(No Model.)

I. M. HOFFMAN.

DOOR BELL.

No. 590,414. Patented Sept. 21, 1897.

Fig. 1.

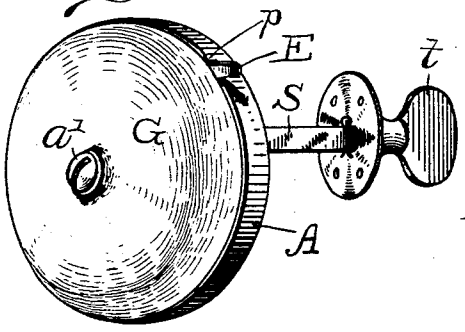


Fig. 2.

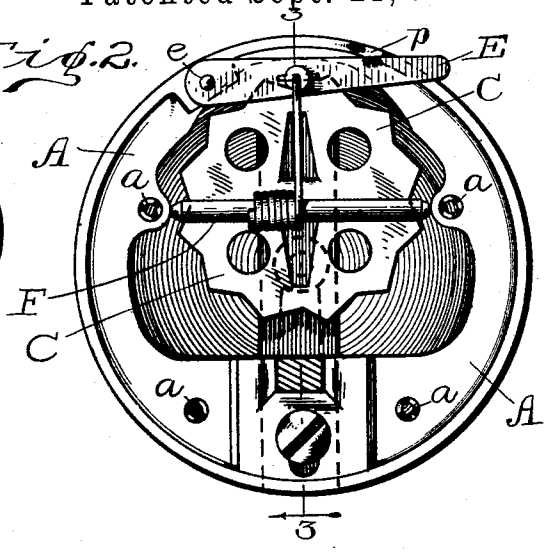


Fig. 3.

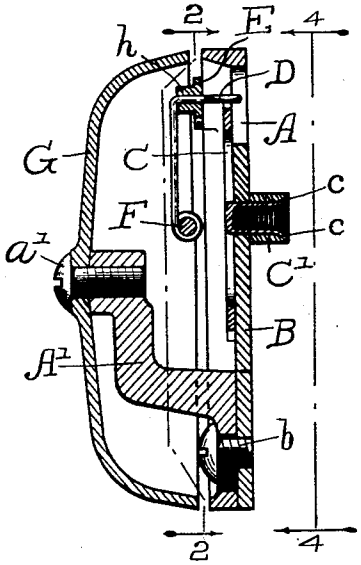


Fig. 4.

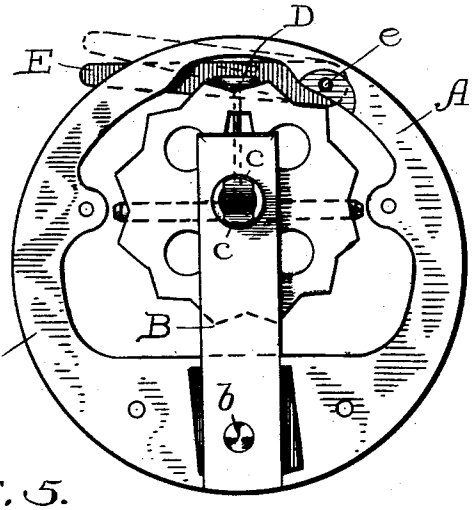
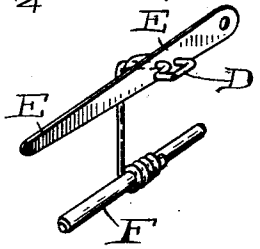


Fig. 5.



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UNITED STATES PATENT OFFICE.

IRENIAS M. HOFFMAN, OF INDIANAPOLIS, INDIANA.

DOOR-BELL.

SPECIFICATION forming part of Letters Patent No. 590,414, dated September 21, 1897.

Application filed July 28, 1897. Serial No. 646,184. (No model.)

To all whom it may concern:

Be it known that I, IRENIAS M. HOFFMAN, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Bells, of which the following is a specification.

The object of my said invention is to produce an inexpensive, durable, and easily-operated signal or alarm bell of the variety especially adapted to be used as a door-bell, which shall embody certain advantages, all as will be hereinafter more particularly described and claimed.

Referring to the accompanying drawings, which are made a part hereof and on which similar letters of reference indicate similar parts, Figure 1 is a perspective view of a bell embodying my said invention; Fig. 2, a view showing the mechanism thereof as seen from the dotted line 2 2 in Fig. 3; Fig. 3, a central sectional view as seen from the dotted line 3 3 in Fig. 2; Fig. 4, a rear elevation of the bell as seen from the dotted line 4 4 in Fig. 3; and Fig. 5 a perspective view of the hammer-handle, the verge and the lever which forms an adjustable bearing for said verge removed from the other parts.

