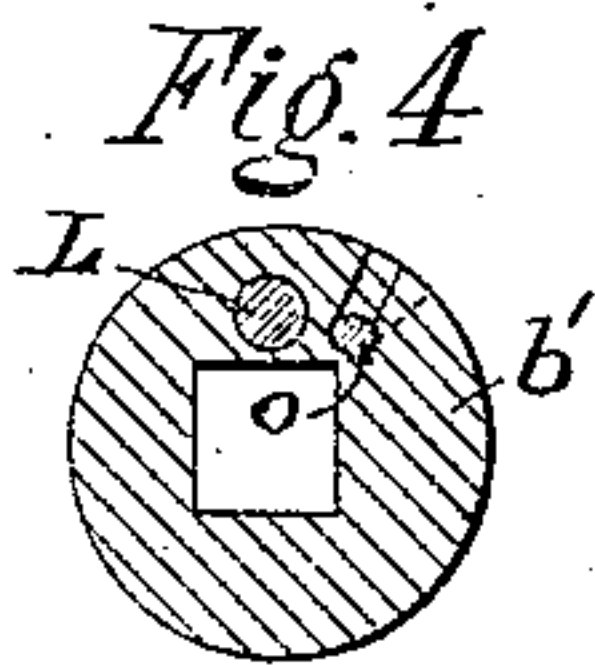
