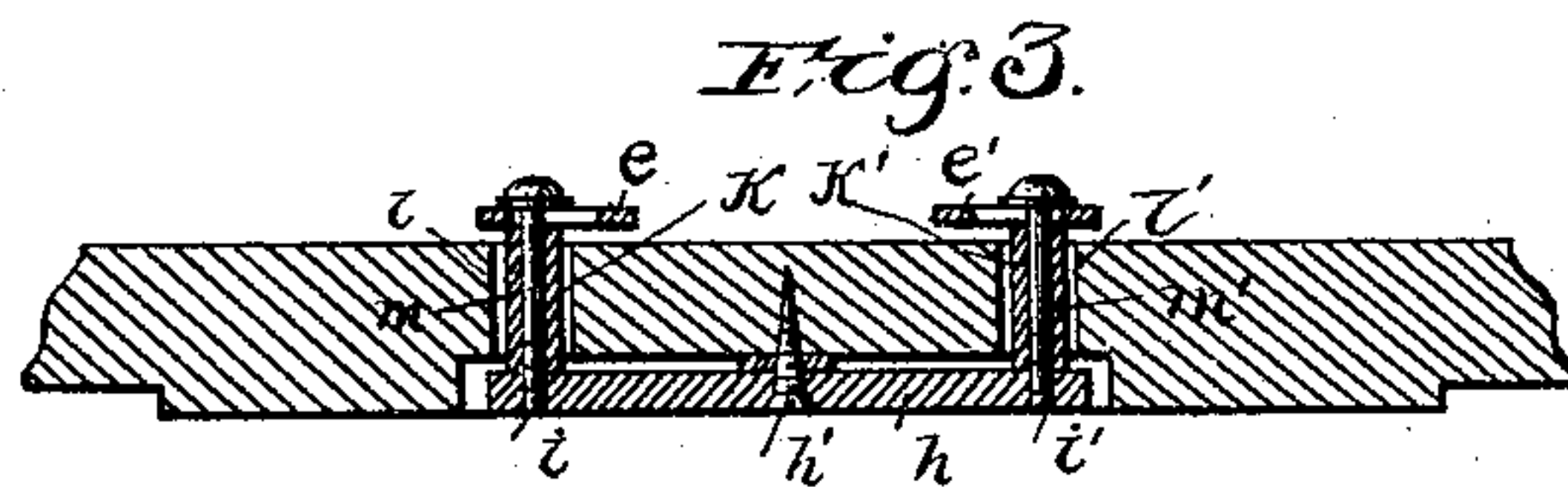
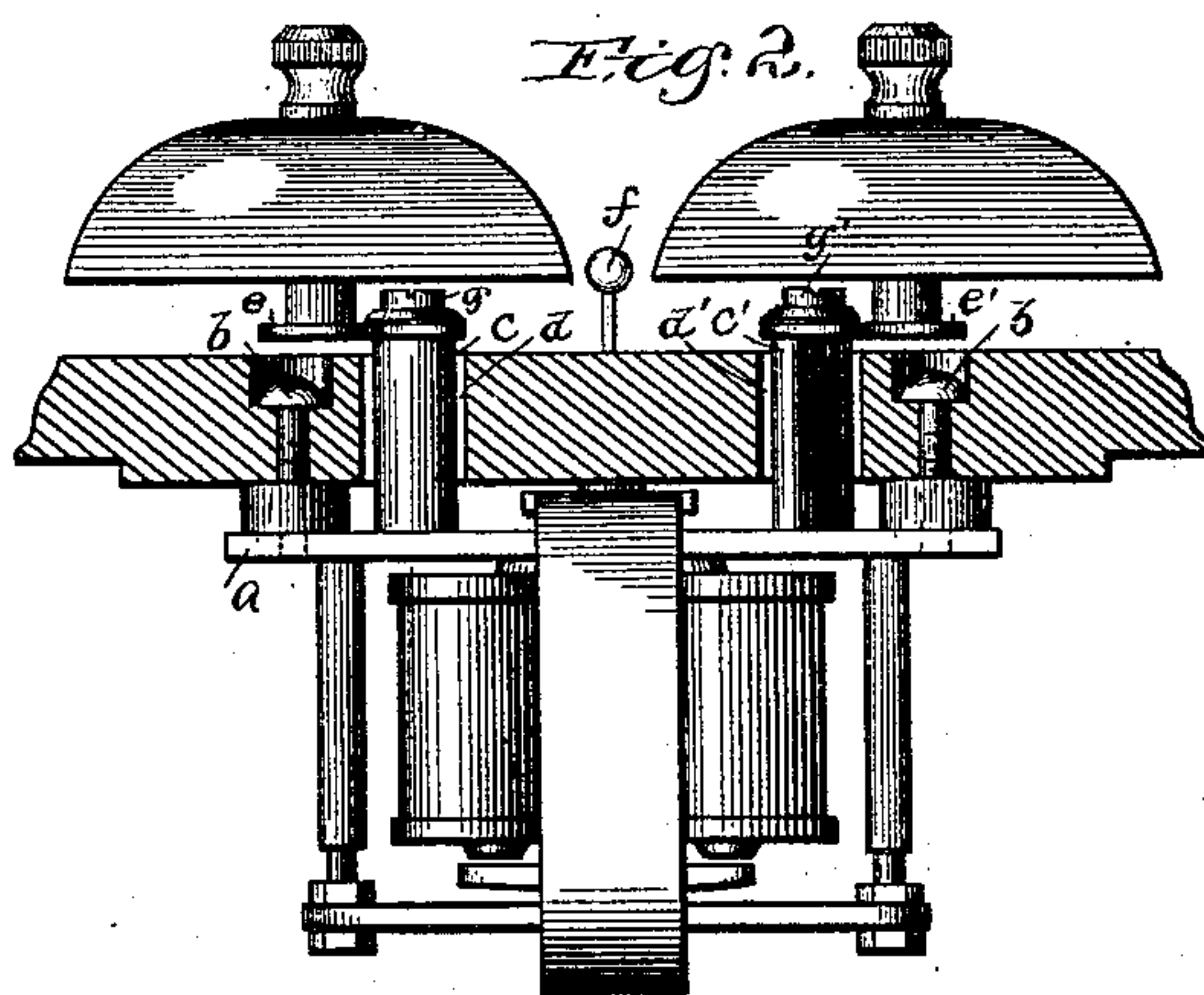
