

No. 646.239.

Patented Mar. 27, 1900.

D. SCHUYLER.
BUTTON FOR SLIDING DOORS.

(Application filed Apr. 3, 1899.)

(No Model.)

Fig. 1.

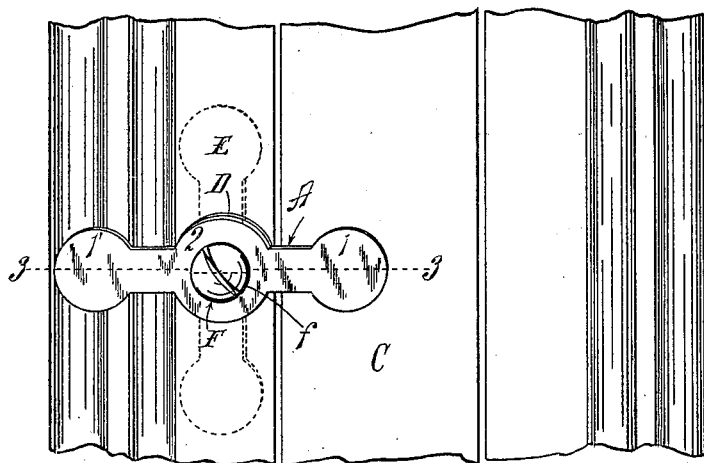


Fig. 2.

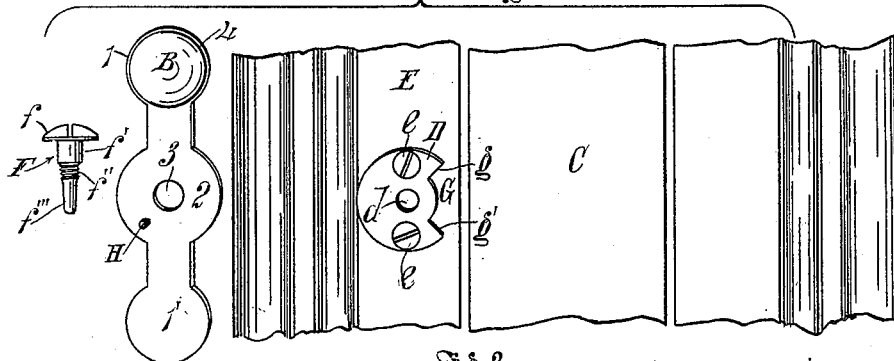
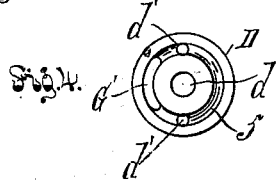
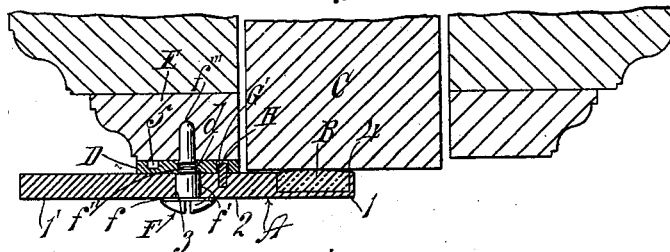


Fig. 3.



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UNITED STATES PATENT OFFICE.

DANIEL SCHUYLER, OF SAN DIEGO, CALIFORNIA, ASSIGNOR TO THE PERFECT SLIDING DOOR COMPANY, OF LOS ANGELES, CALIFORNIA.

BUTTON FOR SLIDING DOORS.

SPECIFICATION forming part of Letters Patent No. 646,239, dated March 27, 1900.

Application filed April 3, 1899. Serial No. 711,600. (No model.)

To all whom it may concern:

Be it known that I, DANIEL SCHUYLER, residing at San Diego, in the county of San Diego and State of California, have invented
5 a new and useful Button for Sliding Doors, of which the following is a specification.

My invention is applicable to any form of sliding doors, and especially to automatic and gravity sliding doors—that is to say, doors
10 which close by gravity, being hung on inclined rails and having a constant tendency to close. The purpose of this device is to hold such a door open when required and to allow it to be released with the least possible trouble.

15 An object of my invention is to provide an extremely simple and cheap, slightly, convenient, and positively-acting device for holding the door open and to so construct the device that when the door is gently pushed back into
20 its pocket in the wall the button will instantly move out of the way of the door, so that the door may at once slide out to close the opening.

Another object in carrying out my invention is to so construct the button as to give
25 considerable strength in limited space, with slight weight and attractive appearance.

