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LATCHING DEVICE

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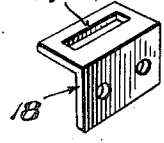
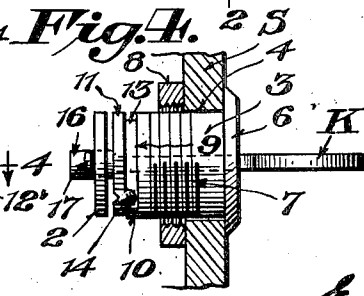
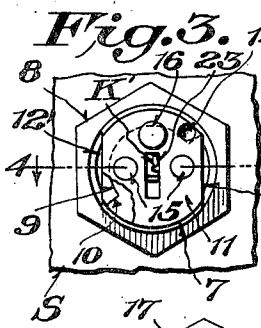
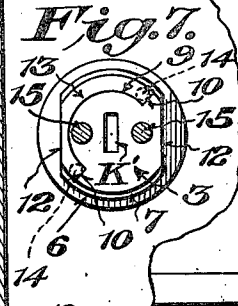
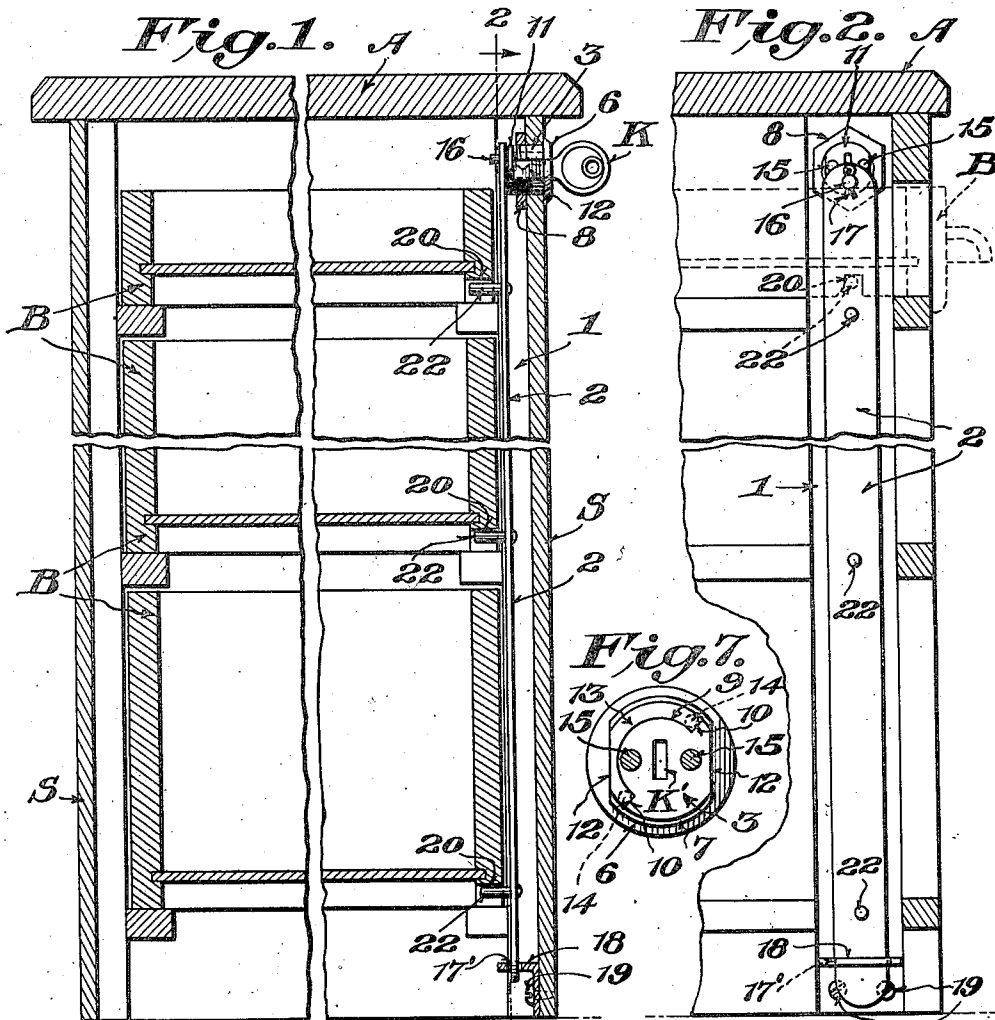


Fig. 6.

