

No. 824,486.

PATENTED JUNE 26, 1906.

J. R. KIDNEY.  
PUSH BUTTON BELL.  
APPLICATION FILED OCT. 9, 1905.

2 SHEETS—SHEET 1.

Fig. 1

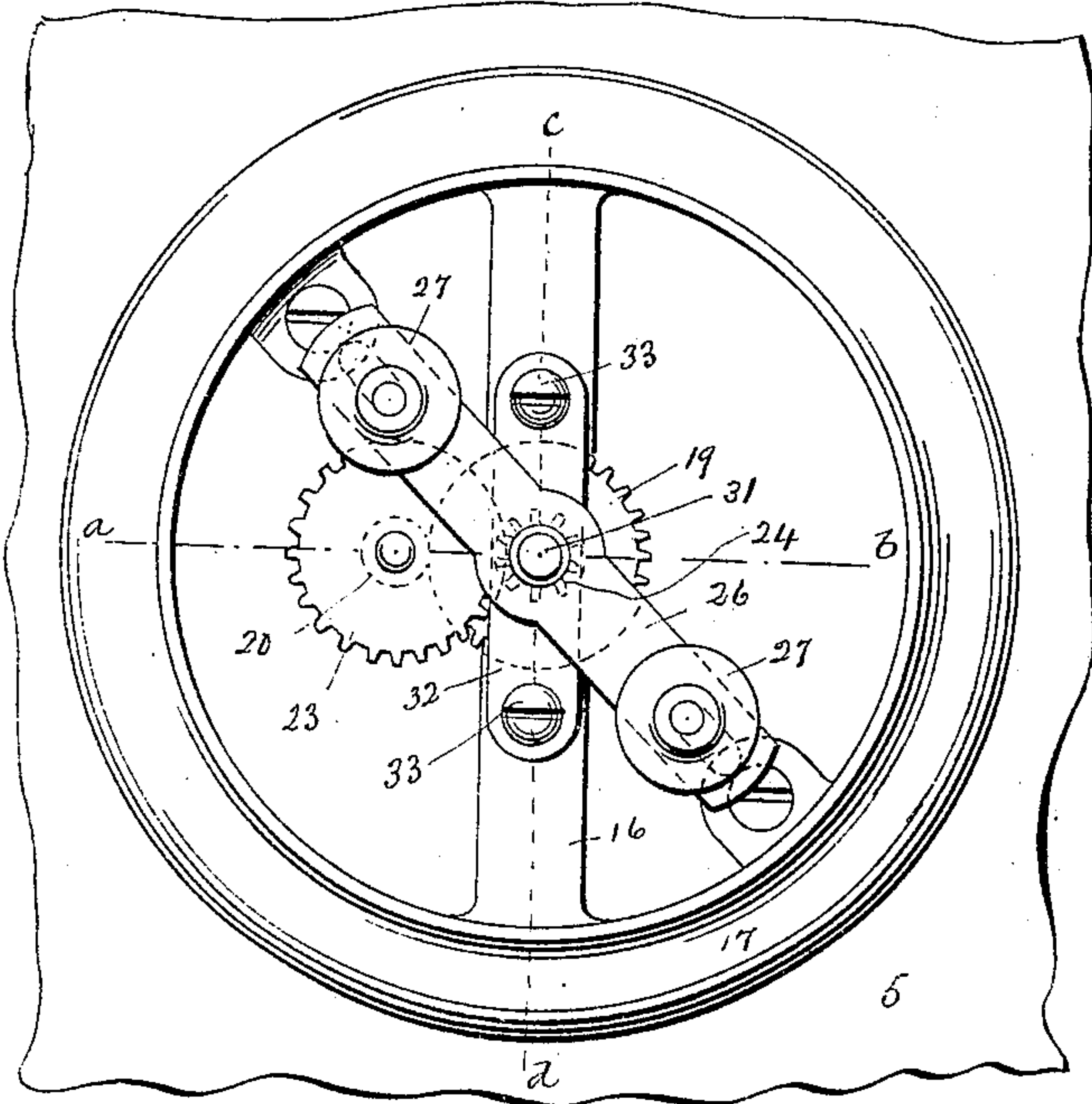


Fig. 7

