

(No Model.)

W. F. STARR.
GONG BELL.

No. 411,267.

Patented Sept. 17, 1889.

Fig 1

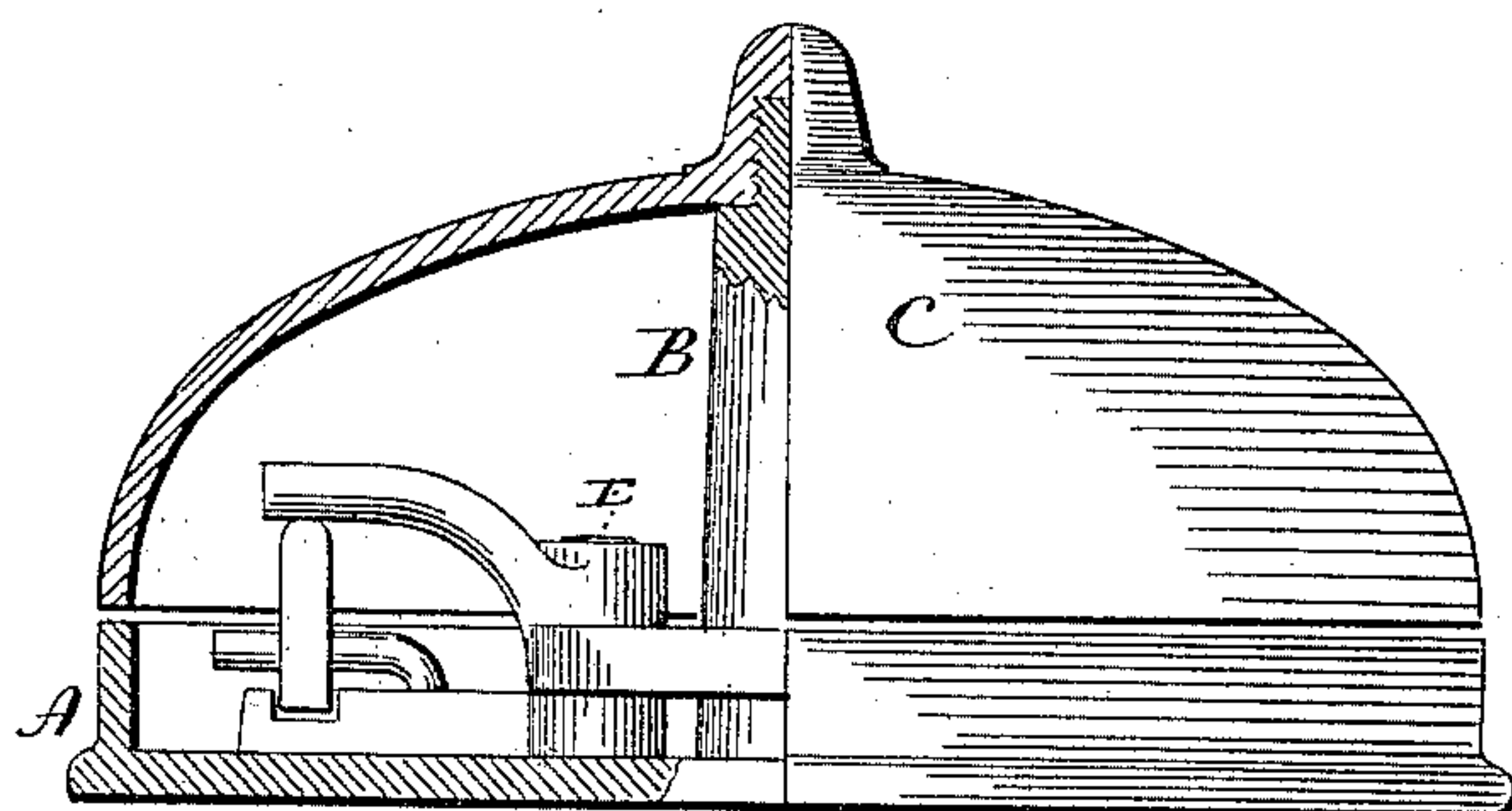


