July 7, 1925. 1,545,398

C. W. CHENEY

CATCH LOCK FOR ATTACHÉ CASES AND THE LIKE

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Fig. 1.

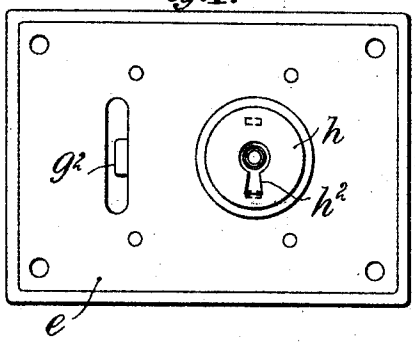


Fig. 2.

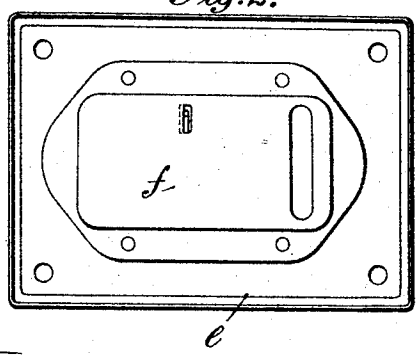


Fig. 3.

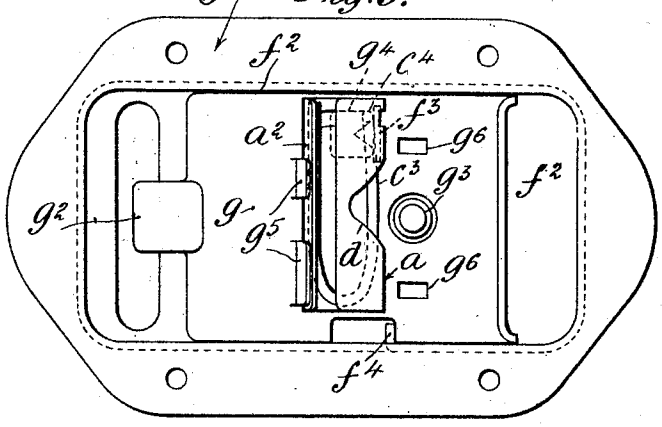


Fig. 4.

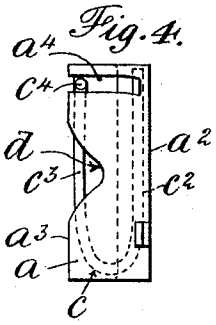


Fig. 5.

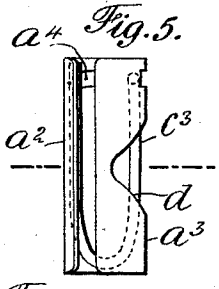


Fig. 6.

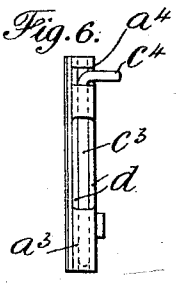
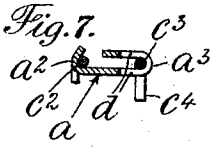


Fig. 7.



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CATCH LOCK FOR ATTACHÉ CASES AND THE LIKE

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Fig. 8.

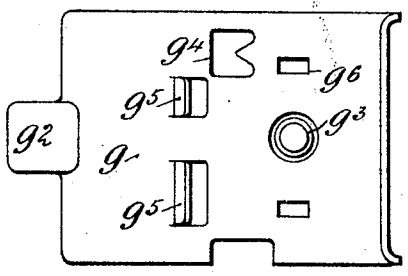


Fig. 9.

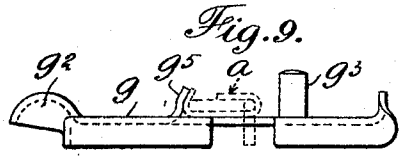
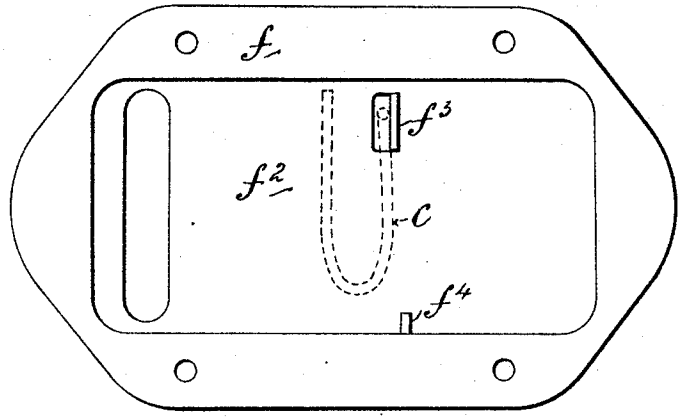


Fig. 10.