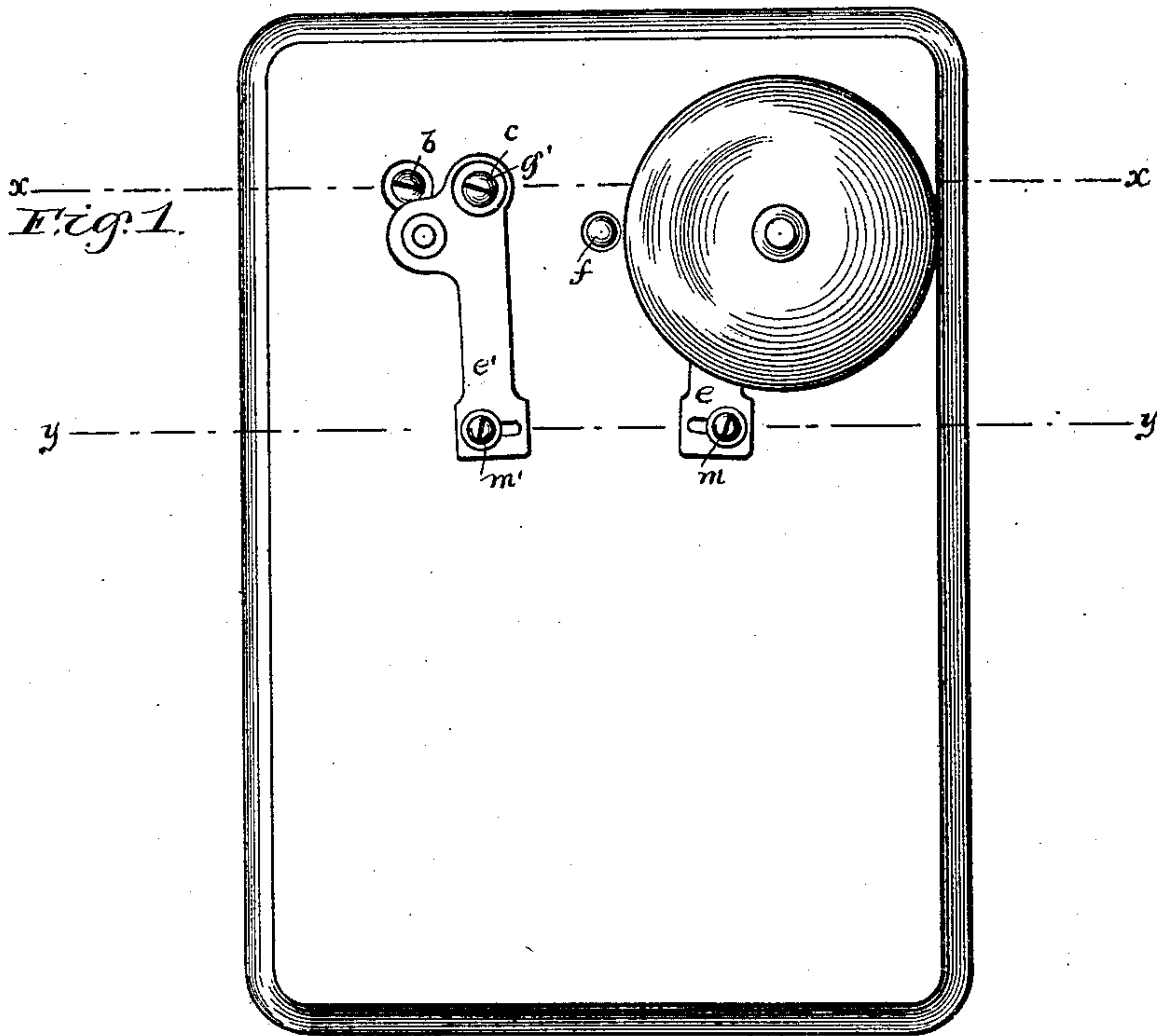


