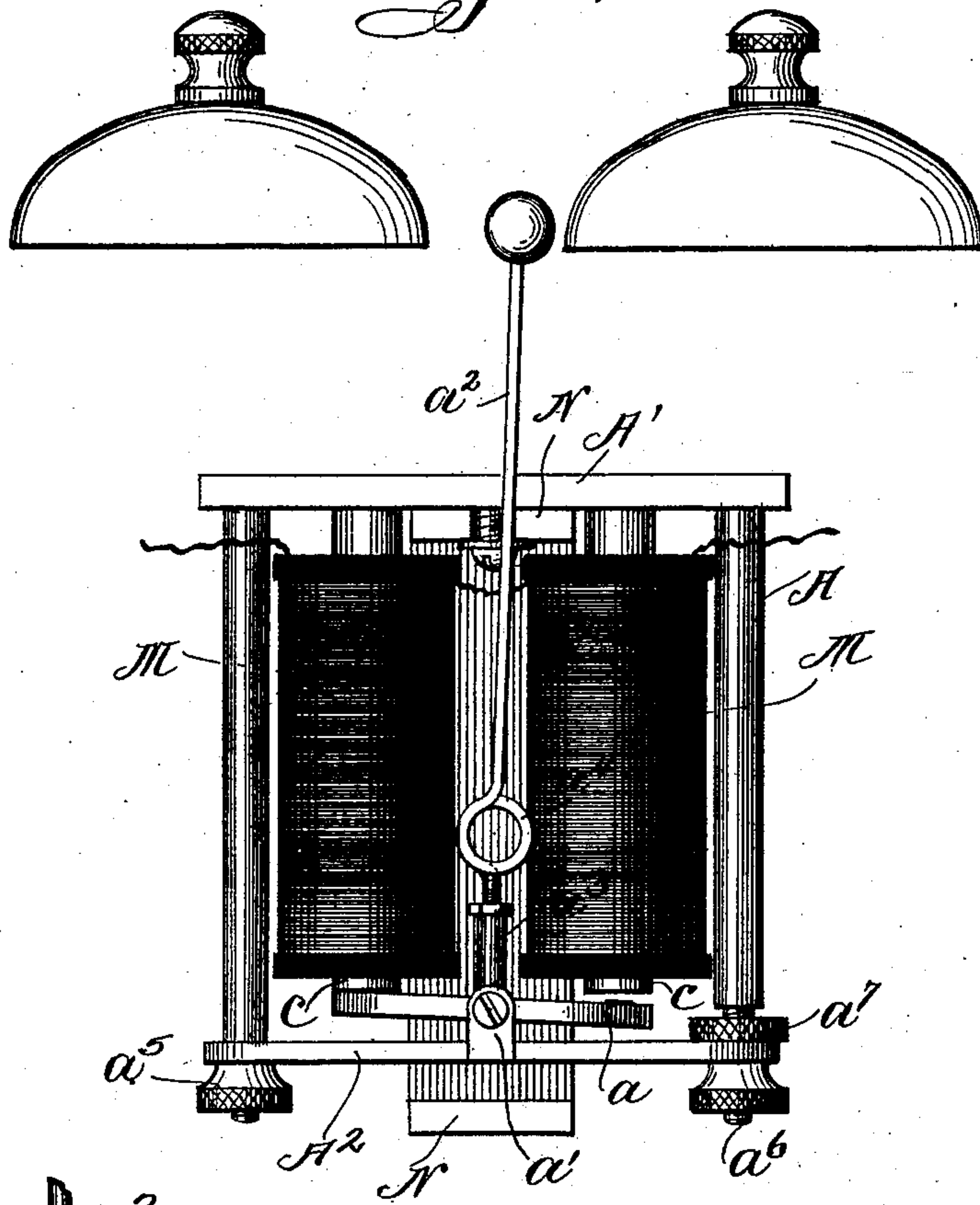


Fig. 3.

