



(12) **NEW EUROPEAN PATENT SPECIFICATION**

(45) Date of publication of the new patent
specification : **15.12.93 Bulletin 93/50**

(51) Int. Cl.⁵ : **E05B 1/00**

(21) Application number : **87302954.0**

(22) Date of filing : **03.04.87**

(54) **A handle.**

(30) Priority : **07.04.86 GB 8608445**
06.02.87 GB 8702719

(43) Date of publication of application :
14.10.87 Bulletin 87/42

(45) Publication of the grant of the patent :
01.08.90 Bulletin 90/31

(45) Mention of the opposition decision :
15.12.93 Bulletin 93/50

(84) Designated Contracting States :
AT BE CH DE ES FR GB GR IT LI LU NL SE

(56) References cited :
DE-U- 1 677 586
DE-U- 7 820 998
GB-A- 1 582 667
GB-A- 2 076 455

(73) Proprietor : **Regent Lock Co. Ltd.**
Bath Road Industrial Estate
Chippenham Wiltshire (GB)

(72) Inventor : **Daley, Ernest Charles**
Church Farm Hankerton
Nr. Malmesbury Wilts (GB)

(74) Representative : **Johnson, Terence Leslie et al**
Edward Evans & Co. Chancery House 53-64
Chancery Lane
London WC2A 1SD (GB)

EP 0 241 245 B2

Description

The invention relates to a handle for a closure, particularly an espagnolette handle for a closure such as a window.

Document GB-A-1 582 667 shows a device as defined in the preamble of Claim 1.

The technical problem to be solved in view of this known device is to adapt it to a narrower stile or of a frame of a closure while maintaining resistance to un-

locking against unauthorized operation of the handle. This is achieved by the features of the characterising part of Claim 1.

The lockable handle may include lock means to lock the plunger in at least one operative position.

The lock means may be situated in the plunger.

The lockable handle may include a cover plate for a securing means of the escutcheon plate.

It will be understood that the handle extends to a closure including a lockable handle as hereinbefore described mounted thereon.

A lockable handle for an espagnolette of a window is diagrammatically illustrated, by way of example, with reference to the accompanying drawings.

Fig. 1 is a perspective view of a handle according to the invention;

Fig. 2 is a side view of a locking bolt of the handle of Fig. 1;

Fig. 3 is a side view of a plunger of the handle of Fig. 1;

Fig. 4 is a plan view of the plunger, taken on arrow 'A' on Fig. 3;

Fig. 5 is a side elevational view of a second handle according to the invention;

Fig. 6 is an underneath view of the handle of Fig. 5;

Fig. 7 is a part fragmentary view of the handle of Fig. 5 showing an escutcheon plate removed;

Fig. 8 is a plan view showing the handle of Fig. 5 in an open or unlocked position of the closure;

Fig. 9 is an underneath view showing the handle of Fig. 5 in an open or unlocked position of the closure;

Fig. 10 is a side elevational view showing the handle of Fig. 5 in the open position of Figs. 8 and 9;

Fig. 11 is a plan view of a third handle according to the invention; and

Fig. 12 is a side elevational view partly in phantom of the handle of Fig. 12.

Referring firstly to Figs. 1 to 4 of the drawings, a lockable handle 1 for an espagnolette fastening has a hand-grip part 2 offset from a boss or body 3 in which a plunger 4 is mounted in a suitable bore. The boss 3 mounts a rod 5, from a nose 6, for connection with the espagnolette, which rod 5 passes through an escutcheon plate 7. The bottom of the boss 3 adjacent the escutcheon plate 7 is closed by a plate which has

a hole through which a finger 8 of the plunger can pass. The plunger 4 is normally arranged so that a spring 9 bearing on the plate keeps the plunger 4 raised so the finger 8 is clear of the hole, and so that the opposite end 4a projects out of the boss 3 adjacent the hand-grip part 2. The plunger is held captive in the bore.

The escutcheon plate 7 mounts a latch or a locking bolt 10 under pressure of resilient means such as a coil spring 12, the bolt 10 being usually clear of the escutcheon plate 7 as shown, and being generally square, with a chamfered edge, cam surface or corner 11 near the 'nose' 6.

