Aug. 28, 1951 S. H. SMITH 2,565,669

ROOM OCCUPANCY INDICATOR

Filed March 7, 1950

FIG. 1.

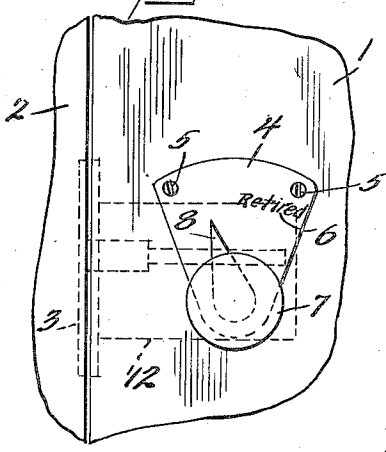


FIG. 7.

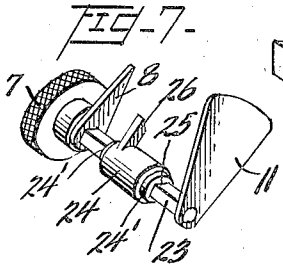


FIG. 8.

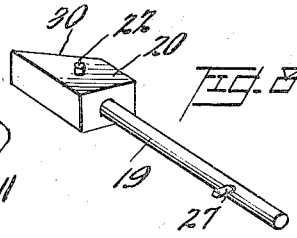


FIG. 2.

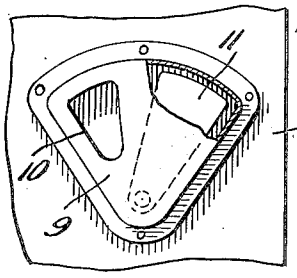


FIG. 3.

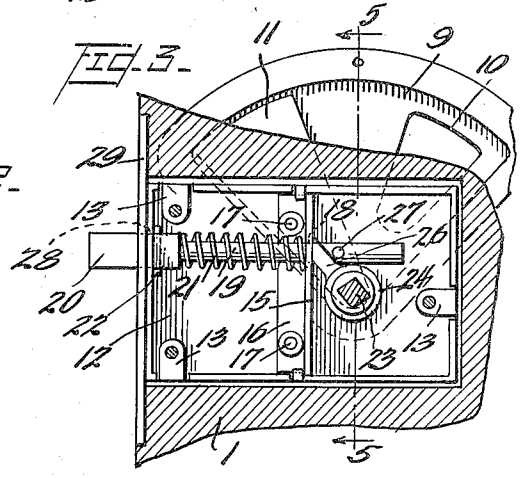


FIG. 5.

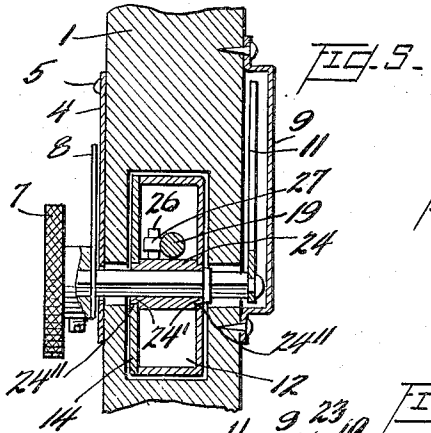


FIG. 4.

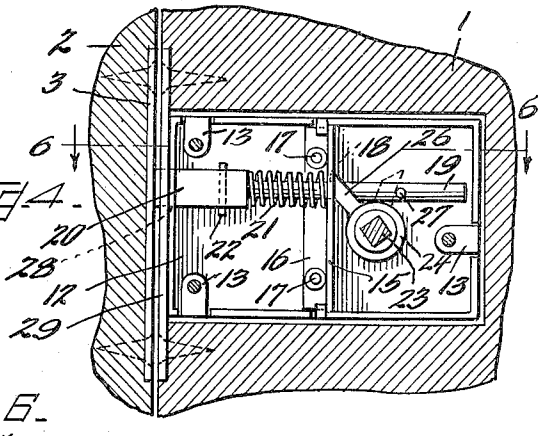
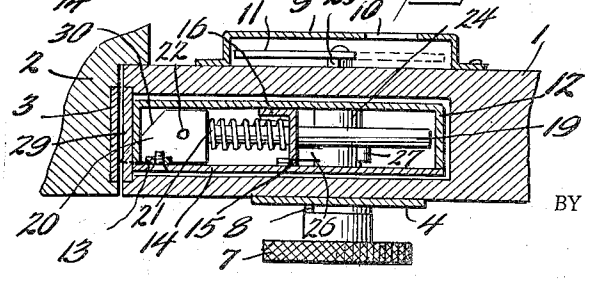


FIG. 6.