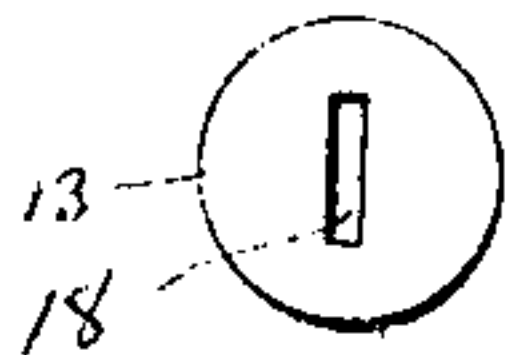


Fig. 6

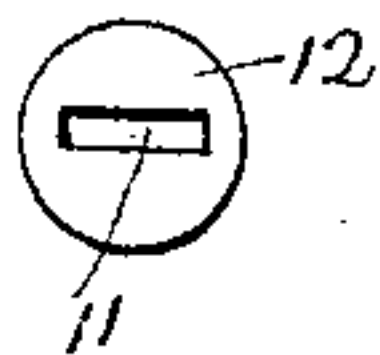


Fig. 4

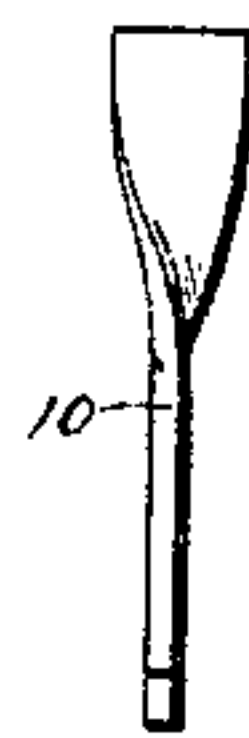
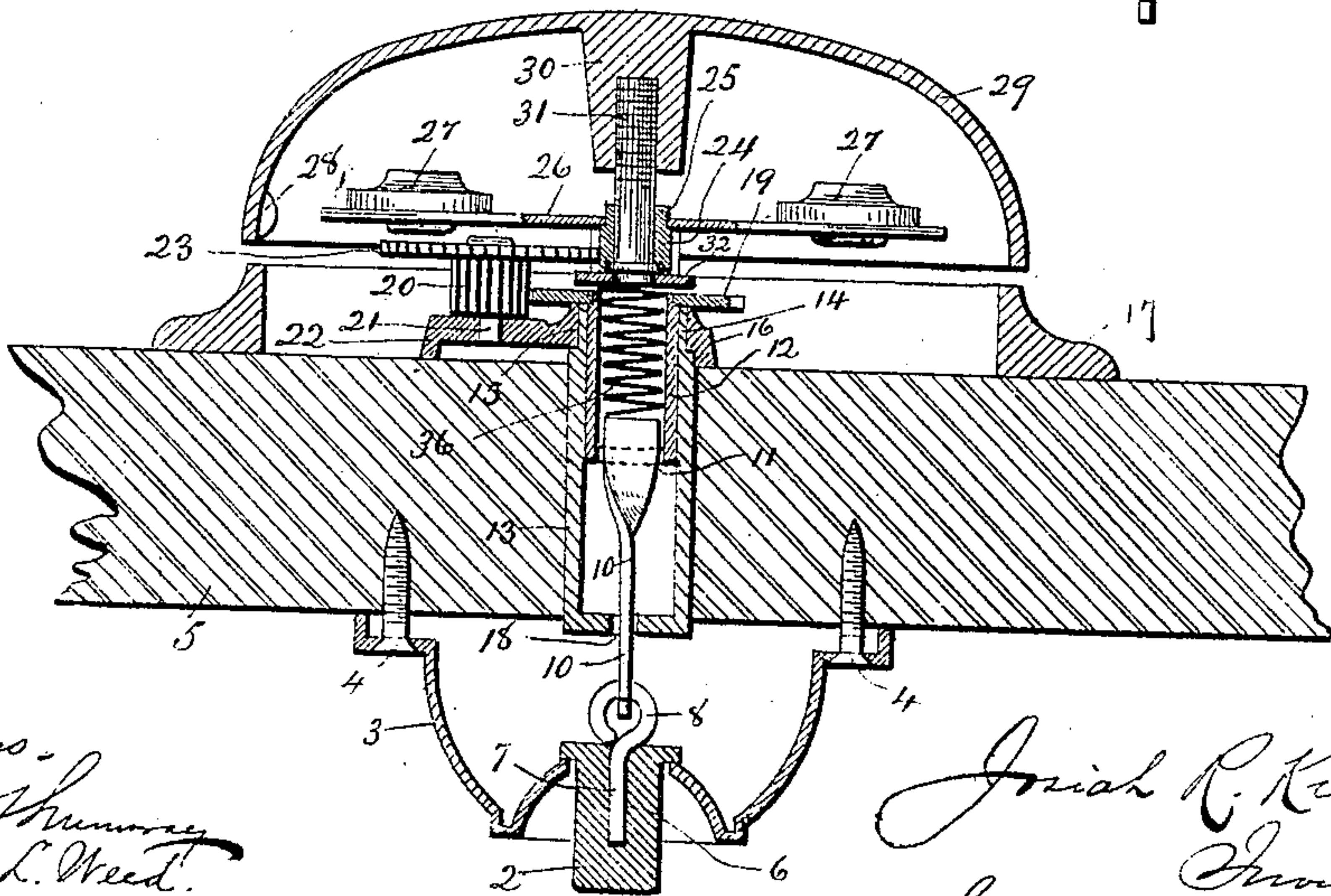


