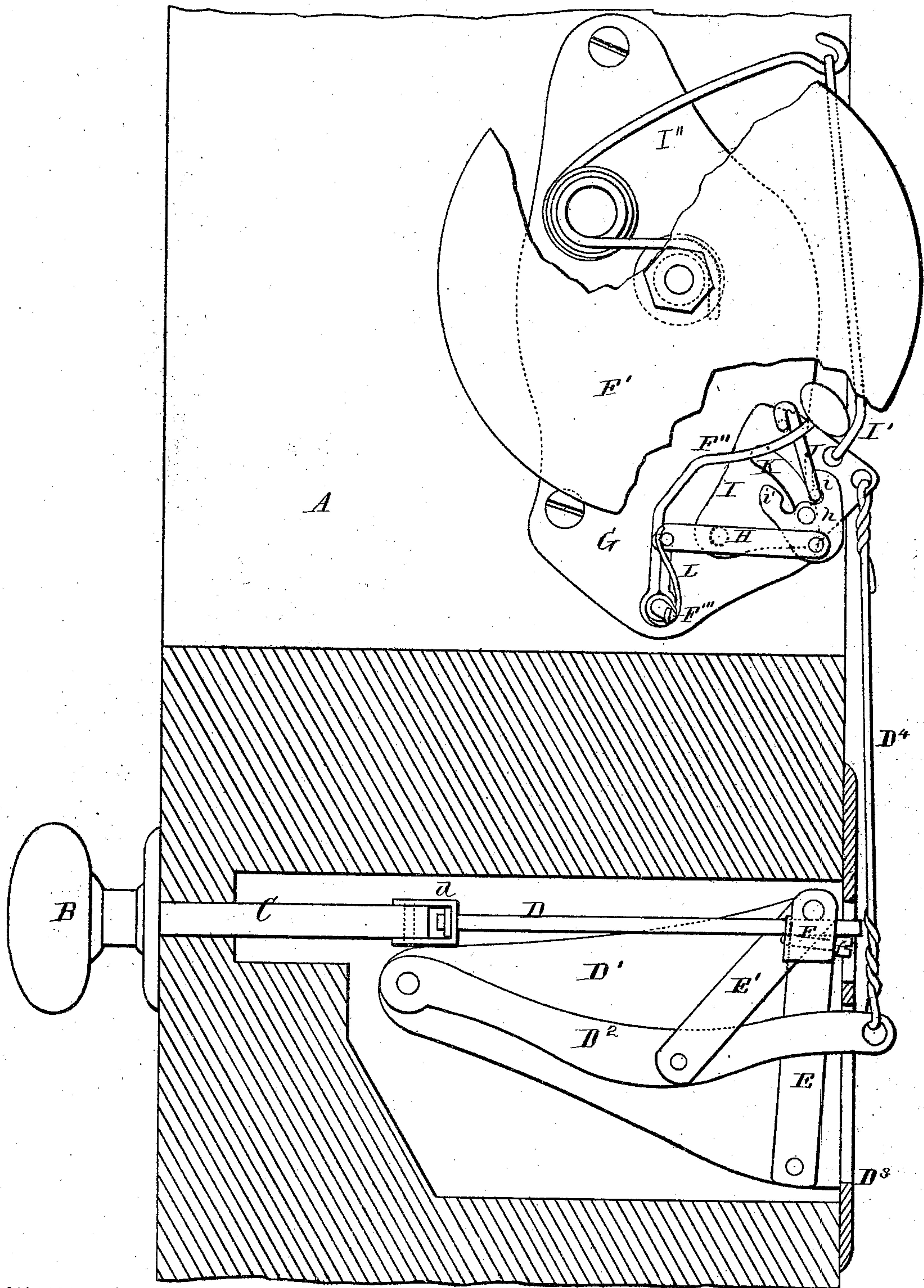


A. L. SWAN.
 Improvement in Door-Bells.
 No. 133,269. Patented Nov. 19, 1872.



WITNESSES.