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# UNITED STATES PATENT OFFICE

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## LATCHING DEVICE

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6 Claims. (Cl. 70—380)

This invention relates to drawer locks and more particularly to locks for drawers of cabinets, chests, filing cases, desks, bureaus and other articles of furniture.

The primary object of the invention is to provide improved means for locking a series of drawers in their closed position by means of a single lock.

Further, the invention aims to provide means of a simple and compact construction wherein the locking is easily and quickly effected, and also wherein the drawers are effectively locked in closed position, and easily unlocked or released for free opening movements.

Still further the invention aims to provide a novel type or form of cylinder or tumbler lock which controls or operates a single means for locking and unlocking the drawers.

Still further the invention aims to provide a locking device wherein all of the parts occupy a minimum of space and consequently are confined to a relatively small sphere of action in performance of their functions.

A still further and important object of the invention is to provide means for supporting or holding the latching or locking bar or device for the drawers, in both latched and unlatched positions, and in such manner so as to prevent any strain being imposed upon the tumblers of the lock, thereby to prevent any injury or damage thereto.

Still further the invention aims to provide locking means which offers maximum safeguard against so-called "picking" of the lock, for example, by means of a coin, tool, or other instrument.

Still further the invention aims to provide a locking or latching bar or device, which is operated directly by and from the rotatable barrel of a cylinder or tumbler lock.

The invention has still further and other objects which will be later set forth and of themselves manifested in the course of the following description.

In the drawing:

Figure 1 is a vertical sectional view partly broken away showing the invention applied to a series of drawers;

Figure 2 is a section on the line 2—2 of Figure 1;

Figure 3 is a detail view partly broken away and in rear plan of the lock per se;

Figure 4 is a section on the line 4—4 of Figure 3;

Figure 5 is an enlarged fragmentary view, partly in section, showing the drawer and its keeper with the latching pin in latched position in full lines and unlatched position in dotted lines;

Figure 6 is a detail perspective view of the guide for the lower end of the latching bar, and

Figure 7 is an end elevation of the lock, partly in section, and with the plate 11 removed.

In the drawing, A designates a cabinet, filing case or other article of furniture, shown equipped with three (3) drawers B, by way of example. The case or cabinet is preferably formed with a vertical guide 1, in which operates the latching or locking bar 2.

The means for operating, and also locking, the latching bar against movement is composed of a cylinder or tumbler lock having a casing 3 of substantially cylindrical form which extends through an opening 4 provided therefor in a side wall S, of the cabinet, the casing 3 having diametrically opposed flattened portions 12 while the opening 4 is provided with like portions engageable with portions 12, to hold the casing against rotation when rigidly affixed in position.

The casing has a front plate 6, which abuts the outer face of the side wall S, of the cabinet, and has its periphery threaded as shown at 7 to receive a securing nut 8, which latter abuts the inner side face of the wall S, so as to firmly clamp the lock in position against rotary or longitudinal movements.

The inner end of the casing 3, is cut away as indicated at 9, to provide a pair of stops 10, which latter are spaced a distance of approximately 180°. A disc-like plate or member 11, which has its sides cut away as indicated at 12', to correspond with the flattened portions 12, of the lock casing 3, is secured to the inner end of the rotatable barrel 13 of the lock casing and is rigidly connected to the latter by means of screws, or rivets 15, as shown in Figure 3.

The member 11 has a struck out portion 14, forming a projection which is engageable with the stops 10, to limit rotation of the lock barrel according to the direction of rotation of the latter in latching and unlatching the drawers, and to support the bar 2, thereby to relieve the tumblers of the lock of any strain, which otherwise would be imposed thereon.

The member 11 further has a pin 16 rigidly affixed thereto in eccentric relation to the axis of rotation of the barrel of the lock, the pin extending through an opening provided therefor in the latching bar 2. The bar 2 has its move-

ments axially of the pin 16 restricted by a cotter pin 17 which is carried by the pin 16.

The latching bar 2, is thus supported at its upper end for longitudinal and transverse movements within the range defined by the stops 10, while its lower end slidably and rockably extends through a slot 17' formed in the upper side of an L-shaped bracket 18 which latter is fixedly secured to the wall S, of the cabinet by means of screws 19.