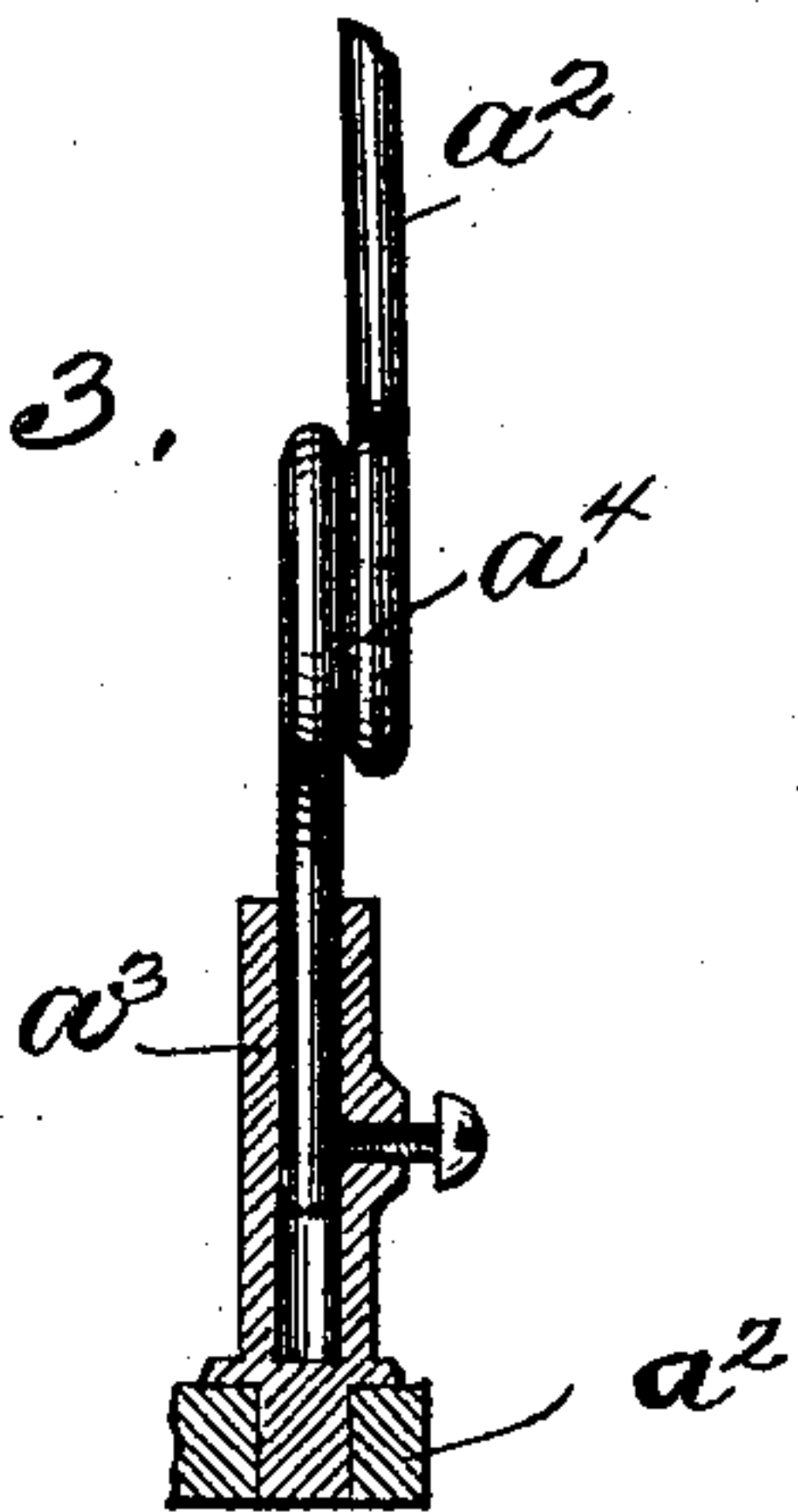
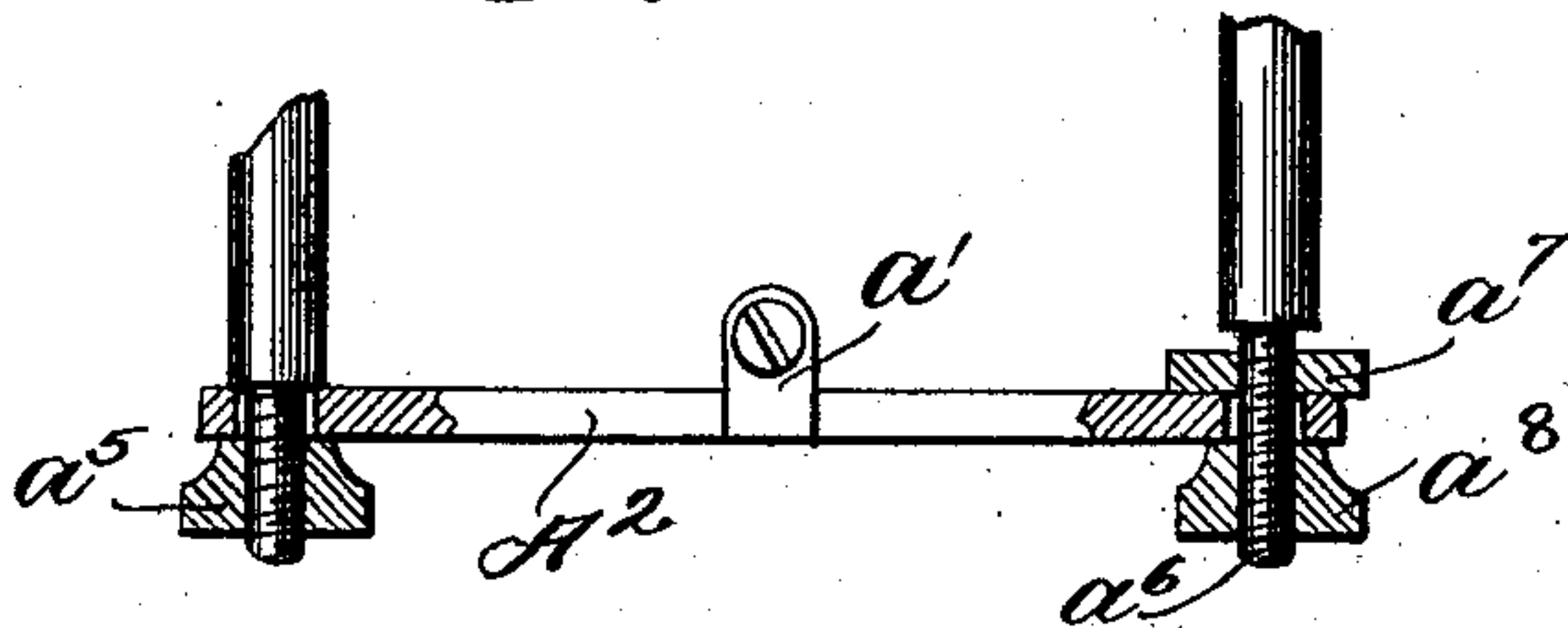


