

No. 740,744.

PATENTED OCT. 6, 1903.

F. B. COOK.
POLARIZED ELECTRIC BELL.
APPLICATION FILED DEC. 18, 1902.

NO MODEL.

Fig. 1.

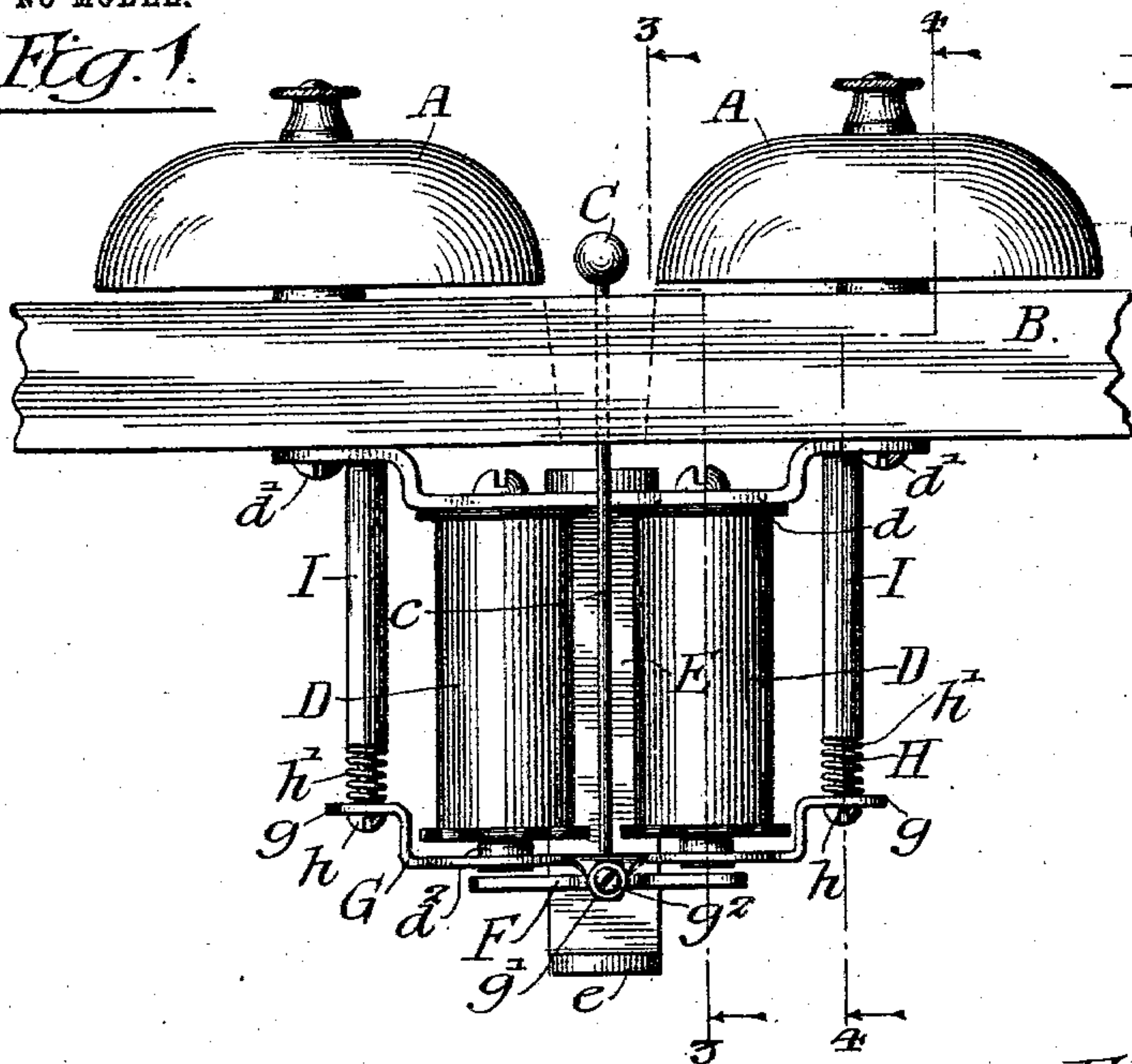


Fig. 2.

