

LATCH TYPE LOCK

BACKGROUND OF THE INVENTION

1. Field of the Invention

5 This invention relates to a latch type lock.

2. Description of the Prior Art

A conventional latch lock, as disclosed in a Singapore patent No. 87088, as shown in Fig. 1, includes a latch (A), a main lock body (B) and an auxiliary lock
10 body (C) combined together. The main lock body (B) is fixed on a movable door jamb (D), and the latch (A) is employed for controlling a fixed door jamb (E) to move inward and outward.

Substantially, the conventional latch lock
15 mentioned above has the following defects.

1. Referring to Fig. 1, the installation location of the latch lock is immovable and unchangeable; therefore, when the movable door is partly opened and shifted and the lock assembled on the movable door
20 jamb (D) is unlocked, the latch (A) will be withdrawn and extended outward to get in the space where a person goes out and in, thus likely to bump and cause danger to the person.

2. The installation location of the latch lock is
25 immovable and unchangeable; therefore, when the latch lock is installed on the movable door jamb (D), but the distance between the fixed door jamb (E) and a wall is

shorter than a space needed for the latch (A) to extend outward when the latch lock on the movable door jamb (D) is unlocked, the latch (A) will be unable to extend out fully and as a result, the latch lock is impossible to
5 be installed for use.

In view of the drawbacks of the conventional latch lock mentioned above, it is necessary to try to make improvements on such latch locks for elevating the security in use and making the latch locks applicable to
10 different installation spaces for attaining effect of extensive applicability.

SUMMARY OF THE INVENTION

The objective of this invention is to offer a latch type lock, flexible and optional to be installed according
15 to an actual situation and space, having extensive applicability and able to improve the shortcoming of the conventional latch lock that is inapplicable to different installation situations and spaces.

The latch of the latch type lock of this invention
20 can be changed in withdrawing and extending directions so as to prevent the latch from extending outward into a space where a person goes out and in for insuring the safety of the person.

The latch type lock in the present invention
25 includes a latch, a main lock body, an auxiliary lock body and a stop block. The stop block is formed with a horizontal passage for the latch to be inserted and

extended therein and provided with screw holes and positioning insert plates for assembling and fixing the stop block on the main lock body or on the auxiliary lock body and further bored with other screw holes for screws
5 to be inserted therein to secure the stop block on a movable door jamb.

The stop block of this invention can optionally be assembled on the main lock body or on the auxiliary lock body to enable the whole lock to be installed in
10 accordance with an actual installation situation and space, flexible and optional in installation and able to achieve effect of extensive applicability.

BRIEF DESCRIPTION OF DRAWINGS

This invention will be better understood by
15 referring to the accompanying drawings, wherein:

Fig. 1 is a cross-sectional view of a conventional latch lock;

Fig. 2 is a cross-sectional view of a first preferred embodiment of a latch type lock in the present invention;

20 Fig. 3 is a cross-sectional view of a second preferred embodiment of a latch type lock in the present invention;

Fig. 4 is an exploded perspective view of a first preferred embodiment of the latch type lock in the
25 present invention;

Fig. 5 is a front view of an auxiliary lock body in the present invention;

Fig. 6 is a cross-sectional view of the line 6-6 in Fig. 5;

Fig. 7 is a left side view of the Fig. 5;

Fig. 8 is a cross-sectional view of the line 8-8 in
5 Fig. 7;

Fig. 9 is a front view of a stop block in the present invention;

Fig. 10 is a left side view of Fig. 9;

Fig. 11 is an upper view of Fig. 9;

10 Fig. 12 is a right side view of Fig. 9;

Fig. 13 is a schematic view of the latch type lock in the present invention, illustrating that a latch is inserted in a main lock body to form a locked condition;

Fig. 14 is a perspective view of the latch type lock
15 in the present invention, illustrating that the latch is inserted in the main lock body to form a locked condition;

Fig. 15 is a schematic view of the latch type lock in the present invention, illustrating that the latch is
20 withdrawn and extended outward to form an unlocked condition;

Fig. 16 is a perspective view of the latch type lock in the present invention, illustrating that the latch is withdrawn and extended outward to form an unlocked
25 condition;

Fig. 17 is a schematic view of installation of the latch type lock in the present invention;

Fig. 18 is a cross-sectional view of Fig. 17;

Fig. 19 is a cross-sectional view of Fig. 17, illustrating that the latch is withdrawn and extended outward to form an unlocked condition; and

5 Fig. 20 is a schematic view illustrating that the movable door is segment opened.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Fig. 2 and Fig.3 show two different embodiments
10 of a latch style lock in the present invention. Fig. 2 is a preferred embodiment and Fig. 3 is another one installed in a different way. This detailed description is based on Fig. 2, with the scope of protection not limited by the description. Any alteration and adjustment made based
15 on the basic technique related to this lock may be also included in the scope of the claims of this invention.

