(No Model.)

J. H. SHAW & A. A. PAGE.

DOOR BELL.

No. 436,588. Patented Sept. 16, 1890.

Fig. 1

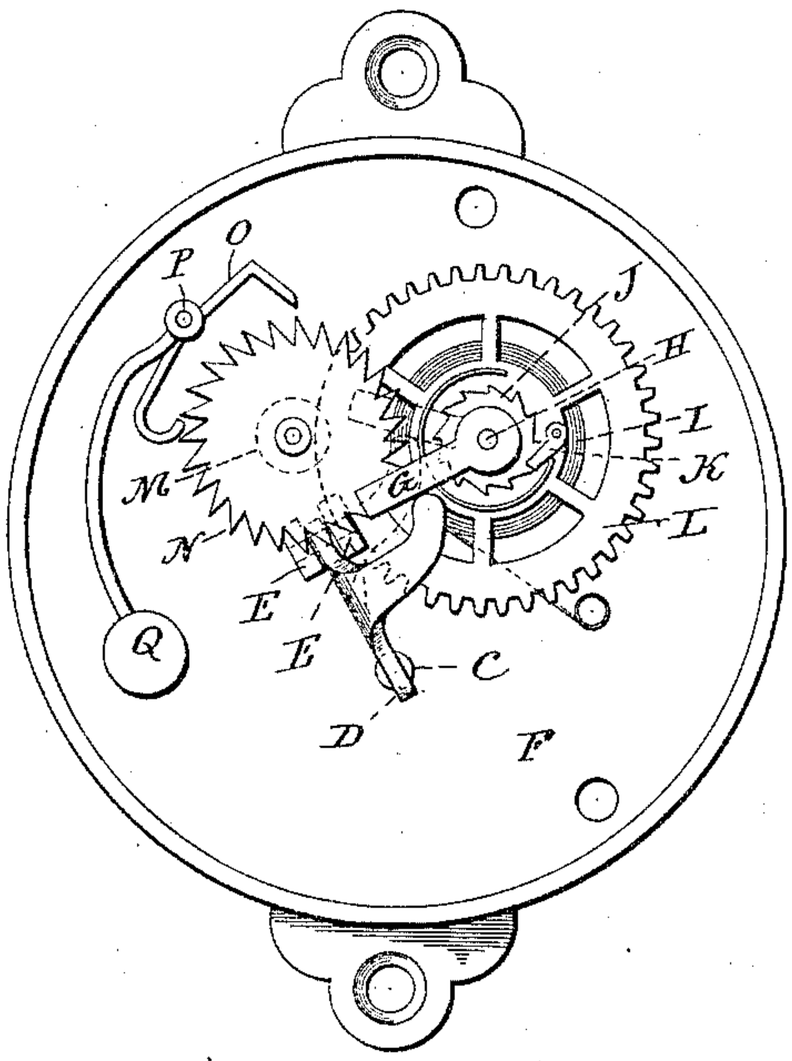


Fig. 2.