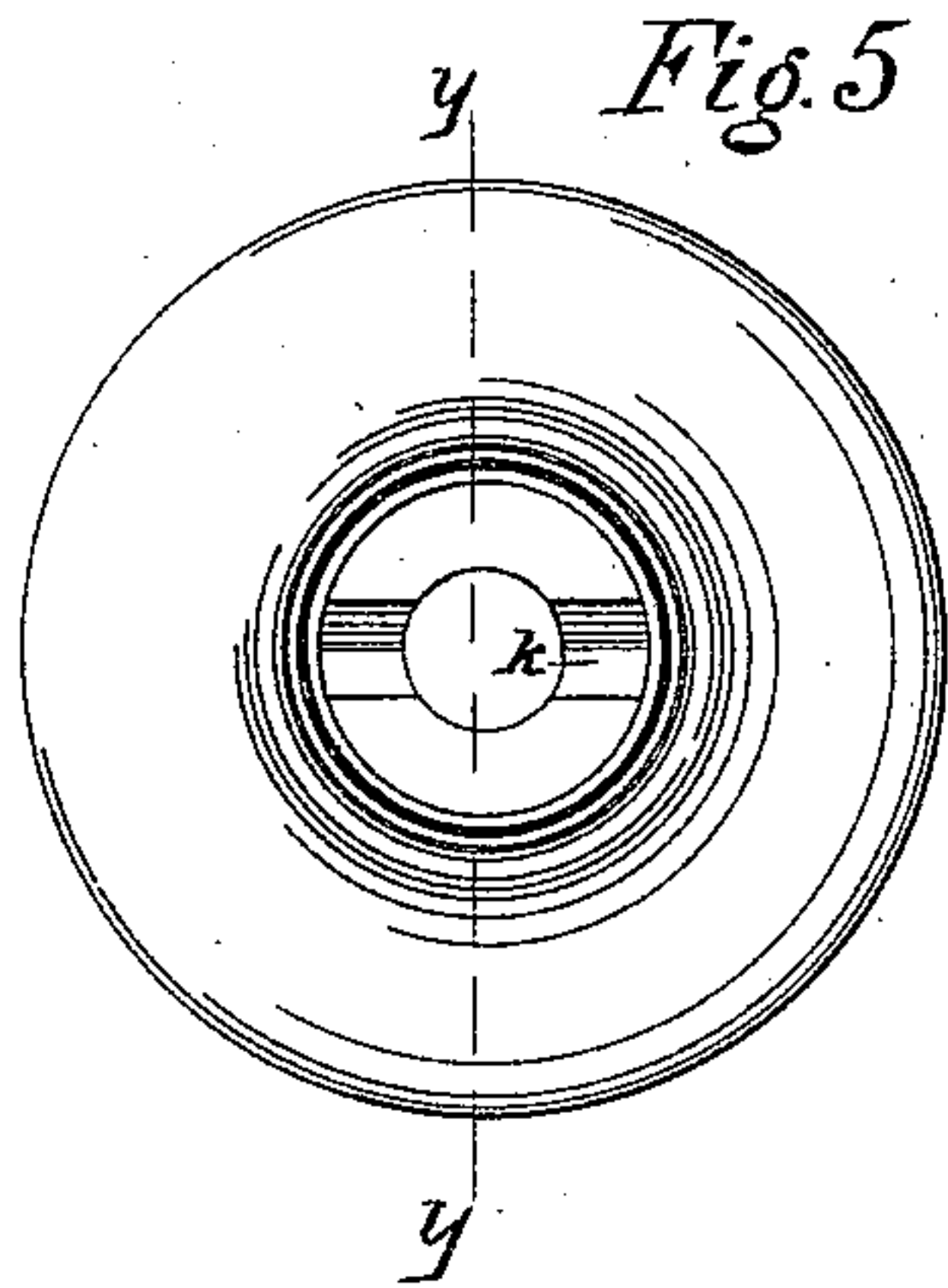
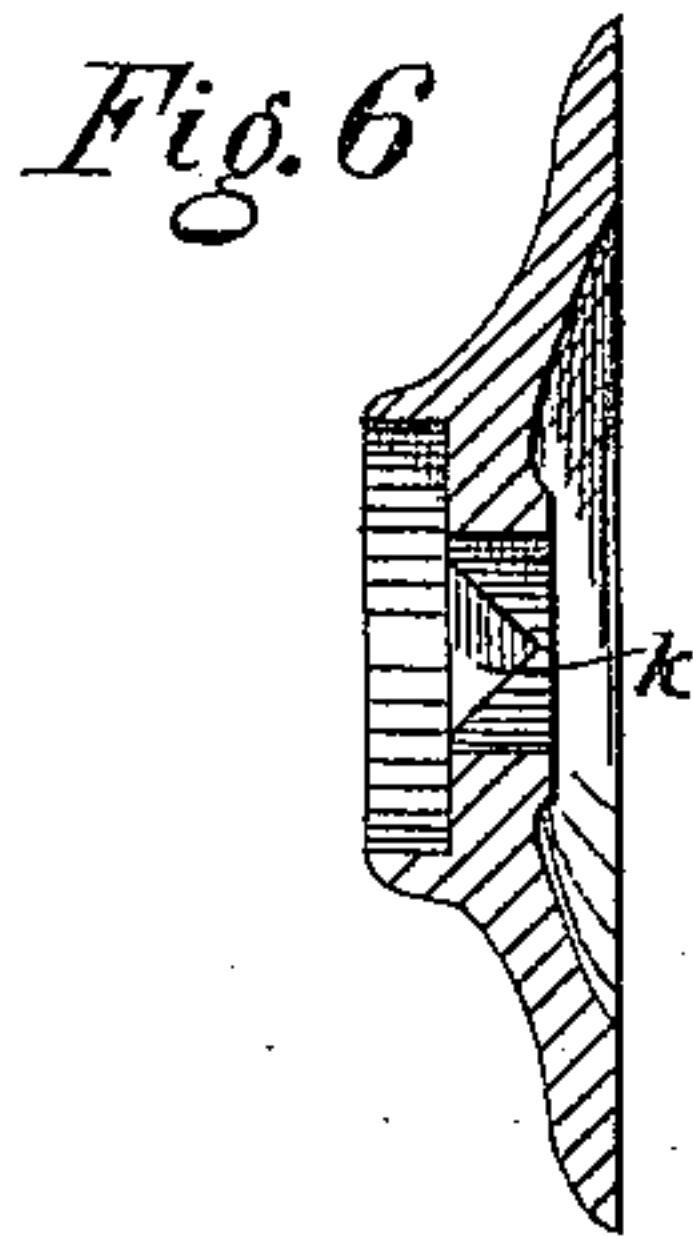
