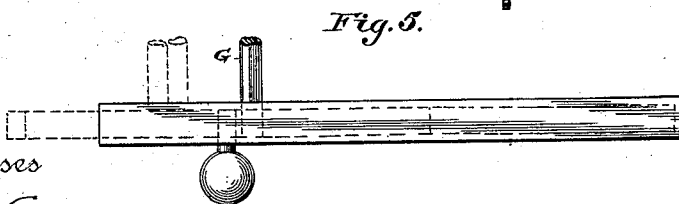
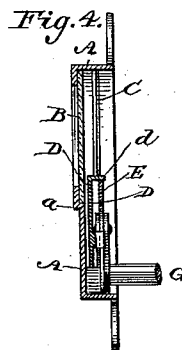
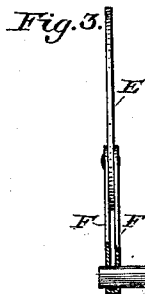
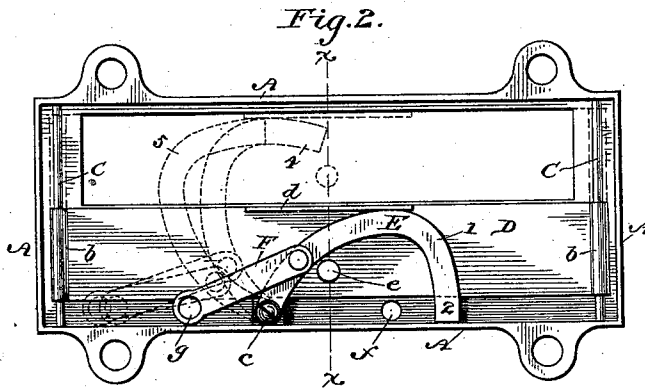
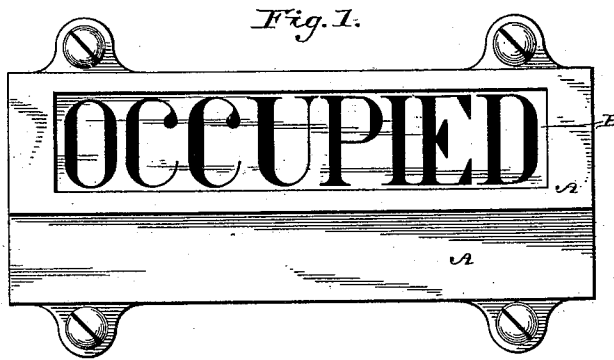


(No Model.)

H. HINCKLEY.
INDICATOR FOR DOORS.

No. 424,112.

Patented Mar. 25, 1890.



Witnesses

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HOWARD HINCKLEY, OF TRENTON, NEW JERSEY.

INDICATOR FOR DOORS.

SPECIFICATION forming part of Letters Patent No. 424,112, dated March 25, 1890.

Application filed August 12, 1889. Serial No. 320,475. (No model.)

To all whom it may concern:

Be it known that I, HOWARD HINCKLEY, a citizen of the United States, residing at Trenton, in the county of Mercer and State of New Jersey, have invented certain new and useful Improvements in Indicators for Doors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention relates, generally, to indicators for doors, and in particular to that class of indicators for the doors of closets or other apartments comprising a word-sign or visual signal adapted to be exposed to view on the outside of the door by the act of bolting or locking the door from the inside, and to be withdrawn or concealed upon unbolting the same. It is designed as an improvement upon a similar invention for which I made application for Letters Patent on or about the 30th day of March, 1889, Serial No. 305,372, and which was allowed on or about the 12th of June, 1889. In the latter the sign-plate was pivoted to a pair of links, which were in turn pivoted at their lower ends to the casing, causing the plate to move in going from its concealed to its exposed position, and vice versa, very much after the manner of the leaves of a parallel ruler, the sign-plate being restored to its concealed position by gravity. In the present construction, however, I arrange this plate so as to slide up and down in ways or on guide-rods in the ends of the casing, whereby the length of the casing is reduced to practically the length of the sign-plate, and the plate moves a shorter distance in going from one position to another. I also provide means to insure the return of the plate to its concealed position positively, instead of relying upon gravity.

