

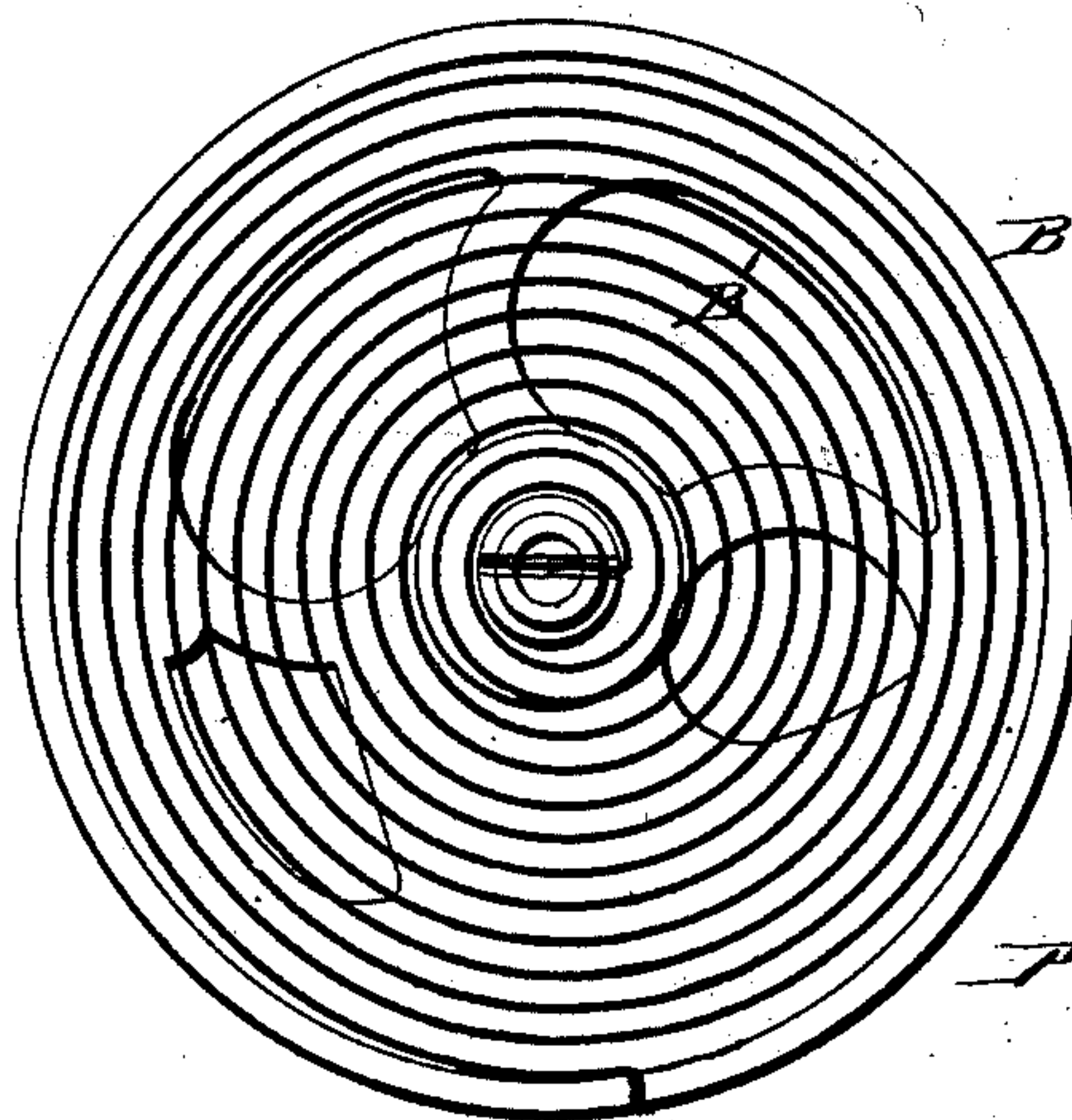
