

No. 701,552.

Patented June 3, 1902.

S. E. ERICKSON & F. PETERSON.

BURGLAR ALARM.

(Application filed Mar. 31, 1902.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

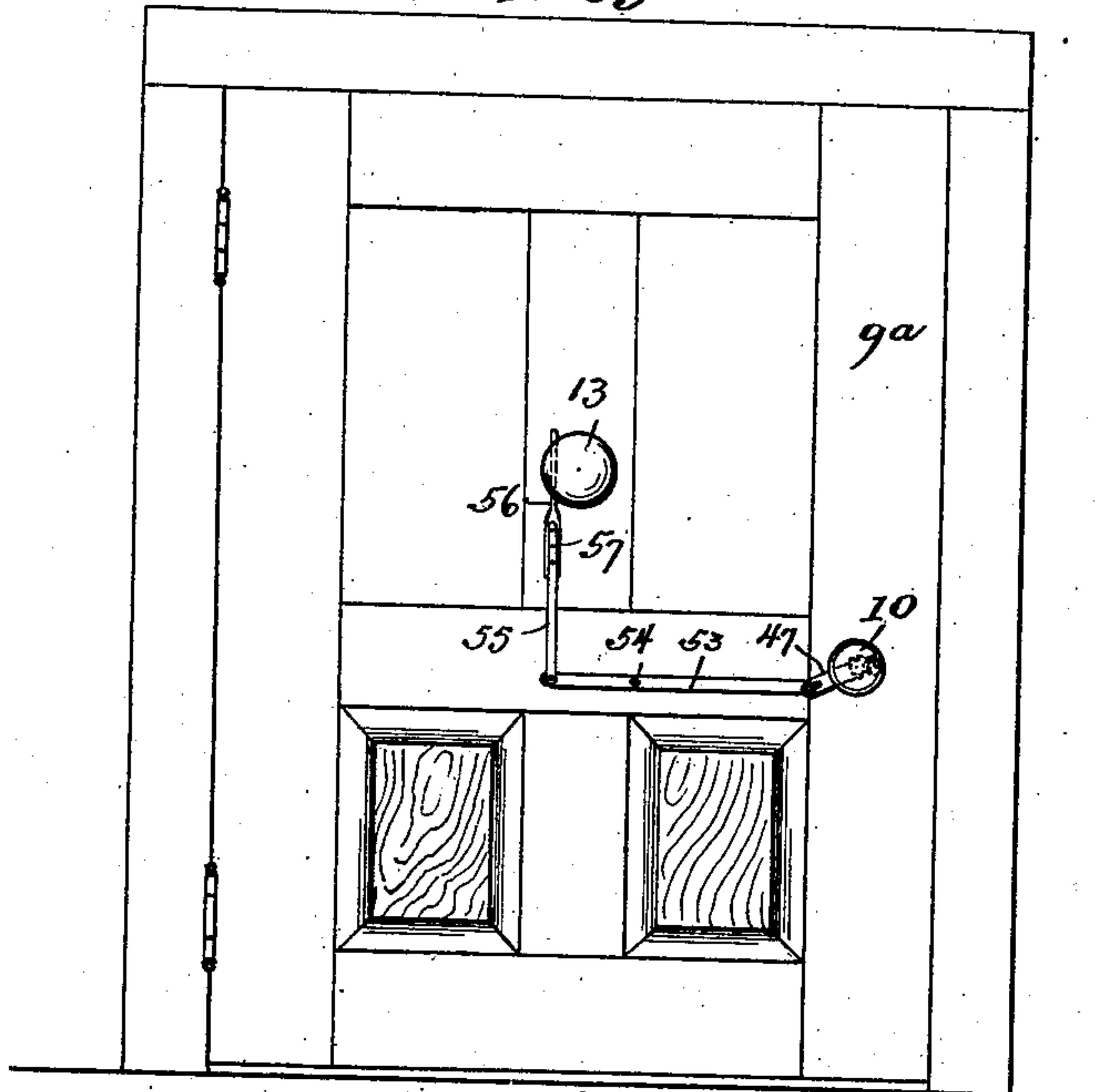
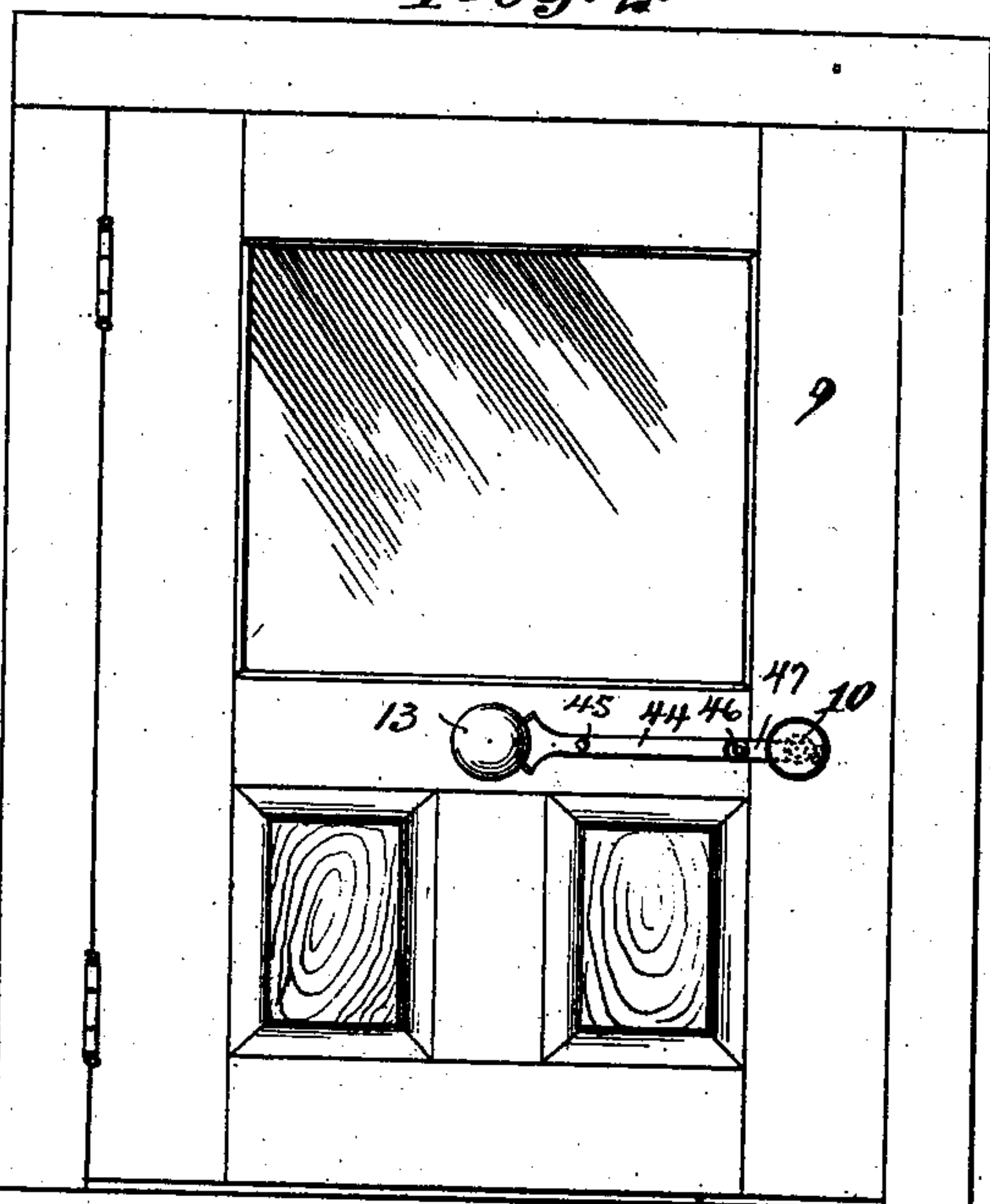
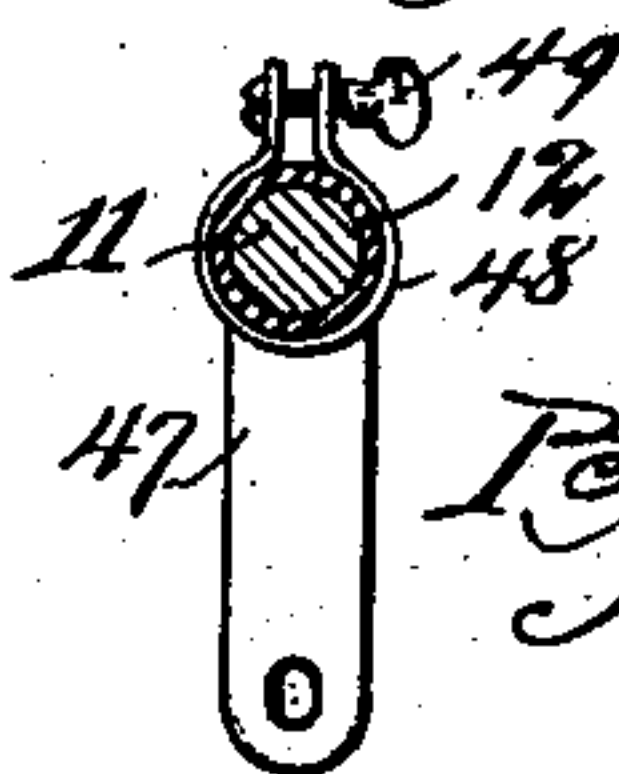