In the accompanying drawings, which form a part of this specification, Figure 1 is a face view of my invention, the sign being exposed to view. Fig. 2 is a rear view showing the working parts, different positions thereof appearing in dotted lines. Fig. 3 is a detail; Fig. 4, a section on the line X X, Fig. 2; and Fig. 5, a plan of the usual bolt, showing the connection therewith of the means for exposing and concealing the sign.

The same letters and figures indicate corresponding parts in the several views.

A is the casing, formed, preferably, of a single plate of metal struck up into the rectangular shallow box-like form shown in Figs. 2 and 4, and adapted to be fastened by screws passing through the perforated ears shown onto a door, the door forming when the casing is in place the back thereof and constituting a closed box for the sign-plate and its operating mechanism. In the upper part of this plate is cut an opening—preferably rectangular, as shown—and into this opening is fitted a small pane of glass or other transparent material B, the upper part of the plate being struck up so as to form the longitudinal shoulder or ledge *a*, on which the lower edge of the glass B rests, so that the rear side of the glass is flush with the lower part of the casing, so as to present no obstructing projections or shoulders on the interior thereof.

Formed in the ends of the casing are guides C, here shown as small round rods, though they may be formed by flanges on the end pieces of the casing-plate or in any other convenient manner.

D is the sign-plate, adapted to carry any preferred sign or visual signal on its front face to show through the glass when raised into its exposing position. The ends of this sign-plate are shaped to conform to whatever kind of guides are formed in the ends of the casing. Rods being the form here shown, the ends of the sign-plate are turned over, as at *b*, so as to loosely encircle them. If flanges are formed on the end pieces of the casing-plate, the edges of the sign-plate may be perfectly plain; but I prefer the rods and turned-over edges shown, having found this form to work smoothly and well.

The raising and lowering of the sign-plate so as to expose to the view of any person on the outside of the closet or other room, through the glass pane B, the word-sign, or other visual signal, is intended to be done automatically in bolting or locking the door from the inside, and it is accomplished by connecting the means for raising and lowering the sign-plate with the sliding bolt used to fasten the door, whether that be the bolt of a lock or a simple thumb-bolt, as shown in Fig. 5. Pivoted upon a stud *c*, screwed into a tapped hole, prefer-

ably a little to one side of the center of the casing-plate, is the eccentric or cam-lever E, curved substantially as shown, its end for a short distance from the point, as from 1 to 2, Fig. 2, being curved on an arc concentric with the lever's axis, for a purpose to appear farther on. At or near its upper edge the sign-plate is provided, about centrally of its length, with a ledge or flange *d*, overhanging the cam-lever E, and supporting the sign-plate from the back thereof. When the lever is in the position shown in full lines, its end abuts on the bottom flange of the casing-plate and the sign is down, concealed behind the lower part of the casing-plate; but when the lever is brought into the position shown in dotted lines with its greatest eccentricity nearly or quite over its pivot, the back of the lever pushes against the flange *d* and the sign-plate is raised into position to expose the sign through the glass-covered opening in the casing. As the position of the lever is reversed, gravity causes the sign-plate to descend with it; but to insure its prompt action a stud *e* is placed on the plate a little to one side of the vertical plane of the lever's pivot and some distance below the flange *f*. This stud stands in the path of the lever's descent, and between it and the flange the lever plays freely. Thus the plate is raised positively by the engagement of the back of the lever under the flange *f*, and lowered positively by the under side of the lever striking the stud *e*, thereby dispensing with all springs and insuring ease and promptness in the working of the sign-plate.

The object of curving the end of the lever on an arc concentric with its axis, as above described, is to allow for a further movement of the door-bolt (and of course the lever, too, it being connected thereto) after the sign is exposed, so as to insure the full display of the sign when the door is not fully bolted. When the lever has reached the position denoted by dotted lines 4, the plate has been raised to its limit; but as the lever travels to the position denoted by dotted lines 5, all parts thereof between the points 1 and 2 being equidistant from the center, the plate is not raised farther. This effectually provides for the complete exposure of the sign before the door is entirely bolted.