Each of the drawers is formed with a keeper 20 in the lower edge of one of the sides thereof, the keeper being cut away as shown at 21 to provide for lateral movement of the latching pin 22. As illustrated a similar keeper, and a latching pin 22 is likewise provided for each of the drawers, so that all of the drawers when in closed position will be simultaneously latched and secured in closed position.

The lock is operated by a key K, and when in its projected position, within the lock, has its end K' received in a slot 23 formed in the plate 11.

In operation, and in order to lock the drawers, the key K is inserted in the slot of the lock and turned to move the bar 2 in an upward direction so as to bring the latching pins 22 to the dotted line position, as shown in Figure 2, wherein the same lie within the keepers 20 of the drawers.

The bar 2 due to the eccentricity of the pin 16 is rocked and simultaneously moved in an upward direction, so that the pins 22 move in an arc-like direction as indicated in dotted lines in Figure 5.

When in this position the projection 14 of the member 11 engages the stop 10 formed on the lock casing 3 as shown at the right upper side of Figure 7, whereby the weight of the bar and also any pressure exerted thereon by the drawers is imposed upon or assumed by the casing 3 of the lock, thereby relieving the tumblers of the lock of any strain.

In unlocking the drawers, the key K is turned in a reverse direction so that the latching pins 22 are moved from the dotted line to the full line position of Figure 2, out of the keeper 20, thus releasing the drawer or drawers for free opening movements.

When the bar 2 occupies the position of Figure 2, then the projection 14 of the member 11 engages the stop 10 at the bottom left side of the lock casing 3, thus likewise relieving the tumblers of the lock of any strain which would be imposed thereon by the weight of the bar 2.

Thus it will be seen that in either latched or unlatched position of the bar 2, the lock tumblers are relieved of any strain.

It is further to be understood that the invention is susceptible of use with a single drawer as well as with a series of drawers, which latter is illustrated in the drawing.

The invention is also susceptible to such changes, modifications, or alterations as may fall within the scope and spirit of the appended claims.

What is claimed is:

1. A latching device, including a lock having a casing having an inner end cut away to provide a pair of spaced stops, a key actuated barrel rotatably mounted in the casing, a disc-like mem-

ber rigidly secured to the inner end of the barrel and having a projection operable in said cut-away portion and engageable with said stops, a pin connected to the member and disposed eccentric to the axis of rotation of the barrel and having a slot to provide for the reception of the free end of the key shank, and latching means having an opening to receive the eccentric pin of the lock, said eccentric pin being engageable with the stops so as to support the latching means from the stops in respective latching and unlatching positions thereof.

2. A latching device, including a lock having a casing, said casing having an inner end provided with a pair of spaced stops, a key actuated barrel rotatably mounted in the casing, a member rigidly secured to the inner end of the barrel and having a projection engageable with said stops, a pin connected to the member and disposed eccentric to the axis of rotation of the barrel, and latching means having an opening to receive the eccentric pin of the lock, said eccentric pin being engageable with the stops so as to support the latching means from the stops in respective latching and unlatching positions thereof.

3. A latching device, including a lock having a casing, a key actuated barrel rotatably mounted in the casing, a member rigidly secured to the inner end of the barrel, stop means to restrict rotary movements of the member, a pin connected to the member and disposed eccentric to the axis of rotation of the barrel, latching means, and means to connect the latching means to the eccentric pin, the eccentric pin being engageable with the stop means so as to support the latching means from the stops in respective latching and unlatching position thereof.

4. A latching device, including a lock having a casing, a key actuated barrel rotatably mounted in the casing, a pin, means to connect the pin to the lock barrel in a position eccentric to the axis of rotation of the barrel, latching means connected to the eccentric pin for actuation by the latter upon movement of the lock barrel, and means to hold the latching means in latched and also unlatched positions to prevent the same from exerting strain on the lock tumblers.

5. A latching device including a lock having a casing, a key actuated barrel rotatably mounted in the casing, a disk-like member superposed upon and connected to the inner end of the barrel to rotate therewith, an eccentric pin extending outwardly from the outer face of the member, complementary stop means confronting each other between and on the inner face of the barrel and on the inner face of the disk-like member respectively to restrict rotation of the barrel, and latching means having operative connection with the pin for actuation thereby.

6. A latching device in accordance with claim 5, wherein the stop means between the inner face of the barrel and the inner face of the disk-like member consists of a curved cut-out portion on one of said elements, the terminals of which form abutments, and a projection on the other member movable in the cut-out portion and engageable with the abutments thereof.

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