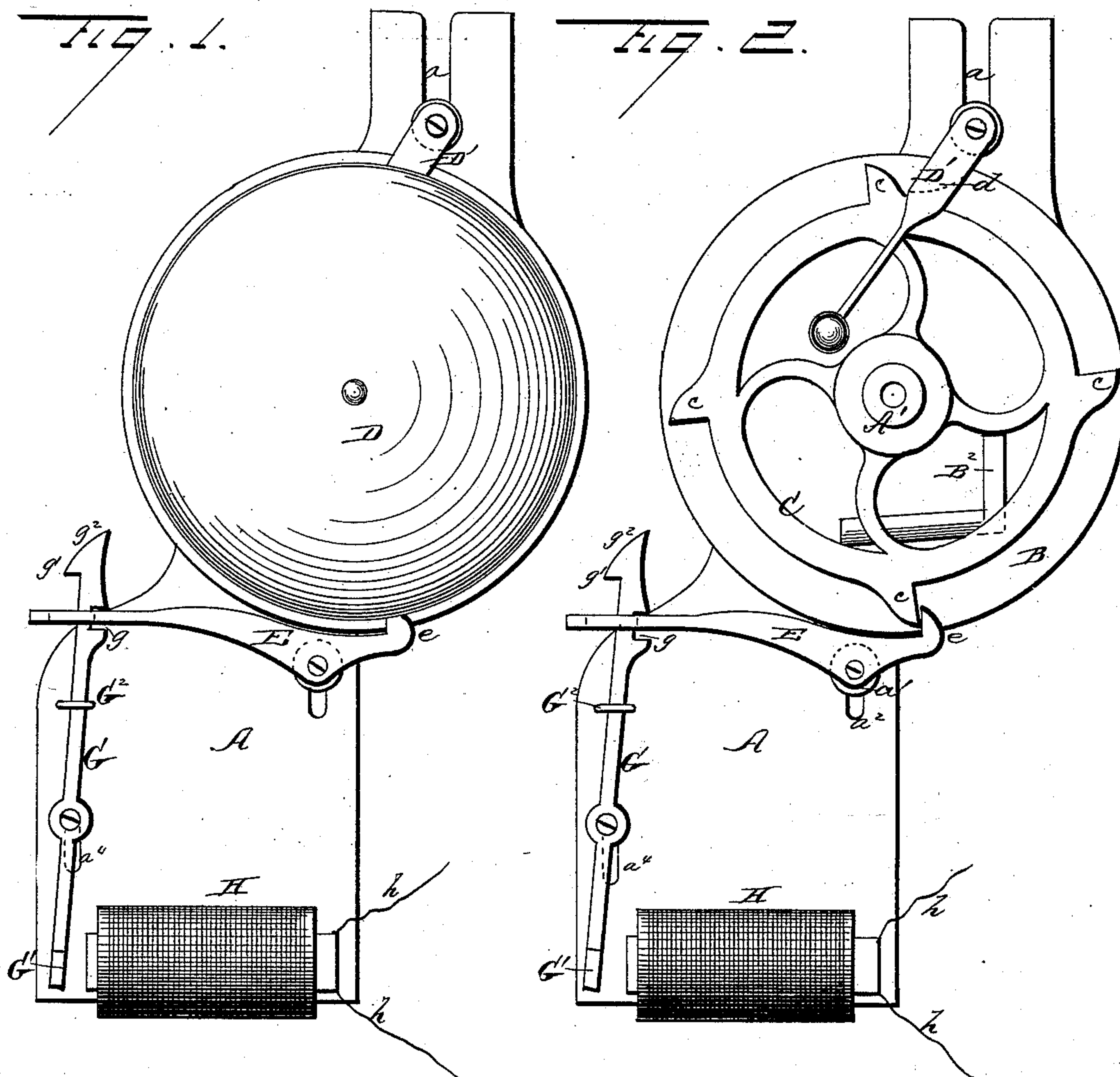
(No Model.)