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ROOM OCCUPANCY INDICATOR

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Application March 7, 1950, Serial No. 148,205

1 Claim. (Cl. 116—133)

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My invention relates to a new and useful improvement in indicators, and, more particularly, for indicators to be placed on hotel room doors.

One of the objects of the invention is to provide an indicator so that when the door of the room is shut the guest may turn a small knob, which will operate a signal mounted on the outside of the door to show that the room is occupied and that the guest does not wish to be disturbed.

Another object of the invention is to provide an indicator wherein, when the door is opened and the signal has been set, showing that the room is occupied, the opening of the door will automatically cause the signal to snap back to a non-visible position.

Still another object of the invention is to provide an indicator that consists of a relatively small casing and a small signalling means, the casing to fit within a mortised door, and a signalling means to be oscillated to in front of or behind an open window formed in a plate on the outside of the door.

Still another object of the invention is to provide an indicator having but relatively few parts, easily assembled, and easily installed within the door.

With these and other objects in view, the invention consists in certain new and novel construction and combination of parts, as will be hereinafter more fully described and pointed out in the claim.

Referring now to the drawings, showing a preferred embodiment,

Fig. 1 is a fragmentary view of the inside of the door and showing the knob and its pointer for operating the signalling means, and the dotted lines showing the casing and strike plate on the door jamb,

Fig. 2 is a fragmentary view from the outside of the door, showing a housing and window for the signalling plate, a part of the housing being broken away for the sake of clearness,

Fig. 3 is a view showing the indicator as mounted in a door, parts being in section, and the inside plate removed from the casing for clearness of illustration, and also showing a portion of the housing for the signalling plate,

Fig. 4 is a sectional view with the cover plate removed and showing the door as closed, the dotted lines of the trigger arm showing the position of the trigger arm when the signalling plate is in its visible position from the outside of the door,

Fig. 5 is a fragmentary sectional view taken on line 5—5 of Fig. 3,

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Fig. 6 is a horizontal sectional view taken on line 6—6 of Fig. 4,

Fig. 7 is a perspective of the operating shank and attached parts, and

Fig. 8 is a perspective of the latch.

Referring now for the moment to Fig. 1, there is shown a fragmentary section 1 of a door (inside) and the jamb 2 in which latter there is mounted a strike plate 3. Also, there is a plate 4 secured by the screws 5 on which plate on the upper right-hand side may be placed indicia 6, such as the word "retired." There also may be seen the operating knob 7 in back of which is the pointer 8, so that when the knurled knob 7 is turned to the right (Fig. 1) the pointer 8 will be in line with the aforementioned indicia 6.

Now, looking at Fig. 2 for the moment, there will be seen the housing 9 which is in the form of a sector and is provided with a window 10, so that the signalling plate 11 may be visible when rotated to in front of the window 10. This signalling plate 11 may be painted, if desired, with luminous paint so that at night, in case of fire, even though there were no electric lights in the halls, these signalling plates on the different doors might be noticed so that the occupants could be awakened and be removed to safety.

Now, referring to the casing 12 that holds the various parts, this may be box-like in cross-section and may be cast or pressed and will be provided with small lugs 13 so that a cover plate 14 may be held in place (see Fig. 6). About centrally of the length of the casing 12 there is the transverse partition wall 15 which is part of a small metal bracket having a base 16, which is held in place by the screws 17.

This partition wall 15 has an aperture 18 therein so that the latch rod 19 may be passed therethrough, as clearly shown in the several views. This latch rod 19 has on its forward end the latch 20, similar to the latches on door locks now in use, but it will be understood that this latch 20 does not fit within a keeper as in most door lock installations, but simply is forced inwardly when it comes in contact with the strike plate 3 heretoforementioned.

Mounted on the latch rod 19 and between the partition wall 15 and the latch 20 there may be seen the spring 21 that normally forces the latch 20 to its outermost position, as shown in Fig. 3. Passing through this latch 20 but inside of the casing 12 may be seen a small cross-pin 22 to limit the outward movement of the latch 20, and also take the strain off a trigger and pin now to be mentioned.

Referring now for the moment to Figs. 3, 4 and 7, there will be seen the shank 23 on the distal end of which is mounted the signal plate 11 heretofore mentioned; while on the other end of the shank 23 is the heretofore mentioned turning knob 7 with its pointer 8.