In the open condition shown, the bolt 10 projects out of the escutcheon plate 7. To close a closure to which the handle 1 is fitted, the hand-grip part 2 is gripped and turned in the direction 'X', Fig. 1, so that the boss 3 rides over the chamfered edge part 11 and forces the bolt 10 into the escutcheon plate 7 against the spring until the hole and bolt 10 are aligned, when the bolt is urged into the hole by a spring 12, thus holding the handle locked shut.

In order to open the closure, the plunger 4, 4a is depressed so that its finger 8 engages the bolt 10 and pushes it level with or below the plane of separation between the bottom and face of the plate so that it is just clear thereof. The handle can then be turned to the position shown.

Referring to Figs. 5 to 10 of the drawings, there is shown an espagnolette handle 101 which is a lockable handle for a closure, comprising a handle with hand grip means 102 and a manually operable depressible mechanism 103 which can be operated to unlock the handle 102 for operating the closure (not shown).

The handle 102 has an enlarged part 104 in which is housed captive in a bore under spring pressure a manually depressible means in the form of a plunger 105. The handle 102 is connected via a pivot axis 106 with an escutcheon plate 107 which is secured in use via securing means such as screws (not shown) in screw holes 108 with a closure such as a casement window. Between a boss 109 and one screw hole 108 is a latch 110 which is mounted in an orifice 111 of the escutcheon plate 107 under pressure of a biasing means such as a spring, the spring being between a plate 112 of the escutcheon plate 107 and the underside of the latch 110. The latch 110 has a curved cam surface 113 to facilitate riding of a follower 114 of the handle over the latch 110 to depress it into the hole 111 until it can spring into a hole 115 in the handle 102 when the holes 111 and 115 become aligned axially to lock the handle closed.

To open the handle, or unlock it, it is only necessary to depress the plunger 105 in the Fig. 5 position in which the latch 110 is in the hole 115, being aligned therewith, and turn the handle so that when the plunger 105 depresses the latch to or below the plane

of separation between the handle and escutcheon plate, the handle can be turned, to operate locking mechanism of the closure connected with the axis.

When the handle is returned to the locked position, the latch automatically latches into the hole to lock the handle closed. The other hole 108 is covered by a plate 117 to seek to obviate removal by a vandal.

Referring now to Figs. 11 and 12, the handle 201 shown is identical to the embodiments shown in Figs. 5 to 10 so like parts are identified by like numerals. The handle 201 is modified in that the plunger 105 is itself lockable by a key (not shown) in either the open or closed condition of the handle 201. This is accomplished by the enlarged part 104 or boss surrounding the bore 202 in which the plunger 105 is captive having two spaced slots or recesses 203 and 204 corresponding to the open or closed position of the handle. The plunger 105 incorporates a key slot 205 and barrel 206 which has a cam for retracting a slide 207 which is mounted transversely in a blind slot 208 in the plunger under pressure of resilient means such as a coil spring 209. The slide is normally urged by the spring to engage either the recess or the slide so that depending on whether the plunger is depressed or not, the plunger is locked in one or other position of the handle, that is locked or unlocked. When the key is inserted in the key slot 205 and turned, it in turn turns the barrel 206 to rotate the cam and act on the slide 207 to retract it to the left (as viewed) out of the particular recess 203 or 204 in which the slide is received so that the handle 201 can be operated to open or close the closure.

The lock may be spaced from the plunger in the handle and arranged to lock it in the open and/or closed condition.

It will be understood that there may only be the lower (as viewed) recess 204 so that the handle 201 can be locked in the closed position. Both the embodiments provide additional security, and ease of use.

The handles shown herein can have a locking nib, instead of the rod 5 or 106 for an espagnolette.

