Nov. 8, 1927. 1,648,726

H. ENGLISH

LOCK

Filed July 5, 1923

Fig. 1.

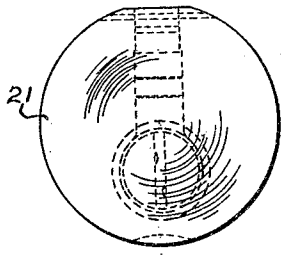


Fig. 2.

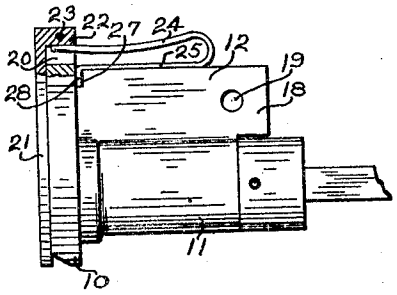


Fig. 3.

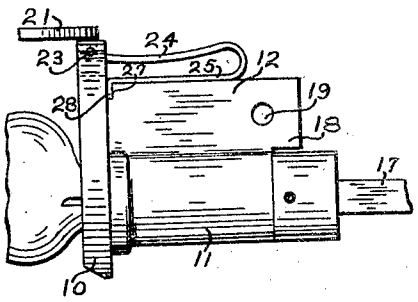


Fig. 4.

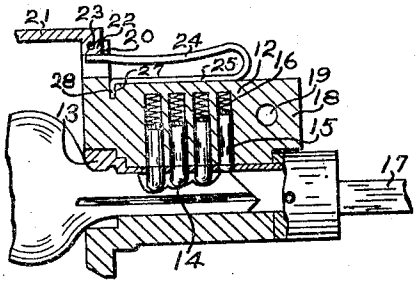
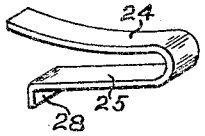


Fig. 5.



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Patented Nov. 8, 1927. 1,648,726

UNITED STATES PATENT OFFICE.

HUNTINGTON ENGLISH, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO SARGENT & COMPANY, OF NEW HAVEN, CONNECTICUT.

LOCK.

Application filed July 5, 1923. Serial No. 649,589.

This invention relates to locks and more particularly to a cylinder lock provided with a dust cap to cover the front face of the lock case and prevent the entrance of foreign matter into the key opening.

In locks designed to be used upon automobile doors and in other exposed places it is sometimes desirable to provide a dust cap, which is usually hinged or pivoted to the lock case so that it may be swung to a position over the keyhole or be moved to an inoperative position when it is desired to insert a key into the lock. A spring is ordinarily provided to yieldably retain the dust cap or cover in either of these two positions. It sometimes occurs that this spring becomes broken and in most prior structures it is a rather difficult matter to take out the parts of the old spring and insert a new one in place.

I contemplate the use, with a lock of this character, of a spring of such a type and secured in place in such a manner that it may be easily removed when its removal is desired for any purpose and a new spring inserted in its place with facility.

One object of my invention is the provision of a lock of this character provided with a dust cap, having a spring which will hold the cap either in open or closed position, and which will at the same time be economical to manufacture and positive in operation.

A further object of my invention is to provide a lock of this character with a spring pressed dust cap and to provide a novel method for securing the spring in place so that while there will be no danger of its becoming dislodged it may be easily removed when desired and a new spring inserted.

A still further object of the invention is the provision of a spring of novel form to co-operate with the dust cap mounted upon the face of a cylinder lock.

To these and other ends the invention consists in the novel features and combinations of parts to be hereinafter described and claimed.

In the accompanying drawings:

Fig. 1 is a front elevational view of a lock case embodying my improvements, the dust cap being shown in closed position;

Fig. 2 is a side elevational view, partly in section, of the lock case shown in Fig. 1;

Fig. 3 is a view similar to Fig. 2 but showing the dust cap in open position and the key in place in the key opening;

Fig. 4 is a sectional view of the parts shown in Fig. 3, and,

Fig. 5 is a detailed perspective view of my improved spring.

While I have selected to illustrate and describe my invention as applied to a cylinder lock of the pin tumbler type, it will be understood that my improvements are not restricted to this type of lock but that on the other hand, the invention is applicable to other types of locks as well.

In the drawings I have shown a lock case consisting of a front plate 10, a cylinder 11 provided with a pin tumbler extension 12, usually formed integrally with the cylinder. Within the cylinder is rotatably mounted the usual key barrel 13, provided with the pin tumblers 14, which co-operate with the tumblers 15, mounted in the openings 16 in the extension 12.

At the rear end of the key barrel may be secured the spindle 17 which is rotated by the key to actuate the lock or latch mechanism (not shown). The pin tumbler extension 12 may be itself extended rearwardly as at 18 and provided with an opening 19 for the reception of a pin or screw inserted in the door at right angles to the axis of the lock case to secure the lock in position therein.

At its upper end the front plate 10 of the lock may be slotted or recessed to provide a pair of upstanding ears 20, to provide for the connection of the dust cap. The dust cap 21 will preferably be of a size to cover the front of the lock case, and is provided at its upper portion with a tail piece 22 extending rearwardly from the body of the cap. A pin 23 is passed through the tail piece and through the upstanding ears 20 to pivot the dust cap to the face plate.

