(No Model.)

W. L. UPSON.

CALL BELL.

No. 330,756. Patented Nov. 17, 1885.

Fig. 1.

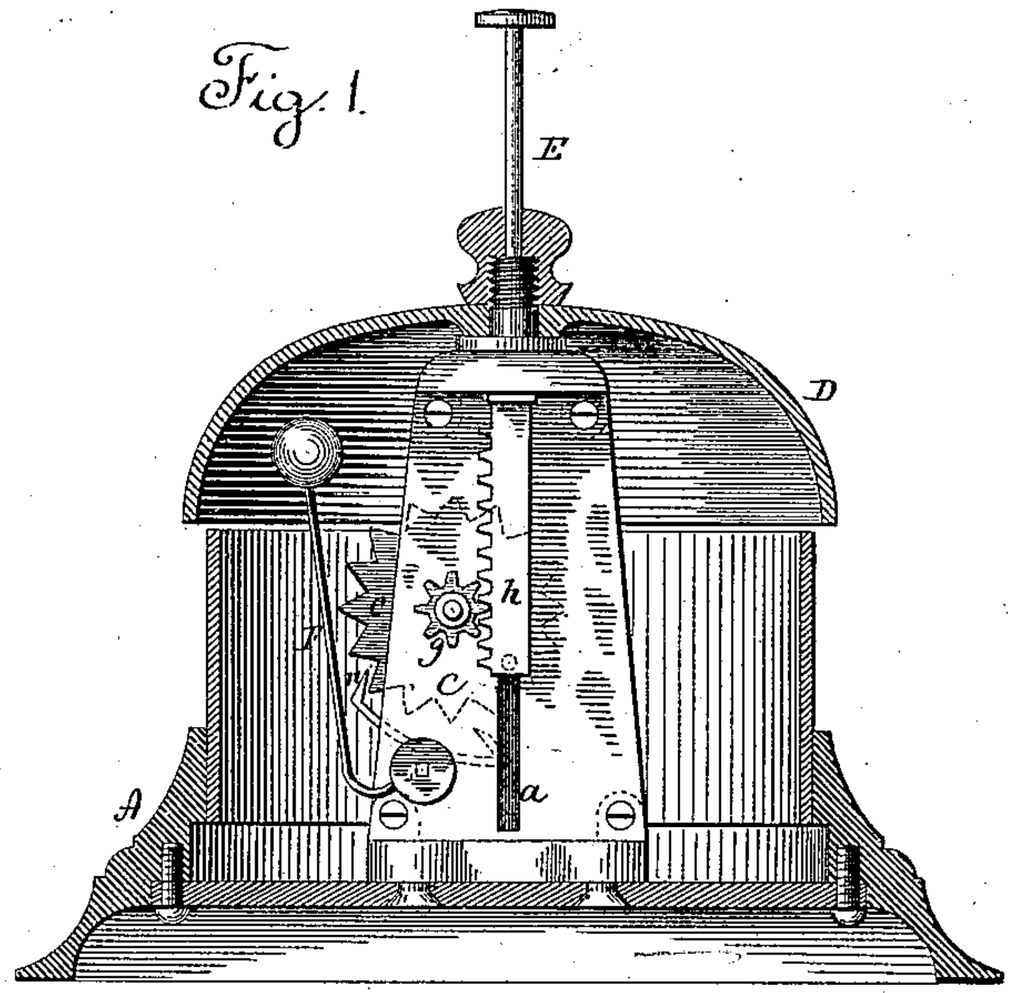


Fig. 4

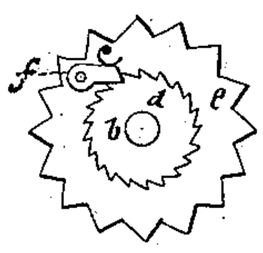


Fig. 6.

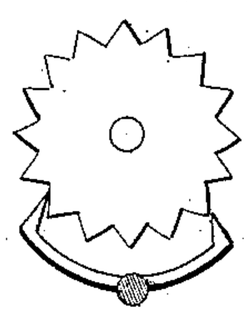


Fig. 5

Fig. 2.