Claims

1. A lockable handle (1) for a closure, comprising
 - 1) an escutcheon plate (7),
 - 2) a hand-grip (2) integrated with a boss (3) and
 - 3) a manually operable mechanism for unlocking the handle,
 wherein
 - a) the lower face of the boss faces the upper surface of the escutcheon plate (7),
 - b) the boss (3) is fixed to a rod (5) for the operation of the closure, and
 - c) the boss is pivotally mounted on the es-

cutcheon plate (7) for movement between two end positions in one of which the closure is locked,

d) the lower face of the boss has a locking orifice (115),

e) a latch (10) is slidingly mounted in the escutcheon plate (7) and permanently subjected to the pressure of a biasing means (12) for urging the latch (10) to project out of the escutcheon plate (7) in a direction parallel to the rod (5),

f) a thumb operable plunger (4) is located in the boss (3) at a radial position with respect to the rod (5) which equals the radial position with respect to the rod (5) of the latch (10) and

g) which plunger when operated in the locked position engages the latch (10) to clear the orifice (115),

characterised in that

4) both the width of the boss (3) and the width of the escutcheon plate (7) are smaller than the diameter of the circle described by the plunger (4) when rotating around the axis of the rod (5), such that the latch (10) is uncovered in at least the unlocked position of the handle,

5) and in that the latch (10) is provided with an inclined cam surface (11) for allowing the latch to be pushed back into the escutcheon plate (7) by means of the edge of the boss (3) during movement of the handle (1) from an unlocked into the locked position.

2. A lockable handle according to Claim 1, characterised by lock means (205) to lock the plunger (105) in at least one operative position.
3. A lockable handle according to Claim 2, characterised in that the lock means (205) is situated in the plunger (105).
4. A lockable handle according to Claim 3, characterised in that the lock means (205) comprises a key-operable barrel (206) and a retractable slide (207), and in that the handle (102) includes a blind recess (203, 204) in which the slide (207) is receivable.
5. A lockable handle according to any preceding claim, characterised by a cover (117) for securing means (108) of the escutcheon plate.

Patentansprüche

1. Verriegelbarer Griff (1) für eine Verschließeinrichtung mit

- 1) einer Deckplatte (7),
 2) einem Handgriff (2), der mit einem Knauf (3) einstückig ist, und
 3) einer handbetätigbaren Einrichtung zum Entriegeln des Griffs, wobei
- a) die untere Fläche des Knaufs der oberen Fläche der Deckplatte (7) gegenüberliegt,
 - b) der Knauf (3) an einer Stange (5) zur Betätigung der Verschließeinrichtung befestigt ist, und
 - c) der Knauf zur Ausführung einer Bewegung zwischen zwei Endstellungen, in denen einer die Verschließeinrichtung verriegelt ist, an der Deckplatte (7) schwenkbar gelagert ist,
 - d) die untere Fläche des Knaufs eine Verriegelungsöffnung (115) aufweist,
 - e) ein Riegel (10) in der Deckplatte (7) gleitend gelagert und dauernd dem Druck einer Belastungseinrichtung (12) unterworfen ist, die den Riegel derart belastet, daß er aus der Deckplatte (7) in einer Richtung parallel zur Stange (5) vorsteht,
 - f) ein unter Daumendruck betätigbarer Kolben (4) im Knauf an einer radialen Stelle bezüglich der Stange (5) angeordnet ist, die der radialen Stelle des Riegels (10) bezüglich der Stange (5) entspricht, und
 - g) der Kolben bei Betätigung in der verriegelten Stellung am Riegel (10) angreift, um die Öffnung (115) freizugeben,
- dadurch gekennzeichnet, daß
- 4) sowohl die Breite des Knaufs (3) als auch die Breite der Deckplatte (7) kleiner sind als der Durchmesser des Kreises, den der Kolben (4) beschreibt, wenn er um die Achse der Stange (5) gedreht wird, so daß der Riegel (10) wenigstens in der unverriegelten Stellung des Griffs unbedeckt ist,
- 5) und daß der Riegel (10) mit einer geeigneten Führungsfläche (11) versehen ist, um zu ermöglichen, daß der Riegel in die Deckplatte (7) mittels der Kante des Knaufs (3) bei Bewegung des Griffs (1) aus der unverriegelten in die verriegelte Stellung zurückgedrückt wird.
2. Verriegelbarer Griff nach Anspruch 1, gekennzeichnet durch eine Verriegelungseinrichtung (205) zum Verriegeln des Kolbens (105) in wenigstens einer Betriebsstellung.
3. Verriegelbarer Griff nach Anspruch 2, dadurch gekennzeichnet, daß die Verriegelungseinrichtung (205) im Kolben (105) angeordnet ist.
4. Verriegelbarer Griff nach Anspruch 3, dadurch

gekennzeichnet, daß die Verriegelungseinrichtung (205) einen schlüsselbetätigbaren Zylinder (206) und ein zurückziehbares Gleitstück (207) aufweist, und daß der Handgriff (102) eine blinde Ausnehmung (203, 204) enthält, in welcher das Gleitstück (207) aufnehmbar ist.