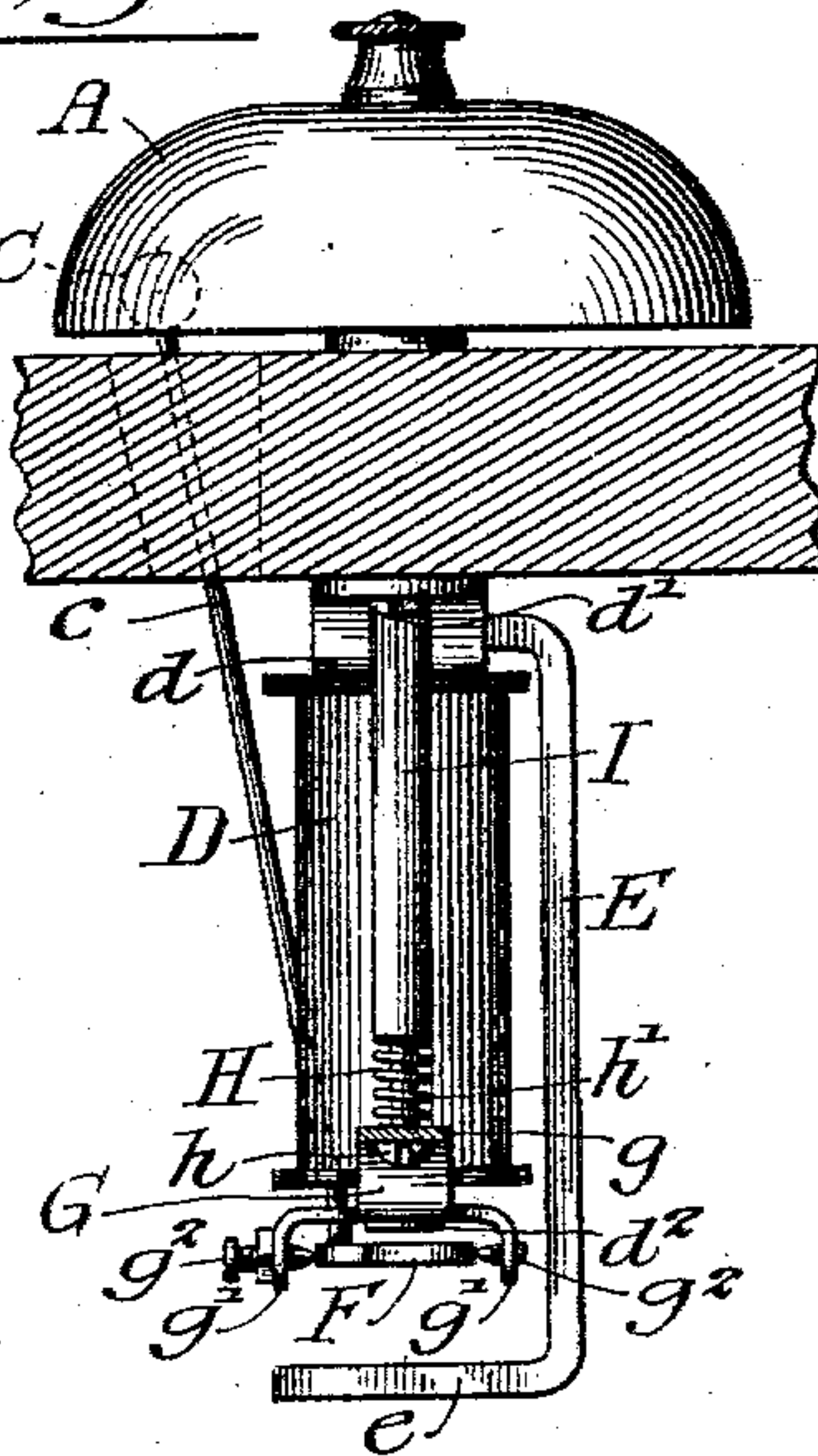


Fig. 3.