The shank 23, which it might be mentioned is square, fits in the small barrel 24 with its rectangular opening 25 therethrough, so that the barrel 24 will not turn with relation to the shank 23; and, extending outwardly from this barrel 24 may be seen what I term the trigger arm 26.

This barrel 24 is reduced slightly at its opposite ends as at 24' so that it will fit snugly within the apertures 24'' in the opposite sides of the casing 12, as may clearly be seen in Fig. 5. This barrel 24 also, it will be understood, acts as a bearing for the shank 23.

Referring again, for the moment, to the latch rod 19, there may be seen the protruding pin 27 which is fitted therein and near the rear end thereof; and this protruding pin 27 will bear against the trigger arm 26 when the latch 20 and its rod 19 are in their extended or protracted position, as shown in Fig. 3. Also, when the trigger arm 26 is in this position, the pointer 8 (as shown in Fig. 1) will be in its non-operated position, and the signalling plate 11 will not be in front of the window 10 on the outside of the door.

It will also be remembered when the latch 20 is in its protracted position (as shown in Fig. 3) the door will be open and should the guest try to set the signal with the door open, the pointer 8 will spring back to the non-occupied position; or, in other words, the signal can not be set either from the outside, at any time, or from the inside when the door is open.

Now, looking however at Fig. 4, which shows the door in its shut position, the latch 20 and its rod 19 will be forced inwardly and the pin 27 will have moved rearwardly and the trigger arm 26 to the dotted line position.

The knob 7 on its shank 23 then may easily be turned with the fingers so that the pointer 8 on the inside will be in line with the indicia 6 "retired"; and the trigger arm 26 will have moved back to the dotted line position, as shown in Fig. 4, as it is not obstructed by the pin 27, so that a turning of this knob 7 as heretofore mentioned will bring the signal plate 11 in front of the window 10 heretofore mentioned.

Of course, if the guest after retiring does not wish to operate the indicator, the signal plate 11 will not be turned to in front of the window 10; but, on the other hand, if he does not wish to be disturbed, he may when the door is shut, simply turn the knob 7 to bring the signalling plate 11 in front of the window 10.

Now the moment that the door is opened and the latch 20 is swung away from the strike plate 3, the latch 20 under spring pressure will move outwardly and the pin 27 bearing against the trigger arm 26 will revolve the shank 23 on which, it will be remembered, is mounted the signal plate 11, so that this signalling means 11 will no longer be in front of the window 10. Thus, when the guest leaves the room there is no possibility that the signalling means 11 will show an "occupied" room and thus prevent the maid from making up the room.

From the foregoing it will be seen that I have provided an indicator that has but two working parts, that is, the latch 20 and its rod 19, and the shank 23 and its signal plate 11, which latter is revolved to its non-signalling position when the door is opened.

It will be understood that if the door instead of swinging from the righthand side (as shown in Fig. 1) was a left-hand door, the small partition wall 15 might be temporarily loosened so that the latch 20 may be pulled outwardly through the opening 28 formed in the front wall of the casing 12 and in the fact plate 29, and then reversed and the partition wall 15 then replaced so that the bevelled forward edge 30 of the latch 20 will now be in its correct position to ride up on the strike plate 3. Also, of course, the pin 27 will be threaded in to the other side of the rod 19.

From the foregoing it will be seen that I have provided an indicator for hotel doors that is of simple construction and easily installed and may be set at any time from the inside of the room but never from the outside of the room, and will be automatically returned to a non-signalling position when the door is opened.

Many slight changes might be made without departing from the spirit and scope of the invention.

Having thus described the same, what I claim is new and desire to secure by Letters Patent is:

In an indicator for swinging doors, a casing adapted to be placed in the edge of the door, a registering strike plate adapted to be placed in the jamb of the door, a latch having a latch rod in said casing, spring means for holding the latch in its protracted position, a pin in the rear of the latch rod; a transversely positioned shank having a trigger arm cooperating with said pin, said shank extending through said casing, a knob and a pointer on the proximal end of the shank and a signal plate on the distal end of the shank; a housing for the signal plate, adapted to be placed on the outside of the door, said housing provided with an open window, the knob free to turn the shank to bring the signal plate in front of the window when the latch is in its retracted position and out of contact with the strike plate, and the pin on the latch rod under spring pressure moving said trigger arm to partially rotate the shank and move the signal from in front of the window when the latch is moved out of contact with the strike plate.

SAMUEL H. SMITH.

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The following references are of record in the file of this patent:

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