Connected to the lever E, at any convenient distance from its pivot, is the link F, here shown as formed of two straps. At its free end this link is provided with the opening or eye *g* to receive the pin G, projecting transversely from the usual door-bolt on the inside of the door through a slot cut in the door coincident with the movement of the bolt. The sliding of the bolt to and fro to bolt and unbolt the door from the inside will, through the connection just described, cause the cam-lever E to move up and down, raising and lowering the sign-plate, as above described.

In Fig. 5 the door-bolt is shown by dotted lines, and the pin projecting therefrom into the eye of the link is shown in full and dotted lines corresponding to the full and dotted line positions of the lever in Fig. 2.

I make my indicator so that it may be applied to right or left hand bolts, as is desired. It is shown in the drawings as adapted for a left-hand bolt—that is, to have the sign-plate exposed when the bolt is moved to the left to bolt the door. To provide for its adaptation to a right-hand bolt, I form in the casing-plate on a line with the tapped hole, into which the stud *c* is screwed, and on the opposite side of the vertical plane of the stud *c*, another tapped hole *f*. To change the indicator from a left-hand to a right-hand bolt, it is only necessary to unscrew the stud *c* in Fig. 2, turn the lever over, and screw the stud into the tapped hole *f*, when the movements of the lever will be exactly reversed, but the effect upon the sign-plate will be the same.

While I have shown the eccentric as formed in the shape of a cam-lever E, it is obvious that any other shape of lever constituting in effect an eccentric or crank-arm would perform the same result, and I do not wish to be limited to a lever formed exactly as shown.

What I claim, and desire to secure by Letters Patent, is—

1. The combination, with the casing having a display-opening in its face and provided in its ends with guides, of the sign-plate moving up and down in or upon these guides, an eccentric or cam-lever located entirely within and pivoted to the casing, and means connecting it with the usual door-bolt, substantially as described.

2. The combination, with the casing having a display-opening in its face and provided in its ends with guides, of the sign-plate moving up and down in or upon the guides, an eccentric or cam-lever pivoted at one end within and to the casing, and a connection between it and the door-bolt at a point intermediate between its ends.

3. The combination, with the casing having a display-opening in its face and guides in its ends, of the sign-plate moving up and down in or upon said guides, an eccentric pivoted upon the casing, a flange upon the sign-plate overhanging and bearing upon the eccentric, and a link pivoted to the eccentric, and having an eye in its free end adapted to receive a pin projecting transversely from the door-bolt, substantially as described.

4. The combination, with the casing having a display-opening in its face and guides in its ends, of the sign-plate moving up and down in the casing in or upon the guides, an eccentric or cam-lever pivoted to the casing, a flange upon the sign-plate overhanging and supporting the plate from the eccentric or lever, a stud upon the plate under the flange, between which and the flange the eccentric or lever plays freely, and a link pivoted to

the latter, and having an eye in its free end adapted to receive a transverse pin from the door-bolt, substantially as described.

5 5. The combination, with the casing having a display-opening in its face and provided in its ends with guides, of the sign-plate moving up and down in or upon the guides, an eccentric or cam-lever pivoted within and to the casing, and having a portion of its periphery
10 concentric with its pivot and a connection between it and the door-bolt, substantially as described.

15 6. The combination, to form an indicator for the doors of closets or other apartments, of a casing adapted to be screwed upon the outside of the door, said casing having a glass-covered display-opening in its face and interior guides in its ends, a sign-plate moving up and down in the casing in or upon the

guides, an eccentric or cam-lever pivoted in 20 the casing and connected with the sign-plate to move the latter up and down positively, a link connected with the lever at one end, and a pin projecting transversely from the usual door-bolt into an opening in the opposite end 25 of the link, whereby upon bolting the door from the inside the sign is exposed to view upon the outside through the glass-covered opening in the casing, and upon unbolting the door is concealed within the lower part 30 thereof, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HOWARD HINCKLEY.

Witnesses:

F. W. GRUCHEL,
SYMMES B. HUTCHINSON.