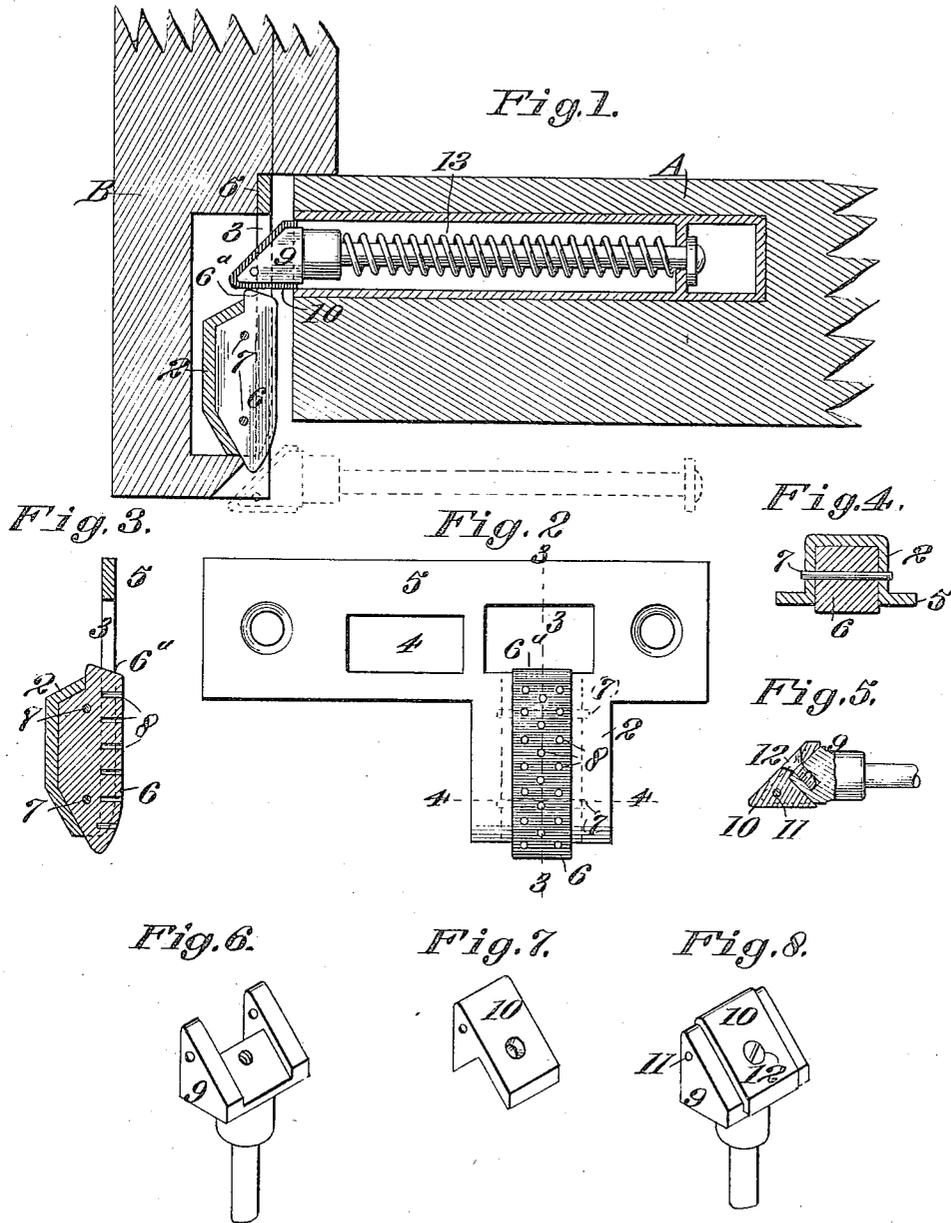


R. JOY.
 SILENT DOOR LATCH.
 APPLICATION FILED NOV. 22, 1915.

1,194,636.

Patented Aug. 15, 1916.



WITNESSES:
Charles Kekles
Theo Eastberg

INVENTOR
Robert Joy
 BY *Strong & Williams*
 ATTORNEYS

UNITED STATES PATENT OFFICE.

ROBERT JOY, OF SAN FRANCISCO, CALIFORNIA.

SILENT DOOR-LATCH.

1,194,636.

Specification of Letters Patent. Patented Aug. 15, 1916.

Application filed November 22, 1915. Serial No. 62,735.

To all whom it may concern:

Be it known that I, ROBERT JOY, a citizen of the United States, residing at the city and county of San Francisco and State of California, have invented new and useful Improvements in Silent Door-Latches, of which the following is a specification.

My invention relates to a device for insuring the silent opening and closing of doors, and is especially adapted for hospitals and places where the noise of opening and closing doors will disturb and annoy the patients.