(No Model.)

W. R. PATTERSON.
MAGNETO BELL.

No. 444,600.

Patented Jan. 13, 1891.



Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM R. PATTERSON, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE WESTERN ELECTRIC COMPANY, OF SAME PLACE.

MAGNETO-BELL.

SPECIFICATION forming part of Letters Patent No. 444,600, dated January 13, 1891.

Application filed May 27, 1890. Serial No. 353,295. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. PATTERSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Magneto-Bells, (Case 85,) of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to that class of electric bells in which the actuating mechanism is placed within the box and the gongs and hammer outside thereof.

My invention is specially designed to avoid any change in position or adjustment of the gongs by reason of the warping or shrinking or swelling of the wooden case between the gongs and the magnets, while at the same time I provide a sufficient margin for the adjustment of the gongs with respect to the hammer. Heretofore it has been usual to mount the gongs directly upon the wooden case.

My invention, speaking generally, consists in mounting the gongs upon adjustable plates pivoted to the metallic frame which supports the magnets, the construction being such that these plates will be unaffected by any changes that may take place in the wooden case.

I will describe my invention in connection with a magneto-bell of the class usually employed at the subscribers' stations of a telephone-exchange.

The electro-magnet and permanent magnet are mounted on a frame on the inside of the cover or door of the box. Studs project from this frame through the box and serve as supports for the pivots of the adjustable plates carrying the gongs. The openings in the case for these studs are large enough to allow the expansion or contraction of the cover without in any wise disturbing the position of these studs. The adjustable plates are mounted upon these studs each a short distance from the cover. The studs are made long enough to hold the pivoted ends of the plates which carry the gongs free from the front of the case. On the inside of the case below the frame supporting the magnets I provide a bar which is secured at its center to the cover.

