

W. E. SPARKS.

Improvement in Door-Bells.

No. 128,565.

Patented July 2, 1872.

fig. 1

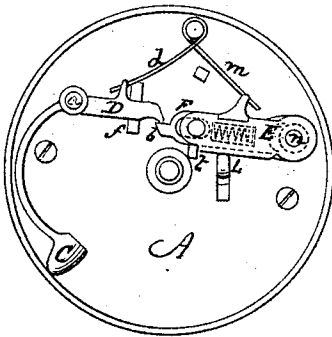


fig. 2

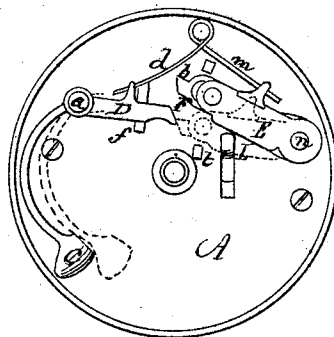
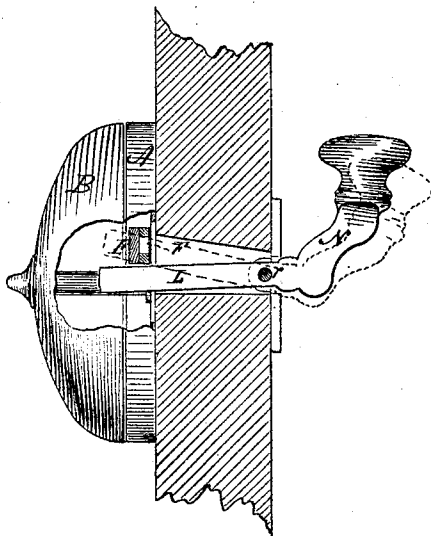


fig. 3



Witnesses.
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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN DOOR-CALLS.

Specification forming part of Letters Patent No. 128,565, dated July 2, 1872.

To all whom it may concern:

Be it known that I, WILLIAM E. SPARKS, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Door-Bells; and I do hereby declare the following, when taken in connection with the 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, in—

Figure 1, a plan view of the base-plate, the bell removed, showing the parts as in a state of rest; Fig. 2, the same after the blow has been struck and before the return of the lever; and in Fig. 3 a sectional view through the door.

This invention relates to an improvement in that class of door-bells which are placed upon the inside of the door and operated by direct connection from the opposite side.

Usually these bells have been arranged to be operated by a crank on the outside attached to a spindle extending through the door to the mechanism, so that turning the said spindle would actuate the hammer.

The object of this invention is to construct a device by which a lever may be operated by pulling directly out rather than by turning, as above mentioned; and it consists, first, in the arrangement of a lever pivoted, one arm of which extends through the door and so as to vibrate within the periphery of the wheel, the other arm turned up or down, as the case may be, so that pulling upon the outer arm will raise or lower the inner arm; second, in the escapement which actuates the bell, as more fully hereinafter described.

A is the base or plate, which is secured to the door in the usual manner, to which the bell B is attached. On the plate A the hammer C is arranged upon a pivot, *a*, an arm, D, extending from the said pivot, constituting the lever-arm, by which the bell is operated. Upon this arm D a spring, *d*, bears, to throw the hammer down when it escapes from the device which operates it, the arm D being arrested by a stop, *f*, to allow the elasticity of the hammer-arm a little over-motion to strike the bell, substantially as in bells of common

construction. The device by which the hammer is actuated consists of a lever, E, pivoted at *n*, a spring, *m*, bearing upon this lever to hold it down upon a stop, *t*, as seen in Fig. 1, and yet allow it to be raised, as seen in Fig. 2. On this lever E a longitudinally-sliding piece, F, is arranged, held forward by a spring, as denoted in Fig. 1, and when at rest the nose *b* of this piece F is thrown out below the arm D of the bell-lever, as seen in Fig. 1; therefore, when the lever E is raised it raises the bell-lever with it, as denoted in broken lines, until the bell-lever falls off or escapes from the end *b* and the hammer strikes the bell; then the lever returning, as denoted by the broken lines, Fig. 2, the piece F slides back, in consequence of the beveled end, until it again passes below the lever D; it then flies forward into its first position for a second stroke. To thus actuate the lever E I arrange in the door, upon the fulcrum *r*, a lever, one arm, L, of which extends through the door and beneath the lever E. The other arm, N, is turned upward, as seen in Fig. 3, and by taking hold of the end of the arm N and pulling forward the inner arm L is thrown up, and with it the lever E, as seen in Fig. 2, and also in broken lines, Fig. 3.

As shown in the drawing the arrangement is for the arm N to turn upward. If, however, the whole be inverted, the arm N would extend downward, and would, perhaps, be the most natural position.

By this construction I attain all the advantages of a common bell-pull, and am enabled to bring the arm L of the pull within the periphery of the bell; whereas in this class of bells in which a direct pull has been employed a connection with the mechanism of the bell has been required to be made with the pull outside the bell.

It will be evident that other mechanism than that here shown may be employed with the same arrangement as the pull-lever. I therefore do not wish to confine this use and arrangement of pull-lever to this particular mechanism.

I claim as my invention—

1. In combination with the bell, hammer,

and escapement for operating the hammer, the lever L N, one arm of which extends within the periphery of said bell, so as to operate said escapement, which, with the hammer, is also within the periphery of the bell, the other arm being outside the door to serve as a pull, substantially as described.

2. In combination with the arm D of a bell-

hammer, I claim the lever E and sliding piece F, operating to raise the bell-hammer and allow it to escape, substantially as set forth.

WILLIAM E. SPARKS.

Witnesses.

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J. H. SHUMWAY.