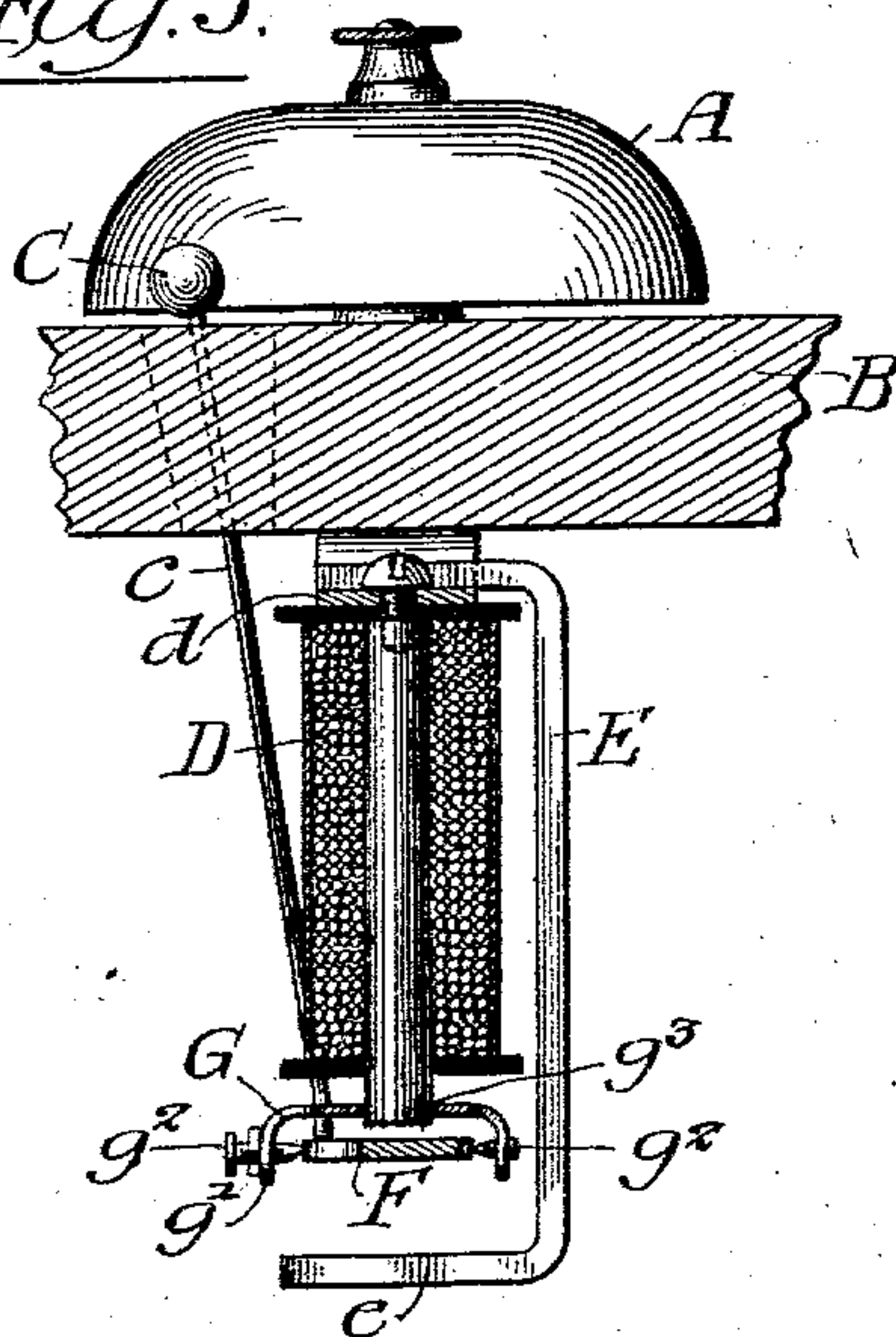
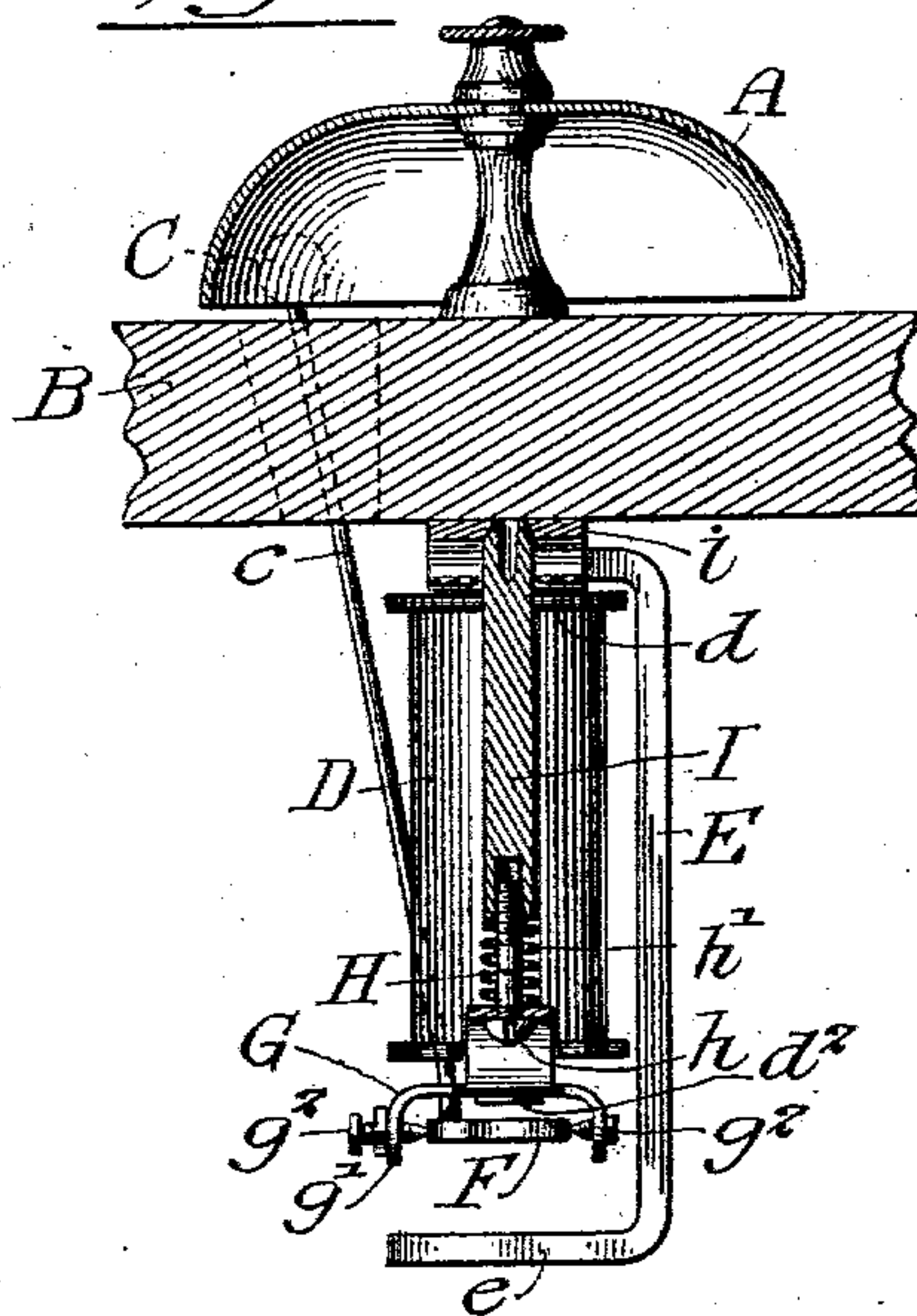