5. Verriegelbarer Griff nach einem der vorangehenden Ansprüche, gekennzeichnet durch eine Abdeckung (117) für eine Befestigungseinrichtung (108) der Deckplatte.

Revendications

1. Une poignée verrouillable (1) pour une fermeture, comprenant
- 1) une plaque d'entrée (7),
 - 2) une partie de poignée (2) solidaire d'une protubérance (3) et
 - 3) un mécanisme actionnable à la main pour débloquer la poignée, dans laquelle
- a) la face inférieure de la protubérance est en regard de la surface supérieure de la plaque d'entrée (7),
 - b) la protubérance (3) est fixée à une tige (5) pour le fonctionnement de la fermeture, et
 - c) la protubérance est montée pivotante sur la plaque d'entrée (7) pour se déplacer entre deux positions extrêmes dans l'une desquelles la fermeture est verrouillée,
 - d) la face inférieure de la protubérance présente un trou de verrouillage (115),
 - e) un verrou (10) est monté de manière coulissante dans la plaque d'entrée (7) et soumis de manière permanente à la pression d'un moyen de sollicitation (12) pour pousser le verrou (10) à faire saillie en dehors de la plaque d'entrée (7) dans une direction parallèle à la tige (5),
 - f) un plongeur (4) actionnable par le pouce est placé dans la protubérance (3) au niveau d'une position radiale par rapport à la tige (5) qui équivaut à la position radiale par rapport à la tige (5) du verrou (10), et
 - g) ce plongeur, lorsqu'il est actionné dans la position verrouillée, vient en prise avec le verrou (10) pour dégager l'orifice (115), caractérisée en ce que
- 4) à la fois la largeur de la protubérance (3) et la largeur de la plaque d'entrée (7) sont inférieures au diamètre du cercle décrit par le plongeur (4) lorsqu'il tourne autour de l'axe de la tige (5), de sorte que le verrou (10) est découvert dans au moins la position déverrouillée de la poignée,
- 5) et en ce que le verrou (10) présente une

surface inclinée de came (11) pour permettre au verrou d'être repoussé dans la plaque d'entrée (7) au moyen du bord de la protubérance (3) pendant le mouvement de la poignée (1) d'une position déverrouillée vers la position verrouillée. 5

2. Une poignée verrouillable selon la revendication 1, caractérisée par un moyen de verrouillage (205) pour bloquer le plongeur (105) dans au moins une position de fonctionnement. 10
3. Une poignée verrouillable selon la revendication 2, caractérisée en ce que le moyen de verrouillage (205) est situé dans le plongeur (105). 15
4. Une poignée verrouillable selon la revendication 3, caractérisée en ce que le moyen de verrouillage (205) comprend un barillet (206) à clé et un coulisseau rétractable (207), et en ce que la poignée (102) comprend un logement borgne (203, 204) dans lequel peut être reçu le coulisseau (207). 20
25
5. Une poignée verrouillable selon une revendication précédente quelconque, caractérisée par un couvercle (117) pour un moyen de fixation (108) de la plaque d'entrée. 30