In practice the button is to be mounted on the stop of the casing of the door-post, through which the door slides. Such stop has usually
30 a narrow face, and my button is designed to be applied on such face.

My invention comprises a pivoted locking-button provided with a concealed stop and being provided with means for holding the
35 button normally in given position. Preferably one end of the button is heavier than the other, so that gravity will hold the button normally vertical. The stop is preferably arranged to allow the rotation of the button
40 throughout a quadrant only and to allow the long axis of the button to stand horizontally and perpendicularly at the opposite limits, respectively, of its movement. It is to be understood, however, that the limit of movement
45 can be varied at the pleasure of the constructor to suit the requirements of the trade without departing from my invention.

The accompanying drawings illustrate my invention.

50 Figure 1 is a perspective view of my door-button in use for holding open a gravity slid-

ing door, a fragment of which is shown. Dotted lines show the normal position of the button when the door is closed. Fig. 2 is a view with the button removed and turned to show
55 the side thereof which in use is next to the door-post stop or other support. Fig. 3 is a plan section on line indicated by 3 3, Fig. 1, a modified form of face-plate being shown in this view. Fig. 4 is a view of the rear side
60 of the face-plate shown in Fig. 3.

A indicates a pivoted locking-button comprising a bar with circular enlargements 1 1'
2 at the ends and middle, the middle enlargement 2 being centrally perforated by a smooth
65 hole 3 and one of the end enlargements 1 being circularly chambered, as at 4, at the rear side, and thereby made lighter than the other end enlargement 1'. It is to be understood, however, that the form of the bar is immate-
70 rial.

B indicates a circular pad in the chamber and projecting beyond the rear face of the button to engage the edge of the door C in
75 holding it open, the purpose of the pad being to prevent abrasion or any injury to or marring of the door.

D indicates a face-plate provided with a central screw-threaded hole *d* and adapted to be fastened to a support, such as the stop E
80 of door jamb or post.

ee indicate screws screwed through holes *d'* in the face-plate to secure the face-plate to the support E.

F indicates a pivot-pin provided with a head 85 *f*, a pivot portion *f'* next the head, a screw-threaded portion *f''* of smaller diameter next the pivot portion to screw into the face-plate, and a smooth portion *f'''* at the end and of smaller diameter than the screw-threaded portion to project through the face-plate to fit
90 into the support E, thus to give an accurate and solid pivotal support for the button—that is to say, in practice it is extremely difficult to set a screw into wood exactly at right angles to the face; but it is necessary that the pivot for my gravity-button shall be at exact
95 angles to the vertical face of its support, against which it rests, and in order to accomplish this and also to prevent any binding between the button and its pivot or the face-plate I have provided the pivot-pin and the
100

face-plate above set forth and fasten the face-plate to the woodwork by independent screws *e e* and then fasten the button to the face-plate by the pivot-pin, which is screw-threaded only at the portion which screws into the face-plate and is smooth outside the face-plate to form the pivot for the button and is smooth at the part that projects beyond inside the face-plate to fit into the wood, whereby a very accurate, strong, and durable pivotal support for the button is provided. This is necessary to the practical and satisfactory working of the button for the uses to which it is adapted. The pivot portion *f'* of the pivot-pin is a shade longer than the thickness of the button, and being larger than the screw-threaded portion *f''*, forms a shoulder to engage the face-plate, so that the screw can be screwed up tight and firm without binding on the button.

In Figs. 2 and 4 I have shown different forms of face-plate. In the preferred form, which is shown in Fig. 2, a pinway *G* is provided in the face-plate by means of a notch, the end walls *g g'* of which form the stops for a pin *H*, which projects from the back face of the button. It is immaterial except for structural reasons whether the pin is fixed to the face-plate or to the button, the idea being that the faces of the plate and button fit upon each other, and a limited pinway is provided in one of said faces, and a pin or lug projects from the other face into said pinway to engage the end walls of the pinway. In Figs. 3 and 4 I have shown the pinway formed as an arc slot *G'*.

Another important use of the face-plate is to hold the button at a fixed distance from the support *E*, so that in swinging forward and back there can be no chance of friction by contact between the support *E* and back face of the button.