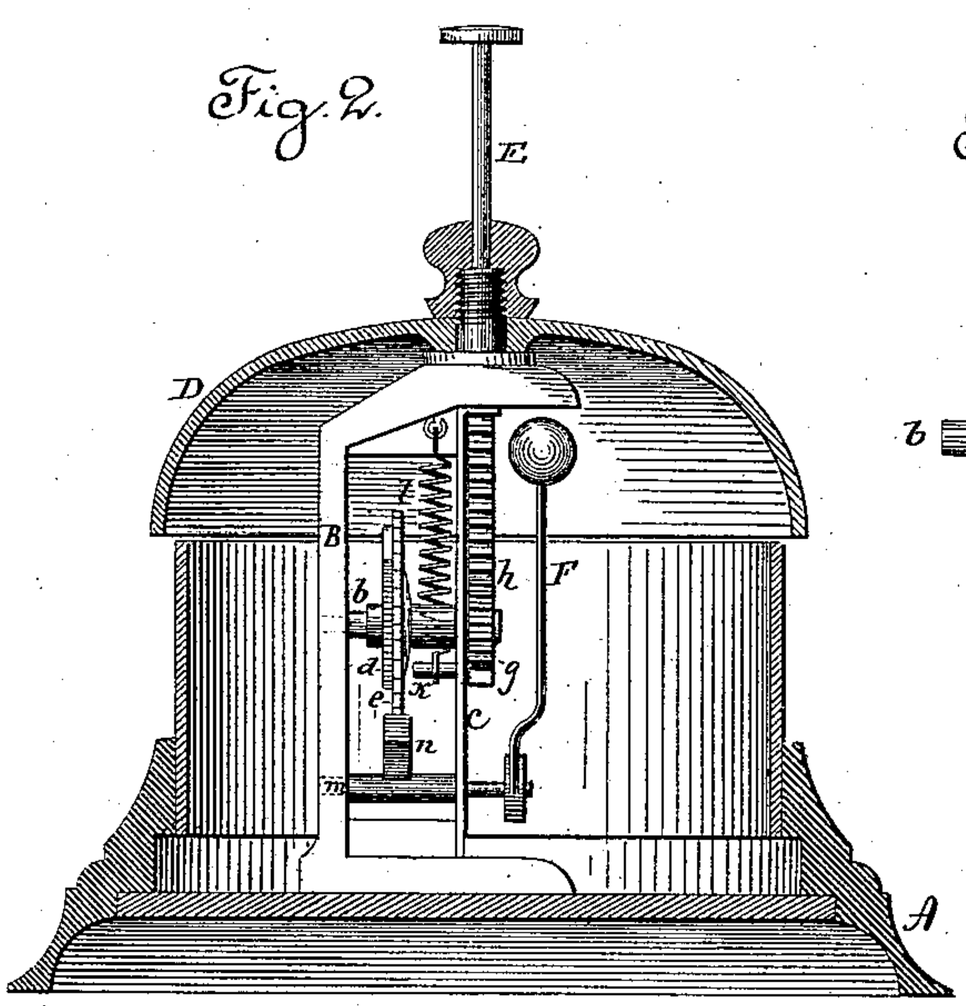
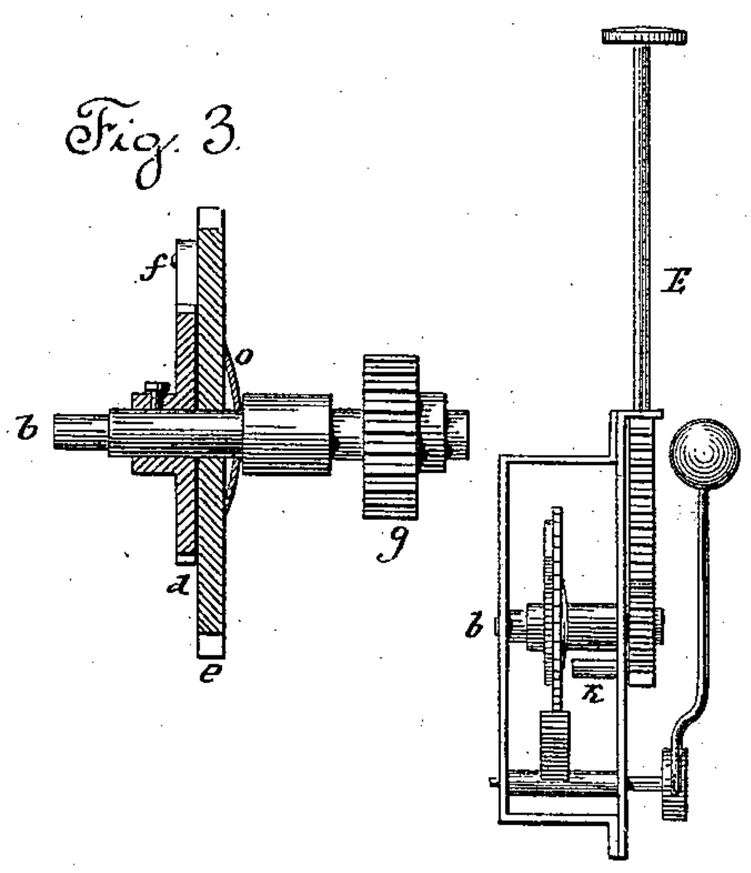


Fig. 3.



Witnesses
L. H. Shumway
Fred C. Earle

Waldo L. Upson,
Inventor
By Atty.
Fred C. Earle

UNITED STATES PATENT OFFICE.