2 Sheets—Sheet 1.

G. P. CONANT.  
ELECTRIC CALL BELL.

No. 296,729.

Patented Apr. 15, 1884.



**WITNESSES:**

H. C. Mr. Arthur  
Chas Kressmann

*Inventor.*

Grace Conant

per.

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*Attorney.*

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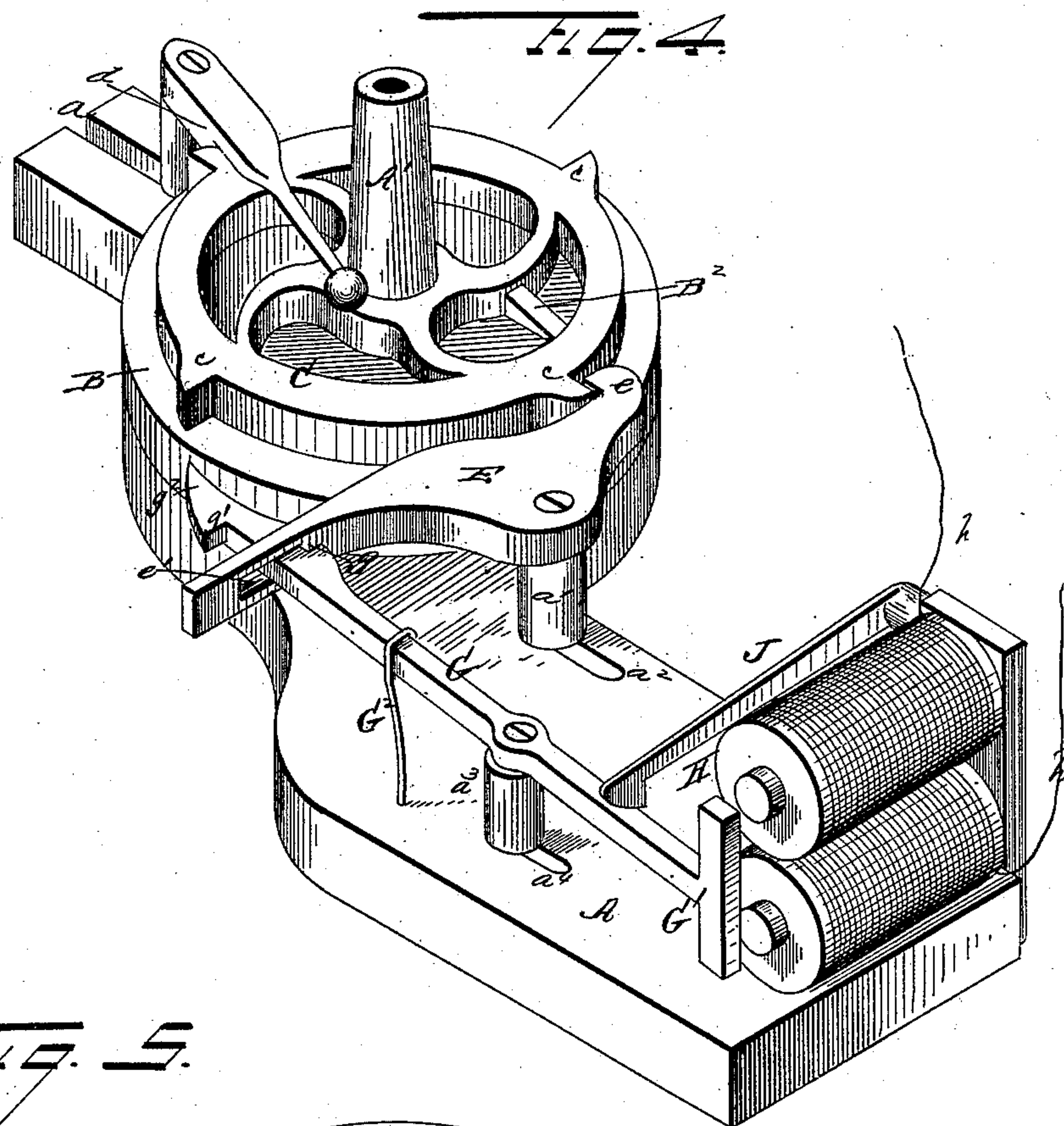


FIG. 5.

