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PRESS LOCK



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Field of the Invention

The present invention is related to a press lock, and more particularly to a press lock that has an improved locking effect.

Description of Related Art

Conventional press locks are generally installed on windows or doors. A press lock has a locking core received in a tubular part. A tongue is formed at a front of the locking core and extends out from the tubular part when the locking core is pressed. The tubular part and the locking core are mounted on a window or door, and the extended tongue is received in a tongue hole in another window or door. Thus, the two windows or doors are locked together and can not be opened without a correct key inserted in the locking core.

However, the tongue is only partially received in the tongue hole. Under a large external force to pull the windows or doors away from each other, it is easy for the tongue to escape from the tongue hole. Therefore, using the press lock to lock the windows or doors is not safe enough.

Therefore, the invention provides an improved press lock to mitigate and/or obviate the aforementioned problems.

The main objective of the invention is to provide a press lock that has a tongue extending through a tongue hole to provide a secure locking effect.

Summary of the Invention

The present invention therefore provides a press lock comprising a tubular part integrated with and perpendicular to a first fixed plate, the tubular part having a spiral slot longitudinally defined through an outer periphery thereof, and a first pin hole defined beside the spiral slot; a

locking core receivable in the tubular part, the locking core having a second pin hole defined at an outer periphery thereof, a first pin provided in the second pin hole, a second pin formed beside the first pin and extendable out from the first pin hole in a locked status, and a tongue formed at a front end thereof, a resilient member for placement between the tubular part and the locking core; and a second fixed plate having a non-circular tongue hole for alignment with the tubular part when in the locked position for the tongue to extend therethrough; whereby, in use, when the locking core is pressed inwards, the first pin can be moved along the spiral slot to turn the locking core, the second pin being able to extend out from the first pin hole, and the tongue being able to extend out from the tongue hole.

The tongue may be L-shaped, and the tongue hole may be formed as an “8”.

The tongue may be T-shaped, and the tongue hole may be rectangular.

The tubular part may be an elongated slot defined at an end of the spiral slot away from the first fixed plate and in communication with the spiral slot.

Description of the Drawings

Other objects, advantages and novel features of the invention will become more apparent from the following detailed description when taken in conjunction with the accompanying drawings, in which:

Fig. 1 is a perspective view of a press lock in accordance with the invention;

Fig. 2 is an exploded perspective view of the press lock in accordance with the invention;

Fig. 3A is a side view of the press lock in an unlocked status;

Fig. 3B is a front view of the press lock in the unlocked status;

Fig. 4A is a side view showing that the press lock is being locked;

Fig. 4B is a front view showing that the press lock is being locked;

Fig. 5A is a side view of the press lock in a locked status;
 Fig. 5B is a front view of the press lock in the locked status;
 Fig. 6 is an enlarged end view of the press lock in the locked status;
 Fig. 7 is a perspective view of another embodiment of the invention;
 Fig. 8A is a side view of the press lock in Fig. 7 in an unlocked status;
 Fig. 8B is a front view of the press lock in Fig. 7 in the unlocked status;
 Fig. 9A is a side view of the press lock in Fig. 7 in an locked status; and
 Fig. 9B is a front view of the press lock in Fig. 7 in the locked status.

Description of Preferred Embodiment

Referring to Figs. 1 and 2, a press lock in accordance with the invention has a tubular part (10) and a locking core (20) received in the tubular part (10). The tubular part (10) is integrated with and perpendicular to a first fixed plate (12) mounted on a window or a door (not shown). A spiral slot (14) is longitudinally defined through an outer periphery of the tubular part (10). A first pin hole (16) is defined beside the spiral slot (14).

The locking core (20) has a second pin hole (22) defined at an outer periphery thereof and a first pin (24) is received in the second pin hole (22) and extends through the spiral slot (14) when the core (20) is received in the tubular part (10). A second pin (26) is formed beside the first pin (24) and can extend through the first pin hole (16) when the locking core (20) is moved in the tubular part (10). An L-like tongue (28), which is formed at a front end of the locking core (20), is received in the tubular part (10) and extends out from the fixed plate (12). A resilient member (30) is provided between the tubular part (10) and the locking core (20).

