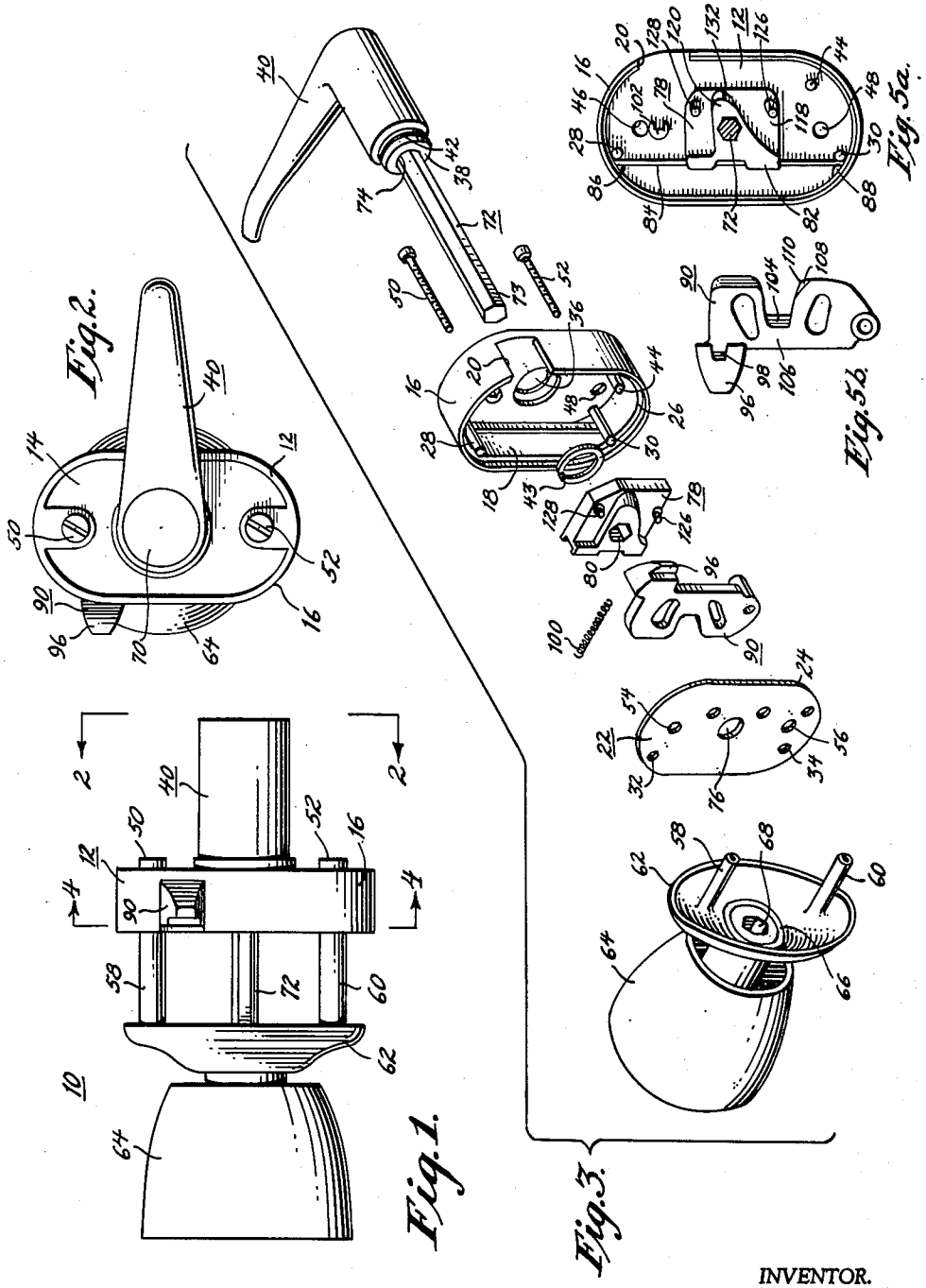
Nov. 21, 1961 J. HALL 3,009,724

LOCK DEVICE

Filed Jan. 14, 1958 2 Sheets-Sheet 1



INVENTOR.
JOSEPH HALL
BY
Trachtman & Zoda
ATTORNEYS.