A first preferred embodiment of a latch type lock in the present invention, as shown in Figs. 2 and 4, includes a latch 1, a main lock body 2, an auxiliary lock
20 body 3 and a stop block 4 as main components combined together, and a second preferred embodiment of a latch type lock in the present invention, as shown in Fig. 3, has almost the same structure and components as those of the first preferred embodiment, except that the stop
25 block is optional to be assembled together with the main lock body.

The main lock body 2 is formed with a latch insert

passage 21 having its periphery provided with positioning insert notches 22 and screw holes 23 for assembling and securing the positioning insert plates 41 of the stop block 4, as shown in Fig. 4.

5 The auxiliary lock body 3 is disposed with a latch passage 31 for the latch 1 to be positioned and shifted therein, and the periphery of the latch passage 31 is provided with positioning insert notches 32 and screw holes 33 for assembling and fixing the positioning insert
10 plates 41 of the stop block 4, as shown in Figs. 5-8.

 The stop block 4, referring to Figs. 9-12, is formed with a horizontal passage 40 for the latch 1 to be inserted and extended therein and provided with positioning insert plates 41 to be respectively inserted
15 and positioned in the positioning insert notches 22 of the main lock body 2 or in the positioning insert notches 32 of the auxiliary lock body 3, and bored with screw holes 42 for screws to be inserted therein for assembling the stop block 4 on the main lock body 2 or on the
20 auxiliary lock body 3 and further bored with screw holes 43 for screws to be inserted therein for fixing the stop block 4 on a movable door jamb (D).

 Figs. 13 and 14 are respectively a cross-sectional view and a perspective view of the latch type lock in the
25 present invention, illustrating that the latch 1 is inserted in the latch passage to form a locked condition. Figs. 15 and 16 are respectively a cross-sectional view

and a perspective view of the latch type lock in the present invention, illustrating that the latch 1 is withdrawn and extended outward to form an unlocked condition. Fig. 17 is a perspective view of the latch type lock assembled on a door in the present invention, and Fig. 18 is a cross-sectional view of Fig. 17. Fig. 19 is a cross-sectional view of Fig. 18, illustrating that the latch 1 is withdrawn and extended outward to form an unlocked condition in the present invention, and Fig. 20 is a cross-sectional view of the latch type lock in the present invention, illustrating that the latch 1 is withdrawn and extended outward and that the movable door is in a partly open condition.

To sum up, the stop block of the latch type lock of this invention can optionally be assembled on the main lock body or on the auxiliary lock body to enable the whole lock to be installed in accordance with actual installation situations and spaces, original in design and having extensive applicability. Thus, one single structure of the latch type lock of this invention can be flexible and optional in installation, conforming to economic gain and utilization value and effectively enhancing the function and practicability of products.

While the preferred embodiments of the invention have been described above, it will be recognized and understood that various modifications may be made therein and the appended claims are intended to cover all

such modifications that may fall within the spirit and
scope of the invention.

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WHAT IS CLAIMED IS:

1. A latch type lock comprising a latch, a main lock body, an auxiliary lock body and a stop block; and characterized by,

5 Said main lock body 2 bored with a passage 21 for said latch to be inserted therein, said passage 21 having periphery provided with positioning insert notches 22 and screw holes 23 for assembling and fixing positioning insert plates 41 of said stop block 4;

10 Said auxiliary lock body 3 bored with a passage 31 for said latch 1 to be positioned and shifted therein, said passage 31 having a periphery disposed with positioning insert notches 32 and screw holes 33 for assembling and securing said positioning insert plates 41 of said stop
15 block 4;

 Said stop block 4 provided with a horizontal passage 40 for said latch 1 to be inserted and extended therein, said stop block 4 mounted thereon with positioning insert plates 41 and bored with screw holes
20 42 for screws to be inserted therein for assembling said stop block on said main lock body 2 or on said auxiliary lock body 3, said stop block further bored with other screw holes 43 for screws to be inserted therein for firmly assembling said stop block 4 on a movable door
25 jamb (D).