Villette Anderson
Phil C. Hark

INVENTOR.

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UNITED STATES PATENT OFFICE.

AMOS L. SWAN, OF CHERRY VALLEY, NEW YORK.

IMPROVEMENT IN DOOR-BELLS.

Specification forming part of Letters Patent No. 133,269, dated November 19, 1872.

To all whom it may concern:

Be it known that I, AMOS L. SWAN, of Cherry Valley, in the county of Otsego and State of New York, have invented a new and valuable Improvement in Door-Bell Alarms; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a partial sectional view of my invention.

My invention has relation to door-gongs; and consists in the hereinafter-described construction and novel arrangement of the bell-pull, whereby the parts appertaining thereto are prevented from being injured by careless use, and in the construction and novel arrangement of the slotted swinging plate; the notched tumbler and the swinging arm and stud constituting the striking mechanism, whereby two strokes are made whenever the bell-handle is drawn out and let go.

Referring to the drawing, A designates the door-jamb; B, the bell-handle or knob; C, the shank thereof; D, a rod attached to said shank by means of a shackle, *d*, which allows the knob and shank to turn freely and without danger of injury. D¹ is a plate secured to the jamb; D², a lever pivoted to said plate; D³, a slotted flange formed on the end of the plate D¹ to let the lever D² pass through; D⁴, a wire connecting said lever to the striking mechanism. E E' represent a pair of toggles pivoted, respectively, to the plate D¹ and to the lever D². The pin which connects said toggle together holds a block, F, to which is secured the rod D, as shown. When the bell-handle is pulled the toggle presses the lever D² down and causes the wire D⁴ to be drawn down until the gong sounds an alarm. The striking mechanism allows the handle to be pulled further than the point necessary for the alarm without endangering the security of the alarm devices. F' represents the gong attached to a post projecting from a plate, G. F'' represents the gong-hammer pivoted to a post, F'''. H designates a link connecting said hammer to a rocking-cam, *h*. The latter is pivoted to a plate, G. I denotes a plate pivoted to the plate G and connected to the wire D⁴ and to a spring, I''. I' designates an arm connecting the plate to the spring. This

plate is moved in one direction by means of said wire and the bell-pull and in the other direction by means of the spring. This plate has a loop, J, which works in notches in the cam *h*, and has a curved slot, K, which allows it to pass the cam-pivot. When the bell-handle is pulled the plate I is drawn down and the cam so turned, by the loop J acting against the outer lug *i*, as to communicate motion through the link H to the hammer and to raise the same. As soon as the cam has made a quarter revolution the spring L, which encircles the post *m* and acts upon the hammer and link H, causes the cam to complete the half revolution, and thereby enables the hammer to strike the bell once. When the bell-handle is let go the plate I rises, and the loop J, acting against the lug *i'* of the cam, turns the cam back a quarter revolution, again raising the hammer until the loop passes the cam pivot, when the spring again acts and produces another stroke. The loop J is pivoted to the plate I, and has a finger on its end to catch the ears of the cam. This finger enters a notch at one side of the slot K, and is therein allowed the required play to move in a line with the cam. The slot K is designed to be of considerable length, so that the plate I may turn on its pivot, no matter how far out the bell-handle is pulled, without straining any of the other devices. The block F is of a peculiar construction, having two communicating sockets bored through it, one to receive the end of the rod D and the other, which is inclined, to receive a screw, *f*, by means of which said rod is tightened. The rod is adjustable, and by loosening the screw may be lengthened or shortened, as desired, to regulate the stroke or movement of the bell-handle.

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

The pivoted tumbler *h* having the legs *i i*, in combination with the swinging plate I having the slot K and pivoted arm J, the link H, spring L, hammer F'', and gong F', substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

AMOS L. SWAN.

Witnesses:

CHAS. McLEAN,
JOHN SHARP.