Fig. 2.



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Fig. 3.



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Fig. 4.

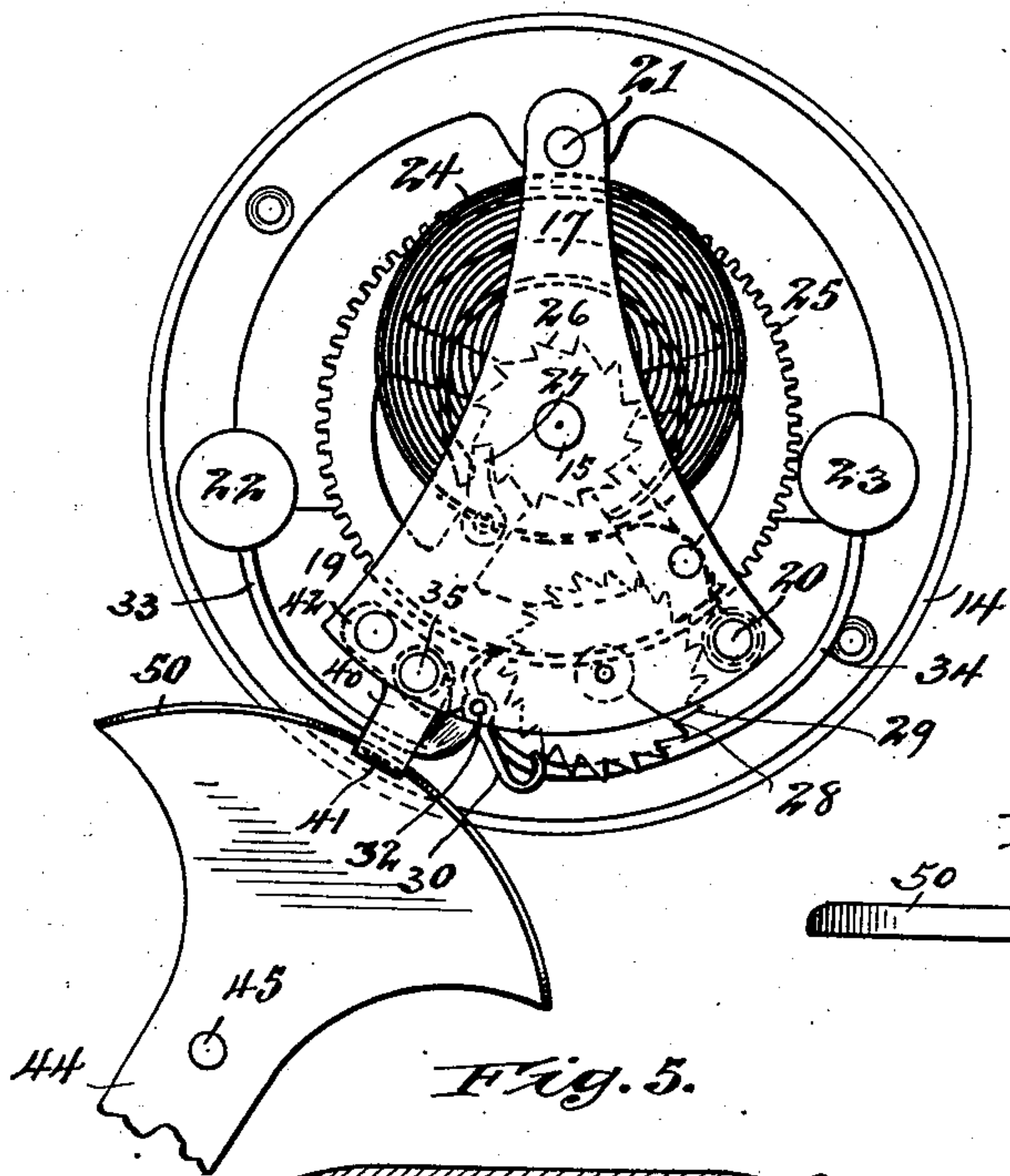


Fig. 6.



Fig. 5.

