

No. 855,729.

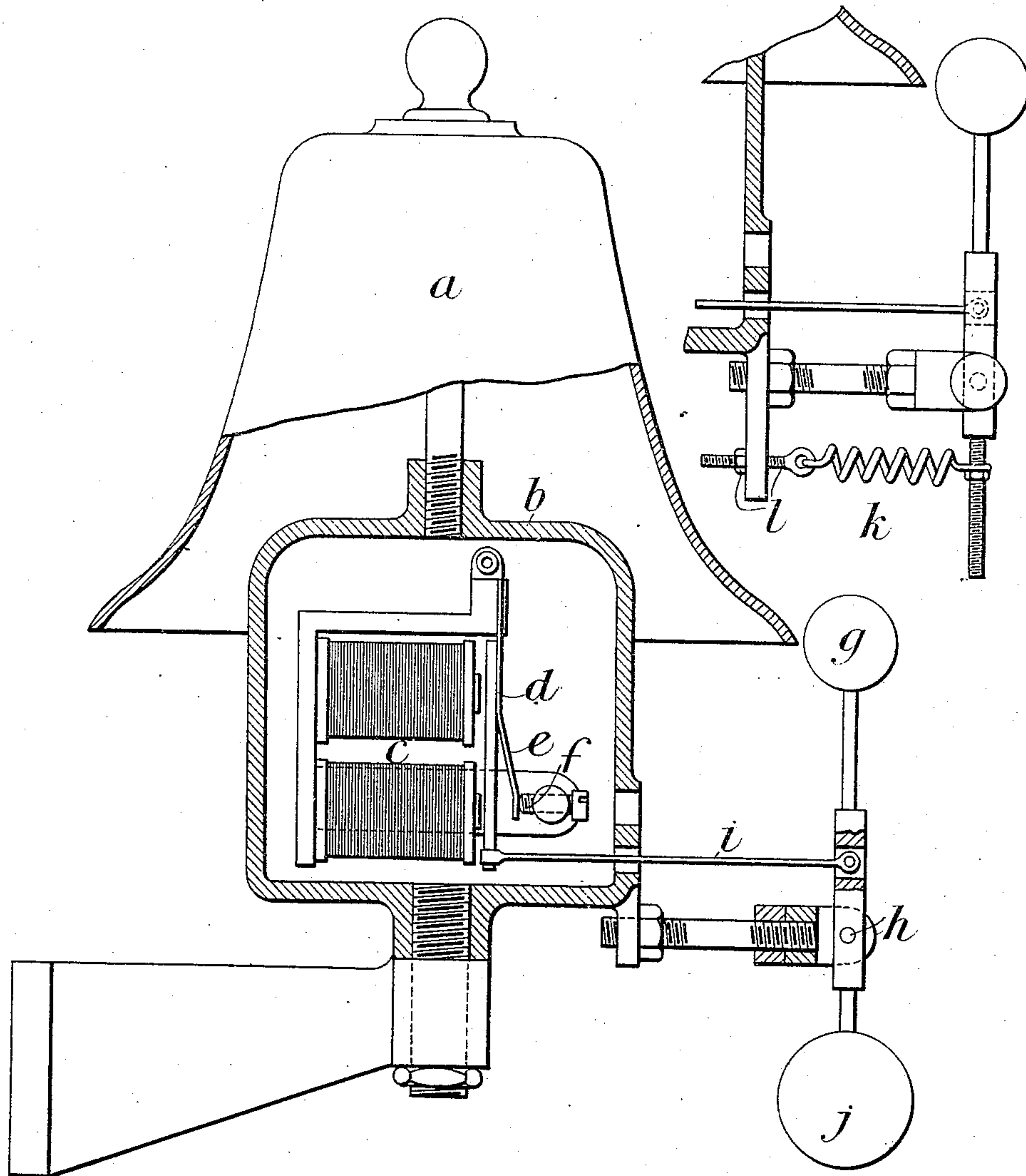
PATENTED JUNE 4, 1907.