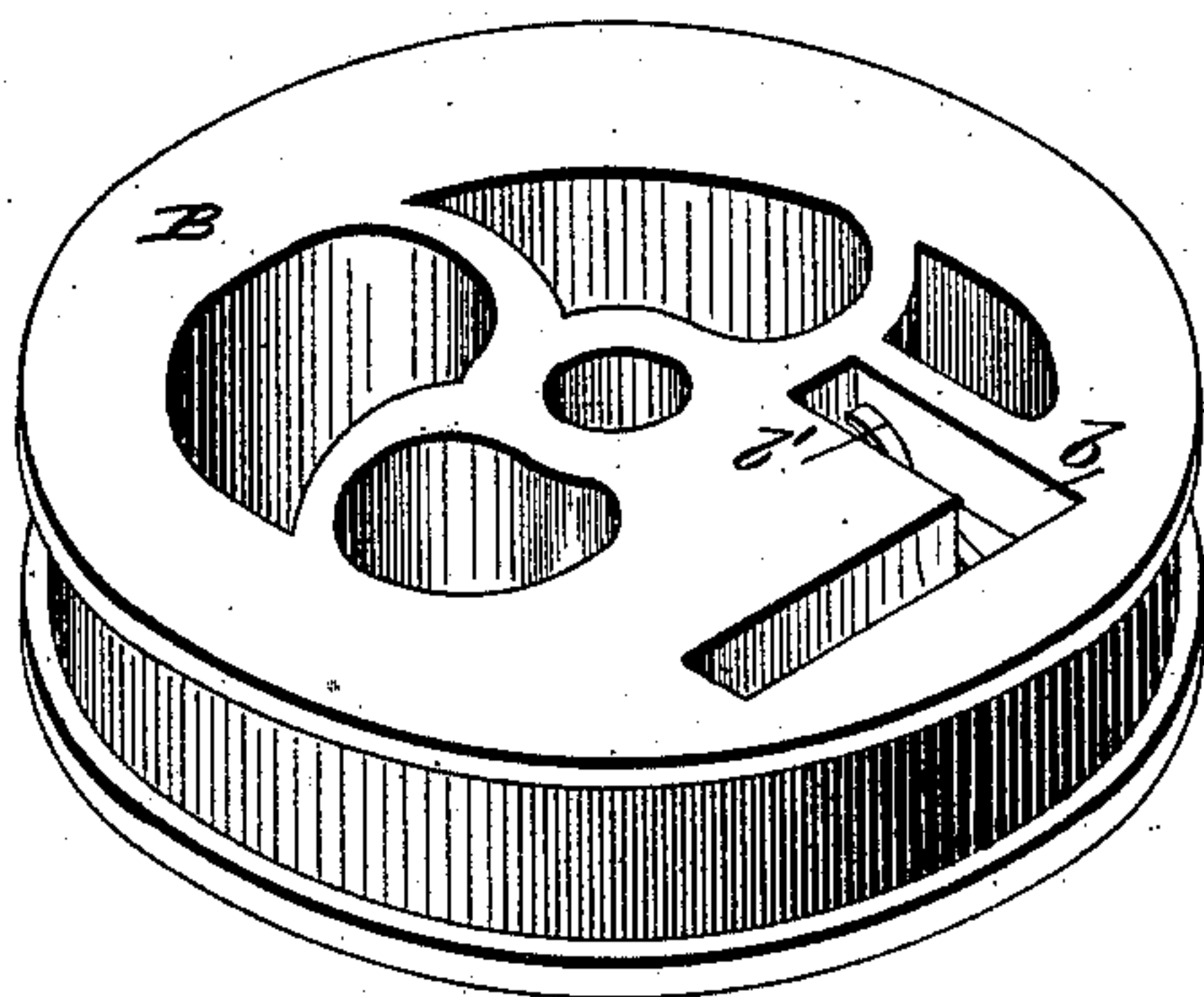
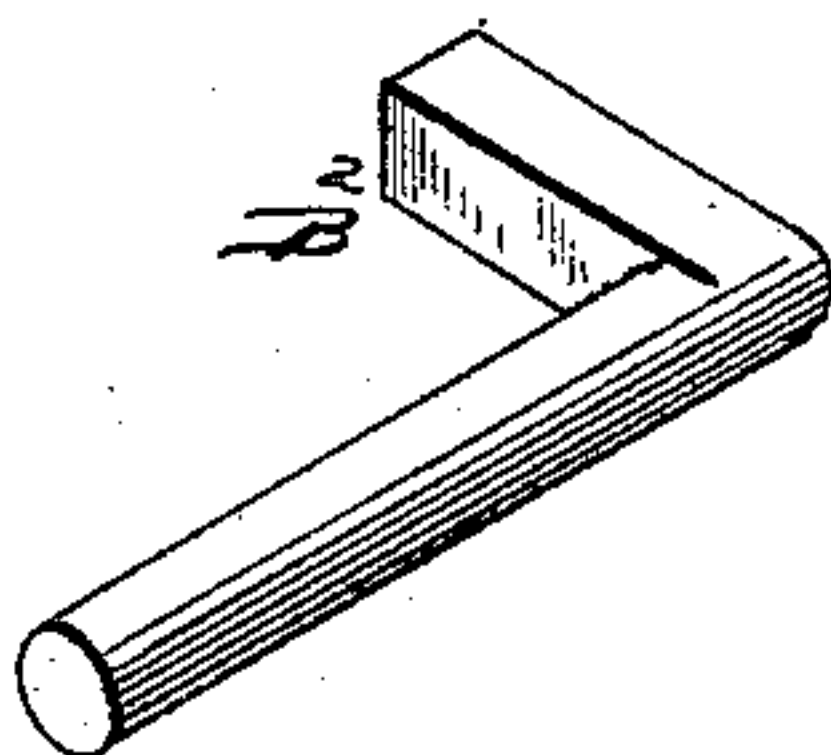