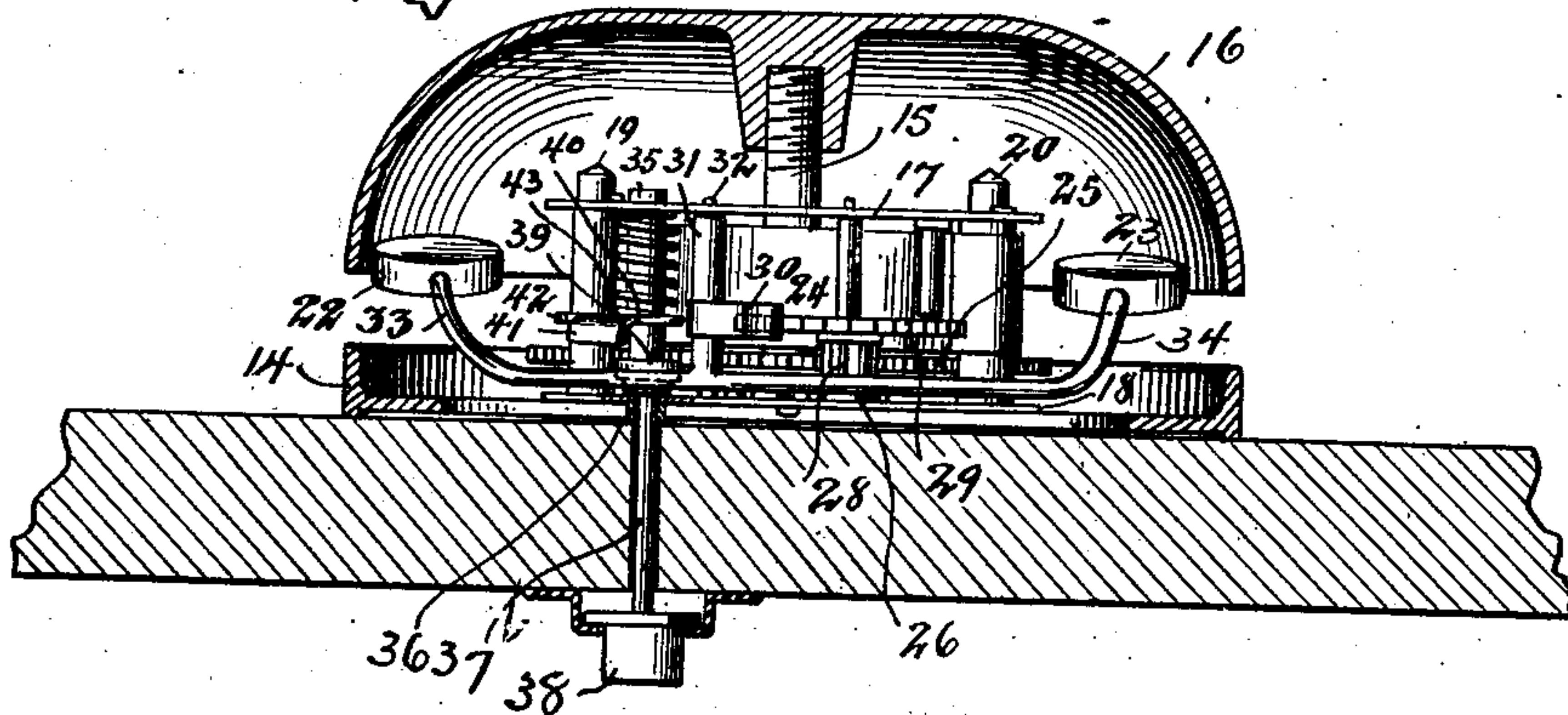


Fig. 7.

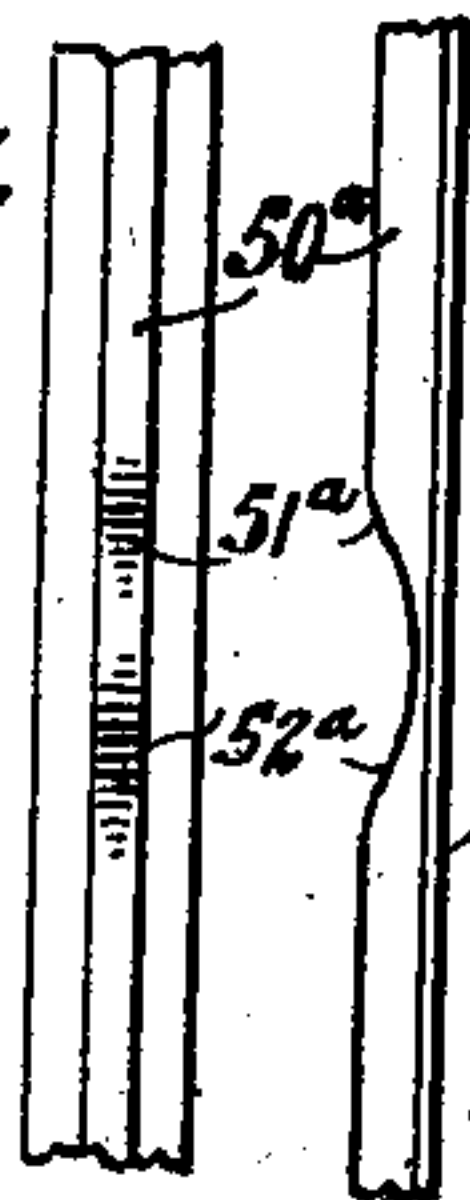


Fig. 8.

56

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# UNITED STATES PATENT OFFICE.

SAMUEL E. ERICKSON AND FERDINAND PETERSON, OF CHICAGO, ILLINOIS.

## BURGLAR-ALARM.

SPECIFICATION forming part of Letters Patent No. 701,552, dated June 3, 1902.

Application filed March 31, 1902. Serial No. 100,754. (No model.)

*To all whom it may concern:*

Be it known that we, SAMUEL E. ERICKSON and FERDINAND PETERSON, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Burglar-Alarms, of which the following is a specification.

Our invention relates to mechanically-operated burglar-alarms of that general class which are adapted to have a connection with the shank of a door-knob and to be operated by the turning of the latter; and the principal object of our invention is to provide a simple and improved alarm of this character which shall combine with its principal function as a burglar-alarm the additional or auxiliary function of an ordinary door-bell, and this without the necessity of adjusting or removing any parts of the mechanism to enable the device to operate independently in either capacity.