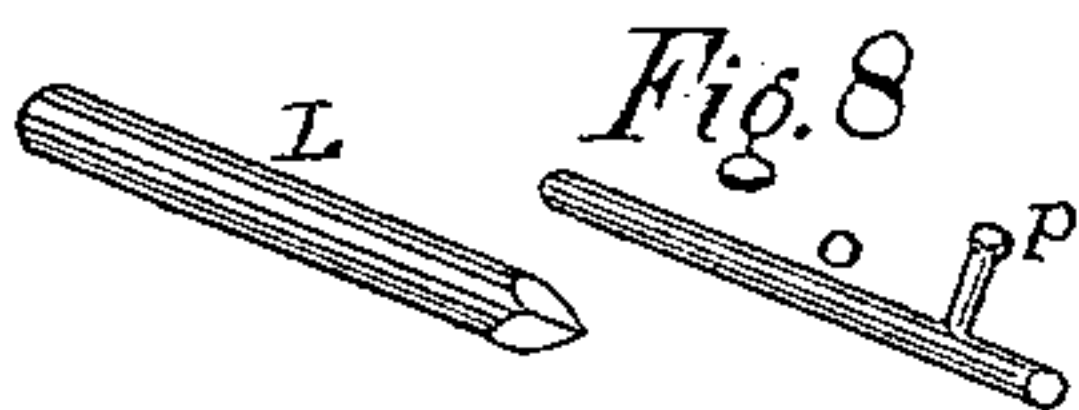