Fig 2

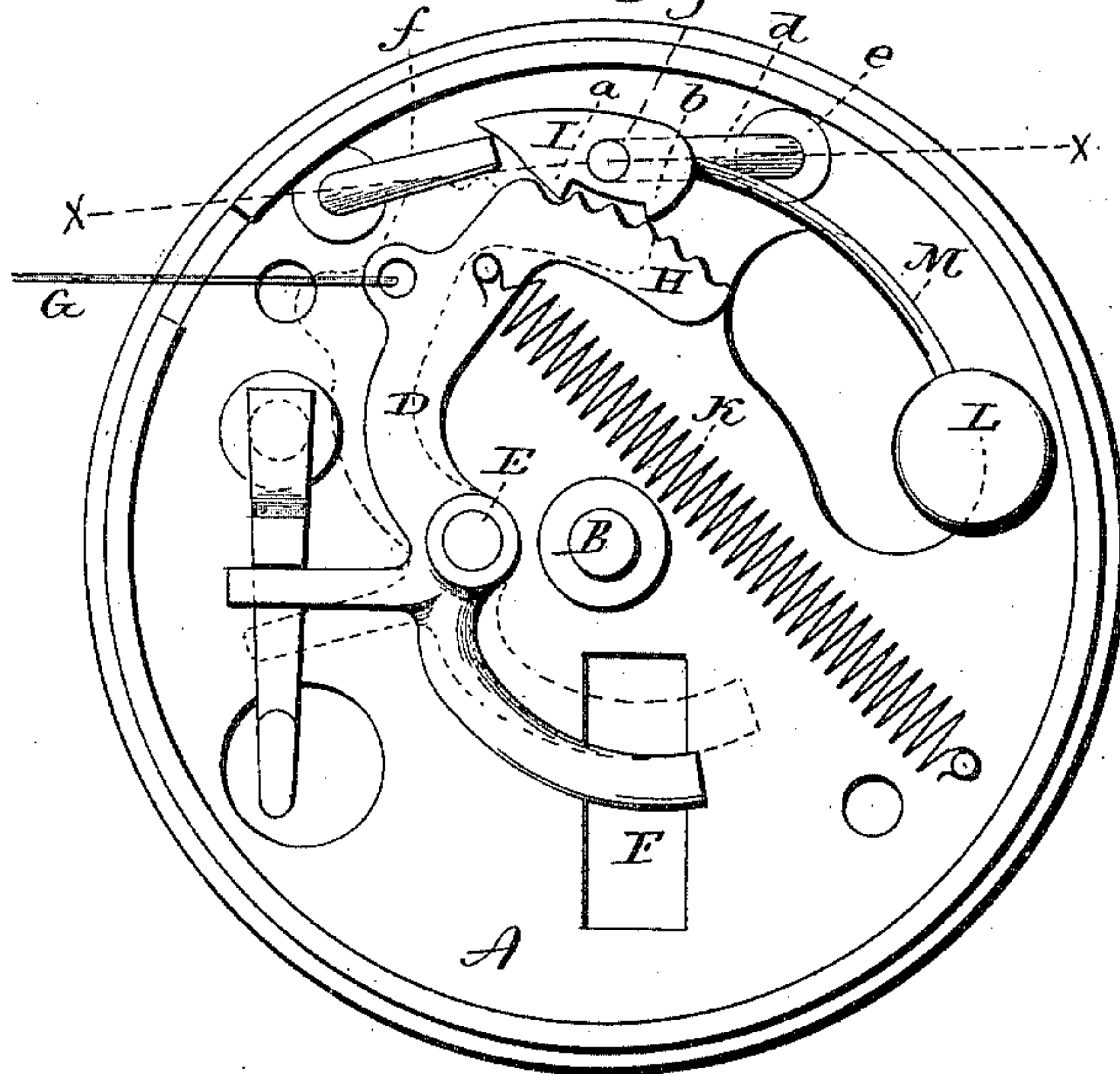
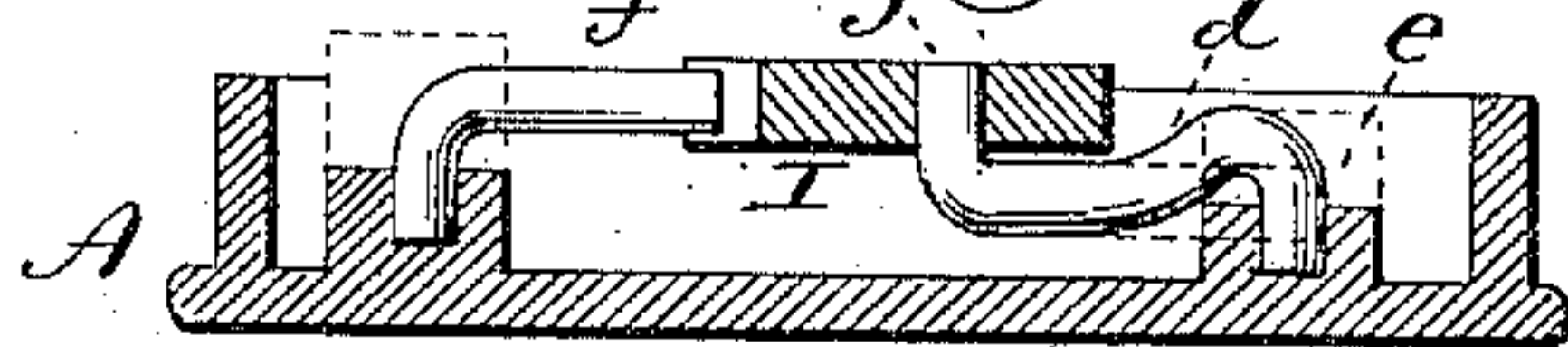