To this and other minor ends our invention consists in a combined burglar-alarm and door-bell having the novel peculiarities of construction and mode of operation substantially as hereinafter described, and more particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side view of a door equipped with a combined door-bell and burglar-alarm embodying our invention in one form. Fig. 2 is a similar view of a slightly-different construction of door, showing the alarm differently located and a modified form of connection between the gong and door-knob. Fig. 3 is a detail view, in transverse section, through the shank of the door-knob, illustrating the manner of securing the adjacent element of the alarm connections thereto. Fig. 4 is a top plan view of the gong with the sounder omitted to show the underlying mechanism and showing also in plan a portion of the inside actuating connections therefor. Fig. 5 is a central transverse sectional view through the gong and base-plate and showing the interior mechanism in side elevation. Fig. 6 is a front edge view of the segmental end of an actuating-lever constituting part of the operating connections between the gong and the door-knob in one form of our invention; and Figs. 7 and 8 are plan and side views, respectively, of the

gong-actuating portion of a combined draw and push rod constituting an element of the connections intermediate the gong and door-knob in a modified form of our invention.

Referring to Figs. 2 and 3, 9 designates the inner surface of a front or other outside door of a dwelling, which is provided with the usual door-knob 10, the latter having the shank 11 and the bearing-sleeve 12 therefor. 13 designates as an entirety a bell or gong, which is here shown as applied to the intermediate horizontal member of the door-frame directly opposite and at the same height as the door-knob. This gong or bell 13 is of the spring-actuated variety, adapted to be operated from the outside of the door by means of a push-button serving to release a brake which normally holds the hammer or hammers of the gong inoperative. The main features of this gong are old; but we have modified the same to some extent in the application of our invention thereto.

Referring now to Figs. 4, 5, and 6, we will briefly describe the construction of the gong and will then more particularly set forth those modifications therein and additions thereto which we have devised in order to adapt the same to the full uses of our invention as an alarm adapted to be sounded from both the push-button and the door-knob. 14 is the base-plate or frame of the gong, having a central upstanding post 15, on the upper screw-threaded end of which is removably secured the resonator or bell proper, 16. 17 and 18 are top and bottom frame-plates united in parallel relation by posts 19, 20, and 21 and containing between them the actuating mechanism for a pair of hammers 22 and 23. This mechanism comprises, essentially, a powerful coil-spring 24, mounted on the central post 15, a large pinion 25, likewise mounted on the central post 15 beneath the spring, a pawl-and-ratchet driving connection 26 27 intermediate said gear and post, a small pinion 28, 95 enmeshed with and driven by said large pinion 25, an escape-wheel 29 on the shaft of said small pinion 28, and a pallet 30, fast on or integral with a vertical sleeve 31, which is mounted to oscillate on a pin 32, extending 100 between the top and bottom plates 17 18 of the frame, to the lower end of which sleeve are secured the arms 33 and 34 of the ham-



mers 22 and 23, respectively. The mechanism as thus far described is substantially old in several forms of spring-actuated gongs, to which various means are applied for controlling the oscillations of the pallet 30 and there-  
 5 through controlling the sounding of the gong. The means we have devised for effecting this result and which are especially adapted for enabling the gong to be used in its double  
 10 function of a door-bell and burglar-alarm are as follows: Loosely mounted in and between the plates 17 and 18 and disposed between and parallel with the post 19 and sleeve 31 is a pin 35, adapted to have a limited longitudi-  
 15 nal play in its end bearings. The lower end of this pin, which extends through and below the lower plate 18, is socketed at 36 to receive the inner end of a push-pin 37, which passes through a transverse aperture in the  
 20 body of the door and is provided on its outer end with a suitably-confined push-button 38. Fast on the lower portion of the pin 35 and just above the plate 18 is a collar 39, and also fast on the pin slightly above the collar  
 25 39 is an arm 40 in the form of a thin metal plate projecting outwardly toward the margin of the base-plate or frame 14 and having a downwardly-turned lip 41 on its free outer end, as best shown in Fig. 5. In order to in-  
 30 sure the rigid position of said arm relatively to the pin 35 on which it is carried, we preferably provide the arm at its inner end with a lateral integral extension 42, as shown in Fig. 4, which latter is apertured and fitted to slide  
 35 over the post 19 as a guide. Surrounding the pin 35 and at its upper and lower ends abutting the frame-plate 17 and the arm 40 is a coil compression-spring 43, the action of which is to normally maintain the pin 35 depressed,  
 40 with its collar 39 engaging the arm 33 of the hammer 22, thereby through the sleeve 31 holding one nose of the pallet 30 in locking engagement with the escape-wheel 29, and thus preventing the actuation of the gong  
 45 mechanism through the tension of the main-spring 24.