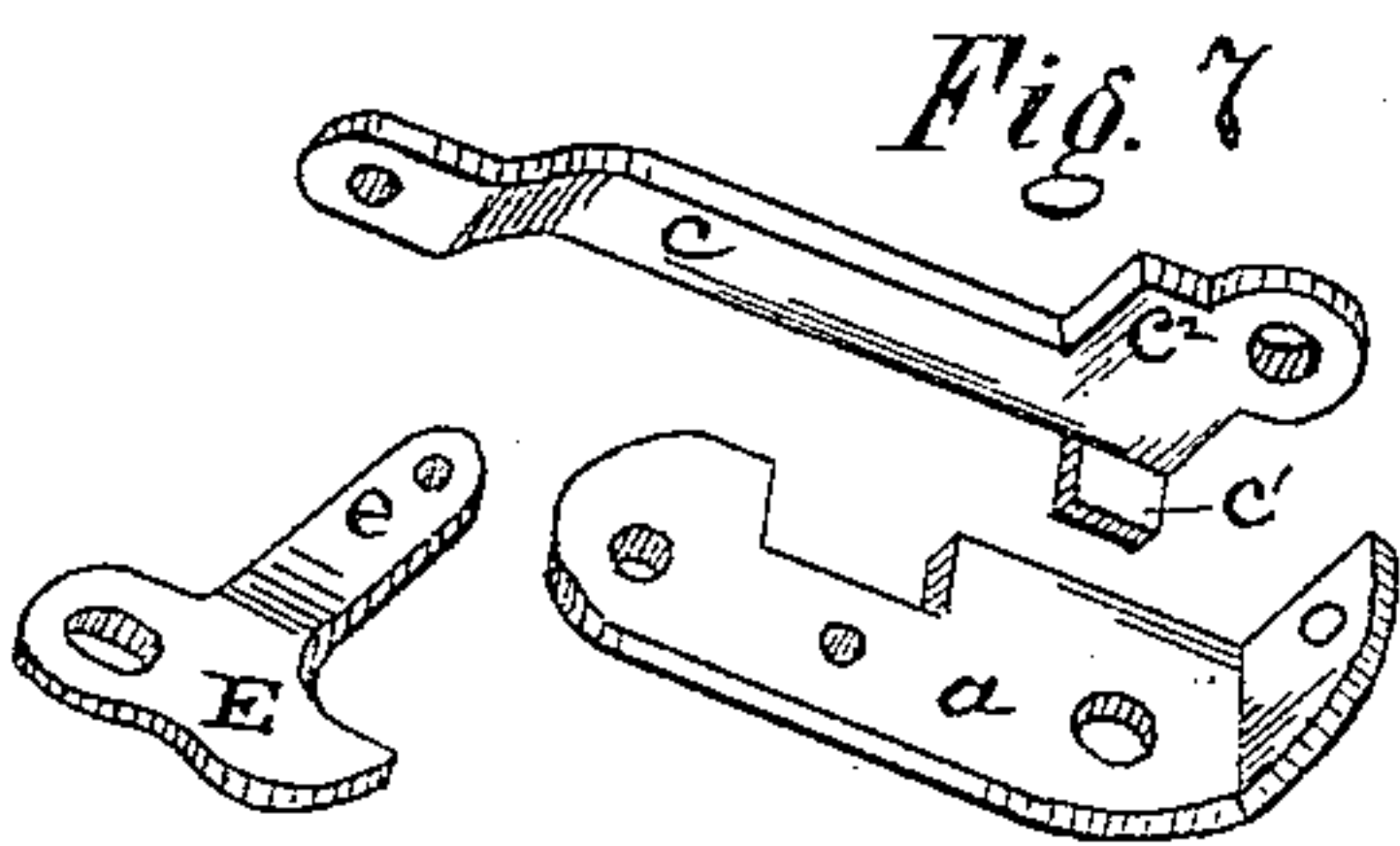