In said drawings the portions marked A represent the frame of the bell, which is secured to the door in use; B, an adjustable bar thereon which carries the verge-wheel; C, said verge-wheel; D, the verge; E, the lever carrying said verge; F, the hammer, and G the bell proper.

The frame A is preferably circular in form, as best shown in Figs. 2 and 4, and should contain screw-holes *a*, whereby the same may be easily connected to the door upon which it is to be placed. It is recessed upon one side to receive one end of the bar B and is provided with a projecting point *p* to hold the lever E, as will be presently described. An arm A′ extends up to carry the bell proper, as best shown in Fig. 3.

The bar B is secured in a recess in the under side of the frame A, and the back side of said bar is substantially flush with the back side of the frame. It is held in place by a screw *b*, which passes through a slot in the frame A. Said slot enables this bar to be adjusted, and such adjustment, of course, also adjusts the verge-wheel to or farther from the verge, so that the exact desired relation of said parts can be easily secured.

The verge-wheel C is of a peculiar construction. It is formed from sheet metal, and two strips *c* are struck out of the body thereof, and these are bent so as to pass out through the bar B and into a collar C′, and said arm and said collar form the hub, with which the turning bar or shaft will engage, as well as a shaft or bearing for the verge-wheel itself, all as best shown in Fig. 3. This, as will be readily seen, is a very simple and inexpensive construction for this wheel.

The verge D is made of wire, and its form is best shown in Fig. 5. The same wire continues on and forms the hammer-handle, and this is attached to the hammer by being formed in a coil which is originally of slightly-less diameter than the hammer-head, and said head is then driven through said coil, expanding the same slightly, so that when in place it is tightly gripped thereby.

The lever E is pivoted to the frame A by a pivot *e*, as best shown in Fig. 2. Normally it is moved down under and rests against the projection *p*, as shown in Figs. 1, 2, and 3 and by the full lines in Fig. 4. When it is desired to disengage the verge from the verge-wheel, however, this lever can be sprung out from under the projection *p* and lifted to the position indicated by the dotted lines in Fig. 4, when the verge (which rests in a bearing therein and in the hub *h* thereon) will be lifted out of the path of the verge-wheel, and consequently revolution of said wheel will be without effect upon the bell. This is of great advantage in many cases where it is desired to temporarily render a bell inoperative, as in case of sickness and the like, where the noise would be irritating or disturbing. In such cases instead of removing the bell it is only necessary to lift this lever by which it is carried.

The hammer F is shown as a plain straight piece of rod (with its ends tapered or rounded slightly as a matter of finish) and it passes through the coil on the end of the hammer-handle, which, as before stated, is in the same structure with or a continuation of the verge D and is there held tightly and securely. As the verge-wheel C revolves the verge is of

course vibrated and the hammer carried rapidly back and forth, striking the inner sides of the bell proper, G.

The bell proper, G, is of any ordinary or desired form and is shown as secured to the arm A′ of the frame A by means of a machine-screw *a*′.

The operation is as follows: The parts being assembled together as described and the bell secured upon the door with a turning bar or shaft S (see Fig. 1) extending through from the opposite side of the door and engaging with the socket formed by the arms *c* on the verge-wheel and the collar C′ thereon, the ringing is accomplished by turning said shaft by means of its thumb-piece *t*, which revolves the verge-wheel and operates the verge and through it the hammer, as will be readily understood. As before explained, when it is desired to temporarily render the bell inoperative the lever E is lifted to the position shown by the dotted lines in Fig. 4.

Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a bell, of the frame A, an adjustable bar B mounted thereon, a verge-wheel mounted on said bar, a lever also secured to the frame, a verge mounted on said lever and extending into the path of the verge-wheel, and a hammer the handle of which is connected to and operated by said verge, substantially as set forth.

2. The combination, in a bell, of a verge, a verge-wheel connected to and operating a hammer, and a lever in which said verge is mounted, said lever being pivoted to an adjacent portion of the frame and adapted to be swung on said pivot and thus carry the verge into or out of the path of the verge-wheel, whereby the bell can be shifted from operative to inoperative position by merely moving said lever, substantially as set forth.

3. The combination, in a bell, of a pivoted hammer the handle whereof terminates in a verge, suitable mountings for said verge, a verge-wheel, and a bar carrying said wheel which is adjustable toward and from the verge, substantially as shown and described.

4. The combination, in a bell, of the bell-hammer, the verge whereby the same is operated, and a verge-wheel for operating said verge formed from sheet metal and provided with the arms *c* cut from the body thereof and extending out to one side and forming the shaft therefor, and a collar C′ surrounding said shaft and together therewith forming a socket for the operating shaft or bar, substantially as set forth.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 23d day of July, A. D. 1897.

IRENIAS M. HOFFMAN. [L. S.]

Witnesses:

CHESTER BRADFORD,

JAMES A. WALSH.