

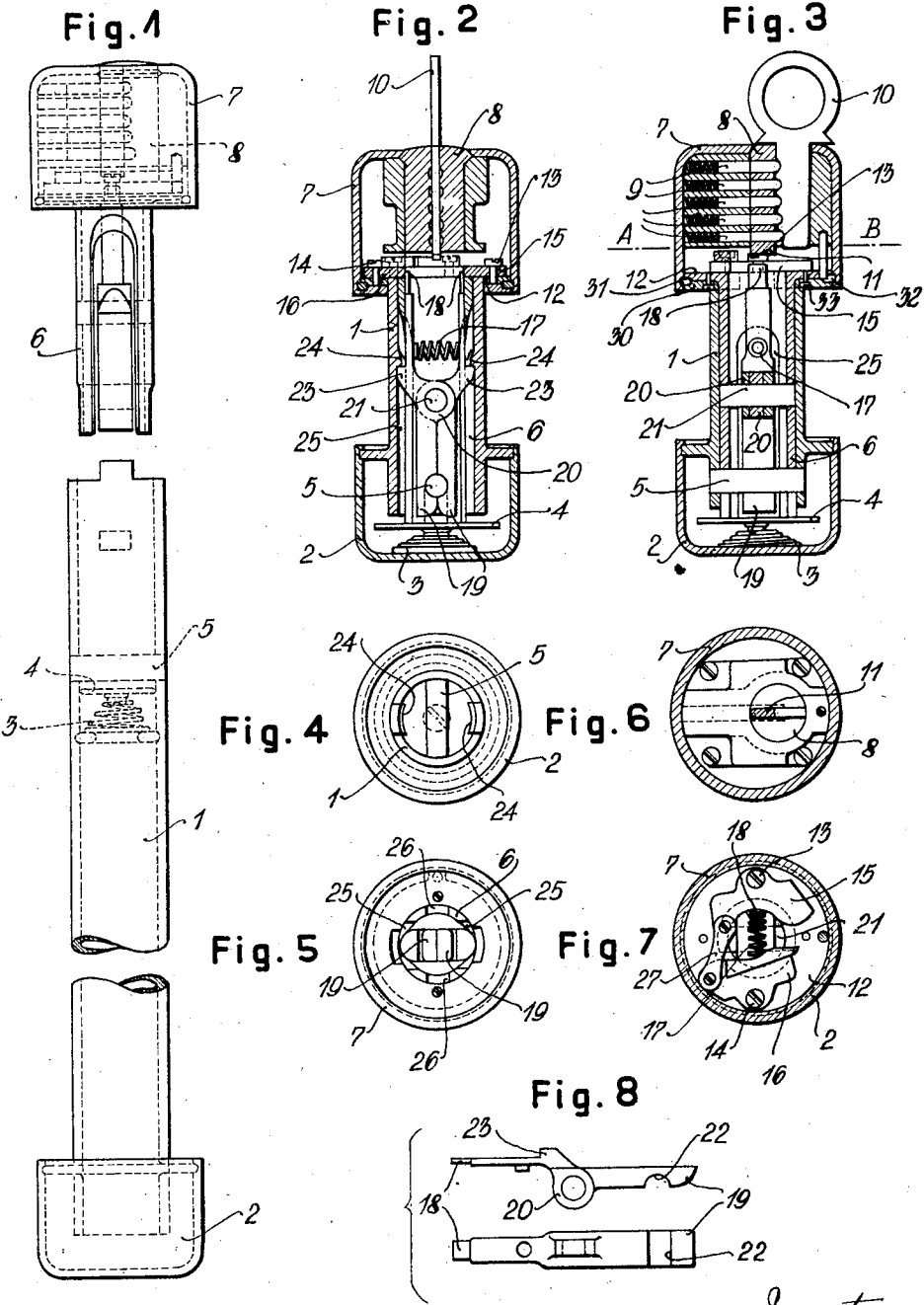
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PADLOCK

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# UNITED STATES PATENT OFFICE.

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## PADLOCK.

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This invention relates to a padlock of the kind, in which two tubular members or a tubular member and a rod-like member embrace each other and are secured by a spring lock enclosed within said parts in such a manner that unlocking can only be performed by a key.