Fig. 5



Fig. 2



Witnesses:  
J. H. Hummer  
Chas. L. Weed.

Joshua R. Kidney.  
Inventor.  
3 att. Seymour & Carey

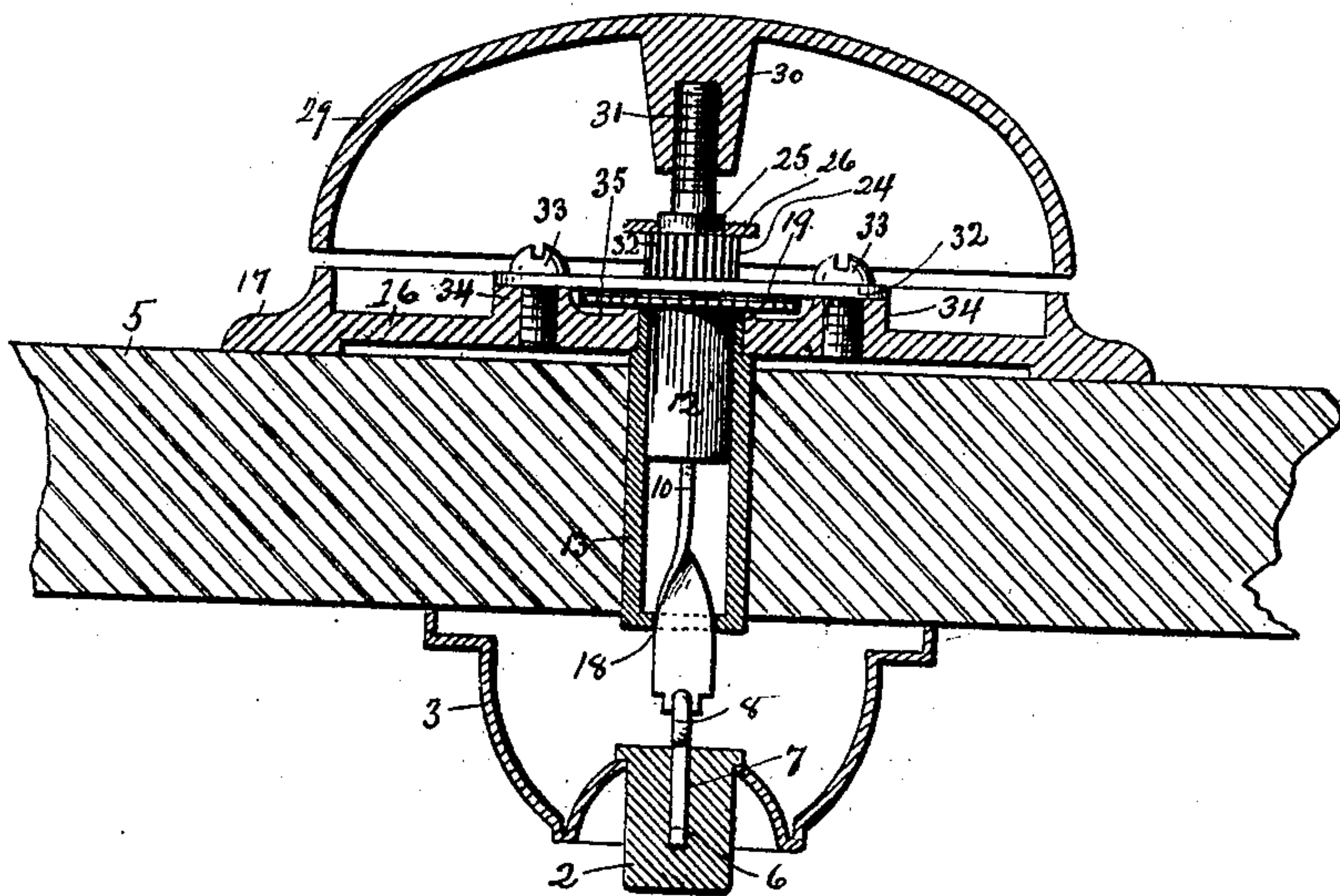
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2 SHEETS—SHEET 2.