FIG. 6.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

GEORGE P. CONANT, OF GENEVA LAKE, WISCONSIN, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF ONE-HALF TO ALBERT E. LYTLE AND ROBERT B. SMITH, BOTH OF CHICAGO, ILLINOIS.

## ELECTRIC CALL-BELL.

SPECIFICATION forming part of Letters Patent No. 296,729, dated April 15, 1884.

Application filed July 5, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE P. CONANT, a citizen of the United States, residing at Geneva Lake, in the county of Walworth and State of Wisconsin, have invented certain new and useful Improvements in Electric Call-Bells, of which the following is a specification, to wit:

This invention relates to an improvement in alarm or call bells; and it consists in the combination, with a bell and its vibrating hammer, of a spring-actuated striking-wheel and a balance-lever escapement actuated by an electro-magnet, whereby one or more positive calls or strikes may be given at the will of the operator, substantially as will be more fully hereinafter set forth.

In order that others skilled in the art may be enabled to make and use my invention, I will now proceed to describe the construction and operation of the same, referring to the annexed drawings, in which—

Figure 1 is a face view of my invention. Fig. 2 is a similar view with the gong or bell removed. Fig. 3 is a bottom view of the spring-drum. Fig. 4 is a perspective view, same as Fig. 2. Fig. 5 is a detail perspective view of the drum, and Fig. 6 is a detail view of the pawl.

A represents the base or back, to which is secured a post, A', upon which is pivoted a drum, B, recessed upon its inner side for the reception of a coil-spring, B', one end of which is secured in the periphery of the drum and the other to the post upon which it turns. The outer face of this drum is formed with an angular recess, b, in one arm of which is secured a small spring, b'. In this recess is placed a pawl, B<sup>2</sup>, of a size to fill the recess, one arm of which rocks in the corresponding part of the socket, and the other rests upon and is thrown up by the spring, as will be readily understood.

Upon the post A', above the drum B, is pivoted the call-wheel or striker C, having its periphery provided with any desired number of projections, c, and behind the spokes of which the pawl B<sup>2</sup> catches to connect the wheel with the drum.

The gong D is secured upon the end of the post A', in the usual manner.

The hammer D' is pivoted upon a post adjustably secured in a slot, a, in the base or back, and projects within the bell above the striking-wheel C. The under side of the arm or shank of this hammer is formed of the projection d, which may be beveled, as shown in the drawings, if desired, and with which the projections c upon the call-wheel engage to strike the signal.

Below the gong, to the back A, is secured a post, a', rendered adjustable by a slot, a<sup>2</sup>, in the back, and upon which is fulcrumed a lever, E, having upon its short arm a hook, e, adapted to engage with the projections c upon the rim of the call-wheel and prevent its movement. The longer arm of this lever is formed with a transverse slot, e', through which passes the end of an armature-lever or trigger, G, having upon one side a notch, g, and upon the outer side, somewhat nearer its end, a projection, g', beyond which the lever is formed with a beveled nose, g<sup>2</sup>, as represented in Figs. 2 and 4. This lever G is fulcrumed upon the upper ends of a post, a<sup>3</sup>, rendered adjustable by a slot, a<sup>4</sup>, in the back, and upon the opposite end of the lever is formed an armature, G'.

Upon the back A, in close relation to this armature, is secured an electro-magnet, H, which is connected, by the wires h h', with any suitable electric generator. The lever G is also provided with a spring, G<sup>2</sup>, adapted to hold the armature away from the magnet.

It will be observed that the back of the lever G is curved or concaved just in rear of its beveled nose, to facilitate the action of the slotted lever E, as will be readily understood by reference to the drawings.