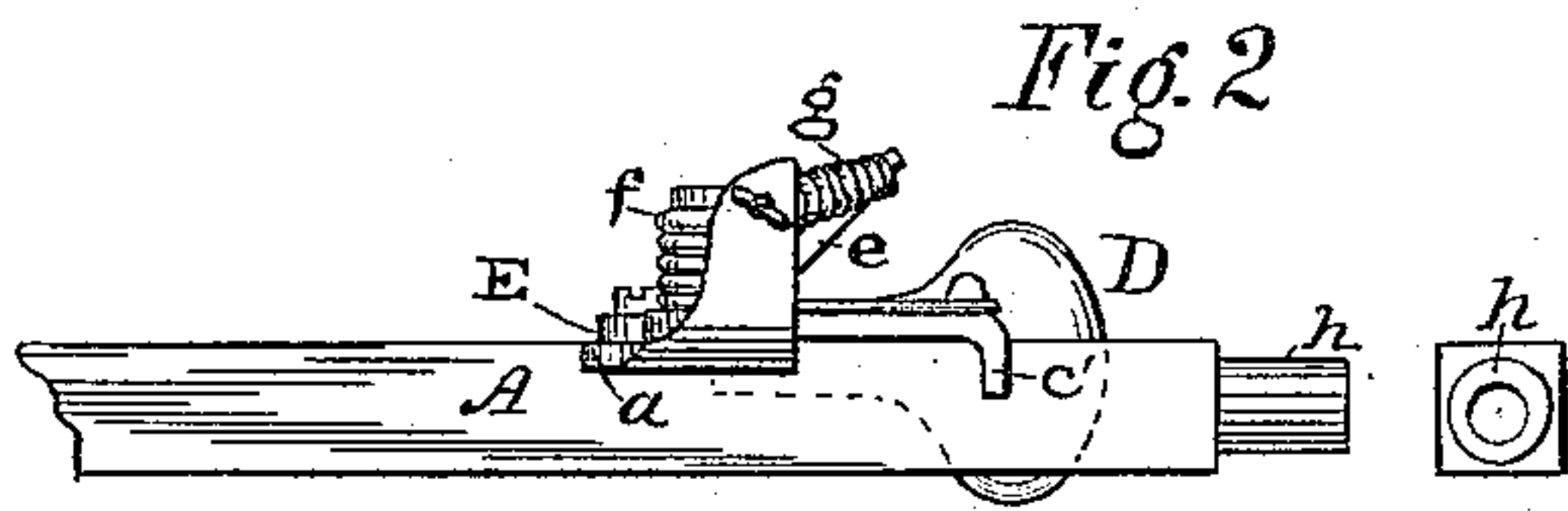
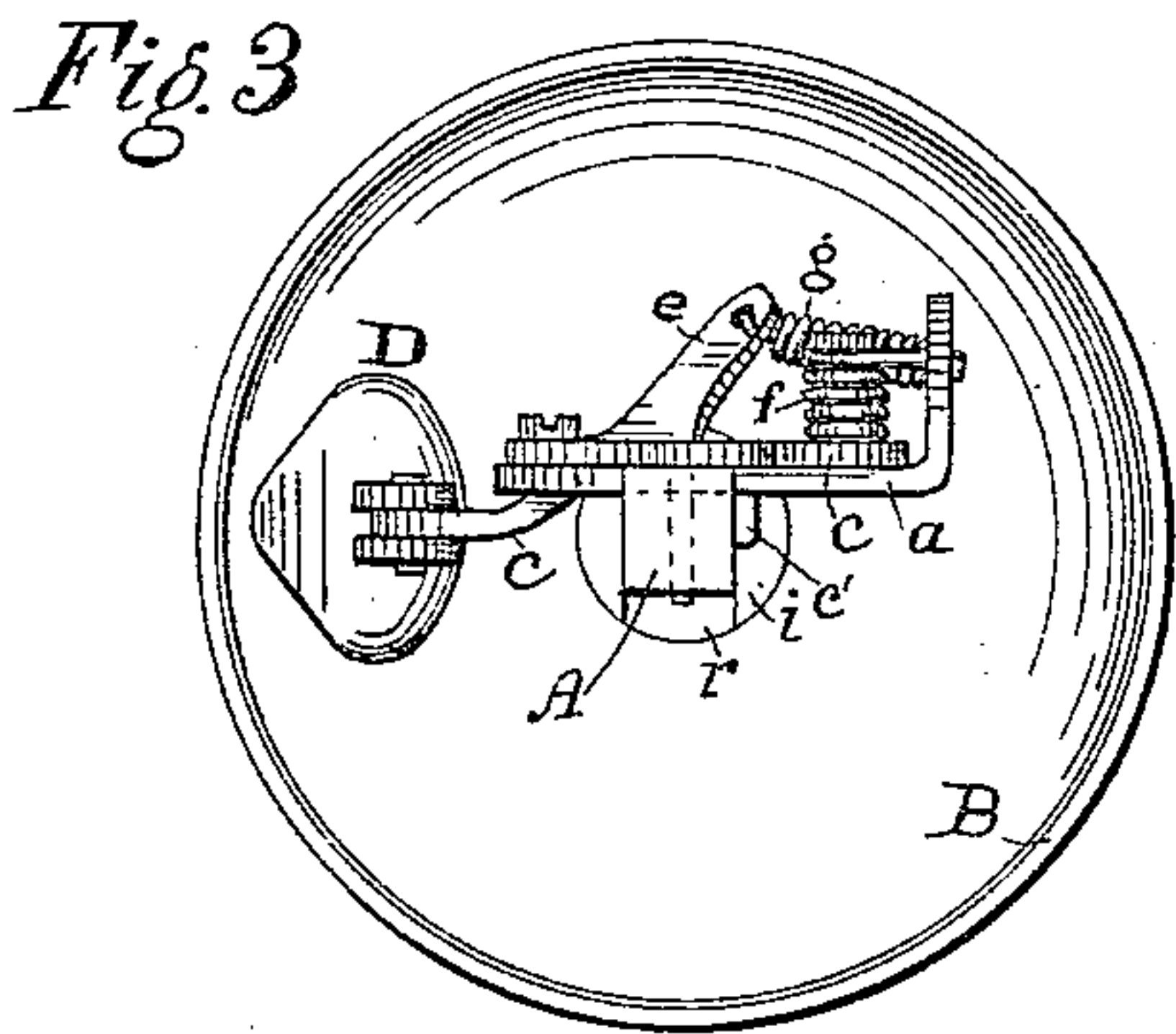
