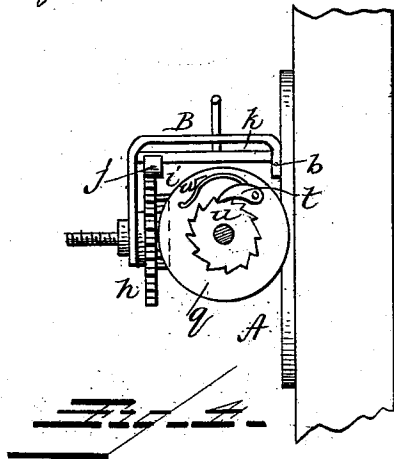
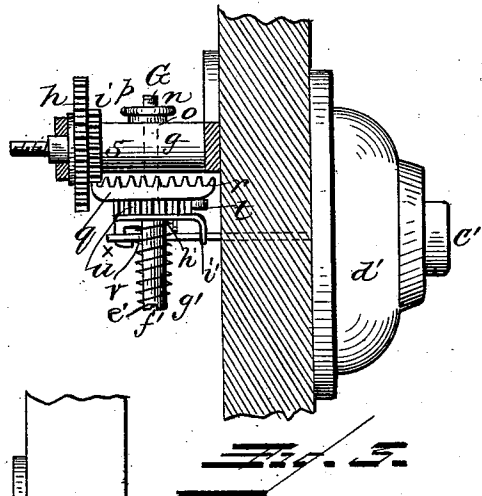
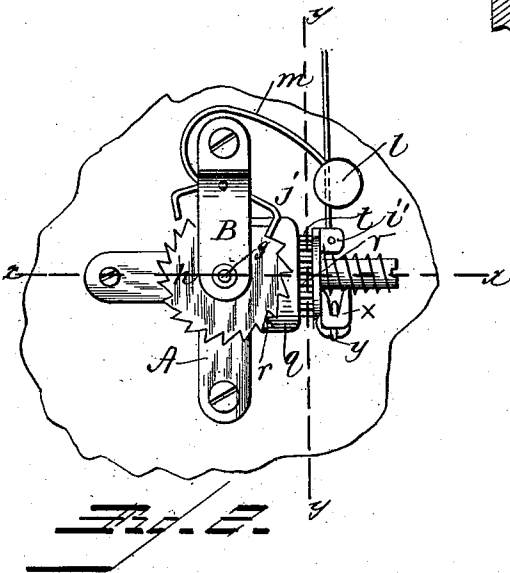
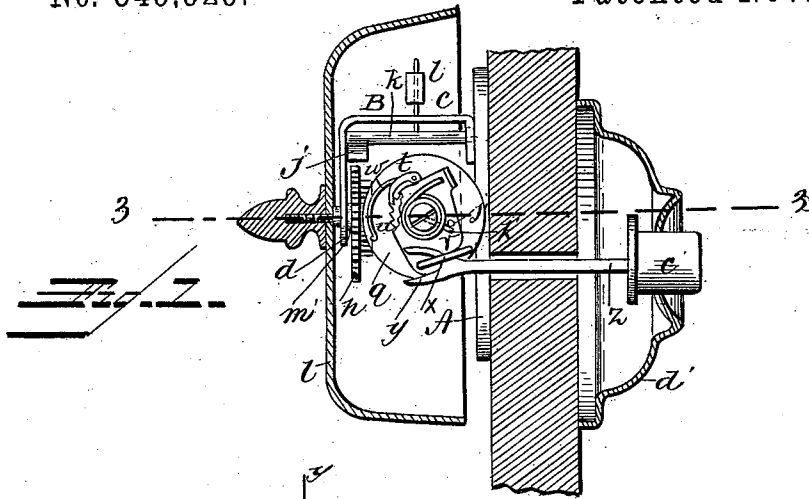


(No Model.)

W. R. MOORE.
DOOR BELL.

No. 549,929.

Patented Nov. 19, 1895.



Witnesses
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WILLIAM R. MOORE, OF CLEVELAND, OHIO, ASSIGNOR TO F. C. BOSWORTH, TRUSTEE.

DOOR-BELL.

SPECIFICATION forming part of Letters Patent No. 549,929, dated November 19, 1895.

Application filed April 1, 1895. Serial No. 544,005. (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 door-bells of that class known as the "gong," and it has for its object to improve, simplify, and cheapen the cost of construction of bells of this character, as well as to render the operation thereof easy and convenient, and by such simplicity of construction to reduce to a minimum the liability of its getting out of order, which is apt to occur with those bells of a more complex nature.

With these ends in view the invention consists in the novel construction and combination of parts, 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 represents a vertical sectional view of my device. Fig. 2 is a face view of the same with the gong removed. Fig. 3 is a horizontal view taken on the line *x x*, Fig. 2, looking up, and same view on line 3 3, Fig. 1, looking down; and Fig. 4 is a vertical sectional view taken on the line *y y* of Fig. 2, looking to the left.

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

Referring to the drawings, A designates a cruciform plate, having its ends secured to the inner side of a door, preferably the front or outer door of a dwelling. In the lower portion of the upper arm of this plate is formed a perforation *a*, for a purpose which will be hereinafter explained.

