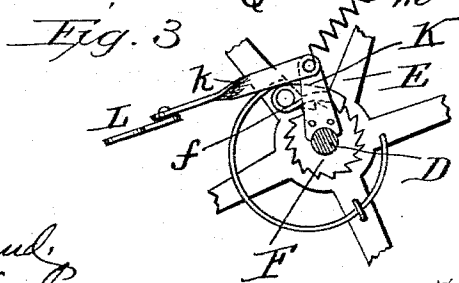
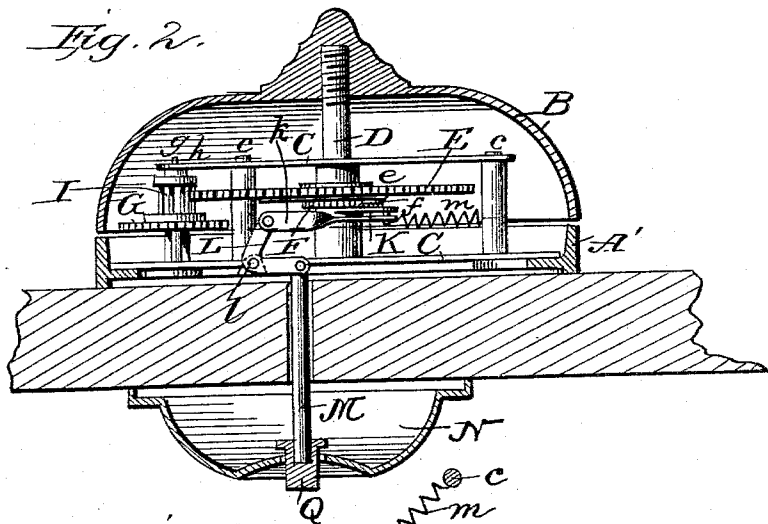
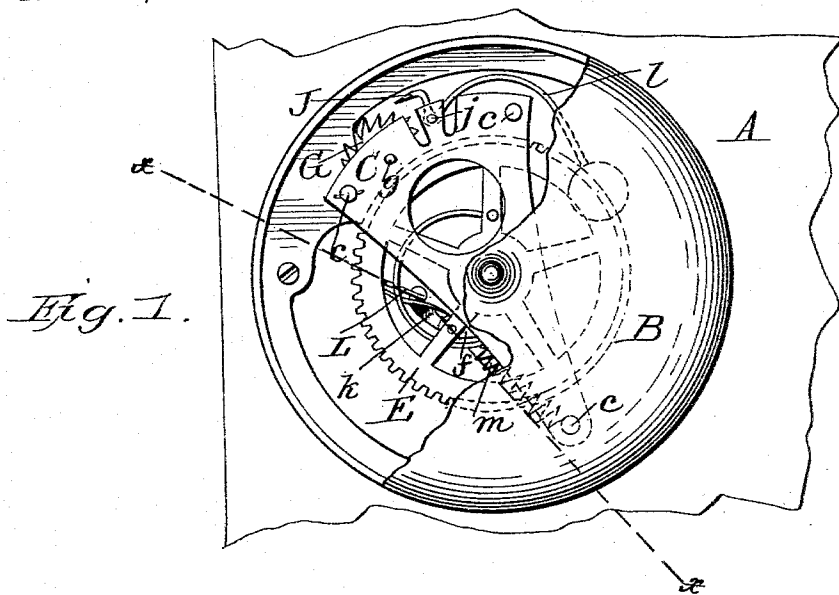


(No Model.)

W. R. MOORE.  
DOOR BELL.

No. 532,004.

Patented Jan. 1, 1895.



Witnesses  
J. L. Ormrod.  
A. G. Kuyman

Inventor  
Wm R. Moore.  
By Wm H. Bates Attorney

# UNITED STATES PATENT OFFICE.

WILLIAM R. MOORE, OF CLEVELAND, OHIO, ASSIGNOR OF ONE-HALF TO  
ANDREW WILLIAMSON, OF SAME PLACE.

## DOOR-BELL.

SPECIFICATION forming part of Letters Patent No. 532,004, dated January 1, 1895.

Application filed October 10, 1894. Serial No. 525,468. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM R. MOORE, 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 Door-Bells; 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 appertains to make and use the same.

My invention relates to improvements in that class of bells known as "gong bells" and is designed to be attached to the inner surfaces of doors convenient to the place from which the alarm is to be given and it is adapted to be operated by means of a push-button by pressure of the same in imitation of an electric bell, and the object of the invention is to improve and simplify the construction thereof, and at the same time furnish a bell which can be conveniently attached and detached from a door, and easily and expeditiously operated.

To this end the invention consists in the novel construction and arrangement of mechanism as will be hereinafter more in detail described and specifically pointed out in the claims.

In the accompanying drawings to which reference is had, and which fully illustrate my invention, Figure 1, is a face plan view of the bell portion being broken away to show the operating parts, and Fig. 2 is a section on the line  $x-x$ , Fig. 1, and Fig. 3 is a detail thereof.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A, represents a door to the inside of which the bell is attached.

A', represents a circular bell-base secured to the door by means of screws or other suitable means and supporting two plates C, C, secured together, and to the circular bell-base by means of pins or rivets  $c, c$ , composing a frame similar in construction to a clock-frame. This frame or plates C, C, in connection with a bell-shaft or arbor D, which is screw-threaded upon its free end is passed through a hole formed centrally in the plates C, C, supporting in turn suitable mechanism

which is in some respects similar to clock mechanism.