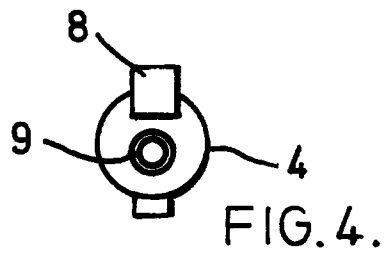
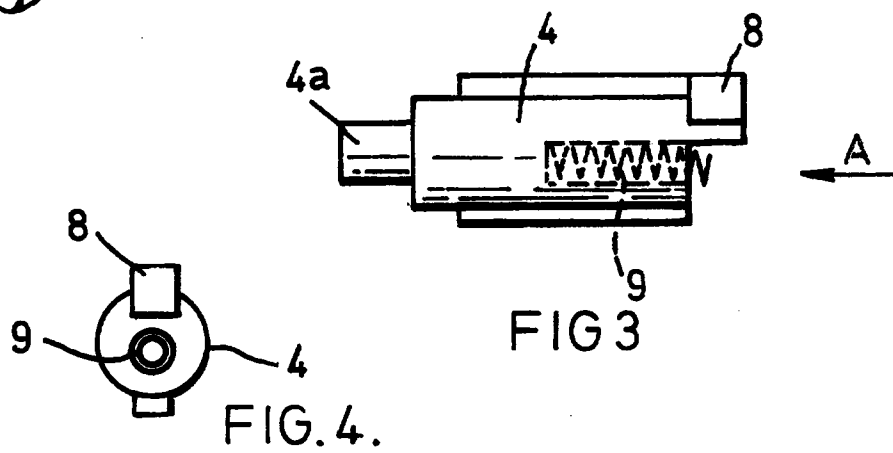
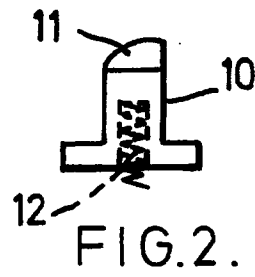
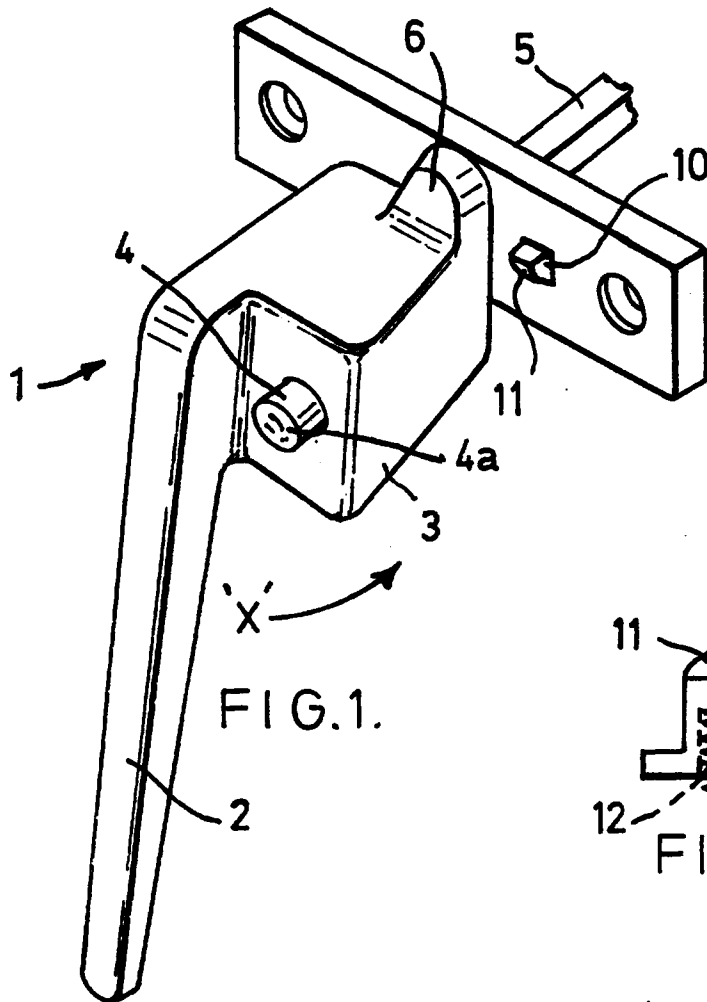
35

