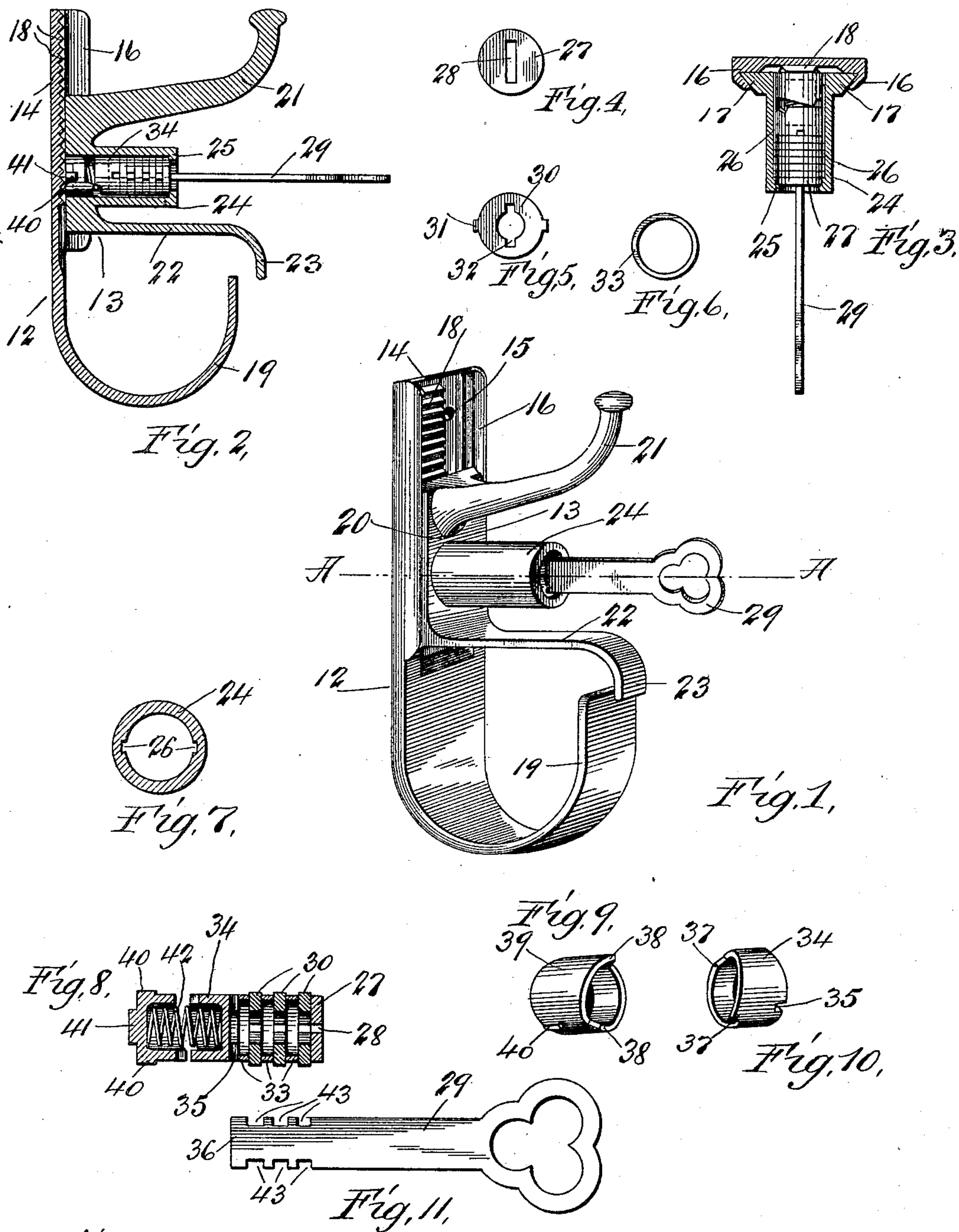


No. 697,753.

Patented Apr. 15, 1902.

O. C. SCHULZ.  
SAFETY COAT HOOK.  
(Application filed Apr. 20, 1901.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## SAFETY COAT-HOOK.

SPECIFICATION forming part of Letters Patent No. 697,753, dated April 15, 1902.

Application filed April 20, 1901. Serial No. 56,738. (No model.)

*To all whom it may concern:*

Be it known that I, OTTO C. SCHULZ, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Safety Coat-Hooks, of which the following is a specification.

My invention is concerned with coat-hooks of the type where they are adapted to be locked in position to prevent the surreptitious removal of the coat that may be hung thereon; and my improvements are designed to produce a coat-hook of this class that can be quickly locked in any position of adjustment and in which the key cannot be withdrawn while the hook is unlocked, thereby preventing the user from accidentally removing the key before it was locked, thinking it was locked, and also preventing the user from withdrawing the key and unintentionally carrying it off when he has unlocked the apparatus to remove his coat.