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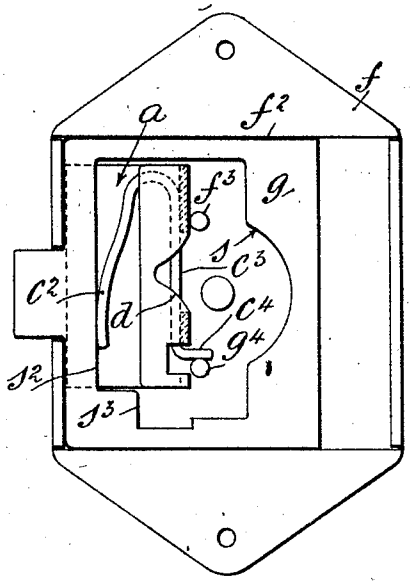


Fig.12.

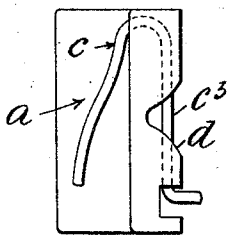


Fig.13.

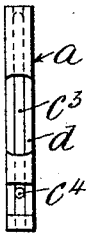


Fig.14.

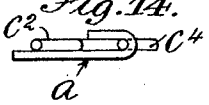


Fig.15.

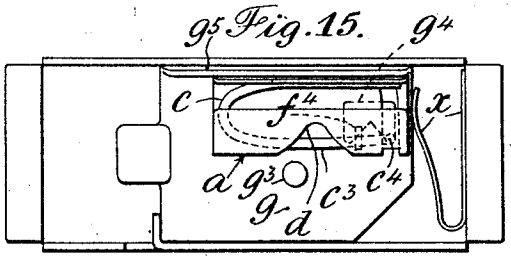
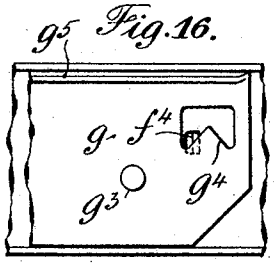


Fig.16.



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Patented July 7, 1925. 1,545,398

UNITED STATES PATENT OFFICE.

CHARLES WILLIAM CHENEY, OF BIRMINGHAM, ENGLAND.

CATCH LOCK FOR ATTACHÉ CASES AND THE LIKE.

Application filed October 28, 1924. Serial No. 746,372.

To all whom it may concern:

Be it known that I, CHARLES WILLIAM CHENEY, subject of the King of Great Britain, residing at Factory Road, Soho, Birmingham, England, have invented certain new and useful Improvements in Catch Locks for Attaché Cases and the like, of which the following is a specification.

This invention relates to improvements in key operated catch locks wherein a slidable bolt is moved by a spring into fastening position and may be manually withdrawn against the pressure of said spring by a thumb piece and be locked in fastening position by means of a key, said bolt therefore at one time constituting a spring influenced catch and at another time a lock.

The invention provides for use in this type of catch-lock a key operated spring containing locking unit comprising a plate or bar and a limb spring carried thereby, the distinctive feature of the plate being that it is cut away in such manner as to form a key sweep against which the bit of a key may bear to slide the plate or bar, and the distinctive feature of the spring being that it is so disposed upon the plate that a limb of said spring crosses said key sweep so as to also be acted upon by the bit of the key, the spring limb thus acting as a tumbler and either the plate or the spring acting as a blocking piece against a projection or stop on the catch-lock casing to prevent the manual withdrawal of the bolt.

In desirable forms of the invention the limb spring, not only constitutes a tumbler but also bears against the bolt when the latter is withdrawn, so that there is only one spring in the catch-lock for both locking and unlocking and for automatically actuating the bolt.

There may, however, be an additional spring for automatically actuating the bolt.

The catch lock of the invention is particularly suitable for use in attaché cases, bags, boxes and such like, and the locking unit of the invention is useful for general application to catch-locks for such articles, particularly since it is capable of being handled as a one-piece unit; that is to say, the plate or bar and the limb spring are assembled as one piece capable of being easily handled and simply applied.