Upon the arbor D, inclosed within the plates or frame C, C, is mounted a large cog-wheel E, through the medium of a sleeve or thimble  $e$ , loosely encircling the arbor or shaft D, around which it revolves when pressure is applied to a push-button and push rod which will be hereinafter explained.

F, represents a ratchet-wheel which is located centrally and snugly up against the cog-wheel E, being also carried by the sleeve  $e$ ; a spring actuating pawl  $f$ , being pivotally secured at one end to one of the spokes of the cog-wheel E, which prevents backward movement of the ratchet-wheel.

G, represents an escape-wheel having the ends of its axle  $g$ , loosely journaled in bearings  $h, h$ , in the upper part of the plates or frame C, C, and centrally secured to or forming a part of this escape-wheel is a cage or escape pinion I, which meshes with the large cog-wheel E.

J, represents an escapement secured to an axle  $j$ , which lies parallel with the axle of the escape-wheel, and having the ends of its axle journaled in bearings in the upper part of the plates or frame C, C, similar to the ends of the axle of the escape-wheel. Secured to the escapement axle is one or the bent end of a bell-rod  $j'$ , the hammer or striker being secured to the free end of said rod.

K, represents a lug which is secured to the ratchet-wheel F, by soldering or other suitable means, to the free end of which is pivotally secured the lower end of a connecting link  $k$ , the upper end of said link being in turn pivotally secured to the free end of one of the arms of a bell-crank lever L, said bell-crank lever having its fulcrum or apex loosely journaled in a journal box or bearing  $l$ , secured to the frame or plates C, C, near the upper part thereof.

Rigidly secured to the pivot connecting the lower end of the link  $k$ , to the lug  $g$ , is the upper end of a coiled spring  $m$ , the opposite end of said spring being secured to the lower rivet which connects the frame or plates C, C, and bell-base A', together.

To the opposite arm of the bell-crank lever L is pivotally secured the inner end of a push-

rod M, which when the bell is attached to the center of the inside of the door the opposite end of this rod is passed through a hole made in the door and through a hole formed in the center of a supporting-shell N, which is aligned with the hole in the door, the shell being secured to the door upon the outside by means of screws or other suitable fastenings; the push-rod projecting slightly therethrough and upon the end of which is secured a push-button Q, by which a bell B is operated. The bell is provided with a screw-threaded orifice in the center thereof the screw threads of which correspond to the screw-threads upon the inner end of the bell-shaft or arbor by means of which, when it is necessary to repair the mechanism of the bell the same can be detached from its supporting bell-shaft or arbor.

Through the medium of the push-rod, bell-crank-lever, connecting link, lug, and coiled spring, power is directly communicated to the train of gearing heretofore described, and rings the bell, and the harder the button is pressed, the louder the bell rings, and the bell will ring as long as the pressure continues upon the button and ceases when it is released therefrom.

It will be observed that the construction of my bell is such as to dispense with a clock-spring and therefore the necessity of "winding up" or the "snapping" of a spring is avoided.

My device is simple in construction, cheaply manufactured, and is easily and conveniently operated, and not liable to get out of repair.

From the foregoing description, taken in connection with the accompanying drawings, the operation of my device is obvious and further description herein is deemed unnecessary.

Having thus described my invention, what

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

1. In a door bell, the combination with the bell base and bell, and a clock train or gearing; of the push-rod pivotally connected at its inner end to the free end of one arm of the bell-crank, the free end of the opposite arm of the bell-crank having pivotally secured thereto the upper end of a connecting link, the lower end of said link being pivotally secured to the free end of a lug secured to the ratchet-wheel, a coiled spring having its upper end secured to the lower end of the connecting link, the lower end of the spring being secured to the rivet securing the duplicate plates to the bell-base, a spring actuated pawl, controlling the ratchet-wheel all substantially as described and for the purpose set forth.

2. The combination with the bell and its base, clock train or gearing, arbor, and duplicate plates supporting the gearing or mechanism, and shell secured to the outer surface of the door; of the push-rod pivotally connected at its inner end to the free end of one arm of the bell-crank, the free end of the opposite arm of the bell-crank having pivotally secured thereto the upper end of the connecting-link, the lower end of said link being pivotally secured to the free end of the lug secured to the ratchet-wheel, a coiled spring having its upper end secured to the lower end of the connecting link, the lower end of the spring being secured to the rivet securing the duplicate plates to the bell-base, a spring actuated pawl controlling the ratchet-wheel, all substantially as set forth.

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

WM. R. MOORE.

Witnesses:

JULIUS DOUGHERTY,  
MILAN GALLAGHER.

Correction in Letters Patent No. 532,004.

It is hereby certified that Letters Patent No. 532,004, granted January 1, 1895, upon the application of William R. Moore, of Cleveland, Ohio, for an improvement in "Door Bells," was erroneously issued to Andrew Williamson as owner of the entire interest in said invention; that said Letters Patent should have been issued to said *William R. Moore and Andrew Williamson jointly*, said Andrew Williamson being assignee of one-half interest only, as shown by the record of assignments in this office; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 22d day of January, A. D. 1895.

[SEAL.]

JNO. M. REYNOLDS,  
*Assistant Secretary of the Interior.*

Countersigned:

JOHN S. SEYMOUR,  
*Commissioner of Patents.*