The ends of this bar are tapped out to receive screws which are inserted from the outside of the box through slots in the lower ends of the gong-supporting plates, the openings for these screws through the cover being, like the openings for the studs from the frame of the bell, large enough to give sufficient margin for the swelling and shrinking of the cover. A sleeve is inserted in each of these lower holes. The inner ends of these sleeves bear against the bar and the outer ends bear against the adjusting-plates below the slots. The screws when inserted through the slots and the sleeves are screwed into the bar, and thus the free ends of the adjusting-plates are held in fixed position, regardless of any changes in the cover due to shrinkage or expansion.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of a magneto-bell embodying my invention, one of the gongs being removed. Fig. 2 is a plan view thereof as seen from section-line *x x*. Fig. 3 is a sectional view upon line *y y* of Fig. 1.

Like parts are indicated by similar letters of reference throughout the different figures.

The frame *a*, which supports the magnets, is mounted upon the back of the cover and held in place by screws *b b'* or in any other suitable manner. The studs *c c'* extend from the frame *a* through the openings *d d'* of the cover, these openings being large enough to permit of any shrinking or swelling of the cover without bending or changing the position of the studs. The gongs are mounted upon the studs provided upon the adjustable plates *e e'* in proper position to be struck by the hammer *f* as it is vibrated.

The studs *c c'* may be tapped out to receive the screws *g g'*, which form the pivotal supports of the plates *e e'*. Any suitable pivotal connection may be employed. The lower or adjustable ends of the plates *e e'* are provided each with a slot—that is, the construction is such that the lower ends may be moved laterally to adjust the position of the gongs with respect to the bell-hammer *f*.

It will be observed that the bar *h* is secured at one point only, preferably at its center *h'* to the under side of the cover. Any other

means of holding this bar so that it will not be changed in position by changes in the wood might be employed. The screw-holes *i i'* are provided at the ends of this bar, and the sleeves *k k'*, being inserted through the holes *l l'*, are pressed between the bar and the free ends of the plates *e e'*, when the screws *m m'* are tightened. The holes *l l'*, through which these sleeves are inserted, are somewhat larger than the sleeves to give proper margin for changes in the cover. Thus the lower or free ends of the adjustable plates are fastened or secured in place, so as to be unaffected by changes in the cover.

The adjustable plates *e e'*, upon which the gongs are mounted, will remain at all times unaffected as to position by any changes due to expansion or shrinkage of the cover, since these plates are secured at their pivotal ends to the metallic frame supporting the magnets and are held at their adjustable ends to a bar supported in such manner upon the cover as not to be moved or changed in position by such changes in the cover.

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

1. In an electric bell, the combination, with the frame attached to one side of a board, of studs projecting freely through the board and adjustable gong-supporting plates pivoted to said studs, said plates being supported and held free from the board, substantially as and for the purpose specified.

2. The combination, with the metallic frame

of an electric bell, of the case or door of the box, to the rear of which the frame is attached, of pivotal supports projecting freely through said door or case of the box, the adjustable plates supporting the gongs pivoted to said supports, said plates being provided each at its free end with an adjustable fastening to a bar *h*, substantially as and for the purpose specified.

3. The combination, with the gongs of an electric bell supported upon adjustable plates *e e'*, of the bar *h*, secured at *h'* to the wooden case or door, the sleeves *k k'* and means for holding the same between the bar, and adjustable plates independent of the said wooden door or case, whereby the position of the gongs once adjusted is maintained notwithstanding expansion or shrinkage of the case or door.

4. The combination, with the wooden door or cover, of the frame mounted on the rear side thereof and provided with two studs freely projecting through the board, the bar supported upon the rear of the board and provided, also, with two studs projecting freely through the board, and the adjustable gong-supports upon said studs free from the wooden door or cover, substantially as and for the purpose specified.

In witness whereof I hereunto subscribe my name this 22d day of May, A. D. 1890.

WILLIAM R. PATTERSON.

Witnesses:

GEORGE P. BARTON,
ELLA EDLER.