According to my invention, locking of the parts is performed by means of latches arranged in one of the two co-operating lock members and provided with locking faces adapted to embrace a cross-piece or fore lock arranged in the second lock member and to grip suitable keepers or staples. Further particulars of the invention will be seen from the following detailed description.

In the accompanying drawing I have illustrated two different embodiments of my invention.

Fig. 1 shows one embodiment of the lock in front view.

Figs. 2 and 3 show a modification of the lock in two vertical sections at a right angle with respect to each other.

Figs. 4 and 5 show respectively one of the locking elements in plan view.

Fig. 6 is a section along line A—B of Fig. 3, seen from below.

Fig. 7 is a section along line A—B of Fig. 3, seen from above.

Fig. 8 shows a detail.

The lock consists of two tubular pieces, which will hereinafter be referred to as bolt piece 1 and locking element 6 respectively. Both elements may be arranged so as to slide within ears which are fastened in both leaves of a folding or sliding door and project therefrom at right angles, the loop of the ear lying vertically so as to allow the bolt piece to perform a lateral sliding movement through it. In each door leaf there is at least one ear for carrying the elements 1 and 6 or alternatively the arrangement may be such that only one of the tube shaped lock elements is slidable whereas the other is rigidly fastened to one of the leaves. The length of bolt piece 1 corresponds to the distance between the ears fastened in the door as shown in Fig. 1. In order to limit the sliding movement through the ears the bolt-piece is at one of its ends provided with a cylindrical head 2 of larger diameter, the outer edge of the casing being rounded. In the embodiment of the device shown in Figures 2 and 3 the head contains at the bottom a spring 3 and a buffer plate 4, while in the embodiment illustrated in Fig. 1 the said parts 3 and 4 are arranged within the tube-shaped bolt-piece itself. A cross-piece 5 is provided in the bolt element 1 serving as a locking device proper which is fastened to the walls of the bolt-piece at right angles to the longitudinal axis thereof. The second element of the lock, the so-called locking element 6, is likewise tube-shaped and also carries at one of its ends a head 7 larger in diameter than the tube proper in which a lock is located preferably of the cylinder type. It consists of a cylinder 8 which can only be turned after the combination elements 9 have been brought into a certain position by means of a key 10. The cylinder 8 is provided with a projecting portion 11 which upon rotation of the key 10 operates two actuating members 15 and 16 pivotally mounted on a base plate 12 by means of screws 13 and 14; the said actuating members serve for compressing the rear ends 18 of latches kept apart by means of a spring 17. The said latches form a tongue and are provided with eyes 20 encircling a pin 21 fastened in the locking element 6 at a right angle with respect to the longitudinal axis thereof; at the inside of the front ends of the latches there are incisions 22 the size of each of which is half the size of the cross-section of the cross piece 5. In front of the incisions, the front ends of the latches are provided with rounded edges 19 directed outwardly and forwardly, with respect to the center of the locking device. In the position of rest in which the rear ends 18 of the latches are pressed apart from each other by means of the spring 17, the said latches engage by means of shoulders 23 with projections 24 which form keepers on the locking piece 6. The tubular wall of the locking element 6 is provided with recesses 25 for accommodating the latches and slots 26 for the cross-piece 5. The two actuating members 15 and 16 are connected by means of a link 27 (Fig. 7), so that when member 16 is rocked by the projection 11 the member 15 is at the same time rocked to the opposite side. The arms of the actuating members are pressing upon the respective rear ends

18 of the latches which are held apart by the spring 17 and the rear ends of the latches are thus moved towards each other whereas at the same time the front ends 19 of the latches are pressed apart. The head 7 is closed at its open end by means of a sheet or covering plate 30 which is held at its place by means of a divided ring 31, which enters recesses 32 in the side wall of the head and annular recesses provided in the cover plate 30 and in the base plate 12 of the lock. Said base plate is secured to the cover plate by means of small screws 33 with countersunk heads arranged at such a distance from the longitudinal axis of the lock that they will be half covered or fully covered by the front edge of the bolt element 1 when this element is in its locking position. This method of inserting the base plate will allow easy mounting and removal of all the parts, while presenting no surface or part which could easily be attached by any one attempting to force the lock, as only a smooth and uninterrupted surface, not presenting any point of attack to any tool (with the sole exception of the key hole) is accessible at the outside of the lock.