It consists in a strike plate and door latch having pockets containing hardwood, rubber, compressed asbestos fiber, or equivalent substances which will suppress the noise when the two parts come together.

It also comprises details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a horizontal section, showing the strike plate and part of the door with the catch engaged with said plate; also the position of the latch (in dotted lines) when first engaging the strike plate. Fig. 2 is a front view of the strike plate. Fig. 3 is a sectional edge view on line 3—3 of Fig. 2. Fig. 4 is a sectional view, showing the manner of inserting the contact medium, on line 4—4 of Fig. 2. Fig. 5 is a section of the latch, showing the manner of securing the cushion material. Fig. 6 is a view of the latch in readiness for the cushion lining. Fig. 7 is a view of the lining. Fig. 8 shows the two parts united.

Doors as ordinarily constructed are closed by a spring or otherwise, and when the inclined surface of the latch strikes the plate it makes considerable noise. The further movement of the door carries the latch beyond the end of the strike plate and the impelling spring of the latch will cause the latch to shoot into engagement with the plate, thus making an additional noise, which, though slight, will be annoying to patients in delicate conditions. My invention is designed to overcome this difficulty.

As shown in the drawings, A represents a section of a door in which a spring-actuated latch is incased and B is the door casing having a strike plate with which the latch may engage. The plate 5 is secured on the door casing in line with the latch and has openings, as shown at 3 and 4, for the spring

latch and also for the bolt of the usual lock. The extension 2 of plate 5, with which the latch first engages, is made with a depressed part or chamber having end walls as shown in Fig. 3 to receive a contact piece 6 which may be made of any suitable sufficiently hard material, such as wood, hard rubber, or asbestos fiber, which will not cause any audible noise when struck by the approaching latch. This material may be secured in the depression of the part 2 by bolts, pins, or screws, as at 7, and may also be perforated with small holes on its face, as at 8, which are adapted to receive a lubricating material, such as graphite, or equivalent compound, over which the point of the latch will easily slide. The outer end of this part 6 is curved so that when the latch of the closing door approaches it will strike this portion at an angle, and will slide smoothly and softly over the surface of the material until it reaches the end of the strike plate and is ready to enter the keeper opening 3.

The end of the contact piece 6 is inclined, as shown at 6^a, the angle being preferably about 15°, so that when the end of the latch has reached this point the continued slow closing of the door will allow the end of the latch to slip easily over this inclined end, being impelled by the usual latch spring until the latch has fully engaged with the keeper; and this incline also insures the taking up of any looseness which might cause a rattling after the parts are fully engaged.

The latch 9 is made of the usual triangular form and has the central portion of its incline and rectangular meeting faces cut away to form a space which is adapted to receive the cushion material 10 which is formed to fit in this cut-away space. This cushion material is formed, as plainly shown in Fig. 7, and when fitted into the channel of the face of the latch may be secured therein by pins 11 passing transversely through the sides of the latch and the interposed cushion 10. A screw 12 may also be used passing through the body of the latch and cushion material.

The operation of the device will then be as follows: When the door is allowed to close, the angular point of the latch first comes in contact with the lining 6 of the strike plate, as indicated in dotted lines in Fig. 1, and the cushion material 10 of the latch comes in contact with the outer curved

end of the similar cushion 6 of the strike plate, thus forcing the latch backward into its chamber against the compression of the spring 13. The door continuing to close under whatever impulse is applied to it, the point of the latch will slide smoothly over the lining of the strike plate and its smoothness of operation will be increased by the lubricated surface over which it moves.

10 When the latch has reached the end of the strike plate it will be impelled forward, by the action of the spring 13, but instead of dropping suddenly into engagement with the keeper, it will slide gradually over the inclined end 6^a and will thus be held back and allowed to close into its position gradually and without any noise, and, as before stated, the incline will cause it to fit closely in the keeper so that wind or other action will not cause the latch to rattle in the keeper.

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

25 1. In combination with a striker plate having a latch receiving opening and an extension alined with the opening and having a chambered part, a contact piece embedded in said chambered part having its end free and tapered outwardly, the ends of said contact piece terminating beyond the ends of

said extension and the end adjacent the latch receiving opening extending into the latter, said contact piece having a series of perforations adapted to receive a lubricating substance. 35

2. In combination with a striker plate having a latch receiving opening, and an extension formed with a chamber the front of which is open, said chamber having end walls, a non-metallic contact piece fitted in the chamber and rigidly secured thereto and having end parts abutting the end walls of the chamber and having its end terminals extending beyond the end walls of the chamber. 40

3. In combination with a latch, and a striker plate having a latch receiving opening and an extension, a non-metallic contact piece connected to and extending beyond the ends of the extension and into the latch receiving opening, and a facing of compressible material on the latch adapted to ride over said contact piece. 50

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses. 55

ROBERT JOY.

Witnesses:

JOHN H. HERRING,
W. W. HEALEY.