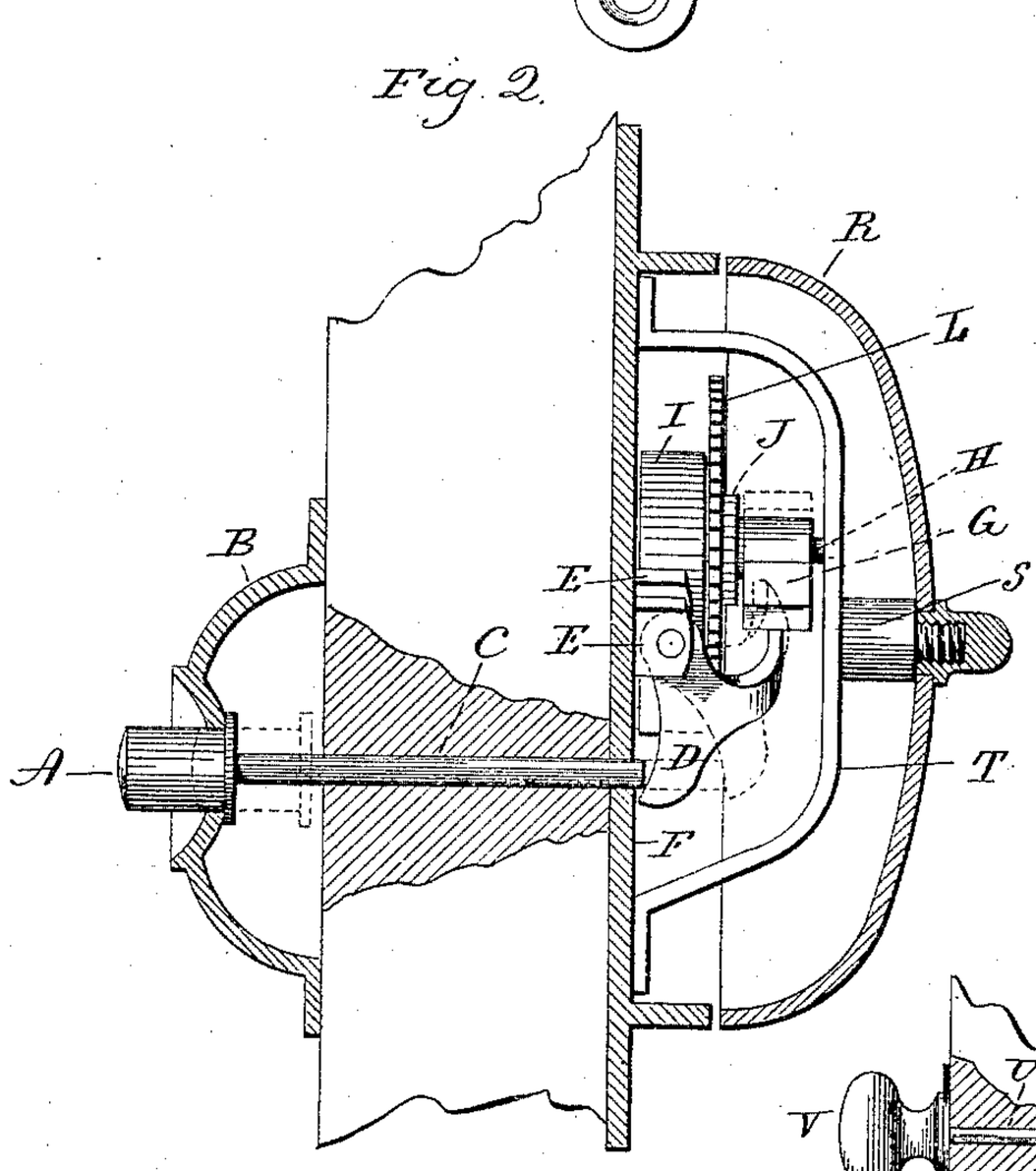
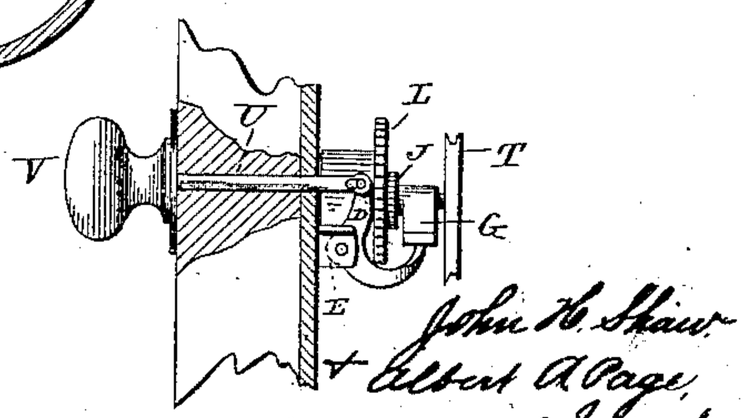


Fig. 3



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UNITED STATES PATENT OFFICE.

JOHN H. SHAW AND ALBERT A. PAGE, OF NEW HAVEN, CONNECTICUT, ASSIGNORS TO THE SARGENT & COMPANY, OF SAME PLACE.

DOOR-BELL.

SPECIFICATION forming part of Letters Patent No. 436,588, dated September 16, 1890.

Application filed March 15, 1890. Serial No. 344,057. (No model.)

To all whom it may concern:

Be it known that we, JOHN H. SHAW and ALBERT A. PAGE, of New Haven, in the county of New Haven and State of Connecticut, have invented new Improvements in Door-Bells; and we 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 view in vertical section of one form which our improved door-bell may assume; Fig. 2, a view of the mechanism thereof with the bell removed, and Fig. 3 a view of our improved device as constructed with a bell-pull for operating it.