Referring to the accompanying sheet of drawings, in which the same reference characters are used to designate identical parts in all the figures, Figure 1 is a perspective view of the apparatus, showing the hook locked and the key in position to be withdrawn. Fig. 2 is a central longitudinal section through the hook, showing the locking mechanism in the position it assumes when it is unlocked. Fig. 3 is a horizontal section on the line A A of Fig. 1. Fig. 4 is a detail view of the key-hole-disk. Fig. 5 is a similar view of one of the wards of the lock. Fig. 6 is a similar view of one of the spacing-rings of the lock. Fig. 7 is a sectional view through the barrel of the lock. Fig. 8 is a horizontal sectional view through the contents of the barrel of the lock, showing the position of the parts when it is unlocked. Fig. 9 is a perspective view of the sliding locking-plunger. Fig. 10 is a perspective view of the cooperating rotating cam-piece, and Fig. 11 is a side elevation of the particular form of key designed to be used with the particular lock illustrated.

As is customary in this class of devices, I employ two members which are movable relative to each other, member 12 being preferably stationary, while the member 13 is movable therein. The stationary member 12 consists of the back piece 14, which is adapted

to be secured to a wall, preferably by screws passed through the apertures 15. In the forwardly-projecting edges of the back piece are formed the ways 16, which are adapted to receive and hold the edges 17 of the sliding member 13. In the middle of the front of the back plate is formed a series of serrations 18, with which the locking member coöperates in the manner to be subsequently described. The lower end of the stationary member 12 is preferably formed in the shape of the broad hook 19, upon which the coat can be hung without indenting it materially.

The movable member 13 consists of the body portion 20, whose edges 17 slide in the ways 16, as previously described, and preferably has projecting from the upper portion thereof the hook 21, upon which a hat can be hung in position where it covers the locking mechanism, so that people who may desire to tamper with the same cannot readily examine it without creating suspicion. The lower part of the body portion is provided with the forwardly-projecting arm 22, whose downturned end 23 takes over the upper end of the hook 19 to hold the coat or whatever article may be placed upon the hook from being removed when it is pressed down upon it. Projecting forward from the center of this body portion is the barrel 24, which contains the locking mechanism. This barrel 24 is a hollow cylinder, with the inwardly-projecting flange 25 at its front end, which serves to hold the parts therein and to permit the entrance of the key to the barrel. It has also the oppositely-disposed horizontal grooves 26 extending throughout its length for the purpose to be described. Next to the flange 25 is the key-hole-disk 27, which, as seen, is simply a flat circular disk adapted to fit in the barrel and having the elongated rectangular aperture 28 therein of the size to receive the blade of the key 29. Next to the keyhole-disk 27 is placed a ward 30, which, as will be seen in Fig. 5, consists of the disk having the oppositely-disposed lugs 31 thereon adapted to take into the grooves 26 in the barrel when the parts are assembled. The disk has therein the aperture 32, elongated vertically, so as to receive the blade of the key, and having its central portion enlarged, as seen, to a circle sufficient



to permit the reduced portions of the key to turn therein. Next to the ward 30 is placed the spacing-ring 33, which simply serves to separate the wards the required distance, and as many wards and rings are placed alternately as may be necessary to accommodate the particular style of a key that the lock is adapted to accommodate. Next to the innermost spacing-ring 33, or it might be next to a ward if the key was so designed, is the rotating cam-piece 34, which consists of the cup-shaped cylinder having the transverse groove 35 therein adapted to receive the end 36 of the key, so that as the key is turned the cam-piece is turned with it. The rear edge of the cam-piece is formed with one or more cam projections 37, which cooperate with complementary cam-lugs 36, formed on the front of the sliding locking-plunger 39, the shape of the lugs 37 and 38 being such that when the channel 35 is in a horizontal position the sliding locking-plunger 39 can move back, so that the edges of the cam-lugs 38 will be in contact with the edges of the corresponding cam-lugs of the cam-piece 34 throughout their peripheries. When the cam-piece 34 is rotated to a position where the channel 35 is vertical, the cam-lugs 37 and 38 are out of register, so that the sliding locking-plunger is necessarily pushed rearward, as shown in Fig. 3. The sliding locking-plunger 39 is provided with the lugs 40, which fit in the channels 26 and prevent the plunger from turning with the rotating cam-piece 34, so that the cam-lugs 37 and 38 will force the plunger rearward when the key 29 is turned from the horizontal to the vertical position. The rear end of the locking-plunger is provided with the lug 41, which is of a shape to fit in whatever one of the serrations 18 it may be opposite.

While it is not absolutely necessary to have the sliding locking-plunger 39 and the rotating cam-piece 34 held apart by the helically-coiled expanding-spring 42, which is interposed between the two cup-like pieces, I preferably employ this spring to separate the parts, thus holding the sliding member yieldingly in whatever position it may be moved when it is unlocked, and also serving to hold the wards and spacing-rings in their proper relative adjustment.