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LOCK DEVICE

Filed Jan. 14, 1958 2 Sheets-Sheet 2

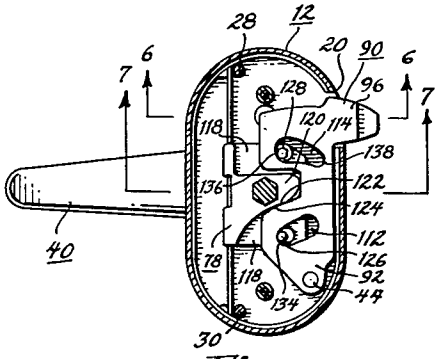


Fig. 4a.

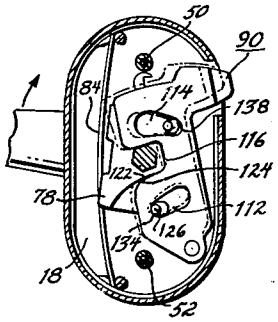


Fig. 4b.

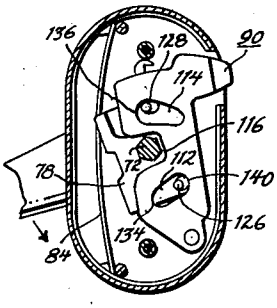


Fig. 4c.

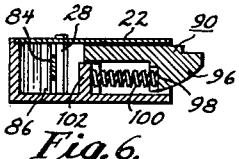


Fig. 6.

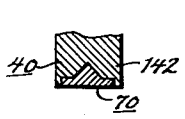


Fig. 14.

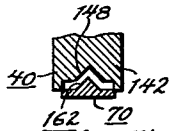


Fig. 15.

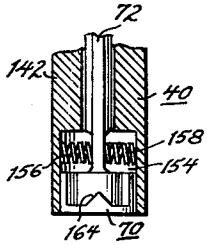


Fig. 8.

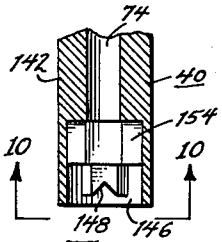


Fig. 9.

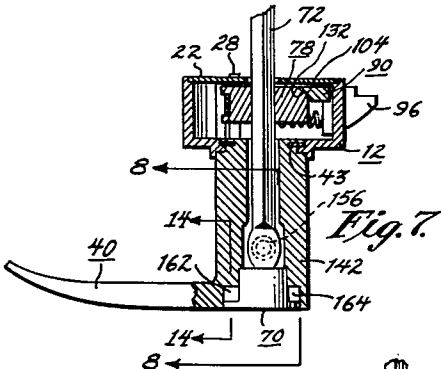


Fig. 7.

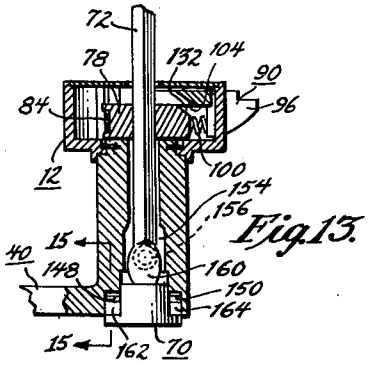


Fig. 13.

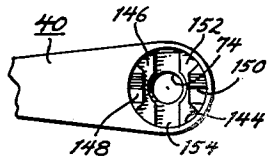


Fig. 10.

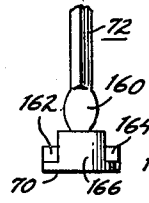


Fig. 11.

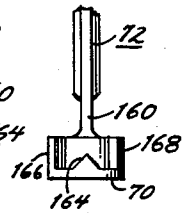


Fig. 12.

INVENTOR.
JOSEPH HALL
BY
Trachtman & Zoda
ATTORNEYS.

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3,009,724

LOCK DEVICE

Joseph Hall, 458 Ballytore Road, Wynnewood, Pa.

Filed Jan. 14, 1958, Ser. No. 708,837
16 Claims. (Cl. 292—226)

The invention relates to a lock device, and more particularly to a bolt type lock device.