M. PLATO.
ELECTRIC BELL.
APPLICATION FILED OCT. 6, 1904.

2 SHEETS—SHEET 1.

Fig. 1

Fig. 2



Witnesses.

J. K. Moore
H. H. Hubbard

Inventor.

Marcus Plato
By Whitehead & Wood *Attys.*

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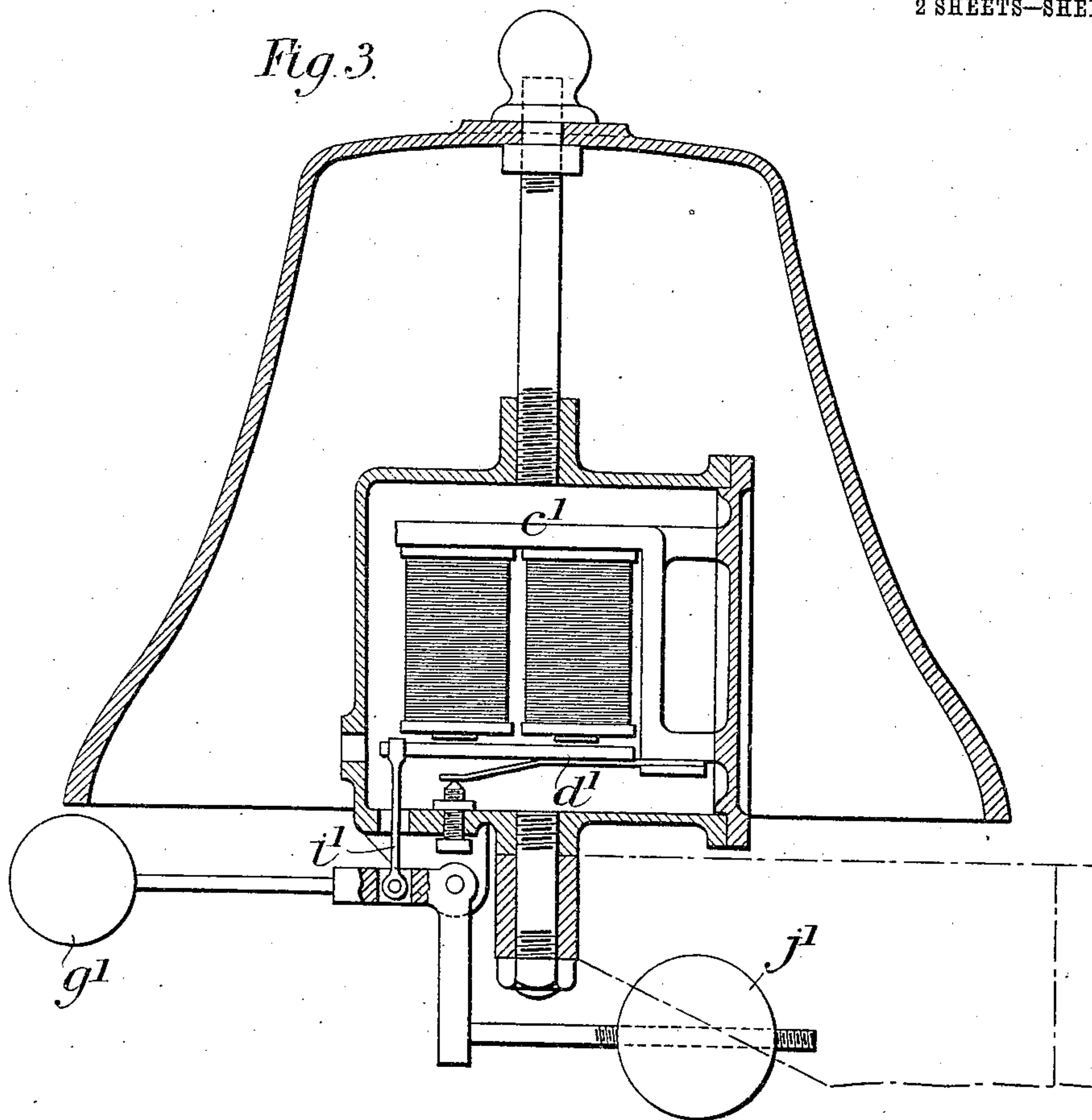
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Fig. 3.



