July 31, 1923.

1,463,385

S. D. BUTTERWORTH

LATCH

Filed Aug. 25, 1922

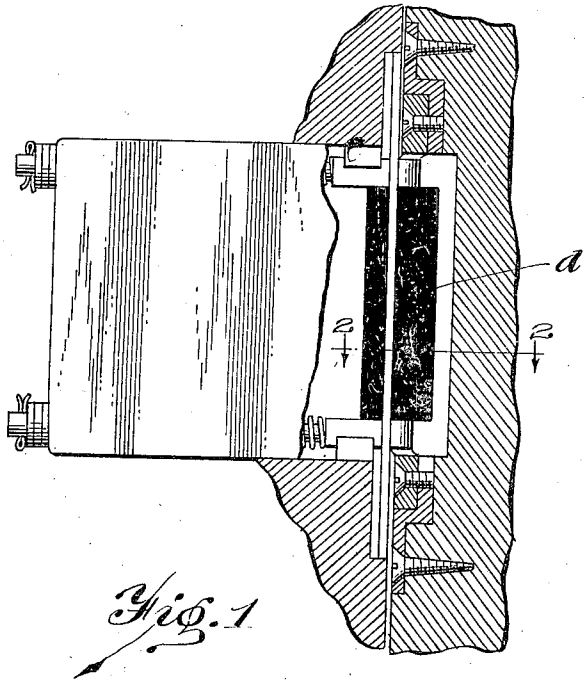


Fig. 1

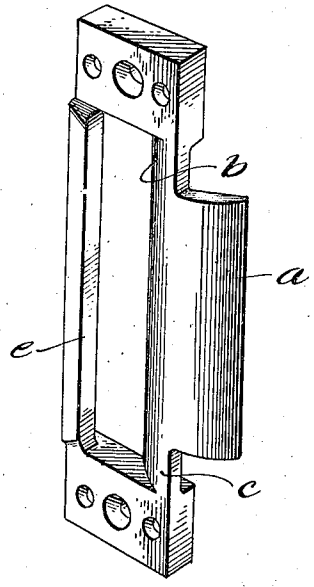


Fig. 3

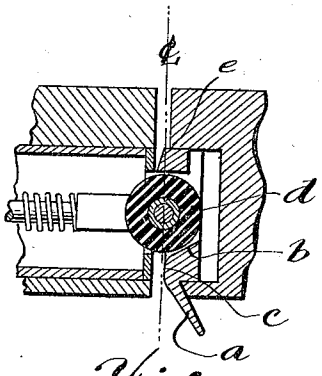


Fig. 2

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UNITED STATES PATENT OFFICE.

SAMUEL D. BUTTERWORTH, OF LANSING, MICHIGAN.

LATCH.

Application filed August 25, 1922. Serial No. 584,167.

To all whom it may concern:

Be it known that SAMUEL D. BUTTERWORTH, a citizen of the United States, residing at Lansing, in the county of Ingham and State of Michigan, has invented certain new and useful Improvements in Latches, of which the following is a specification.

This invention relates to latch strikers and latches. It has for its object a combined latch and striker, which will effectively engage and which will wholly eliminate the necessity of a door jamb. When the door jamb is used the latch striker in combination with the latch is so arranged as to arrest the door before same strikes the door jamb. The main object of this is to wholly eliminate noise in closing the door and to cooperate for the attainment of this end, the latch is especially constructed so as to be noiseless.

These and other features will be best understood after the description has been given.

In the drawings:

Fig. 1 is a view of the latch and striker, showing some of the parts broken away, and showing the associated door and door post in section.

Fig. 2 is a cross-section taken on line 2—2 of Fig. 1.

Fig. 3 is a perspective of the striker.

In a prior application, No. 511,761, I have described and claimed a latch, provided with a rubber roll for the latch head. This construction works very nicely with a door jamb, but I have found that with the ordinary striker very often the roll type of latch will carry over the striker socket, consequently will not latch unless the door jamb is used to arrest the movement of the door at the proper time. There are at least two objections to the use of a door jamb. In the first place, the door jamb must be accurately placed with respect to the striker so as to arrest the roll at just the proper point in its travel in order to insure its entering the latch socket in the striker. Another very serious objection in the door jamb is the noise in slamming the door. One of the primary objects of the roll of deformable material is to eliminate noise and adapt the latch for hospitals, homes, and places where quiet is desired.

In constructing the striker as shown in my previous application referred to, I prefer to make the striker surface somewhat sharply bevelled as at *a*. The front wall of the latch socket at *b* is also somewhat sharply bevelled. The two bevels are connected by a rounded hump, *c*, which permits the roller to roll over the hump without injury. This roller is designated *d*. In place of making the rear wall of the latch socket of the same projection as the front wall, I make it project beyond the front wall forming a projecting abutment, *e*. The rear wall is also abrupt in place of being concave as shown in my prior application.

Now by making the rear wall to project beyond the front wall or hump, an abutment is formed which prevents the roll from jumping the latch socket, it being arrested thereby. Especially is this true where the abutment is so arranged with respect to the design of the latch socket, when the latch roll rests in the latch socket as shown in Fig. 2, that the abutment projects slightly beyond the center line of the roll. When this condition is true, then the roll having once entered the socket it cannot be forced out of it by pressure against the abutment.

The difficulties I have alluded to with respect to the roll type of latch cannot occur with the ordinary bevel type of latch which will drop into its socket and stay.

What I claim is:

1. In a door latch, the combination of a latch provided with a latch head in the form of a roll and yieldingly projecting, and a latch striker therefor provided with a latch socket, having the rear wall of the socket projecting beyond the front wall of the socket to form an abutment to arrest the roll in the roll socket.

2. In a door latch, the combination of a casing, a latch projected therefrom by a spring and having a latch head arranged to be disengaged from the latch socket simply by forcing the door, and a striker provided with a latch socket having the rear wall thereof projecting beyond the front wall to prevent the latch being disengaged from the latch socket by movement to the rear thereof.

3. In a door latch, the combination of a latch yieldingly projecting and provided with a roll type of latch head, and a striker having a latch socket, with the rear wall projecting beyond the front wall forming an abutment extending beyond the center-line of the roll when the roll rests in the latch socket.

4. In a door latch, the combination of a housing, a latch provided with a roll head, slidable in the housing, a spring for yieldingly projecting the same, and a striker provided with a striker socket, having an abrupt rear wall extending beyond the front wall forming an abutment to arrest the roll head, said striker having the front wall of the socket and the striking portion formed on bevels connected by a rounded hump.

5. In a door latch, the combination of a casing, a latch slidable therein, and provided with a roll-like head, a spring for yieldingly projecting the latch, and a striker provided with a striker socket, arranged to take the latch so that the rear wall of the striker socket extends beyond the center line of the latch roll.

6. In a door latch, the combination of a casing, a latch slidable therein and provided will a roll head, a spring for projecting the same, and a striker having the striker socket arranged with the rear wall abrupt and projecting beyond the front wall so that when the latch is in the latch socket the rear wall projects beyond the center line of the latch roll.

In testimony whereof I affix my signature.

SAMUEL D. BUTTERWORTH.