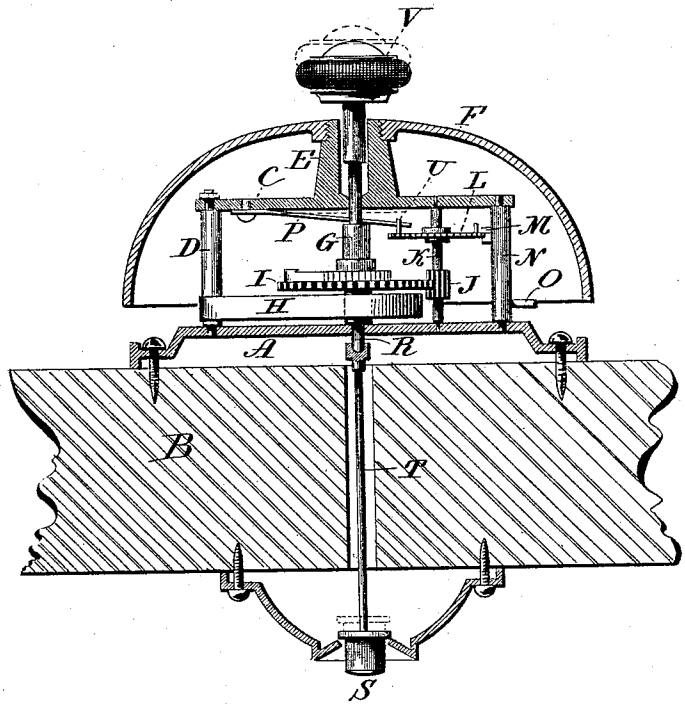
(No Model.)

W. L. UPSON.

BELL.

No. 454,190. Patented June 16, 1891.



Witnesses.
L. D. Kelsey.

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UNITED STATES PATENT OFFICE.

WALDO L. UPSON, OF MERIDEN, ASSIGNOR TO THE PECK, STOW & WILCOX COMPANY, OF SOUTHINGTON, CONNECTICUT.

BELL.

SPECIFICATION forming part of Letters Patent No. 454,190, dated June 16, 1891.

Application filed December 15, 1890. Serial No. 374,726. (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 a new Improvement in Bells; and I do hereby declare the following, when taken in connection with accompanying drawing and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawing constitutes part of this specification, and represents a central section through the base and bell, showing a side view of the mechanism.

This invention relates to an improvement in that class of bells which are adapted to be operated by a push-button and such as commonly used as door-bells, the bell being fixed upon the inner side with a push-button and upon the outer side having a spindle extending through and so as to operate upon the mechanism of the bell, the mechanism of the bell being a spring clock-work which is normally held in suspense, the push of the button disengaging the mechanism, so that so long as the push is held the mechanism will operate the hammer of the bell.

The object of the invention is to simplify the mechanism for holding and disengaging the power; and it consists in the construction as hereinafter described, and particularly recited in the claim.

A represents the base, which is adapted to be secured upon the inside of a door B. Upon the base is a clock mechanism, the base forming one plate, C representing the second plate, secured together by posts D in the usual manner for clock-movements. From the plate C a central post E projects, to which the bell F is attached in the usual manner, the bell being adapted to inclose the clock-work or operative mechanism.

G represents the center shaft, which is adapted for rotation in the usual manner for the center shaft of clock-work, and upon which the spring H operates in the usual manner. The shaft G carries the main wheel I, which works into a pinion J on the shaft K, which shaft carries the escapement-wheel L, and which in its turn operates upon a verge M on an arbor N, which arbor carries the hammer O, all in the usual manner for this class of mechanism.

The shaft G is adapted for longitudinal movement independent of its rotative movement. A spring P is arranged to bear upon the shaft G, tending to force it outward or toward the base. The end of the shaft G projects through the base, as represented at R.

S represents the push-button, arranged in the usual manner upon the outside of the door, and from which a spindle T extends, so as to bear upon the projection R of the shaft G, and so that a push upon the push-button S, as indicated in broken lines, will give to the shaft a corresponding longitudinal movement and compress the spring P, as shown in the drawing, and when the finger is removed from the push-button, so as to leave it free, the spring reacts and forces the shaft G back to its normal position.

The spring P extends so as to bring its end into the path of one or more studs U on the escapement-wheel and so as to form a stop for the wheel—that is to say, when one of the studs strikes the projection of the spring its further rotation will be prevented and the movement stopped, the power being held in suspense so long as this engagement between the spring P and the escapement-wheel exists; but when the push-button is pressed so as to force the shaft G inward and compress the spring it takes the projection of the spring out of the path of the stud U, and thus liberates the power to produce revolution of the escapement-wheel and corresponding vibration and striking of the hammer, and this will continue so long as the spring is held in the compressed position; but so soon as the pressure upon the spring is relieved it returns into the path of the stud on the escapement-wheel, so as to arrest the further rotation of that wheel and then stop the movement and hold the power in suspense until the wheel is again disengaged.

The shaft G is provided with a key V, by which the spring may be wound in the usual

manner, and it will be understood that the spring is to be wound from time to time in order to produce the working of the mechanism, substantially as in other bells of this class.

I do not claim, broadly, a bell having a clock-work arranged within it, with means for holding the power of the said clock-work in suspense, and having combined therewith means for mechanically disengaging the power, so as to set the movement into operation to strike the bell, as such, I am aware, is not new.

I am also aware that a spring has been arranged in the clock-work of a bell adapted to engage some part of the movement, so as to hold it in suspense, and so that a pressure or pull exerted in a direction parallel with the arbors of the mechanism would disengage the said spring and liberate the clock-work and the said spring automatically return to engage and suspend the action thereof. In some cases the device for operating the spring has been through a tubular central shaft or as a sleeve thereon. The essential feature of my invention is the arrangement of the central shaft so that it may receive a positive longitudinal movement, and yet perform its functions as a rotating shaft, and so that the operation of the engaging and disengaging mechanism is produced solely through the longitudinal movement of the central shaft, as particularly hereinafter specified.

I claim—

The combination of the base A, the bell F, arranged thereon, a clock-work upon said base and within the bell, said clock-work consisting of a central shaft, a train of gearing arranged to communicate rotation to an escapement-wheel, and a hammer-shaft carrying a verge upon which said escapement-wheel may operate, the said central shaft of the clock-work arranged for longitudinal movement independent of its rotative movement, with a spring P, arranged to bear upon the said shaft and yieldingly compress the said shaft toward the base, the said spring extending into the path of a stop on the clock-work, and so as to normally hold the power of the clock-work in suspense, and mechanism, substantially such as described, to give to the said shaft a longitudinal movement to liberate the said power, substantially as and for the purpose described.

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

WALDO L. UPSON.

Witnesses:
A. L. STEVENS,
JAMES HICKINSON.