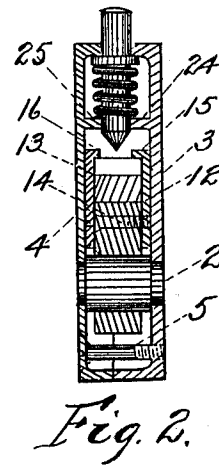
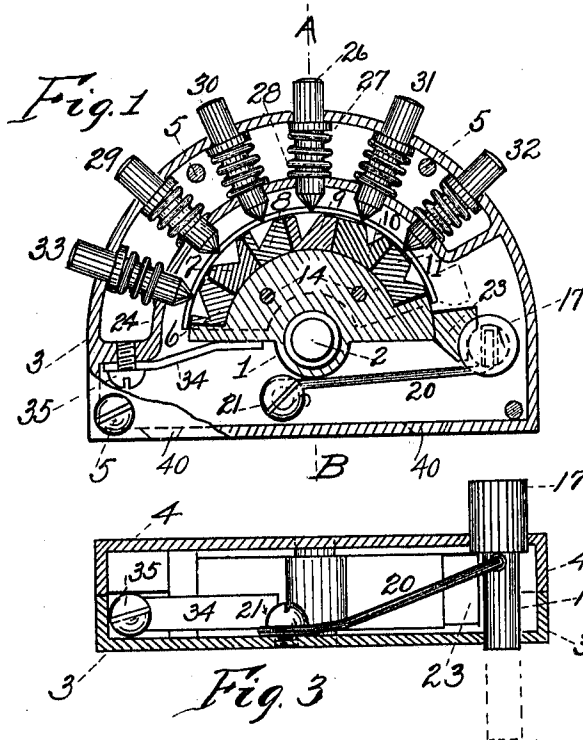
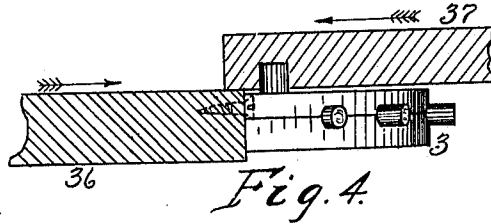


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LOCK.

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LOCK.

980,154.

Specification of Letters Patent.

Patented Dec. 27, 1910.

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To all whom it may concern:

Be it known that I, ELAM HERSHEY, a citizen of the United States, and a resident of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Locks, of which the following is a specification.

My invention relates to that class of locking devices that are applicable to show case doors and my objects are, first; to provide a substantial combination lock that may be attached to the sliding door of a show case, thereby locking said door, and second; to provide means whereby the combination of the lock may be changed.

With these objects in view my invention consists in certain novel features of construction and arrangement of parts as will hereinafter be pointed out in the claims, reference being had to the accompanying drawing forming part of this specification and in which,

Figure 1 is a view of said lock partly in section with the cover removed showing the arrangement of the parts, Fig. 2, a sectional view on line A—B Fig. 1, Fig. 3, is a sectional view showing more clearly the arrangement of the locking pin, and Fig. 4, a view showing a convenient embodiment of my said lock as applied to a show case door.

Referring to said figures, 1 designates a sector member rigidly secured to a pin 2 which passes through the geometrical center of said sector. 3 designates a suitable casing adapted to inclose the locking mechanism and said casing is provided with a cover 4 secured to said casing by the screws 5. Said pin 2 is provided with a reduced portion at each end thereof which fits snugly in an aperture in the casing and in the cover. Said apertures form a bearing support for said sector which permits said sector to revolve freely inside of said casing. Mounted on the periphery of said sector and of a width equal thereto are the members 6, 7, 8, 9, 10 and 11 each provided with a triangular groove running the width of said sector. Said members occupy the same angular distance on the periphery of said sector 1; it is evident therefore that the said members may be interchanged with reference to their relative locations. 12 and 13 designate clamp-

ing plates secured to said sector by the screws 14. Said clamping plates 12 and 13 are provided, respectively, with the inturned portions 15 and 16 at the outer periphery thereof and are secured to said sector after the said members 6 to 11 inclusive have been placed on said sector. It is obvious therefore that the said securing plates secures the said members 6 to 11 inclusive to said sector. 17 designates a locking pin adapted to pass through an aperture in said cover and said pin is provided with a reduced portion 18 adapted to pass through an aperture in said casing. 20 designates a resilient member rigidly secured to the casing by the screw 21 and is also operatively connected to the said locking pin 17 at the reduced portion thereof. Said member 20 yieldingly holds the locking pin 17 in engagement with the lip 23. 23 designates a lip integral with the sector 1 and is adapted to engage with the shoulder of the pin 17 formed by the reduced portion 18 thereof. Said pin 17 when in a position as shown in Fig. 3 is held in restraint by the said lip 23 and when released therefrom moves inward under the influence of the resilient member 20. Said casing and said cover 4 are provided respectively, with a semi-circular annular rib 24 and 25 projecting inward to a similar depth of said casing and said cover.