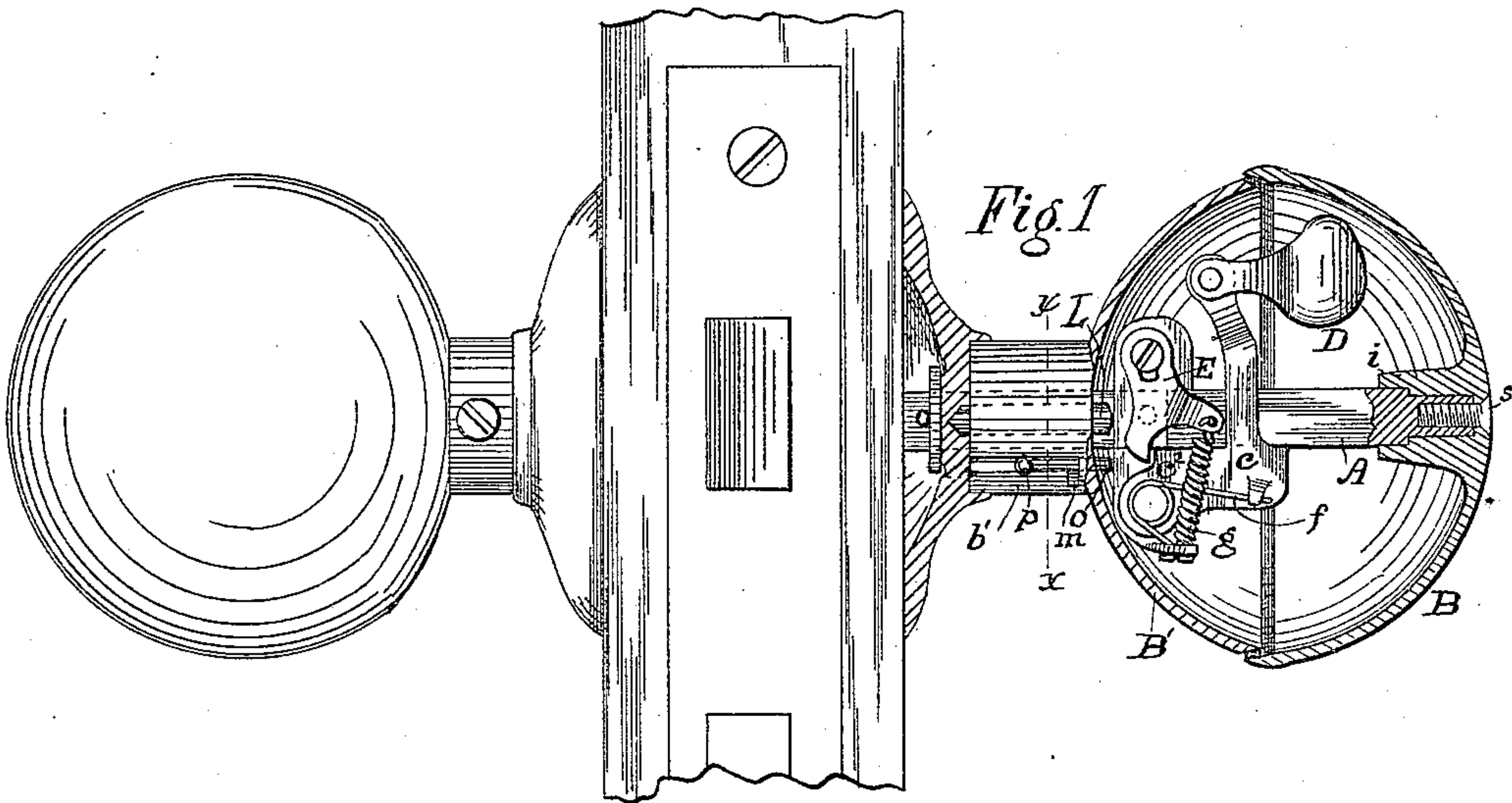