Fig 3



Witnesses
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UNITED STATES PATENT OFFICE.

WILBUR FISK STARR, OF EAST HAMPTON, CONNECTICUT, ASSIGNOR TO
THE STARR BROS. BELL COMPANY, OF SAME PLACE.

GONG-BELL.

SPECIFICATION forming part of Letters Patent No. 411,267, dated September 17, 1889.

Application filed May 3, 1889. Serial No. 309,475. (No model.)

To all whom it may concern:

Be it known that I, WILBUR FISK STARR, of East Hampton, in the county of Middlesex and State of Connecticut, have invented a new
5 Improvement in Gong-Bells; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and
10 which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view of the bell, half in vertical section; Fig. 2, a top view with the bell removed, showing the operative mechanism;
15 Fig. 3, a vertical section cutting through line *xx* of Fig. 2.

This invention relates to an improvement in that class of bells adapted for door-bells and other purposes where a signal may be
20 produced by a pull or push, as the case may be. These bells usually consist of a base, which is adapted to be secured at some convenient point, a bell-hammer pivoted upon said base, with mechanism to impart a vibra-
25 tory movement to the hammer, with a spring to make the escape movement of the hammer as a blow, with a bell over the base inclosing the mechanism, but so that the hammer may strike the bell upon the inside.

30 The object of this invention is to construct the bell so as to produce a call or signal substantially the same as that imparted by an electric bell—that is, a series of rapid strokes; and the invention consists in the construction as hereinafter described, and particu-
35 larly recited in the claims.

A represents the base, constructed with a central post B, upon which the bell C is arranged, as usual in this class of bells.