In practice the face-plate is preferably cut from a metal rod, and a convenient way of manufacturing the plate is to place the rod in a lathe, face off the end of the rod, bore a central hole in the end at right angles to the face, screw-thread the hole to form the seat 3 for the pivot-pin, and then in case of the form shown in Figs. 3 and 4 a circular groove 5 is cut in the end of the rod to the depth of, say, one-half to two-thirds of the thickness desired for the plate. Then the plate is cut off of the rod, and the blank thus formed is punched to form the screw-holes *d'* and pinway *G'*. A more desirable and cheaper form, however, is produced by notching the edge of the plate, as shown at *G* in Fig. 2, to form the pinway. The purpose of grooving the plate in the process of forming the arc slot for the pinway, as shown in Fig. 4, is this: The plate is ordinarily required to be of greater thickness than can be satisfactorily punched for forming the slot; but by first forming the groove the remaining thickness of metal can be easily punched out, and the ends of the slot thus formed serve for the stops for the pin. When the plate is formed with

the slot, the grooved face will be set against the face of the support when the appliance is fastened in place for use.

Preferably the chord of the pinway is parallel with the line drawn through the centers of the perforations *d d' d''* in the plate. This is for convenience in setting the face-plate on the woodwork. By placing the centers of the perforations in a vertical line, the pinway being toward the door-opening, the pinway is invariably brought to the same position relative to the door, and the stop-pin *H* in the button is so set that when the button is turned to a horizontal position the lower stop *g'* will be engaged by the stop-pin, thus preventing the button from being turned so far as to be inoperative, and when the button is left free to assume the perpendicular, as shown in dotted lines in Fig. 1, the stop-pin will be stopped when the button has reached the perpendicular, thus preventing the button from vibrating and from coming into contact with the door.

A purpose in placing the pinway next to the door, as is shown in the drawings, is that in the case of the notch the same will be hidden from view whether the door is open or closed, and a further advantage is that the support for the button is brought to a point farther from the pivot, and the solid part of the face-plate will bear the strain of the pressure of the door upon the opposite end of the button—that is to say, the wearing part of the button rests upon the solid part of the plate.

In practice when it is desired to fasten the door open the door is pressed back into its pocket in the wall far enough to allow the button to be swung to a horizontal position, as shown in Fig. 1, thus bringing the padded end of the button in front of the outer or front edge of the door. Then the door is allowed to slide forward to contact with the padded end of the button, and the friction caused by the pressure of the door on the pad is sufficient to hold the button in its horizontal position, and the door will thus be held open. To release the button and allow the door to close, it is only necessary to slightly press back against any portion of the front edge of the door, thus relieving the button from the pressure of the door, and then the button will immediately swing back to its vertical position. (Shown in dotted lines in Fig. 1.) Then the door being released, it will close of its own gravity.

By providing the bar with the three enlargements shown I provide for covering a circular face-plate of considerable size, which gives a solid support to the button, and I also provide material for the weighted end of the button and also provide room for the socket for the pad which engages the door.

Now, having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A locking-button for a sliding door pivoted to rotate freely and provided at its back

with a concealed stop to prevent rotation except through a segment of a circle; and means for normally returning the button to bring the stop to one limit of such segment.

5 2. A locking-button for sliding doors pivoted to rotate freely and provided at its back with a concealed stop to prevent rotation except through a segment of a circle, one end
10 and provided at the back with a pad to contact with the edge of the door.

3. In a locking-button for a sliding door, the combination of a face-plate provided with a central screw-threaded hole, and adapted
15 to be fastened to a support; a centrally-perforated button; and a smooth-ended pivot-pin inserted through the perforation of the button and screw-threaded between the button and the smooth end, and screwed into the
20 face-plate, and the smooth end projected beyond the inner face of the face-plate to seat in the support.

4. In a locking-button for a sliding door, the combination of a face-plate having a screw-threaded perforation, and means for fastening
25 the plate to a support; a button; a pivot-pin inserted through the button and screwed into the face-plate; and a concealed quadrant-stop at the back of the button to limit
30 the swing of the button.

5. The combination of a face-plate provided with a pinway and a screw-threaded perforation; means for fastening the plate to a support; a button having a perforation and having a pin projecting into said pinway; and a
35 pivot-pin inserted through the perforation of the button and screwed into the perforation of the plate.

6. The combination of a face-plate and means for fastening to a support; a button
40 having a perforation; a pivot-pin pivoting the button to the face-plate, the faces of the plate and button fitting upon each other; a limited pinway being provided in one of said
45 faces; and a pin projecting from the other face into said pinway, to stop against the end walls of the pinway.

7. In a door-holding button, a pivot-pin provided with a head, a pivot portion next the head, a screw-threaded portion of smaller
50 diameter next the pivot portion to screw into a face-plate, and a smooth portion at the end and of smaller diameter than the screw-threaded portion, to project through the face-plate into the support to which the face-plate
55 is secured.

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Witnesses:

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