

O. W. STOW.

DOOR-BELLS.

No. 181,604.

Patented Aug. 29, 1876.

Fig. 1.

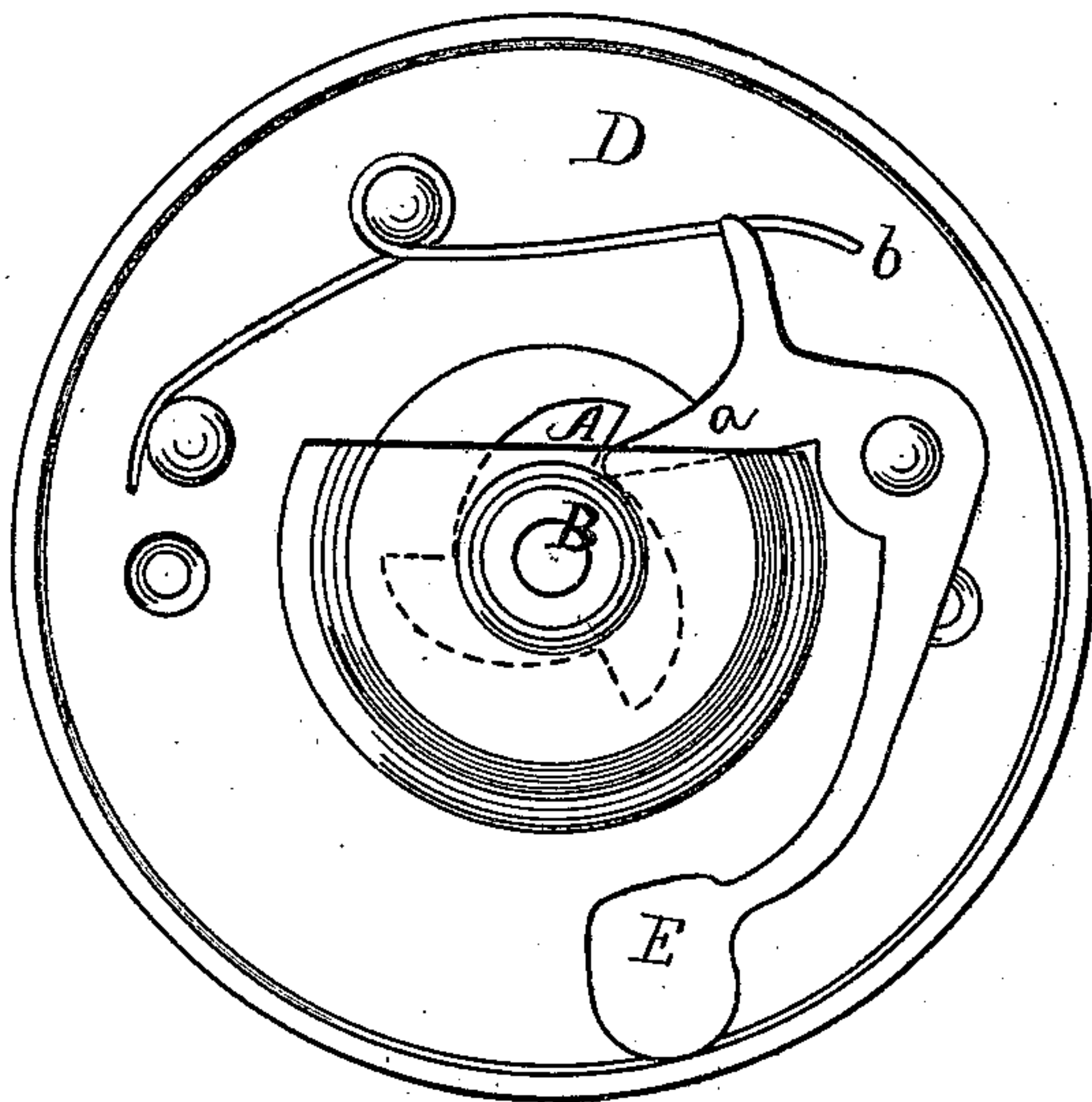
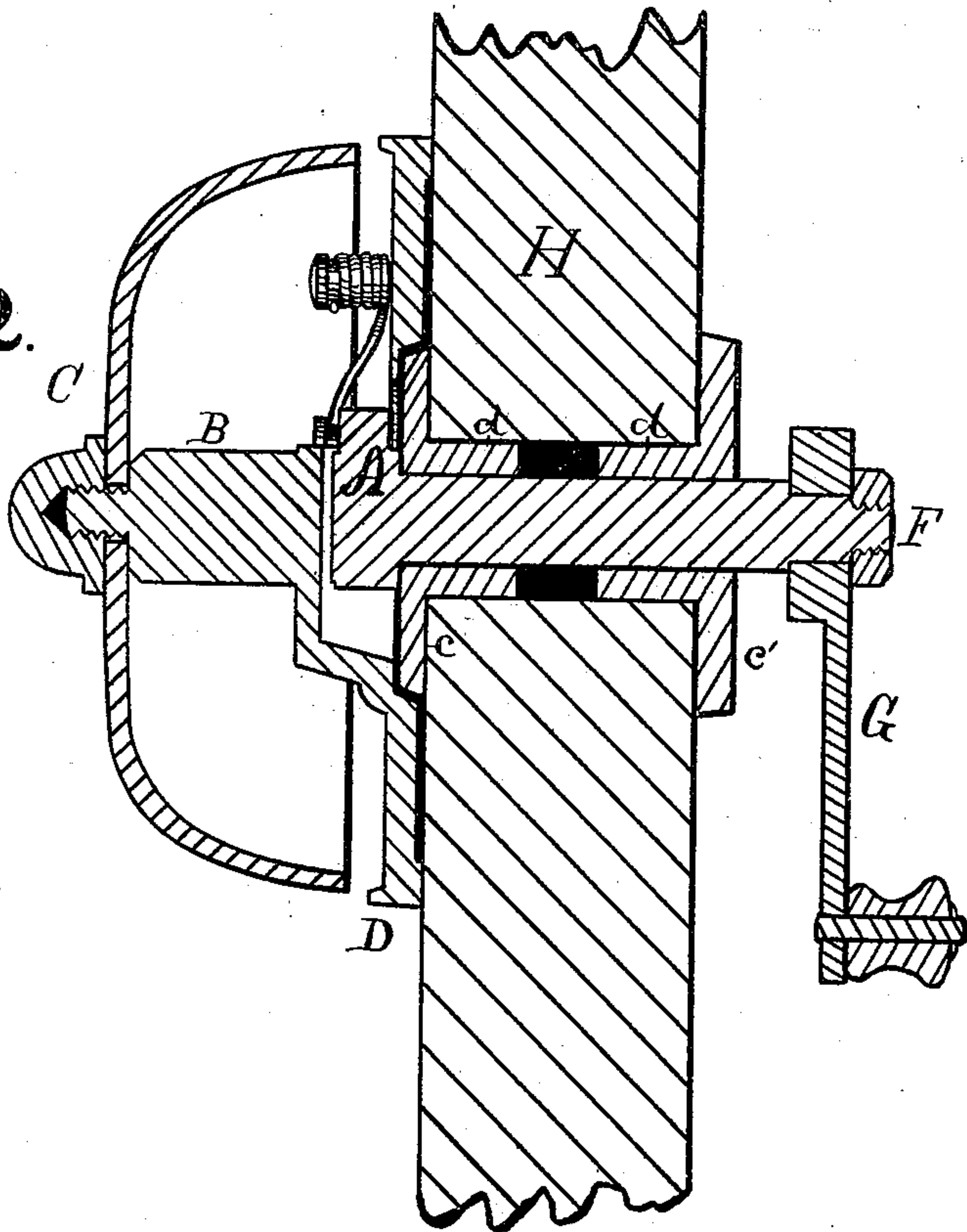


Fig. 2.