40 D represents the actuating-lever, which is hung upon a fulcrum E, so as to swing in a plane parallel with the base, as usual for the operating-lever in this class of bells. The swinging movement is imparted to the lever
45 by means of an arm working through a slot F in the base, as usual in this class of bells, the said arm (not shown) also a usual construction, or may be by a pull from a wire, as indicated at G, or operated in any of the
50 usual means for producing the movement of

the lever required to impart the stroke to the hammer. The active arm of the lever D is constructed with a segment H, of which the axis is the center. The face of this segment is toothed, as shown. Adjacent to this toothed
55 segment of the lever D the hammer-hub I is hung upon a pivot J, and so as to swing in the plane of the segment H. The face of the hub adjacent to the toothed segment is constructed in the form of a pallet—that is, pro-
60 vided with two teeth *ab* equidistant from the center of motion, and arranged to work in the teeth of the segment H as a clock-pallet works in the teeth of its escapement-wheel, and so that the throwing of the lever to one side, as
65 indicated in broken lines, Fig. 2, will impart vibrations to the hub I of the bell, according to the number of teeth therein. The lever D is returned after such movement by means of a spring K, arranged for the purpose, and on
70 such return of the lever corresponding vibrations will be imparted to the hammer-hub I.

The hammer L is connected to the hub I by an arm M, as usual in this class of bells. By this construction each movement of the lever
75 D in applying the force and the reaction therefrom will produce upon the hammer a series of rapid strokes corresponding to the number of teeth in the segment, so that signals may be given the same as by an electric
80 bell, each series of rapid strokes counting as one in the signal. This construction necessitates an adjustment of the hub of the hammer in the assembling of the parts, in order that the required escapement may positively
85 occur.

In the ordinary construction of the parts they are cast, and necessarily so, in order to make the structure inexpensive. Being so
90 cast, it will be impossible to place the pivots and bore the hub and lever so that the hub would always stand in its proper relation to the segment of the lever. To thus positively locate the parts and bring them into this working condition would necessitate an ex-
95 pensive construction and better class of work than is practical in bells of this character. To overcome this difficulty and provide for the adjustment of the hammer, I construct a pivot J from wire, and form it with an arm *d*,
100

turned at right angles therefrom, and at a distant point, as at *e*, make the arm fast in the base. This is best done by placing the pivot-arm in the sand preparatory to casting the base, and so that the metal of the base poured into the mold will flow around the end of the arm turned into the base, as seen in Fig. 3, so that the pivot-arm becomes permanently attached to the base, as if an integral part thereof; but being made from wire it is sufficiently flexible to permit the arm to be bent toward or from the lever, as may be required, to bring the pivot into the proper relative position thereto.

As a "bank" or stop upon which the hub may strike in its return-stroke from the bell, which stop is also best made adjustable, I form the stop in a similar manner to that which I have described for the pivot. This stop is made from wire *f*, Figs. 2 and 3 representing that stop. It is made of L shape, one leg of the L secured to the base, the other leg extending toward and into the path of the hammer-hub I, as seen in Figs. 2 and 3, so that this stop becomes also a permanent part of the base, and being wire and flexible it may be bent to the proper position to arrest the vibrating movement of the hammer at the proper point, in order that the hub may suitably escape from the segment H. I prefer to turn the wires into the base, as I have described; but they may be straight and run di-

rectly into a projection from the base, as indicated in broken lines, Fig. 3. By this construction of the pivot and of the stop the parts may be assembled and the hub and stop adjusted by simply bending the wires toward or from the segment, as may be required.

The stop may be omitted; but I prefer to employ it as I have described, as insuring the better result.

I claim—

1. In a gong-bell, the combination of the base A and the actuating-lever D, hung thereon and constructed with a toothed segment H, the hammer having its hub constructed with teeth *a b*, adapted to engage and escape from the teeth of the segment, the pivot upon which the hammer is hung constructed as a part of the arm, secured to the base distant from the pivot-point of the hammer, substantially as described.

2. In a gong-bell, the combination of the actuating-lever D, the hammer having its hub I constructed with teeth *a b*, the hammer hung upon a pivot on the base, and the ductile wire stop *f*, fixed to the base distant from the said hub, but extending into the path of the hub, substantially as and for the purpose described.

WILBUR FISK STARR.

Witnesses:

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