The drawings forming part hereof show three slightly different modes of carrying out the invention, all of which however have the same common characteristic features providing a key operated spring containing locking piece or unit. Figs. 1 to 10 show one arrangement, Figs. 11 to 14 a further arrangement, and Figs. 15 and 16 a still further arrangement.

Fig. 1 is a face view of a catch-lock embodying the invention.

Fig. 2 is a back view of the catch-lock shown in Fig. 1.

Fig. 3 is a view with the front plate removed.

Figs. 4, 5 and 6 are different representations of the locking unit or piece, shown in Figs. 1 to 3 inclusive whose construction and operation is the essential feature of the invention.

Fig. 7 is a cross section on the dotted lines 7—7, Fig. 5.

Figs. 8 and 9 are different views of the bolt proper of the catch lock.

Fig. 10 is a view of the back plate separately showing the stops against which the locking unit operates.

Fig. 11 is a view, similar to Fig. 3, of another embodiment of the invention.

Figs. 12, 13 and 14 are, respectively, an elevation, an end view, and a top plan view of the locking unit shown in Fig. 11.

Fig. 15 is a view, similar to Figs. 3 and 11, of another embodiment of the invention, and

Fig. 16 is a view in elevation of a portion of the bolt shown in Fig. 15.

Referring to the drawings and particularly to Figs. 4 to 7, the locking unit takes the form of a short length plate or bar a turned over at its longitudinal edges into U shape as represented at a^2 and a^3 (Fig. 7).

A double limbed spring c is disposed against the plate so that its limbs are under the turned over longitudinal edges aforesaid; that is to say, the limb c^2 is under the turned over edge a^2, and the limb c^3 under the turned over edge a^3, said spring being put in compression between these edges. The free end of the limb c^3 is turned at right-angles as at c^4 and projects beyond the outer face of the plate, as clearly shown in Figs. 6 and 7, and also works in a cross slot a^4 of the plate.

A feature in the construction of the plate or bar a is that its longitudinal edge a^3 is cut away, as at d, to provide opposed edges

against which the bit of a key may operate to bodily slide the locking unit to one of two positions, and a further feature of the locking piece is that the limb c^3 of the double limb spring crosses this cut away portion d in order so that the bit of the key may operate against it, so that the limb c^3 constitutes a spring tumbler.

It will be clear from Figs. 4 to 7 that the assembled unit constitutes a single part or member for convenience in handling, the double limbed spring being included practically as part of the plate while under compression, and being prevented from moving longitudinally of the plate by engagement of the right-angled end c^4 with the slot a^4, while at the same time the limb c^3 can freely work as a spring tumbler arm from the curved end of the spring.

The locking unit aforesaid is slidably mounted upon the bolt proper of the catch-lock, and operates in relation thereto and in relation to certain stops on the catch-lock casing in manner hereinafter described, but otherwise the catch-lock is of ordinary construction.

e is the front plate of the catch-lock, f is the back plate, and g is the bolt mounted to slide within a recess f^2 of the back plate between said back plate and the front plate. The front and back plates constitute the casing of the catch-lock.

The bolt g is plate-like. It has a nose end g^2, a key peg g^3, a shaped gap g^4 constituting a gate, positioning bars g^5 for the unit raised therefrom, and holes g^6 whereby a hand operated button h, formed with a keyhole h^2, may be connected to it.

The locking unit Figs. 4 to 7 is placed across the bolt g so that its longitudinal edge a^2 engages under the bars g^5 and its right-angled end c^4 engages the gates g^4. When putting the unit into such position the tumbler limb c^3 of the spring is put into further compression, so that the locking unit is self-holding to the bolt g.

The back plate f forming part of the catch-lock casing is provided at f^3, f^4, with stops.

The nose end of the bolt is adapted to engage a staple or eye in the manner usual in this type of catch-lock fastening.

In Fig. 3 the right-angled end c^4 of the spring is shown as lying in the gate g^4 and against the back plate stop f^3 and that the locking unit is shown as clear of the stop f^4. In this position the bolt g can be manually withdrawn from the button h against the pressure of the spring limb c^3, which operates normally to actuate the bolt g.

To lock the bolt g, the bit of the key, applied to the key post, first lifts the limb c^3 to clear its end c^4 of the V shaping of the gate g^4, after which, while maintaining this lift, the bit operates against the cut away portion d to bodily slide the locking unit across the bolt until the end of said unit moves behind the stop f^4 of the back plate. In this position of the locking unit the right-angled end c^4 of the spring is at the other side of the V piece of the gate g^4. So long as the stop f^4 is in the path of the locking unit the bolt g is locked.