Fig. 4.



Witnesses:-

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UNITED STATES PATENT OFFICE.

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POLARIZED ELECTRIC BELL.

SPECIFICATION forming part of Letters Patent No. 740,744, dated October 6, 1903.

Application filed December 18, 1902. Serial No. 135,678. (No model.)

To all whom it may concern:

Be it known that I, FRANK B. COOK, a citizen of the United States of America, and a resident of Chicago, Cook county, Illinois, have invented a certain new and useful Improvement in Polarized Electric Bells, of which the following is a specification.

My invention relates to electric bells of that type in which a permanent magnet is employed. Electric bells of this character are commonly known as "polarized electric bells" and in addition to the permanent magnet usually involve a pair of electromagnets, a yoke upon which the armature carrying the striker is pivoted, and a pair of gongs. In an electric bell operating on this principle it is important that the yoke upon which the armature is pivoted be readily adjustable, so as to permit the position of the armature to be readily changed relatively to the cores of the electromagnets. Various arrangements have been adopted for permitting such adjustment of the yoke; but, so far as I am aware, no satisfactory construction for obtaining this adjustment has been proposed.

Generally stated, it is therefore the object of my invention to provide simplified and improved means whereby the yoke of a polarized electric bell may be readily adjusted.

A special object is to provide a construction whereby the means for adjusting the yoke may involve a pair of coil-springs which are structurally distinct from and independent of the cores of the electromagnets.

It is also an object to provide certain details and features of improvement tending to increase the efficiency and serviceability of an electric bell of this particular character.

In the accompanying drawings, Figure 1 is a front elevation of a polarized electric bell constructed in accordance with the principles of my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a vertical section on line 3 3 in Fig. 1. Fig. 4 is a vertical section on line 4 4 in Fig. 1.