B designates an angular bracket, the shorter or depending arm *b* of which is also perforated at its lower end, as at *b'*, and the perforation of which registers with the perforation *a* in the lower portion of the upper arm of the plate A and is secured to said plate by means of a screw passed through the perfo-

rations in the plate A and bracket-arm *b*, by means of which the bracket is rigidly secured to the plate A. This bracket comprises the short arm aforesaid, an upper horizontal bar *c*, and a downwardly-projecting arm *d*, having a perforation *e*, in which is journaled the outer end *f* of shaft *g*. This shaft *g* is rigidly secured to the plate A and is provided with an escapement-wheel *h* and a small gear-wheel *i*, which latter wheels are secured to one another and revolve upon said shaft. An escapement *j* engages the wheel *h* and is secured to the shaft *k*, having its end bearings in the bracket B, and said escapement-shaft *k* is provided with a hammer *l*, the arm *m* of which is secured thereto.

G represents a shaft arranged at right angles to the shaft *g*, the smaller end *n* of which is passed through a perforation *o* in the shaft *g* and is secured thereto by a thumb-nut *p*. This end of the shaft may be riveted or headed and thus dispense with the nut. On this shaft G is arranged a crown-wheel *q*, the teeth *r* of which engage the teeth *s* of the small gear-wheel *i*, and revolves freely upon said shaft in one direction only. On the outer face of the crown-wheel is pivoted a pawl *t*, which engages a ratchet-wheel *u*, secured to a plate *v*, having a back-and-forth rocking movement on the shaft G aforesaid. A spring *w* keeps the pawl in engagement with the ratchet-wheel. The rocking plate *v* is provided with a hook, which engages the inner forked or bifurcated end *y* of the push-rod *z*, and at the outer end of said rod the same is provided with the push-button *c'*, projecting from the canopy or shell *d'*. This shaft G at its outer end *e'* is provided with kerfs *f'*, in which the end *g'* of a coiled spring is held. Said spring encircles the shaft G and is connected at its opposite end *h'* to the rocking-plate *v*. This latter plate is also provided with a lug *i'*, having a perforation designed to receive one end of a wire, which leads to a gong in the kitchen of the dwelling through the medium of the ordinary bell-cranks.

On the outer face of the rocking plate is secured a stop-pin *j'*, which engages a pin *k'* on the shaft G, thus limiting the reverse movement of said plate when the push-button is relieved from pressure.

On the outer end of the shaft *g* is secured the gong *l*, upon which the hammer strikes when the button is pushed. Between the depending arm *d* of the bracket and the escapement-wheel is a washer *m'* on the shaft *g*, which separates the wheel from the arm.

The operation of my device is as follows: The pressure upon the push-button forces the rod inwardly, thus causing the plate to rock upon the shaft, thereby revolving the crown-wheel through the medium of the pawl and ratchet-wheel, and in turn the crown-wheel acting upon the small gear-wheel causes the escapement-wheel to revolve and act upon the escapement, thereby operating the hammer and sounding the alarm, and when the pressure is removed from the push-button the plate assumes its normal position and is checked by the stop-pins engaging one another. The coiled spring not only forces the plate and its ratchet back to its normal position, but also forces the push-rod back and to its normal position. This spring can be regulated or strengthened by simply releasing the end from the kerfs and then turning said spring and replacing the end.

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

1. In a bell ringing device the gong and support therefor, carrying a shaft at right angles thereto, a crown wheel, ratchet and rocking plate supported thereon, an actuating lever engaging therewith and a spring, one end attached to the cross shaft, the other end attached to the said rocking plate, whereby when the actuating lever is released, the rocking plate is returned to its initial position, substantially as described.

2. In a bell ringing mechanism, a gong, a support therefor, carrying a gear supporting spur

at right angles thereto, and gearing a hammer actuating mechanism playing loosely on the said support, comprising a verge wheel and attached gear wheel, the same being actuated by the aforesaid spur supported gear and means for actuating the same substantially as described.

3. In a door bell mechanism, the gear and gong supporting standard; the gear supporting spur at right angles thereto; the U-shaped verge supporting bracket, the outer end of which is carried on the said gear and gong supporting standard; the gong, and attaching thumb nut, and bell ringing mechanism supported on the said standard and spur, and attaching means therefor, substantially as described.

4. The within described alarm comprising the push-bar bifurcated at its inner end, the rocking plate having the hook, engaging said bifurcated end, and stop pin engaging the stop on the shaft *G*, a spur shaft mounted at right angles thereto, a coiled spring mounted on the said shaft, and serving a twofold purpose, both giving the rocking plate a reverse movement after pressure is removed from the push-button and forcing the push-bar back to its normal position; the crown wheel supported on said spur shaft and having the pawl engaging the ratchet on the rocking-plate, the crown wheel engaging the gear wheel *i* the escapement wheel, the escapement and shaft therefor, carrying the hammer, the angular bracket; main supporting shaft, plate and "gong" all substantially as described.

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

WM. R. MOORE.

Witnesses:

FRANCIS W. TREADWAY,
F. C. BOSWORTH.