WALDO L. UPSON, OF MERIDEN, CONNECTICUT.

CALL-BELL.

SPECIFICATION forming part of Letters Patent No. 330,756, dated November 17, 1885.

Application filed October 12, 1885. Serial No. 179,638. (No model.)

To all whom it may concern:

Be it known that I, WALDO L. UPSON, of Meriden, in the county of New Haven and State of Connecticut, have invented new Improvements in Call-Bells; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters 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 vertical central section of the bell, showing front view of the operative mechanism; Fig. 2, the same, showing side view of the mechanism; Fig. 3, a detached view of escapement-wheel arbor, showing escapement-wheel and ratchet in section; Fig. 4, a rear view of the escapement-wheel, pawl, and ratchet; Figs. 5 and 6, modifications.

This invention relates to an improvement in that class of call-bells in which the bell is arranged upon a post with a spindle extending downward through the bell, and so that pressing the spindle down causes the hammer to strike the bell.

The object of this invention is to arrange the parts so that by pressing the spindle down once will cause the hammer to strike the bell several times; and it consists in the arrangement, as hereinafter described, and particularly recited in the claims.

A represents the base; B, the post extending upward from the base.

C is a plate which with the post forms the frame for the operative mechanism. The said plate is constructed with a vertical slot, *a*.

D is the bell, adapted to be secured to the upper end of the post in the usual manner. Within the frame is a horizontal arbor, *b*, upon which is fixed a ratchet-wheel, *d*. Loose upon the arbor *b* and close to the ratchet-wheel *d* is an escapement-wheel, *e*. A pawl, *f*, is hung upon one side of the escapement-wheel *e*, as seen in Figs. 3 and 4, and is arranged so that the teeth of the ratchet-wheel will engage it when revolved in one direction, and to escape when revolved in the other direction, and to the arbor a pinion, *g*, is fixed.

E is a spindle, which extends vertically through the bell in the usual manner, and is constructed with a toothed rack, *h*, at its lower end, adapted to engage with the pinion *g*, and is provided with a pin, *k*, extending through the slot *a* in the plate C, which guides it in a vertical path. A spring, *l*, is arranged in connection with the spindle E, the tendency of which is to raise and hold the spindle in its up or normal position.

F is a hammer hung upon an arbor, *m*, in the frame, parallel to the arbor *b*, and upon said arbor *m* is a verge, *n*, adapted to engage with the escapement-wheel *e*, as in alarm-clocks.

To cause the bell to be struck, press the spindle down, and, guided by the pin *k* in the slot *a*, the teeth on the rack will engage with the pinion *g*, thereby revolving the arbor *b* and ratchet-wheel *d*, which causes the teeth of the wheel *d* to engage with the pawl *f*, and thereby impart revolution to the escapement-wheel *e*, which by so revolving acts upon the verge *n* and causes the hammer to vibrate and strike the bell. When the pressure on the spindle is removed, the reaction of the spring *l* causes it to rise to its former position. In rising the rack revolves the arbor *b* and ratchet-wheel *d* in the opposite direction, and in which the ratchet-wheel escapes the pawl *f* and allows the escapement-wheel *e* to remain stationary.

To hold the escapement-wheel *e* against the ratchet-wheel *d* and support it loose on the shaft, a friction-collar, *o*, is introduced in the usual manner for such devices in clock-work.

If desired, the ratchet-wheel may be omitted, the escapement-wheel secured to the arbor, and the verge made the same at both ends, as shown in Fig. 6, so that the return of the spindle will cause the bell to ring.

The frame to support the mechanism may be made separate from the post B, as shown in Fig. 5, and supported between the top of the post and the base.

I claim—

1. The combination of the base A, the post B thereon, the bell D, supported on said post, the arbor *b*, supported in bearings, and carrying a pinion, *g*, and escapement-wheel *e*, the vertically-guided spindle E, extending upward through the bell, its lower end provided with a toothed rack corresponding to said pinion,

and so as to work therein, a second arbor, *m*, carrying a verge and hammer, with a spring adapted to raise the spindle and support it in its up position, substantially as described.

2. The combination of the base A, the post B thereon, the plate C, fixed to said post, and with the post forming a frame, the bell D, secured to said post, the vertically-guided spindle extending upward through the post and bell, constructed at its lower end with a toothed rack, the arbor *b*, arranged in said frame, and carrying the pinion *g* and toothed ratchet *d*, both fixed to the arbor, the escapement-wheel *e*, loose upon said arbor, with a pawl on said escapement-wheel adapted to be engaged by the said ratchet-wheel in one direction, but escape therefrom in the opposite direction, the second arbor, *m*, carrying the verge and hammer, and a spring in connection with said spindle adapted to raise and hold it in its up position, substantially as described.

WALDO L. UPSON.

Witnesses:
M. D. ROSE,
J. S. STOKES.