In actual use the locking element 6 is pushed into the bolt-piece 1; while this is done the latch ends 18 slide with the inclined faces of their shoulders 23 along the inclined faces of the projections 24 of the locking element 6, the ends 18 being moved towards each other whereas ends 19 are receding which action is completed as soon as the inclined faces of their edges reach the cross-piece 5 which is embraced by the incisions 22 while the ends 19 are again pressed together by the action of spring 17.

The lock can only be opened by means of key 10, by which the cylinder 8 and the projection 11 are rotated to relieve the cross-piece 5 from the locking action of the latches. The buffer plate 4 with its spring 3 which is put under tension when the locking element 6 is completely introduced facilitate withdrawing of the locking element 6 from the bolt piece 1, spring 3 being released thereby and pressing on the front edge of the locking element 6. The cylinder lock may be of any approved type and may especially be constructed in such a way that the key 10 can only be withdrawn in the loose position of the lock.

What I claim is:—

1. A locking device comprising two telescoping members, lugs formed on the inner periphery of one of said members, spring actuated latches pivoted in the other member adapted to automatically move into locking engagement with said lugs, pivoted members for actuating said latches to move the latter out of locking engagement, and a rotary member for actuating the pivoted members.

2. A locking device comprising two telescoping members, cams having abutment faces formed on the inner periphery of one of said members, spring actuated latches pivoted in the other member, shoulders formed on the outer faces of the latches adapted to ride on said cams and engage said faces, pivoted members for actuating said latches to move the latter out of engagement with said faces, and a rotary member for actuating the pivoted members.

3. A locking device comprising two telescoping members, lugs formed on the inner periphery of one of said members, spring actuated latches pivoted in the other member having projections to engage said lugs, means for actuating the latches against the action of their spring, and a key controlled cylinder for operating the actuating means.

4. A locking device comprising a casing, a rotary lock cylinder mounted therein, a telescoping cylindrical bolt mountable in said casing, lugs formed on the inner periphery of said bolt, latch bars pivotally mounted in said casing having shoulders formed thereon to engage said lugs, and means operable by the rotation on the lock cylinder to actuate the latch bars to free the latter from said lugs.

5. A locking device comprising a casing, a rotary cylinder lock mechanism mounted therein, a telescoping cylindrical bolt mountable in said casing, lugs formed on the inner periphery of said bolt, centrally pivoted latch bars mounted in the casing, a spring interposed between the rear ends of the latch bars normally separating said ends, shoulders formed on said bars between their front and rear ends for engaging said lugs, and means operable by the lock cylinder for moving the latch bars against the action of the spring to release said bars from the lugs.

6. A locking device comprising a casing, a rotary cylinder lock mechanism mounted therein, a telescoping cylindrical bolt mountable in said casing, lugs formed on the inner periphery of said bolt, centrally pivoted latch bars mounted in the casing, a spring interposed between the rear ends of the latch bars normally separating said ends, shoulders formed on said bars between their front and rear ends for engaging said lugs, means operable by the rotary movement of the lock cylinder for moving the rear ends of the latch bars against the action of the spring to release said bars from the lugs.

7. A locking device comprising a cylindrical casing, a key controlled lock-cylinder rotatably mounted therein, a telescoping cylindrical bolt slidably mountable in the casing, cams formed on the inner periphery of the bolt having end abutment faces, centrally pivoted latch bars mounted in the casing having shoulders on their outer sides adapted to ride on said cams and to engage said

faces, a spring interposed between the rear ends of the latch bars normally separating said rear ends, a cross bar fixed in the bolt, recesses formed in the front end portions of the latch bars to receive the cross bar, actu-  
5 the latch bars, and a lug on the lock cylinder for actuating said members to move the rear ends of the latch bars against the action of the spring. 10

In testimony that I claim the foregoing as my invention, I have signed my name.

IGNATZ GONYK.