(No Model.)

# W. B. ATKINSON.

## DOOR BELL.

No. 391,108. Patented Oct. 16, 1888.

Fig. 1.

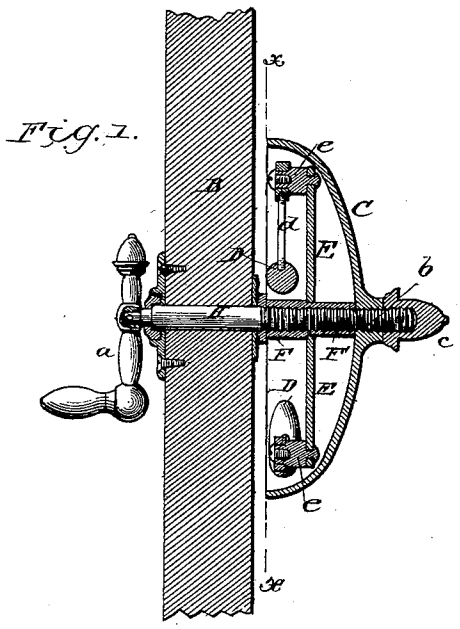



Fig. 3.

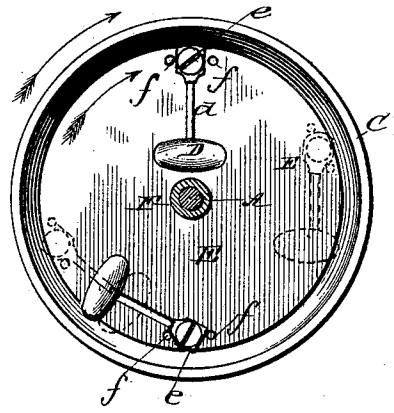



Fig. 2.

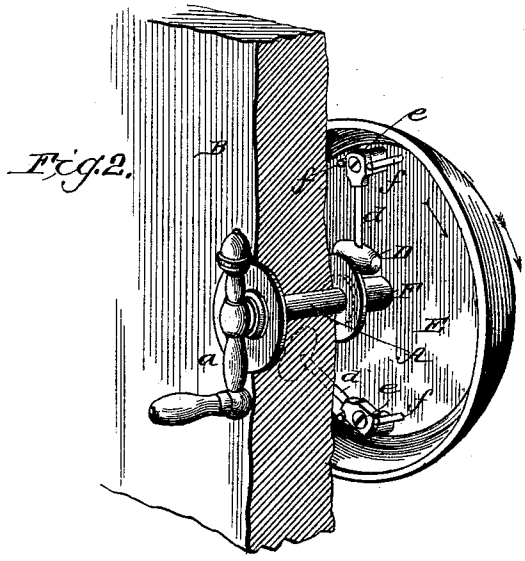
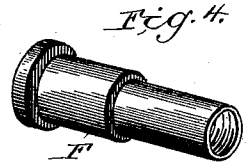



Fig. 4.




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# UNITED STATES PATENT OFFICE.

WILLIAM BROWNLOW ATKINSON, OF FRANKLIN, KENTUCKY.

## DOOR-BELL.

SPECIFICATION forming part of Letters Patent No. 391,108, dated October 16, 1888.

Application filed July 6, 1888. Serial No. 279,232. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM BROWNLOW ATKINSON, of Franklin, in the county of Simpson and State of Kentucky, have invented a new and useful Improvement in Door-Bells, of which the following is a specification.

My invention is an improvement in that class of door-bells in which the gong or bell proper is sounded by the mere turning of a crank-handle. I employ one or more pivoted hammers that revolve with the shaft which passes through a door, and to whose inner end a crank or handle is applied. These hammers swing freely and strike the gong by the action of gravity. The disk or other part to which the hammers are pivoted, and also the gong, are adjustable on the said shaft lengthwise thereof, and are thus adapted to be set at any required distance from the handle to accommodate doors of different thicknesses.

The details of construction and operation of parts are as hereinafter described, and shown in accompanying drawings, in which—

Figure 1 is a vertical central section of my improved bell, showing it applied to a door. Fig. 2 is a perspective view of the same parts. Fig. 3 is a section on line *x x*, Fig. 1. Fig. 4 is a perspective view of one of the parts of the bell detached and enlarged.

The shaft or spindle A passes through the door B. A crank or handle, *a*, is secured to the outer end of the same by means of a clamp-screw, and the other end, *b*, which is screw-threaded, extends a distance of two or more inches from the inner surface of the door. On this screw-threaded portion I mount the gong C and a disk carrying the gravity-hammers D. The latter are pivoted to the disk E, which is fixed on an internally-threaded sleeve or tube, F, that is screwed on the shaft, and may thus be adjusted along the same as required to accommodate doors of different thicknesses. The sleeve also serves as a stop to limit the play of the shaft through the door. The sleeve may be temporarily clamped immovably by a screw or other device, if required. The gong or bell proper, C, also screws on the shaft, and is thus adjustable like the said disk E and for the same reason.

To hold the gong C fixed on the shaft A, and also for the sake of ornamental appearance, I apply a conical or acorn-shaped nut, G, to the end of the shaft A.

It will be seen, Fig. 3, that each hammer D has two striking-points or heads. The arm or stem *d* of each hammer-head is pivoted on a fixed stud, *e*, projecting from the inner face of the disk E and located near its periphery, so that the several hammers swing free in a plane parallel to the disk. The studs *e* are of course placed equidistantly from each other. In case but one hammer is employed, a radial arm may be substituted for the disk. On opposite sides of each stud *e* are stop-pins *f*, which serve to limit the movement of the hammers, so that while the elasticity of the pins and hammer-arms *g* allows their heads to strike the gong the heads do not drag or remain in contact with it.

To render the operation of the door-bell more clear, I will state that upon turning the shaft A by means of the crank or handle *a* the gong C and hammer-disk E revolve with it. If the revolution be rapid, centrifugal action throws the hammers successively outward. If the revolution be slow, they fall slowly from one position to the other and strike the gong resounding blows. As before intimated, the momentum of the hammer-heads, acquired while swinging from one position to the other, enables them to overcome the elastic resistance of their own arms and that of the stop-pins, and thus strike the gong at each alternate vibration.

What I claim is—

1. In a door-bell, the combination, with a revolving shaft having a crank, of a gong through which said shaft passes and one or more hammers which are pivotally connected with said shaft and arranged within the gong, substantially as shown and described, whereby the hammers are adapted to strike the gong when the shaft is rotated, as specified.

2. In a door-bell, the combination, with a crank-shaft having one end screw-threaded and a gong mounted thereon, of a disk fixed on a tube which screws on said shaft, and hammers pivoted to the disk, substantially as shown and described, whereby said disk is adapted for adjustment lengthwise of the shaft, as specified.

3. In a door-bell, the combination, with the

rotating crank-shaft and a gong and disk mounted thereon, the disk being inclosed by the gong, of one or more hammers which are pivoted to the disk near its edge, and the stop-pins affixed to said disk on opposite sides of the hammer-pivots, as and for the purpose specified.

4. In a door-bell, the combination, with the rotating shaft and a gong and disk mounted thereon, and the latter inclosed by the former, of the hammers which are pivoted near the outer edge of said disk, as shown and described, whereby they are adapted to operate on the gong by gravity, as specified.

WILLIAM BROWNLOW ATKINSON.

Witnesses:
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