26 designates a key pin provided with a shoulder 27. Said pin 26 is slidably mounted in said casing on a radial line, the radial center of which is on a plane with the joining line of the casing and the cover. It is obvious that said construction enables said key pin to be suitably mounted in said casing. The inner end of said key pin is of conical shape and is adapted to engage with the groove in the member 9. Intermediate of said shoulder 27 on said pin 26 and the inner rib 24—25 is the helical compression spring 28 adapted to actuate the said pin 26 into disengagement with the slot in the member 9 after said key pin has been actuated and released. 29 to 33 inclusive designate similar key pins to that of 26 mentioned and are adapted to engage, respectively, with the slots in the members 7, 8, 10, 11, and 6. 34 designates a resilient member rigidly secured to said casing by the securing screw 35. Said resilient member is adapted to engage

with the surface of said sector in a manner to restrain its movement and yieldingly holds lip 23 in engagement with pin 17.

Having thus described the various parts throughout the several views, all of which will be readily understood by those skilled in the art to which this invention relates, its mode of operation will be substantially as follows:—It will be assumed that the lock is secured to the end of a show case door 36 and that the pin 17 engages with an aperture in the door 37. If the doors have a sliding movement as indicated by the arrows in Fig. 4 it is evident that the locking pin locks the two doors in reference to each other. When it is desired to unlock the said doors the key pin 29 is pressed which moves the sector an angular distance in a counter clock-wise direction due to the point of the key pin engaging with the side of the slot in member 7, and moves it a circular distance equal to the radial difference between the point of the key pin and the base of the slot, but not enough to disengage the lip 23 with the locking pin 17. The said movement of the sector, however, places the key pin 31 in a position to engage with the slot in the member 10 which before the key pin 29 was pressed was not in this condition. The pressing of the key pin 31 engages with the slot in the member 10 and moves the sector a further angular distance due to the reason as stated for the key pin 29. Upon the engagement of the key pin 31 the former engaged key pin 29 is released thereby allowing the key pin 31 to move the sector unrestrained. This extra movement is not yet sufficient to release the said lip 23 from the locking pin 17 but, however, places the sector in such a position so that the key pin 32 can engage with the slot in the member 11. Upon pressing the key pin 32 and releasing the engaged key pin 31 the sector is moved a further angular distance due to the reason as stated for the key pin 29 and 31. The last additional movement releases the lip 23 from the shoulder of the locking pin 17 and the resilient member responds to actuate the locking pin 17 in an inward movement thereby releasing the locked position of the two doors. The reduced portion 18 of the locking pin 17 now protrudes from the case and if it is desired to lock the two said doors the locking pin 17 is made to aline with the aperture in the door 37 by moving the door, and the protruding portion of the pin 17 is pressed a sufficient distance to allow the lip to disengage with the pin 17 and engage with the reduced portion 18, caused by the action of the resilient member 34.

It is evident from Fig. 1 that the pressing of the key pins 31 and 32 will not cause any movement of the sector as they are out of position to engage with their respective slots, and that the pressing of key pins 33,

30 or 26 will effect a reverse undesired movement, and that the key pin 29 is the only and correct first one to actuate, and the movement of the sector caused thereby places the key pin 31 in a condition for operation but not key pin 32, and that the actuation of the key pin 31 places the key pin 32 in a position for operation which unlocks the locking condition, thus a cycle of locking and unlocking is accomplished which accomplishes the heretofore mentioned first object of my said invention. The said key pins 26, 29, 30, 31, 32 and 33 are located on radial lines of an equal angular distance, likewise the members 6, 7, 8, 9, 10 and 11 are located on the same radial lines and obviously the same angular distance. It is obvious therefore that any of the members can be interchanged to assume a different position and that the unlocking combination will be changed. In Fig. 1 the members 7, 10 and 11 will be actuated in sequence by the key pins 29, 31 and 32. The members 7, 10 and 11 may be interchanged so that to operate them in sequence the pins 30, 32 and 33 will have to be pressed or any other triple combination may be affected in like manner, thus accomplishing the heretofore second mentioned object of my said invention.

I do not wish to limit myself to the exact construction of the apparatus as shown in the accompanying drawing as it is evident that certain departures may be made therefrom without departing from the spirit and intent of my said invention, but

What I claim as new and desire to secure by Letters Patent, is:

1. In a lock of the character described, a casing, a rotatable sector mounted therein carrying a plurality of interchangeable members each provided with a transverse slot, key pins adapted to engage with said slots and actuate the said sector upon a predetermined sequence actuation of said key pins, and a locking pin in operative relation with said sector, all substantially as and for the purpose shown and described.

2. In a lock of the character described, the combination with a casing provided with key pins mounted therein and a locking pin, of a rotatable sector mounted in said casing carrying a plurality of members each provided with a transverse slot, said key pins adapted to engage with said slots and actuate the said sector upon a predetermined sequence actuation of said key pins, and said sector operatively connected to said locking pin, all substantially as and for the purpose shown and described.

3. In a lock of the character described, the combination with a casing provided with a plurality of key pins mounted therein and a locking pin, of a rotatable member mounted in said casing carrying a plurality of interchangeable members each provided

with a slot, said key pins adapted to engage
with said slots and revolve the said sector
in one direction upon a predetermined actua-
tion of said key pins and in a reverse di-
5 rection upon a non-sequence actuation
thereof, and said sector operatively con-
nected to said locking pin, all substantially
as and for the purpose shown and described.

In testimony whereof I have signed my
name to this specification in the presence of 10
two subscribing witnesses.

ELAM HERSHEY.

Witnesses:

DAVID R. KNAPP,
ROBERT J. LUCAS.