Fig. 3



Witness—  
J. H. Shumway  
Clara L. Weed.

Joseph R. Kidney—  
Inventor.  
Bath & Seymour & Carey



# UNITED STATES PATENT OFFICE.

JOSIAH R. KIDNEY, OF EAST HAMPTON, CONNECTICUT.

## PUSH-BUTTON BELL.

No. 824,486.

Specification of Letters Patent.

Patented June 26, 1906.

Application filed October 9, 1905. Serial No. 281,917.

*To all whom it may concern:*

Be it known that I, JOSIAH R. KIDNEY, a citizen of the United States, residing at East Hampton, in the county of Middlesex and State of Connecticut, have invented a new and useful Improvement in Push-Button Bells; and I do hereby declare the following, when taken in connection with the accompanying drawings and the numerals of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a view in elevation of a bell constructed in accordance with my invention shown as applied to a door and with the gong removed; Fig. 2, a sectional view thereof on the line *a b* of Fig. 1; Fig. 3, a sectional view on the line *c d* of Fig. 1; Fig. 4, a detached view of the operating-bar; Fig. 5, another corresponding view thereof; Fig. 6, an end view of the rotary hub which receives the spiral portion of the said bar; Fig. 7, a detached end view of the housing for the said hub.

My invention relates to an improvement in push-button bells, the object being to produce at a low cost for manufacture a strong, reliable, and effective mechanism dispensing with the escapement-wheel and verge features generally employed in push-button bells.

With these ends in view my invention consists in a bell having certain details of construction and combinations of parts, as will be hereinafter described, and particularly recited in the claims.

In carrying out my invention as herein shown I employ a push-button 2, mounted in a flanged escutcheon 3, secured by screws 4 to the outer face of a door 5 or corresponding structural part. The said button 2 is formed with a socket 6, receiving the outer end of a wire stem 7, having an eye 8, which passes through a perforation 9, formed in the outer end of a spiral plate-like operating-bar 10, the spirally-bent end of which enters into and plays back and forth in a centrally-arranged narrow slot 11, formed in the inner end of a rotary hub 12, mounted so as to be free to turn in either direction in a cylindrical housing 13, somewhat longer than the thickness of the door 5, and reduced in diameter at one end to form a neck 14, entering a circular opening 15 in the center of a diametrically-arranged cross-bar 16, formed integral with