The operation of my improved device will be readily apparent. When the key is inserted, which can only be when it is in its vertical position, owing to the vertical position of the elongated recesses 32 in the wards, its end 36 fits in the channel 35 and the key is then turned, the notches 43 in the key, formed by the reduced portion shown, permitting the proper key to be turned when properly positioned in the lock in spite of the wards 30. When the key is turned to the horizontal position shown in Fig. 1, the sliding member 13 can be moved up or down, as may be required, the spring 42 permitting the backward movement of the plunger. If the coat is to be hung up, the sliding member is

moved up as much as may be necessary. The coat is then hung on the hook and the sliding member is moved down until the end 23 of the arm 22 takes over the hook 19, so as to prevent the removal of the coat. The key is then turned to its vertical position, and when it is thus moved the cam-lugs 37 and 38, cooperating with each other, hold the plunger in its rearmost position and prevent its being moved forward, so that the sliding member cannot be raised. The key can now be withdrawn and held by the owner of the coat. When he desires to take it, he inserts the key in the lock and turns it to the horizontal position, when the sliding member can be moved up sufficiently to release the coat. If he should thoughtlessly attempt to pull out the key, he will find that it is held in position unless he turns it to the locking position, which is not ordinarily done after the coat is removed.

While I have shown my invention as embodied in the form which I at present consider best adapted for carrying out its purposes, it will be understood that it is capable of some modifications and that I do not desire to be limited in the interpretation of the following claims, except as may be necessitated by the state of the prior art.

What I claim as new, and desire to secure by Letters Patent in the United States, is—

1. In a device of the class described, the combination with the two relatively movable members, one of which is provided with the serrations, of the plunger cooperating with said serrations, a spring cooperating with said plunger to hold it yieldingly in engagement with said serrations, and means for locking said plunger in any position of adjustment of the two members to prevent their unauthorized relative movement in either direction; substantially as described.

2. In a device of the class described, the combination with the two relatively movable members, of a lock interposed between said members to lock them from movement in either direction in any position of adjustment, and a key for said lock, said lock and said key being so constructed that the key cannot be removed unless said members are locked together; substantially as described.

3. In a device of the class described, the combination with the two relatively movable members, of a lock interposed between said members and consisting of the sliding plunger held from rotation and having the cam-lugs thereon, together with the rotating cam-piece adapted to be turned by the key and cooperating with said cam-lugs; substantially as described.

4. In a device of the class described, the combination with the two relatively movable members, one of which is provided with the serrations, of the spring-pressed plunger cooperating with said serrations and having the cam-lugs thereon, means for preventing the rotation of said plunger, and the rotating



cam-piece adapted to be turned by the key and cooperating with the cam-lugs on said plunger; substantially as described.

5 In a device of the class described, the combination with the two relatively movable members, of a lock interposed between said members and consisting of the sliding plunger held from rotation and having the cam-lug thereon, the rotating cam-piece adapted  
10 to be turned by the key and cooperating with said cam-lugs, the key, and the wards adapted to prevent the withdrawal of the key except when the plunger is in locking position.

15 6. In a device of the class described, the combination with the two relatively movable members, one of which is provided with the serrations, of the spring-pressed plunger cooperating with said serrations and provided with the cam-lugs thereon, the rotating cam-  
20 piece adapted to be turned by the key and cooperating with said cam-lugs, the key, and the wards adapted to prevent the withdrawal of the key except when the plunger is in locking position; substantially as described.

25 7. In a device of the class described, the combination with the two relatively movable members, of a lock interposed between said members and consisting of the cup-shaped sliding plunger held from rotation and having the cam-lugs on its edges, the cup-shaped  
30 rotating cam-piece adapted to be turned by the key and cooperating with said cam-lugs,

and the expanding-spring between said plunger and cam-piece; substantially as described.

8. In a device of the class described, the  
35 combination with the two relatively movable members, of a lock interposed between said members and consisting of the cup-shaped sliding plunger held from rotation and having the cam-lugs on its edges, the rotating  
40 cam-piece adapted to be turned by the key and cooperating with said cam-lugs, the key, and the expanding-spring between said plunger and cam-piece; substantially as described.

9. In a device of the class described, the  
45 combination with the barrel having the channels 26 therein and the flange 25 at the outer end thereof, of the spring-pressed plunger adapted to slide in said barrel and having lugs  
50 40 projecting in the channels 26 and the cam-lugs 38 thereon, the rotating cam-piece 34 having the channel 35 therein and the cam-lugs 37 thereon, wards 30 having the lugs 31 thereon adapted to fit in the channels 26 of  
55 the barrel and having the elongated slots 32 therein, and the key having the notches 43 adapted to cooperate with the wards and the end 36 adapted to cooperate with the channel 35; substantially as described.

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Witnesses:

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