(Model.)

E. C. GARLICK.
ALARM KNOB.

No. 442,803.

Patented Dec. 16. 1890.



WITNESSES:

E. C. Gollins
L. R. Vorce

INVENTOR:

Edward C. Garlick,
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UNITED STATES PATENT OFFICE.

EDWARD C. GARLICK, OF CLEVELAND, OHIO, ASSIGNOR TO THE CUYAHOGA MANUFACTURING COMPANY, OF SAME PLACE.

ALARM-KNOB.

SPECIFICATION forming part of Letters Patent No. 442,803, dated December 16, 1890.

Application filed July 21, 1890. Serial No. 359,452. (Model.)

To all whom it may concern:

Be it known that I, EDWARD C. GARLICK, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Alarm-Knobs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-
10 pertains to make and use the same.

My improvement relates to alarm-knobs for doors in which a portion of the knob forms a gong or bell and the turning of the knob causes the alarm to strike; and the invention
15 consists in the novel arrangement of parts by which the striking mechanism is attached to the knob-spindle independent of the knob itself, greater certainty of action is secured, the size of the knob is reduced, and the device
20 is adapted to be attached to any door-lock or knob-latch in common use.

Figure 1 of the drawings shows the device attached to a door-lock as in use, the striking parts being shown in elevation and the knob
25 and rose in vertical central section. Fig. 2 is a detached view of the spindle-bar and striking mechanism, showing the lower side thereof. Fig. 3 is an end elevation of the same with the gong part of the knob attached. Fig.
30 4 is a transverse sectional view on the line x x of the knob-shank. Fig. 5 is a plan view of the knob-rose, and Fig. 6 a section thereof on the line y y . Fig. 7 shows in perspective a detached view of all the striking parts except
35 the hammer, and Fig. 8 is a like detached view of the striker-pin and stop-pin.

A represents the spindle-bar, which is of the usual standard size and construction.

B and B' are the two parts of the shell which
40 form the hollow knob, and either of which may act as the gong or bell. The outer shell B is firmly secured to the end of the spindle-bar, as hereinafter described, and slightly overlaps the inner shell B', which is secured to or in-
45 tegral with the shank b' , a slight space being left between the shells B B' at their periphery to give resonance to the part struck and allow its vibration. To the spindle-bar A is secured, within the hollow knob, a base-plate
50 a , and to this base-plate is pivoted a striking-arm c , having a stop c' , adapted to rest against

the spindle A, against which it is normally held by a spring f . To the free extremity of the striking-arm c is pivotally attached the freely-moving hammer D, which normally
55 falls back by gravity out of contact with the shell of the knob. A pawl or dog E is pivoted to the base-plate in such position that its free end bears against a shoulder c^2 on the striking-arm when the latter is in its nor-
60 mal position, and the pawl is drawn forward by a spring g , bearing on an arm e of the pawl. The bearing of the pawl E on its pivot is an elongated slot and allows the pawl to be forced
65 back on its pivot far enough to clear the shoulder c^2 when moved by the stop-pin, as hereinafter described. The rose in which the knob bears differs from the usual form only in having a V-shaped groove k cut across the
70 bearing-surface. A pin L, designated as the "striker-pin," is inserted loosely through the knob-shank b' , parallel with and close to the spindle A. One end of this pin is beveled on
75 each side to fit the groove k in the rose, and the other end is adapted to bear against the pawl E and force it forward when the knob is turned. To enable the knob to be turned with-
80 out striking the alarm, when so desired, a stop-pin o is inserted through the knob-shank b' , parallel with the striker-pin, in such position that when pushed in by means of a lug or han-
85 dle p its inner end will engage the rounded or beveled end of the pawl E and force the pawl to slide on its pivot, so as to be disengaged from the shoulder c^2 of the striking-arm. In this
90 position the pawl, when pushed forward by the striker-pin L on the turning of the knob, passes freely by the striking-arm, sliding on the pin o , and does not actuate the alarm. A cross-
95 groove m is cut from the slot in which the lug p travels, and by turning the lug into this cross-groove the pin o is locked in position to prevent the alarm from sounding. On draw-
100 ing back the pin o from engagement with the pawl the spring g at once restores the pawl to its operative position, in engagement with the shoulder c^2 of the striking-arm.