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN DOOR-BELLS.

Specification forming part of Letters Patent No. **181,604**, dated August 29, 1876; application filed June 2, 1876.

*To all whom it may concern:*

Be it known that I, ORSON W. STOW, of Plantsville, 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:

The invention relates to the peculiar construction of the parts with reference to securing them to the door, and compensating for the various thicknesses of doors, all as hereinafter described.

In the accompanying drawing, Figure 1 is a front elevation of the striking mechanism of a door-bell which embodies my invention; and Fig. 2 is a vertical section on a line passing through its center of a door-bell which embodies my invention.

A designates a central and rotating cam, held in place, as hereinafter described, within a central chamber. The stud B, which supports the bell C, is secured to and projects from the base-plate D. An oscillating hammer, E, is hung to said plate D, said hammer carrying an arm, *a*, which engages with the central cam A, so as to be tripped thereby, and it is held in contact with said cam by means of the spring *b*, constantly pressing upon the arm *a* of the hammer E. By rotating the cam in such direction that its top travels away from the arm *a*, said arm will be thrown outward as it rides up the incline of the cam, and its opposite end inward, as indicated by broken lines in Fig. 1. So soon as the radial shoulder of the cam passes the hammer-arm *a*, the spring *b* forces the arm *a* suddenly inward, and the hammer proper outward, to strike the bell C in a well-known manner. I secure the central cam A firmly to its shaft F; and to the opposite end, by means of a nut or other convenient fastening, I secure a crank, G, or other handle, by means of which the shaft may be rotated. Upon each side of the door H I secure a circular plate, *c c'*, the latter being secured to the outside by means of screws, and may be as ornamental as desired, and also its contour may be of other form than circular. Upon each of these plates I form hollow bosses *d d*, and the cam-shaft F is fitted to turn in these bosses, as shown. The exterior of these bosses should be of a size to

correspond with some regular size of boring-tools.

In order to secure the device upon a door, a hole corresponding in size to the bosses is bored straight through the door. The crank or handle is removed from the cam-shaft, and the plates *c c'* are placed upon the door, with their bosses resting in the hole so made in the door to receive them, and the outer plate *c'* may be secured by screws when the crank can be replaced on the cam-shaft. In the back side of the base-plate D I form a circular recess, of a size and depth to correspond with the size and thickness of the circular plate *c*, and which recess in the drawing is filled by said plate. In front of the plate *c* and its recess a chamber is formed in the plate D, of a diameter large enough to allow the central cam free play, and of a depth fully equal to the thickness of the cam, for a purpose hereafter specified. At one side of this chamber the walls are cut away, as shown, in order to allow the hammer-arm *a* and cam A to come in contact with each other. In order to secure the boss-plate D upon the door, its proper position is first determined by placing it over the plate *c*, and letting said plate into its recess in the plate D, when said plate may be secured in place by screws. The central cam is then prevented from working toward the bell by the front wall of the cam-chamber, which chamber should be shallow enough to hold the cam within the door and deep enough not to bind the cam and cause it to turn hard. The cam, by striking the plate *c*, will be prevented from working in the opposite direction—that is, the end chase of the cam and its shaft is regulated by the plate *c* and front wall of the cam-chamber. The cam-shaft should be made long enough for the thickest door, and by the above construction will readily accommodate itself to varying thicknesses of doors, the only variance being that in a thin door the crank end will project a little farther than it does in a thick door. The device is also very cheaply made, and can be much more conveniently attached than can ordinary crank-bells.

I claim as my invention—

1. The plate D, having the central cam.

chamber in the back to receive the cam *a*, substantially as described, and for the purpose specified.

2. The cam A, having the bearings for its shaft secured to the door, and detached from the plate which carries the hammer, substantially as described, and for the purpose specified.

3. The plate D, carrying the stud B, and having the walls of the central chamber upon one side cut away, substantially as described, and for the purpose specified.

ORSON W. STOW.

Witnesses:

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