Referring now to Figs. 2 and 3 in connection with the mechanism last described, we will next describe the actuating connections  
 50 we have devised between the gong and the door-knob, whereby the slightest turn of the door-knob in either direction will release the brake-collar 39 from engagement with the hammer-arm and permit the gong to sound  
 55 an alarm. 44 designates a segmental lever pivoted to the door at a point 45 in a direct line between the gong and the door-knob. That end of the lever 44 which is nearest the door-knob is connected at 46 by a pin-and-slot  
 60 connection to the outer end of an arm 47, which latter (see Fig. 3) has integral therewith a spring-collar 48, adapted to be clamped around the shank of the door-knob by means of a thumb-screw 49. That end of the lever  
 65 44 which lies nearest the gong is spread out into segment form, and its outer curved end

has an upturned flange 50, formed on the arc of a circle having the pivot-point 45 of the lever as a center. In the upper edge of the flange 50, centrally thereof, is formed a  
 70 curved notch, Fig. 6, which provides a pair of oppositely-disposed symmetrical cam-surfaces 51 and 52. The lever 44 is pivoted in such relation to the gong as that its upstand-  
 75 ing flange 50 shall lie and oscillate beneath the laterally-extending and downwardly-turned extremity of the arm 40 with the latter normally overlying the notch of the flange, as best shown in Fig. 4.

From the foregoing it will be evident that  
 80 the slightest oscillation of the lever in either direction will cause one or the other of the cams 51 52 to ride in contact with and elevate the arm 40, thereby withdrawing the brake  
 85 39 and leaving the gong mechanism free to sound an alarm. This rocking of the lever 44 is obviously effected by the slightest oscillations of the door-knob in either direction. It will be observed that this mechanism for  
 90 sounding the alarm through the actuation of the door-knob does not interfere in the slightest with the actuation of the gong through the push-button 38, nor does the latter operation have any effect upon the inside connec-  
 95 tions for actuating the gong from the door-knob. This constitutes an important feature of our invention, since, so far as we are aware, we are the first to provide a bell or gong capable of being independently actuated by the  
 100 two devices described without the actuation of either device affecting the actuating mechanism of the other device.

In Figs. 1, 7, and 8 we have illustrated a form of our invention embodying the same  
 105 principle as the form already described, but adapted for application to a door whereon it is desirable or necessary to locate the bell at a greater distance from the knob or in a di-  
 110 rection from the latter extending across a panel of the door to which the segment-lever 44 could not conveniently be pivoted. In this form 9<sup>a</sup> designates the door, 10 and 13  
 115 the knob and gong, respectively, and 47 the actuating-arm clamped to the shank of the door-knob, these parts 10, 13, and 47 being identical with the corresponding elements al-  
 120 ready described. 53 designates a straight-bar lever pivoted at 54 to the door and having that end thereof which lies nearest the door-knob united by a suitable pin-and-slot  
 125 connection to the meeting end of the arm 47. The opposite end of the lever 53 has pivoted thereto one end of a combined draw and push rod, which is preferably formed in two sec-  
 130 tions 55 and 56, which are extensibly connected at 57 to permit of variations in the total length of the rod. The section 56 of this rod which is nearest the gong is preferably made flat to lie against the surface of the door and has on its upper face a central longitudinal  
 135 upstanding rib or flange 50<sup>a</sup>, corresponding to the segmental flange 50 of the con-



struction previously described and provided with a curved notch affording a pair of opposite symmetrical cam-surfaces 51<sup>a</sup> and 52<sup>a</sup>, corresponding to the cam-surfaces 51 and 52 and adapted to underlie and actuate the projecting arm 40 upon the rocking of the lever 53 in the manner plainly evident from the illustration in Fig. 1.

In both of the described forms of connections it will be observed that the overhanging lip 41 of the arm 40 serves to confine the cooperating flange of its operating device, and thus prevent the latter from accidental disarrangement relatively to the arm 40, engaged thereby.