The operation of the device is as follows: The stop-pin being released and drawn back, the parts are in operative position. If either
100 knob of the door is turned in either direction, the pin L will ride up the inclined face of the

groove k in the rose, and being thus pushed into the knob will force forward the pawl E , thereby turning the striking-arm on its pivot and compressing the spring f until the striking-arm has turned far enough to let the pawl slip off the shoulder c^2 , when the spring f will throw forward the striking-arm, bringing its stop c' against the spindle A , and causing the hammer D to fly up and strike a quick sharp blow upon the shell of the knob, falling back out of contact by its own weight. The proportions of the parts are such that the striking-arm will be released before the knob has turned far enough to wholly withdraw the latch-bolt. Hence the alarm must strike before the door can be opened, unless the stop-pin has been set and locked, as above described, which can only be done from the inner side of the door, to which the alarm-knob is attached. As soon as the alarm strikes, the spring g draws back the pawl E into re-engagement with the shoulder c^2 ready for another stroke.

In order to prevent the shells B B' from coming in contact at their edges, which would destroy the vibration of the gong when struck, it is essential to secure the correct centering of the outer shell B with the spindle, unless a wide and unsightly opening is left between the two shells. At the same time, since the shell B is the part grasped by the hand it must be very firmly and solidly secured to the spindle to prevent its being bent or displaced or loosened. To accomplish these ends I turn the shoulder h on the end of the spindle, central therewith, and form a boss or short central stem i on the inside of the shell B , which is centered and drilled to receive the shoulder h . A cross-groove r is milled out across the inner end of the stem i to exactly fit the square body of the spindle A . The end of the shoulder h is tapped to receive a screw s , which in mounting the shell B on the spindle is turned in from the outside and binds the shell firmly on the spindle. The screw s is preferably made of the same material as the shell B , and when turned firmly into place is cut or ground off even with the outer surface of the knob, and when the knob is finished in the usual manner the screw is wholly undistinguishable and cannot be removed by any ordinary means, but locks the spindle in place with the utmost rigidity.

By dispensing with cranks or slides attached to the knob and acting crosswise thereof I am enabled to use a smaller knob than has before been practicable, and by dispensing with rigid or spring hammers and employing the loose gravitating hammer I avoid the deadening of the blow by the wear or set of the hammer-arm allowing it to come too close to or in contact with the bell.

What I claim, and desire to secure by Letters Patent, is—

1. An alarm-knob consisting of a hollow shell adapted to act as a gong or bell and having the striking mechanism secured to the spindle of the knob within the shell and operated by a sliding pin actuated by an inclined face on the rose-plate, substantially as described.

2. An alarm-knob consisting of a hollow shell adapted to act as a gong or bell and having within the shell the striking mechanism secured to the spindle and in its shank the operating-pin engaging an inclined face on the rose-plate, and a stop-pin adapted to set and lock the striking mechanism out of engagement, substantially as described.

3. In an alarm-knob, the combination of a hollow shell adapted to act as a bell, the striking mechanism attached to the spindle within the shell and having the loosely-pivoted striking-hammer, the sliding pin with beveled end inserted in the knob-shank, and the rose-plate with inclined face for actuating the pin, substantially as described.

4. The combination, with the hollow knob adapted to act as a bell, of the alarm mechanism consisting of a base-plate secured to the spindle, the striking-arm pivoted to the base-plate and having the striking-hammer loosely pivoted to its free end, the pawl pivoted to the base-plate and engaging the striking-arm, the sliding pin adapted to bear upon and push forward the pawl, the inclined face on the rose-plate to actuate the pin, and a stop-pin adapted to force the pawl out of engagement with the striking-arm and to be locked in that position, substantially as described.

5. In an alarm-knob, the combination, with the hollow knob adapted to act as a bell and having attached to its spindle the base-plate a , with striking-arm and pawl pivoted thereto, of the gravitating hammer pivoted to the striking-arm, substantially as described.

6. In an alarm-knob, the combination of the knob-shell having a central internal stem with central bearing adapted to receive the shoulder of the spindle, and transverse groove adapted to fit the squared faces of the spindle, with the spindle having a shoulder fitting the central bearing of the stem and a squared portion fitting the transverse groove thereof to prevent the turning of the knob on the spindle, substantially as described.

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

EDWARD C. GARLICK.

Witnesses:

LORIN PRENTISS,
WM. G. TAYLOR.