Heretofore locking devices have been provided with automatic unlocking features, but such devices have been highly complex and intricate in structure and operation. Therefore, the prior devices have been difficult to manufacture and adjust for proper operation, expensive to maintain and high in cost.

It is therefore a principal object of the invention to provide a new and improved locking device which is simplified in structure and operation.

Another object of the invention is to provide a new and improved lock device with automatic unlocking and safety features while still providing a simple and reliable mechanism.

Another object of the invention is to provide a new and improved lock device which is compact in size and efficient in operation.

Another object of the invention is to provide a new and improved lock device which is relatively inexpensive to manufacture and maintain in operation and can easily be installed for operation.

Another object of the invention is to provide a new and improved lock device which may be locked and automatically unlocked by actuation of a handle on one side of the device, and automatically unlocked to prevent lockout of the operator.

Another object of the invention is to provide a new and improved locking device providing actuating means which may be rotated in either the clockwise or counterclockwise direction for its operation.

Another object of the invention is to provide a new and improved lock device which is adaptable for utilization at various installations.

The above objects as well as many other objects of the invention are achieved by providing a lock device comprising a casing, and a bolt supported by the casing and having an extendible portion movable between an extended position and a retracted position. Actuating means including a handle operates to move the bolt between its extended and retracted positions, and control means are selectively set for engaging the bolt in its extended position without immobilizing the bolt, to prevent operation of the actuating means. When the control means are reset it disengages the bolt to allow operation of the actuating means for moving the bolt between its extended and retracted positions. The bolt is provided with a cam surface for automatically resetting the control means when the extendible portion of the bolt is depressed from its extended position toward its retracted position. The handle of the actuating means is also provided with a cam surface for automatically resetting the control means upon actuation of the handle.

The actuating means operates to move the bolt between its extended and retracted positions by including a pivotal member with a pair of bolt engaging elements. One of the elements of the member actuates the bolt from its extended position towards its retracted position when the member is rotated in its clockwise direction, while the other one of the elements actuates the bolt towards its retracted position when the member of the actuating means is rotated in the counterclockwise direction. Spring means are also provided for urging a handle and the member of the actuating means toward a predetermined normal rotational position.

With the foregoing discussion in mind, this invention will be most readily understood from the following detailed description of a representative embodiment thereof, reference for this purpose being had to the accompanying drawings, in which:

FIGURE 1 is a side elevational view of a lock device embodying the invention,

FIGURE 2 is an end view taken on the line 2—2 of FIGURE 1,

FIGURE 3 is an exploded perspective view of the device shown in FIGURE 1,

FIGURE 4*a* is a sectional view taken on the line 4—4 of FIGURE 1 illustrating the device with its actuating means in its normal rotational position,

FIGURE 4*b* is a view similar to that of FIGURE 4*a* with the actuating means rotationally displaced in the clockwise direction,

FIGURE 4*c* is a view similar to that of FIGURE 4*a* showing the actuating means rotationally displaced in the counterclockwise direction,

FIGURE 5*a* is a view similar to FIGURE 4*a* with the bolt removed,

FIGURE 5*b* is an inverted plan view of the bolt,

FIGURE 6 is a sectional view taken on the line 6—6 of FIGURE 4*a*,

FIGURE 7 is a sectional view with parts broken away taken on the line 7—7 of FIGURE 4*a*,

FIGURE 8 is a sectional view taken on the line 8—8 of FIGURE 7,

FIGURE 9 is a view similar to that of FIGURE 8 with the actuating shaft means removed,

FIGURE 10 is a fragmentary view taken in the direction of the line 10—10 of FIGURE 9,

FIGURE 11 is a fragmentary side elevational view of the control button end of the actuating shaft means of the lock device,

FIGURE 12 is an end elevational view of FIGURE 11,

FIGURE 13 is a view similar to that of FIGURE 7 showing the control button in its extended position,

FIGURE 14 is a fragmentary sectional view taken on the line 14—14 of FIGURE 7, and

FIGURE 15 is a fragmentary sectional view taken on the line 15—15 of FIGURE 13.

Like reference numerals designate like parts throughout the several views.