Our invention relates to an improvement in that class of door-bells in which the bell-hammer is actuated by a train wound in the act of operating the bell, the object of the present invention being to produce a simple, strong, durable, and reliable device in which the bell will only ring after the power for operating it has been removed, and then but for a short time, whereby the annoyance of a bell which will ring as long as pressure is applied to its operating connection is avoided.

With these objects in view our invention consists in a door-bell having certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims, and particularly in a two-armed operating-lever.

As herein shown, the bell is provided with a manual-operating device consisting of a push-button A, mounted in the center of a circular crowning-plate B, and having the appearance of the ordinary push-button and mounting of an electric bell, the button being secured to the outer end of an operating-rod C, which engages at its inner end with the arm D of a two-armed operating-lever, pivotally hung between two lugs E E, projecting from the frame F, carrying the striking-train of the device, and secured to the opposite side of the door or framing from the push-button. The other arm of the said operating-lever is arranged for engagement with a winding-lever G, rigidly attached to a winding-arbor H, having one end of a spring I connected with it, and carrying a ratchet-wheel J rigidly secured to it, and engaged by a ratchet K, pivoted to a main wheel L, loosely mounted upon the said arbor, whereby when the lever is operated by pushing in the push-button the said arbor is given a partial rotation, with the effect of winding the spring, and thus actuating the striking-train, which consists simply of the said main wheel, a pinion M, and an escapement-wheel N, the latter being engaged by a pallet O, carried by an arbor P, also carrying the bell-hammer Q of the bell R, which is secured to a post S, carried by a frame T, extending over the train, and affording bearing for one end of each of its arbors. The arms of the said two-armed lever are shaped and arranged to move and operate in planes at a right angle to each other. The operating device moves in a plane parallel with the winding-arbor. As herein shown, the said lever is made of wrought metal bent into shape. Its pivot is located in a plane at a right angle with the plane of the winding-arbor.

It will be seen that when the push-button is pressed inward it will operate the two-armed lever in giving a partial rotation to the winding-arbor, thus winding the spring for driving the striking-train, which, however, is not released for actuation until pressure has been removed from the push-button, so as to let the two-armed operating-lever fall back to its normal position, and thus release the winding-lever and throughthe same the winding-arbor. The bell cannot therefore be rung until after the push-button is released, and will not ring but for a short time, inasmuch as the spring is wound only enough to drive the train to ring the bell for a brief interval. Under this construction, then, the annoyance of a bell ringing as long as pressure is maintained upon the push-button is avoided, for as long as the push-button is kept pressed inward the bell will not ring.

If desired, the manual-operating device may take the form of an ordinary bell-pull, consisting of a rod U and a knob, the inner end of the rod being connected with the inner end of the two-armed lever W, which is shaped to conform to the requirements of the

change. If desired, also, the manual-operating device may take the form of an ordinary bell-crank, or the striking-train and bell may be located at a point remote from whatever device be chosen for operating it and the two-armed operating-lever and manual-operating device connected by wires and levers in the usual manner. We would therefore have it understood that we do not limit ourselves to the exact construction shown and described, but hold ourselves at liberty to make such changes and alterations as fairly fall within the spirit and scope of our invention.

We are aware that a bell constructed to ring only after the power for operating it has been removed is not new, and do not therefore claim that construction, broadly; but,

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a door-bell, the combination, with a two-armed operating-lever having its respective arms shaped and arranged to operate in planes at a right angle to each other, a manual-operating device co-operating with one arm of the said lever, a winding-lever co-operating with the other arm thereof, a winding-arbor carrying the winding-lever by which it is partially rotated, a spring wound by the rotation of the arbor, a train driven by the spring, a bell-hammer actuated by the train, and a bell arranged to be struck by the hammer, the operating device operating in a plane parallel with the plane of the winding-arbor, substantially as described.

2. In a door-bell, the combination, with a push-button, an operating-rod connected therewith, of a two-armed operating-lever, one arm of which co-operates with the said rod, a winding-lever co-operating with the other arm of the said two-armed lever, a winding-arbor carrying the winding-lever by which it is partially rotated, a spring wound by the rotation of the arbor, a train driven by the spring, a bell-hammer actuated by the train, and a bell arranged to be struck by the hammer, whereby the train is not released for ringing the bell until pressure has been removed from the push-button, substantially as described.

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