Witnesses.

J. K. Moore
F. H. Hubbard

Inventor.

Marcus Plato
By Whitaker & Wood Attys.

UNITED STATES PATENT OFFICE.

MARCUS PLATO, OF LONDON, ENGLAND, ASSIGNOR OF ONE-HALF TO
ARTHUR WILLIAM MACLEOD, OF LONDON, ENGLAND.

ELECTRIC BELL.

No. 855,729.

Specification of Letters Patent.

Patented June 4, 1907.

Application filed October 6, 1904. Serial No. 227,429.

To all whom it may concern:

Be it known that I, MARCUS PLATO, a subject of the German Emperor, residing at 37 Walbrook, in the city of London, England, have invented new and useful Improvements in Electric Bells, of which the following is a specification.

My invention relates to electric bells.

Large bells require heavy clappers or hammers to produce an adequate volume of sound from them, and hitherto it has not been found practicable to operate such clappers or hammers by electricity without a large expenditure of electric current or battery power.

The object of my invention is to provide means whereby the ordinary trembling mechanism now used in small bells, can be utilized for operating heavy clappers or hammers and with a minimum expenditure of current, and to this end my invention consists essentially in providing in connection with a hammer of suitable weight, a counterbalancing weight or spring.

In the accompanying drawing:—Figure 1 is a sectional view of a bell having a counterbalanced hammer arranged in accordance with my invention, the hammer being in a vertical position. Fig. 2 is a sectional view illustrating a modification wherein a spring is used in lieu of a counter-weight. Fig. 3 is a view similar to Fig. 1 but showing an arrangement wherein the hammer is arranged horizontally.

In the arrangement of my invention shown in Fig. 1, the bell *a* has within it a box *b* in which an ordinary electromagnet *c* is mounted, the said magnet having in conjunction with it an ordinary armature *d* provided with a spring contact *e* operating in conjunction with a screw contact *f* in a well known manner, to make and break the circuit of the magnet coils.

g is the hammer for striking the bell, the said hammer being mounted upon a pivot *h* and connected with the armature *d* by a link *i* and *j* is a counter-weight which is arranged

to balance the hammer *g* so that the latter can be moved with a minimum of power.

With this arrangement it will be understood that when a trembling movement is imparted to the armature *d* a corresponding movement will be transmitted to the hammer *g*.

Instead of using a weight *j* as described, I may substitute a spiral spring *k*, as shown in Fig. 2. This spring is so arranged that its tension can be adjusted by means of the screw-eye and nut *l*. The use of a spring instead of a counter-weight permits of a more rapid action of the hammer, which is, in some cases, desirable, than when a weight is used.

The modification of my invention shown in Fig. 3 only differs from that shown in Fig. 1, in that the hammer *g*¹ and counter-weight *j*¹ are arranged horizontally instead of vertically, the magnet *c*¹, the armature *d*¹ and link *i*¹ being correspondingly placed.

Although the foregoing description refers to bells having trembling movements, it is obvious that the invention is equally applicable to single stroke bells.

In practice, the counter-weight is made adjustable upon its arm in order to provide for an inaccurate counter-balancing of the hammer.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

In an electric bell, the combination with a supporting frame, of a trembling mechanism attached thereto and including among its members an electro-magnet and a movable armature therefor, a bell supported by said frame, a counter balanced hammer pivotally supported by said frame adjacent to the edge of the bell and a link connecting said hammer with the movable armature of the trembling mechanism, substantially as described.

MARCUS PLATO.

Witnesses:

JOHN E. BOUSFIELD,
C. G. REDFERN.