A second fixed plate (40) is mounted on another window or a doorframe (not shown). A non-circular tongue hole (42) is defined through the second fixed plate (40) and aligned with the tongue (28) in the tubular part (10) in a locked status. In this embodiment, the tongue hole is formed as an "8". When the locking core (20) is pressed to move, the second pin (26) extends out from the first pin hole (16) and the locking core (20) is unable to be rotated. When a correct

key (50) is inserted in the locking core (20) and rotated, the second pin (26) can be retracted in the tubular part (10) from the first pin hole (16).

Referring to Figs. 3A and 3B, in an unlocked status, the first pin (24) is located at an end of the spiral slot (14) away from the first fixed plate (12). The tongue (28) is aligned with the widest position of the tongue hole (42) that allows the tongue (28) to extend out from the tongue hole (42).

Referring to Figs. 4A and 4B, when a user presses the locking core (20) inwards, the first pin (24) is moved along the spiral slot (14) and the tongue (28) is extended through the tongue hole (42) and turned.

Referring to Figs. 5A and 5b, in a locked status, the first pin (24) arrives at an end of the spiral slot (14) adjacent the first fixed plate (12). The tongue (28) is aligned with the narrowest position of the tongue hole (42) where the tongue (28) is unable to retract from the tongue hole (42).

Referring to Fig. 6, in the locked status, the second pin (26) is received in the first pin hole (16) and the locking core (20) is unable to turn about the tubular part (10).

In another embodiment shown in Figs.7-9, a tubular part (10') has a spiral slot (14') defined through an outer periphery thereof. An elongated slot (140) is longitudinally defined at an end of the spiral slot (14') away from the first fixed plate (12) and in communication with the spiral slot (14'). The second fixed plate (40') has a rectangular tongue hole (42'). The locking core (20') has a T-like tongue (28'). When the locking core (20') is pressed, the first pin (24) is moved along the elongated slot (140) to extend the T-like tongue (28') through the rectangular tongue hole (42'), and along the spiral slot (14) to turn the tongue (28'). In the locked status, the tongue (28) is unable to retract from the tongue hole (42') and the locking core (20) is unable to rotate.

According to the present invention, the tongue (28, 28') is extended through the tongue hole (42, 42') and cannot escape from the tongue hole (42, 42') even if under a very large external force, so that the press lock has a secure locking effect. It is very safe to lock windows or doors by using the press lock of the invention.

It is to be understood, however, that even though numerous characteristics and advantages of the present invention have been set forth in the foregoing description, together with details of the structure and function of the invention, the disclosure is illustrative only, and changes may be made in detail, especially in matters of shape, size, and arrangement of parts within the principles of the invention to the full extent indicated by the broad general meaning of the terms in which the appended claims are expressed.

Claims:

1. A press lock comprising:
a tubular part (10) integrated with and perpendicular to a first fixed plate (12), the tubular part (10) having a spiral slot (14) longitudinally defined through an outer periphery thereof, and a first pin hole (16) defined beside the spiral slot (14);
a locking core (20) receivable in the tubular part (10), the locking core (20) having a second pin hole (22) defined at an outer periphery thereof, a first pin (24) provided in the second pin hole (22), a second pin (26) formed beside the first pin (24) and extendable out from the first pin hole (16) in a locked status, and a tongue (28) formed at a front end thereof;
a resilient member (30) for placement between the tubular part (10) and the locking core (20); and
a second fixed plate (40) having a non-circular tongue hole (42) for alignment with the tubular part (10) when in the locked position for the tongue (28) to extend therethrough; whereby, in use, when the locking core (20) is pressed inwards, the first pin (24) can be moved along the spiral slot (14) to turn the locking core (20), the second pin (26) being able to extend out from the first pin hole (16), and the tongue (28) being able to extend out from the tongue hole (42).
2. The press lock as claimed in claim 1, wherein the tongue (28) is L-shaped.
3. The press lock as claimed in claim 1 or claim 2, wherein the tongue hole (42) is formed as an "8".
4. The press lock as claimed in any one of claims 1 to 3, wherein the tongue (28') is T-shaped.
5. The press lock as claimed in any one of claims 1 to 4, wherein the tongue hole (42) is rectangular.

6. The press lock as claimed in any one of claims 1 to 5, wherein the tubular part (10) further has an elongated slot (140) defined at an end of the spiral slot (14) away from the first fixed plate (12) and in communication with the spiral slot (14).