40

45

50

55



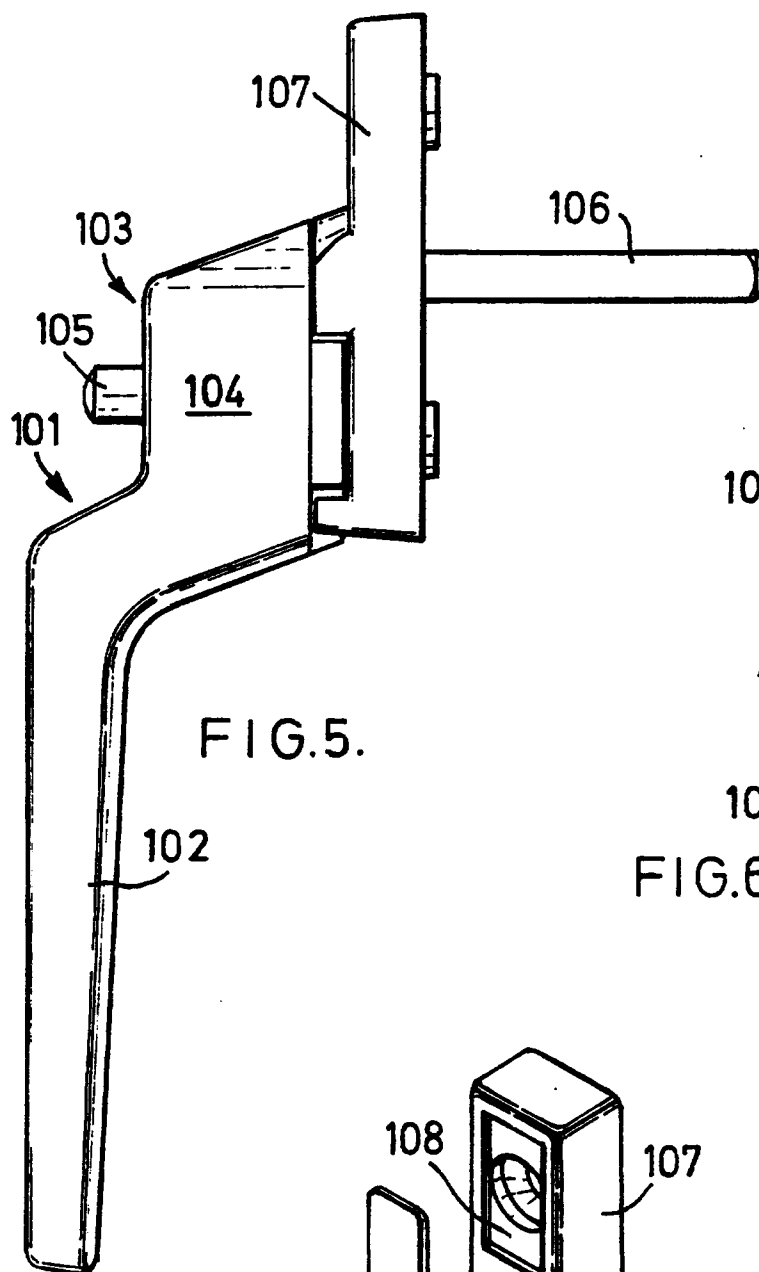


FIG. 5.

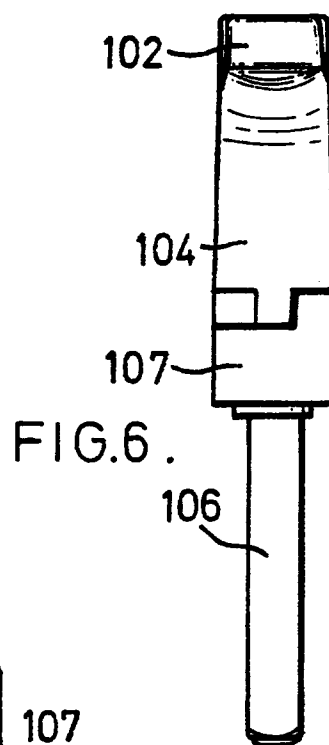


FIG. 6.

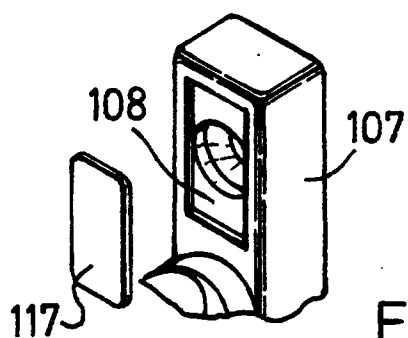


FIG. 7.