the ring-shaped frame 17 of the device and located in the plane thereof. At its opposite end the housing 13 is formed with a narrow rectangular opening 18, receiving the bar 10. The rotary hub 12 aforesaid carries a wheel 19, meshing into a pinion 20, turning upon a stud 21, mounted in an ear 22, offsetting from one edge of the cross-bar 16. The said pinion 20 carries a wheel 23, which meshes into a pinion 24, forming a part of a bushing 25, mounted in the center of a revolving plate-like striker-carrier 26, which is furnished at its respective ends with longitudinally-movable strikers 27 27, of any approved construction, for engagement with a lug 28, formed upon the inner face of a gong 29, which is furnished with an inwardly-extending hub 30, threaded for the reception of a post 31, which passes through the hub 25 and forms, as it were, the center on which the part 26 revolves concentric with the frame 17 and gong 29. The said post 31 and housing 13 are located in line with each other, but extend in opposite directions from the cross-bar 16 of the frame 17. The said post 31 is riveted to the center of a plate-like bridge 32, secured by screws 33 33, passing through its ends into the cross-bar 16, which is furnished with threaded lugs 34 34 for the ends of the plate to rest upon, a space 35 being formed between the bridge 32 and the central portion of the upper face of the bar 16 for the reception of the wheel 19, which is thus held in place, together with the hub 12, which rotates in the housing 13. A spiral spring 36, located in the rotary hub 12, engages with the inner end of the plate-like operating-bar 10 and constantly exerts an effort to push the same, and hence the button 2, outward into readiness for operation.

It will be readily understood that inward pressure on the button 2 acts, through the stem 6 and bar 10, to compress the spring 36, while the spiral portion of the bar 10, coacting with the side walls of the opening 11 in the rotary hub 12, causes the hub to rotate, and hence to turn the wheel 19, which revolves the pinion 20 and the wheel 23, which latter revolves the pinion 24, and hence the striker-carrier 26, carrying the strikers 27. When pressure upon the push-button is removed, the spring acts upon the plate 10, which then correspondingly rotates the hub 12 in the opposite direction and causes a reverse revolution of the striker-carrier. It will thus be seen that I secure the rotation of



the striker through the bushing of the push-button without the use of a transforming mechanism employing a verge and escapement-wheel.

5 It is apparent that in carrying out my invention some changes from the construction herein shown and described may be made. I would therefore have it understood that I do not limit myself thereto, but hold myself at  
10 liberty to make such departures therefrom as fairly fall within the spirit and scope of my invention. I am aware, however, that the use of a push-button and spiral are not, broadly, new as applied to the operation of  
15 the revolving striker of a bell and do not claim them as such.

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

20 1. In a bell, the combination with the frame thereof, of a housing rigidly secured at one end thereto and formed at its opposite end with a narrow slot, a rotary hub located within the said housing which forms a bearing  
25 for it and having at one end a narrow slot, an operating-bar passing through the narrow slot in the said housing and having a spiral passing through the said slot in the hub and turning the hub in either direction with-  
30 in the said housing, a push-button for operating the said bar in one direction, a spring located within the said hub for operating the said bar in the other direction, a gong connected with the said frame, a striker-carrier,  
35 and means for transmitting the rotary movement of the said hub to the said carrier.

2. In a bell, the combination with a frame having a cross-bar located in its plane, of a

tubular housing fixed to the said cross-bar and extending in one direction therefrom, a  
40 threaded post connected with the cross-bar and extending in the other direction therefrom in line with the said housing, a gong applied to the said post, a striker-carrier mount-  
45 ed upon the post and revolving concentrically with the said frame and gong, a rotary hub located within the housing and formed with a narrow slot, an operating-bar formed with a spiral which enters the said slot and  
50 operates to turn the said hub in either direction within the said housing, and gearing between the hub and striker-carrier.

3. In a bell, the combination with a frame having a cross-bar, of a housing secured to the said bar, a plate secured to the said bar,  
55 a threaded post carried by the said plate and located in line with the housing but extending in the opposite direction therefrom, a gong mounted upon the post, a striker-carrier  
60 swiveled upon the post and revolving concentrically with the gong, a rotary hub located within the housing and formed with a narrow slot, an operating-bar having a spiral entering the said slot and rotating the said  
65 hub within the said housing, a push-button for operating the bar in one direction, a spring for operating the bar in the opposite direction, and gearing between the hub and rotary striker.

In testimony whereof I have signed this  
specification in the presence of two subscribing witnesses.

JOSIAH R. KIDNEY.

Witnesses:

MICHAEL T. WALL,  
WILBUR F. STARR.