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM E. McCORMICK, OF CHICAGO, ILLINOIS, ASSIGNOR TO INTERNATIONAL TELEPHONE MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

ELECTRICAL CALL-BELL.

SPECIFICATION forming part of Letters Patent No. 715,683, dated December 9, 1902.

Application filed December 16, 1901. Serial No. 86,031. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. McCORMICK, 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 Electrical Call-Bells, (Case No. 10,) of which the following is a specification.

My invention relates to electrical call-bells, and particularly to such devices of this type as are employed in telephone work; and it is the object of the invention to simplify the construction of the apparatus now in use and to render it more effective for the purpose of receiving signals or calls.

In the drawings which form a part of this specification, Figure 1 is an elevation of the ringer constructed according to my invention. Fig. 2 is a detail view, partly in section, showing the means for attaching the armature plate or bar and for adjusting the same; and Fig. 3 illustrates a modification of the means for adjustably connecting the hammer-wire and the armature-plate.

In constructing my improved ringer the electromagnets *M* are connected in series and are included in the line or in a local circuit in the usual way and preferably are wound to a resistance of about sixteen hundred ohms—that is, of course, eight hundred ohms for each spool. The cores *c* of these bell-magnets are fixed on the frame *A* by means of a heel-piece *A'*, as usual, which also serves as a part of the ringer-frame. A permanent magnet *N* of the usual form is also secured on the frame in any suitable manner, so as to polarize the two cores *c* with one polarity and the central pivoted armature *a* with an opposite polarity. The armature is pivoted between central front and rear lugs *a'* of the bar *A²* of the frame in the usual manner and carries the bell-hammer wire or rod *a²*, which vibrates between the bells or gongs *B*, as usual. The armature is provided with a suitable socket *a³* in its pivotal line in which the rod or wire *a²* is adjustably supported, whereby the ball at the end of the same may be positioned at the correct location to strike the bells or gongs at the edge. This adjustment may be effected by any suitable means, such

as the screw-thread connection shown in Fig. 1 or the set-screw shown in Fig. 3. The rod or wire is also provided with a curl or spring *a⁴*, whereby greater extent of vibration of the ball is secured.

The plate or bar *A²* is rigidly secured at one end upon one of the side pieces of the frame by any suitable means, such as a binding-nut *a⁵*, and is adjustably attached at its other end to the opposite side of the frame in order to vary and adjust the position of the armature with relation to the cores of the bell-magnets in order to get a longer or shorter throw of the wire or rod *a²*. For this purpose the plate or bar *A²* is preferably constructed of spring metal and is provided at its free end with a suitable slot or perforation to allow it to pass freely over the screw-threaded end *a⁶* of the associated side piece of the frame. A pair of oppositely-disposed threaded thumb-nuts *a⁷* and *a⁸* serve to bind it in any adjusted position.

It is desirable in this class of devices to adjust the armature close to the cores, as it is well known that better results and more satisfactory work follow such relations of the parts. By my improved construction this adjustment may be regulated to and maintained at the point of highest efficiency, while the curl or spring in the rod or wire, which allows greater extent of vibration of the hammer or ball at its end, permits this adjustment to be made without limiting or impairing the vibration of the rod and the sounding of the signal.

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

1. In an electrical call-bell, the combination with a ringer-frame supporting electromagnetic devices, of an armature-plate rigidly secured to said frame at one end and adjustably supported on said frame at its other end.

2. In an electrical call-bell, the combination with a ringer-frame having a threaded side piece, and electromagnetic devices mounted on said frame, of an armature-plate rigidly secured to said frame at one end and adjustably positioned upon the threaded side piece by means of thumb-nuts.

3. In an electrical call-bell, the combination
with a ringer-frame having a threaded side
piece, and electromagnets mounted on the
frame, of an armature pivotally mounted upon
5 an armature-plate, said armature-plate being
rigidly secured to said frame at one end and
adjustable upon said threaded side piece by
means of thumb-nuts, and a hammer-stem

having an adjustable connection with said ar-
mature. 10

In testimony whereof I affix my signature
in presence of two witnesses.

WILLIAM E. McCORMICK.

Witnesses:

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