Our invention is simple and easy to construct and apply. The inside alarm may be connected up and disconnected by the simple application and removal of the sleeve 48 to and from the shank of the door-knob without affecting the other parts of the apparatus. Where the gong can conveniently be located in comparatively close proximity to the knob, the connections shown in Fig. 2 will preferably be employed; otherwise the connections shown in Fig. 1 may be employed, the extensible rod 55 56 permitting the gong to be located at varying heights on the door. By making the described connections in varying lengths and relative proportions the gong may be located at any desired or convenient place upon the door or its casing and at any desired or convenient distance from the door-knob.

We do not limit ourselves to the precise details of construction and form of connections herein shown and described except to the extent that they are made the subject of specific claims.

We claim—

1. In a device of the character specified, the combination with a spring-actuated gong adapted for application to a door, of a brake normally holding the same inoperative, a push rod and button operable from the outside of the door to release said brake, and jointed connections intermediate said gong and the door-knob on the inside of the door adapted to also release said brake and permit the gong to sound upon turning the door-knob in either direction, substantially as described.

2. In a device of the character specified, the combination with a spring-actuated gong adapted for application to a door, of a spring-actuated brake normally holding the gong-hammer inoperative, a push rod and button operable from the outside of the door to release said brake from the gong-hammer, and jointed connections intermediate said gong and the door-knob on the inside of the door, one element of which has a cam-surface adapted to engage and retract said brake upon turning the door-knob, substantially as described.

3. In a device of the character specified, the combination with a spring-actuated gong adapted for application to a door, of a spring-

pressed pin slidably mounted in the supporting-frame of the gong mechanism, said pin having thereon a brake adapted to engage and render inoperative the gong-hammer and a radially-projecting arm, a push rod and button operable from the outside of the door and engaging the adjacent end of said slidable pin, and jointed connections intermediate said gong and the door-knob on the inside of the door, one element of which has a double cam-surface adapted to underlie and actuate said arm to withdraw the brake-collar upon turning the door-knob in either direction, substantially as described.

4. In a device of the character specified, the combination with a spring-actuated gong adapted for application to a door, of a spring-pressed pin slidably mounted in the supporting-frame of the gong mechanism, said pin having fast thereon a brake-collar adapted to engage and block the gong-hammer and a radially-projecting arm provided with an inwardly-bent end, a push rod and button operable from the outside of the door and engaging the adjacent end of said slidable pin, and pivotally-mounted jointed connections intermediate said gong and the door-knob on the inside of the door, one element of which has an upstanding flange provided with a double cam-surface adapted to underlie and actuate said arm, said flange being confined by the inwardly-bent end of the latter, substantially as described.

5. In a device of the character specified, the combination with a spring-actuated gong adapted for application to a door, of a spring-pressed pin slidably mounted in the supporting-frame of the gong mechanism, said pin having fast thereon a brake adapted to engage and render inoperative the gong-hammer and a radially-projecting arm, a lever pivoted to the door intermediate the door-knob and the gong and having a segment-shaped end adjacent the latter; an upstanding curved marginal flange on the segment end of said lever adapted to underlie said radially-projecting arm and provided with a pair of oppositely-directed cam-surfaces adapted to actuate the latter, and an actuating-arm removably clamped to the shank of the door-knob and pivotally connected to the adjacent end of said lever, substantially as described.

6. In a device of the character specified, the combination with a spring-actuated gong adapted for application to a door, of a spring-pressed pin slidably mounted in the supporting-frame of the gong mechanism, said pin having fast thereon a brake adapted to engage and render inoperative the gong-hammer and a radially-projecting arm, a push rod and button operable from the outside of the door and engaging the adjacent end of said slidable pin, a lever pivoted to the door intermediate the door-knob and the gong and having a segment-shaped end adjacent the

latter, an upstanding curved marginal flange  
on the segment end of said lever adapted to  
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vided with a pair of oppositely-directed cam-  
5 surfaces adapted to actuate the latter, and  
an actuating-arm removably clamped to the  
shank of the door-knob and pivotally con-

nected to the adjacent end of said lever, sub-  
stantially as described.

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