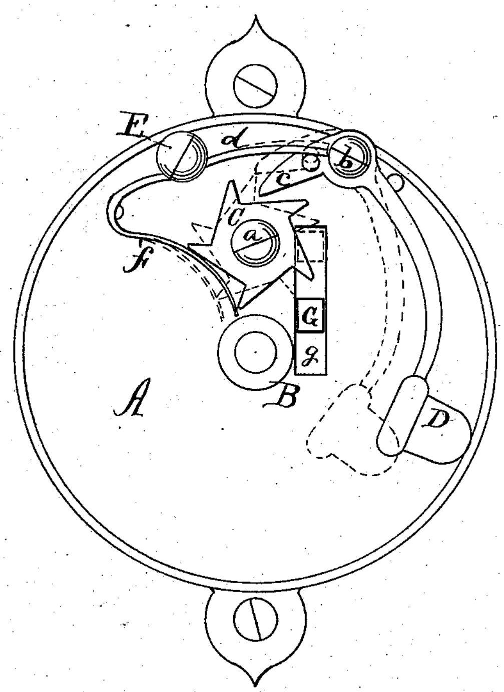
F. M. JOHNSON.

Door-Bell.

No. 163,015. Patented May 11, 1875.

Fig. 1.



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UNITED STATES PATENT OFFICE.

FRANK M. JOHNSON, OF BRISTOL, CONNECTICUT.

IMPROVEMENT IN DOOR-BELLS.

Specification forming part of Letters Patent No. **163,015**, dated May 11, 1875; application filed November 3, 1874.

To all whom it may concern:

Be it known that I, FRANK M. JOHNSON, of Bristol, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Door-Bells, of which the following is a specification:

In the accompanying drawing, Figure 1 is a front elevation of the mechanism for a door-bell, which embodies my invention.

A designates the base-plate, provided with a central stud, B, which forms the support for the bell. In order to better show the parts the bell, which may be of any ordinary form, is not shown. Upon the front of the base-plate A is a star-wheel, C, hung so that it may be rotated upon a stud or screw, *a*, which stands at right angles to the face of the plate A. D designates the hammer, pivoted to the plate A by a pin or screw, *b*. Said hammer is provided with an arm, *c*, which extends toward the star-wheel C, so as to engage therewith. The plate A is also provided with a spring, E, having two arms, *d f*. One arm, *d*, engages with a pin on the hammer-arm *c*, and the arm *f* with the star-wheel C. If desired, two separate springs may be employed instead of the one spring with two arms. The spring which bears upon the star-wheel need not be so stiff as the other. I prefer, when only one spring is employed, to flatten the arm *f*, thereby making it thinner and less powerful. In the plate A is a vertical slot, *g*, within which the end of a lever, G, moves up and down, said lever being hung to a plate upon the outside of the door, and operated by a handle which extends through the door. Such levers being common, it is deemed unnecessary to describe them, and any mechanism that will raise and lower the piece G within the slot *g* may be substituted for said lever.

The star-wheel C I prefer to construct with five points; but it will work well with a greater number, and may be made to work with less. This wheel is so pivoted on the plate that its points project over the slot *g*, and should be so shaped and located that when the lever G is raised to its full height the notch between any two of the points will nearly coincide with one end and side of the slot *g*, for a short distance from one of its corners, as denoted by broken lines in the drawing.

By depressing the outer end of the lever the inner end G is raised, and engages with one point of the star-wheel C, and partially rotates it, when the point above the one directly operated upon by said lever engages with the arm *c* of the hammer D and raises it, the parts G C D *c* and E *d f* being then thrown into the position indicated by broken lines in Fig. 1. Upon a farther but slight movement of the parts the arm *c* disengages from the point of the star-wheel, when the hammer returns to its former position and strikes the inside of the bell. A spring (not shown) returns the lever G, and so soon, upon its return as it passes the star-wheel the arm *f* of the spring E, bearing against one point of said wheel, as denoted by broken lines, propels it farther forward, so that another point is projected over the slot *g*, ready for a repetition of the operation hereinbefore described.

I claim as my invention—

The star-wheel secured to the base-plate A, in combination with suitable springs, lever G, and hammer *c* D, all substantially as described, and for the purpose set forth.

FRANK M. JOHNSON.

Witnesses:

JAMES SHEPARD,

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