The action of the key on the locking unit for unlocking is exactly the reverse of that just described. The bit first moves the limb spring tumbler, and then moves the whole unit.

The embodiment of the invention shown in Figs. 11 to 14 is very similar to that shown in Figs. 1 to 10.

The same letters of reference are used for the same parts.

The bolt g lies in a recess f^2 of the back plate f, and the locking unit is applied across the bolt within the recess, the bolt being cut away at s for the purpose.

A peg g^4 standing up rigidly from the recess forms the gate for the right-angled end c^4 of the spring c, and this peg and another peg f^3 form back stops against which the locking unit, comprising plate a and spring c slides, said locking unit being only capable of moving transversely across the bolt. The bolt g has its resilient action against the limb c^2 of the spring which abuts against the edge s^2 of the cut-away part s of the bolt.

Fig. 11 shows the unlocked position of the parts.

When the end of the locking unit engages behind the edge s^3, of the cut-away part of the bolt the bolt is locked against withdrawal.

The plate a of the locking unit is formed with a cut-away part d and the limb c^3 of the spring crosses this cut-away part the same as in the former arrangement, it being clear that the bit of the key operates both on the spring limb c^3 and on the edges of the cut-away part d for locking and unlocking the bolt.

In the arrangement Figs. 15 and 16 the locking unit is disposed longitudinally of the bolt instead of transversely.

Said locking unit comprises the plate or bar a and the double limbed spring c as formerly, the one limb c^3 of the spring being formed with a right-angled end c^4 which co-acts with the gate g^4 of the slidable bolt g, and which also is adapted to contact against a stop f^4 projecting from the inner face of the back plate f, which stop is so placed that the spring end c^4 only contacts with it when the locking unit a, c, is in locking position, that is to say in the position different from that shown by Fig. 15.

The bolt g is pressed forward into locking position by the additional double limbed

spring x, the spring c acting only as a spring tumbler and a stop to co-act with the stop f^4.

In the construction just described the one longitudinal edge of the locking unit engages under the positioning bar g^5 of the bolt. The key engages the key post g^3 and operates first upon the limb c^3 of the spring c and then upon the cut-away part d in the manner before described to move the locking unit into either of two positions, unlocking as in Fig. 15, and locking when the right-angled end c^4 of the spring comes into position in front of the stop f^4.

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

1. A key-operated catch-lock comprising a casing, stops carried by the casing, a manually operable bolt slidably mounted within the casing and a key-operated spring containing locking unit carried by the bolt and comprising a rigid member and a limb spring carried by said member, said member being provided with a key sweep and the limb spring being so disposed upon the member that one of its limbs crosses said key sweep to be also acted upon by the bit of the key, the spring limb acting as a tumbler and said member co-operating with the stops on the casing to prevent the withdrawal of the bolt.

2. A key-operated catch-lock comprising a casing, stops carried by the casing, a manually operable bolt slidably mounted within the casing and a key-operated spring containing locking unit carried by the bolt and comprising a rigid member and a limb spring carried by said member, said member being provided with a key sweep, the limb spring being so disposed upon the member that one of its limbs crosses said key sweep to be also acted upon by the bit of the key, the spring limb acting as a tumbler and said member co-operating with the stops on the casing to prevent the withdrawal of the bolt, said spring of the unit also serving as a bolt spring.

3. A key-operated catch-lock comprising a casing, stops carried by the casing, a manually operable bolt slidably mounted within the casing and a key-operated spring containing locking unit carried by the bolt and comprising a rigid member and a limb spring carried by said member being provided with a key sweep and the limb spring being so disposed upon the member that one of its limbs crosses said key sweep to be also acted upon by the bit of the key, the spring limb acting as a tumbler and either said member co-operating with the stops on the casing to prevent the withdrawal of the bolt, said locking unit or piece being arranged transversely of the bolt and being so mounted on the latter that it and the bolt may be safely and conveniently handled as one piece.

4. A key-operated catch-lock comprising a casing, stops carried by the casing, a manually operable bolt slidably mounted within the casing and provided with positioning bars, and a key-operated spring-containing locking unit carried by the bolt and comprising a rigid member and a limb spring carried by said member being provided with a key sweep, the limb spring being so disposed upon the member that one of its limbs crosses said key sweep to be also acted upon by the bit of the key, the spring limb acting as a tumbler and said member co-operating with the stops on the casing to prevent the withdrawal of the bolt.

In testimony whereof I have hereunto set my hand.

CHARLES WILLIAM CHENEY.