The general construction of my improved polarized electric bell may be of any suitable known or approved character. As illustrated, the bell comprises the usual pair of gongs A A, mounted upon a suitable support B and separated sufficiently to provide space for the vibratory striker C. A pair of electromag-

nets D D are shown secured to a bracket *d*, which latter is secured to the under side of said support by screws *d'*. The permanent magnet E has its upper pole permanently secured to the bracket *d* and is so shaped and positioned that its lower pole *e* occupies a position immediately below the armature F. This armature is, it will be observed, pivoted midway of its length to a pair of ears depending from the sides of the yoke G. The said yoke is preferably provided with upwardly-bent end portions *g*, adapted to be supported upon the heads *h* of the screws H, a rotation of which latter will obviously cause a vertical adjustment of the yoke. These screws are threaded into sockets formed in the lower ends of the posts I, and between the end of each post and the adjacent upturned end of the yoke a spring *h'* is interposed for the purpose of holding the yoke down in its proper position upon the heads *h* of the said screws. The posts I can be formed integral with the bracket *d* or can be secured thereto, as shown at *i* in Fig. 4. The ears *g'* on the yoke are preferably provided with pointed screws *g''*, which provide cone-bearings for the vibratory armature. An opening through the central portion of the yoke permits the stem *c* of the striker C to pass downwardly and have its lower end secured to the central portion of the said armature. Openings *g'''* in the yoke are provided for receiving the ends *d''* of the magnet-cores and so as to allow the latter to project downwardly and extend close to the end portions of the armature. With this arrangement the permanent magnet exerts its usual influence over the armature. With the provision of the screws and springs the position of the armature relatively to the magnets can be easily varied by rotating the said screws in one direction or the other according to whether it is desired to move the armature away or toward the cores of the electromagnets. In either case, however, it will be seen that the springs *h'* cause the yoke to travel with the screws as the latter are rotated and caused to move in or out of their sockets in the lower ends of the posts I. This greatly facilitates the adjustment of the yoke and armature, inasmuch as it is only necessary to apply a screw-driver to the two screws. Furthermore, these screw-and-spring devices for adjusting the

yoke are mounted independently of the magnet-cores, and consequently are easily and readily accessible.

What I claim as my invention is—

5 1. A polarized electric bell comprising a pair of electromagnets, a yoke through which the end portions of the magnet-cores project, a pair of adjustable screws for supporting the end portions of said yoke, an armature piv-
10 oted below the yoke, a permanent magnet, a pair of coil-springs encircling the said screws and tending to hold the yoke down upon the heads of said screws, said screws being mounted independently of the cores of said
15 electromagnets, a pair of gongs, and a striker mounted upon said armature.

2. A polarized electric bell comprising a pair of electromagnets, a permanent magnet, a yoke through which the cores of said elec-
20 tromagnets project, an armature pivoted upon said yoke, a gong, a striker mounted on said armature, a pair of screws *h* mounted independently of the cores of said electromagnets and arranged to support the ends of said yoke,
25 and a pair of coil-springs *h'* arranged in position to keep the ends of said yoke pressed tightly against the heads of said screws.

3. A polarized electric bell comprising a pair of electromagnets, a permanent magnet,
30 a yoke through which the cores of said elec-

tromagnets project, an armature pivoted upon said yoke, said armature being arranged between one pole of the permanent magnet and the ends of the electromagnet-cores, and a pair of springs and screw-threaded members 35 applied to the ends of said yoke, said springs and screw-threaded members being mounted independently of the cores of said electromagnets, the screws when rotated in one direction operating to adjust the yoke in a cer- 40 tain direction, and said springs being operative to adjust the yoke in an opposite direction when the said screws are rotated in another direction.

4. A polarized electric bell comprising a 45 pair of electromagnets, a gong, a permanent magnet, a yoke through which the cores of the electromagnets project, an armature pivoted upon the yoke, a striker mounted upon the armature, and a pair of screw-and-spring 50 devices applied to the ends of said yoke and adapted for adjusting the latter, said devices being mounted independently of the cores of said electromagnets.

Signed by me at Chicago, Cook county, Illi- 55 nois, this 11th day of December, 1902.

FRANK B. COOK.

Witnesses:

HARRY P. BAUMGARTNER,
WM. A. HARDERS.