In order to hold the dust cap either in closed or open position, I prefer to use a plate or leaf spring of the form shown at 24, in Fig. 5. The spring is bent to assume a U-shaped form, the lower leg 25 of the U being adapted to lie along the upper surface of the lock case, which in the embodiment shown, is the flat upper side of the pin tumbler extension 12. The upper leg of the spring is sufficiently long to project below the tail piece 22 of the dust cap and by its tension will hold the cap in position.

A kerf or notch 27 is provided in the lock case just rearwardly of the face plate, and the end 28 of the lower part of the spring is bent downwardly at right angles to the body of the spring and is inserted in this slot. It will be apparent from Figs. 2 and 4 that the reaction of the spring against the tail piece of the dust cap will tend to keep the end 28 firmly seated in the slot so that no other connection is needed.

When the dust cap is in closed position as shown in Fig. 2, the upper leg of the spring contacts with the lower side of the tail piece 22 and by pressure thereon due to the tension of the spring, holds the dust cap yieldably in this position. When the cap is opened as shown in Fig. 4, the spring rides over the lower edge of the tail piece and contacts with the rear face thereof so as to hold the cap or cover in open position. The key may then be inserted in the key opening without the necessity of the dust cap being held in this position by the operator.

The spring 24 will preferably be of approximately the same width as the distance between the ears 20 so that any lateral movement of the spring will be prevented.

If the spring becomes broken the parts may be removed from the lock case and a new spring inserted, the bent end 28 slipping freely into the slot 27 and being retained securely therein after the other end of the spring has been inserted between the ears 20 below the tail piece of the dust cap. The end 28 of the spring engaging in the kerf prevents any tendency of the spring to work rearwardly and to become disengaged from contact with the tail piece of the dust cap.

While I have shown and described a preferred embodiment of my invention, it will be understood that it is not to be limited to all of the details shown but it is capable of modification and variation within the spirit of the invention and within the scope of the appended claims.

What I claim is:

1. A lock case, a dust cap hinged thereto, said case being provided with a recess and a spring having its body portion resting upon the lock case and one end lodged in said recess and said spring bearing against a part of the dust cap to hold it in place.

2. A lock case, a dust cap hinged thereto, a spring reacting against the lock case and a part of the dust cap, and means confining the ends of the spring whereby it is held in place by its own tension.

3. A lock case, a dust cap hinged at one end thereof and arranged to cover the end face of the case, and a spring disposed rearwardly of said dust cap and reacting against the upper surface of the lock case and a part of the dust cap to hold the latter in place.

4. A lock case provided with a pair of ears adjacent its front face, a dust cap hinged between said ears, a spring resting upon and secured to the body of the lock case and having an end disposed between said ears and engaging a part of said dust cap to hold the latter in either open or closed position.

5. A lock case provided with a pair of ears adjacent its front face and having a recess, a dust cap hinged between said ears, a spring mounted upon the body of the lock case and having an end disposed between said ears and engaging a part of said dust cap to hold the latter in either open or closed position, the opposite end of the spring being bent to enter said recess to be engaged with the lock case to prevent displacement thereof.

6. A lock case provided with a rotatable key plug and a pin tumbler extension having a flat upper face, a dust cap hinged to the lock case adjacent the front face thereof, and a leaf spring reacting between the flat upper face of the pin tumbler extension and a part of the dust cap for the purpose described.

7. In a device of the character described, a supporting body, a member hinged thereto, a U-shaped leaf spring having its ends reacting against said hinged member and body, respectively, and means to connect one end of said spring with the body case to prevent longitudinal movement thereof.

8. In a lock, a case, a dust cap hinged thereto, and a U-shaped spring secured at one end to the case and having its free end engaging said dust cap to hold the latter in place.

9. In a lock, a case, a dust cap hinged thereto, and a spring having one end engaging said dust cap to hold the latter in place and having its other end engaged loosely with said case, the reaction of said spring tending to hold it in place.

10. A lock case, a dust cap pivoted thereto, said case being provided with a kerf, a leaf spring having one end engaged with the dust cap and the other end engaged in said kerf and being constructed to maintain itself in position.

11. A lock case having a dust cap hinged thereto, a U-shaped spring having one end thereof engaged with said dust cap and having its other end turned transversely to the body of the spring and engaged with said lock case.

12. A lock case, a dust cap pivoted thereto, a U-shaped spring having one end engaged with the dust cap to hold it in place and having its other end turned transversely to the body thereof, said lock case being provided with a kerf, the transverse end of said spring being disposed in said kerf.

13. A lock case, a dust cap pivoted thereto, a U-shaped spring having one end en-

gaged with the dust cap to hold it in place and having its other end turned transversely to the body thereof, said lock case being provided with a kerf adjacent the forward end thereof, the transverse end of said spring being disposed in said kerf.

14. A lock case, a dust cap pivoted thereto, a U-shaped spring having the end of one leg thereof engaged with said dust cap and having its other leg lying flatwise against the lock case and secured thereto.

15. A lock case having a dust cap hinged thereto and being flattened upon its upper side, a U-shaped spring having one leg thereof lying against said flattened portion of the case and secured thereto, and having its other leg engaging said dust cap to hold the latter in position.

In witness whereof, I have hereunto set my hand this 22 day of June, 1923.

HUNTINGTON ENGLISH.

CERTIFICATE OF CORRECTION.

Patent No. 1,648,726. Granted November 8, 1927, to

HUNTINGTON ENGLISH.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 2, line 97, claim 7, strike out the word "case"; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 6th day of December, A. D. 1927.

M. J. Moore,
Acting Commissioner of Patents.

Seal.