In operation, the spring-drum B having been wound up in any suitable manner, and the wires h h' of the magnet having been connected with a generating device and provided with any of the well-known means for making and breaking the circuit. When the circuit is made and the coils H' are magnetized, the armature end of the lever G is attracted and held to the magnet, the opposite end of the lever G being thrown outward, releasing



the slotted lever E from engagement with the notch *g* and allowing its end to fly outward slightly, when it is caught and held by the projection *g'*, the hooked end *e* being then  
 5 drawn back, so as almost to release the call-wheel from engagement with it. In this position the apparatus is ready for striking a call, and will remain in that position as long as the coil is magnetized. When the circuit is  
 10 broken, the coil being demagnetized, the armature is released, and the spring  $G^2$  returns the lever G to its original position. This releases the lever E from engagement with the projection *g'*, and the pressure of the call-wheel upon the hooked end of said lever oscillates upon its pivot and the call, which, being thereby released, is thrown forward, one  
 15 of its projections *c* striking the projection *d* upon the hammer and causing it to give one stroke upon the gong, when it falls back, ready for another call. At the same time another of the projections *c*, as the call-wheel revolves, strikes the shank of the lever E and forces it back in engagement with the notch *g*, and the  
 20 hooked end of this lever then catches and holds the call-wheel until the circuit is again made to give a call or signal.

It will be observed that, no matter how long the coils may be magnetized, but one positive  
 30 stroke can be made upon the bell at one making and breaking of the circuit.

It is obvious that the construction of this device may be varied without departing from the spirit of my invention. For instance, the  
 35 call-wheel C may be so constructed as to give more than one stroke, and thus adapt it to any desired signal.

In signal-bells for fire-alarms in hotels or large buildings I will use a pivoted latch, J,  
 40 hinged to the magnet-standard, and having its beveled nose resting upon the armature-lever, where it will catch and hold the same when drawn back, and I then cut off the lever E at the inner end of the slot *e'*, thus allowing it to  
 45 run entirely down when started, the lever E acting in connection with the projections upon the call-wheel as a governor to prevent its too rapid movement.

In Fig. 5 I have shown the drum B formed  
 50 with a groove on its periphery, so that weighted cord may be substituted for the spring as an actuating-power, if so desired.

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

1. In an alarm or signal bell, a call-wheel having arms or projections adapted to actuate the bell-hammer, in combination with an actuating drum or wheel upon the same shaft, formed with an angular recess, one arm of which contains a spring, and an angular pawl, adapted when placed in this recess, to engage with the arms or spokes of the call-wheel, substantially as shown and described. 60

2. In an alarm or signal bell, a bell, a vibrating hammer formed with a projection on its shank or arm, and a revolving striking or call wheel provided with a series of arms or projections, in combination with a vibrating lever having one end formed with a hook adapted to engage the call-wheel, an armature-lever adapted to engage with the vibrating lever, and an electro-magnet, substantially as and for the purpose set forth. 65

3. In an alarm or signal bell, the call-wheel C, formed with projections *c*, and the hooked escape-lever E, having a slot, *e'*, through one end, in combination with the lever G, formed with notch *g*, projection *g'*, and beveled nose  $g^2$  upon one end, and carrying the armature  $G'$  upon the other, and the electro-magnet H, all constructed and arranged to operate substantially as and for the purpose set forth. 75

4. In an alarm or signal bell, the call-wheel C, having projections *c*, and the hooked escape-lever E, in combination with the spring-actuated drum B upon the same post as the call-wheel, and provided with the angular recess *b*, spring *b'*, and angular pawl  $B^2$ , substantially as and for the purpose set forth. 80

5. In an alarm or signal bell, the base A, formed with slots *a a^2 a^3*, post *A'*, carrying the gong D, drum B, and call-wheel C, and the hammer *D'*, formed with a projection, *d*, in combination with the escape-lever E, having hook *e* and slot *e'*, armature-lever G, having upon one end the armature  $G'$ , and the other formed with the notch *g* and beveled nose  $g^2$ , the spring  $G^2$ , and the electro-magnet H, all constructed and arranged to operate substantially as and for the purpose set forth. 85 90 100

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

GEORGE P. CONANT.

Witnesses:

CHAS. KRESSMANN,  
W. C. MCARTHUR.