Referring to the figures, the lock device 10 comprises a casing 12 having a front surface 14 of substantially elongated oval configuration and a peripheral wall portion 16 forming a cavity 18 therein. The cavity 18 communicates externally through an opening 20 in the wall portion 16 of the casing 12, while the rear portion of the casing 14 is enclosed by a cover 22. In its secured position, the edge 24 of the cover 22 is received within the annular groove 26 formed in the casing 12, while a pair of retaining pins 28, 30 extend through respective openings 32, 34 of the cover plate 22. The extending ends of the pins 28, 30 are expanded or flattened to firmly secure the cover plate 22 with the casing 12.

The face 14 of the casing 12 is provided with a central opening 36 for receiving the end 38 of an actuating handle 40. The end 38 has an annular groove 42 which receives a split lock washer 43 for rotatably connecting the handle 40 with the casing 12. .

The face 14 of the casing 12 is also provided with a pair of openings 46, 48 which receive a pair of bolts 50, 52 which pass through the cavity 18 of the casing 12, and through the openings 54 and 56 of the cover plate 22 to respectively threadedly engage a pair of spacer rods 58 and 60. The spacer rods 58 and 60 are secured with an escutcheon plate 62 which is connected to a knob 64. The knob 64 is retained by a split lock washer

66 which allows the knob 64 to rotate about its axis with respect to the escutcheon plate 62. The knob 64 is also provided with a shaft receiving opening 68 having a hexagonal configuration.

The handle 40 is provided with a centrally located push button 70 which is connected at one end with a hexagonal shaft 72. The shaft 72 is movable in the axial direction with the depression and resetting of the button 70. The shaft 72 extends from a circular opening 74 of the handle 40 through the cavity 18 of the casing 12. The shaft 72 passes out of the casing 12 through a circular opening 76 in the cover plate 22 and its end 73 is slidably received into the hexagonal opening 68 of the knob 64. The opening 68 is sufficiently enlarged to allow axial movement of the shaft 72, while causing the shaft 72 and knob 64 to rotate in concert about their common axis.

An actuating and control member 78 is received within the cavity 18 of the casing 12 and firmly secured with the shaft 72 by receiving it through its hexagonal opening 80. The opening 80 of the member 78 is of a size to provide a tight or press fit about the shaft 72. The left side 82 of the member 78 is provided with a track or recess receiving within it the intermediate portion of a leaf spring 84 for urging the shaft 72 and member 78 towards the normal predetermined rotational position shown in the FIGURE 5*a*. One end of the leaf spring 84 is retained within the slot formed by the pin 28 and the portion 86 of the casing 12, while the other end of the spring 84 is received and retained within the slot formed between the pin 30 and the portion 88 of the casing 12. The retaining slots for the spring 84 allow the movement of the ends of the spring along their slots in the axial direction of the shaft 72 (see FIGURE 6). Thus as the shaft 72 and the member 78 are moved in the axial direction, the spring 84 is free to move in the same direction.

A bolt 90 is received within the casing 12 overlying a portion of the member 78. The bottom end 92 of the bolt 90 (FIGURE 4*a*) is provided with an opening which receives a pivot pin 44 of the casing 12, while its upper end has an extendible portion 96 movable between an extended position and a retracted position through the opening 20 of the casing 12. The underside of the portion 96 of the bolt 90 is provided with a pocket 98 (see FIGURE 5*b*) receiving one end of a coil spring 100 for urging the bolt 90 towards its extended position shown in FIGURE 4*a*. The other end of the spring 100 is received within a retaining stud 102 (FIGURE 5*a*) of the casing 12. The under surface of the bolt 90 is also provided with a cam surface 104 at the narrowed central region 106 of the bolt 90, and a tapered surface 108 at the lower edge of the inside corner 110.

The bolt 90 is also provided with a lower elongated opening 112 close to the pivoted bottom portion of the bolt 90, and a second upper elongated opening 114 near the top portion of the bolt 90. The central portion of the bolt 90 is provided with a cut out region forming an intermediate edge region 116 proximate the shaft 72.

The member 78 is provided with a depressed or lower surface area 118 and an elevated portion forming a finger 120 adapted to be received within the cut out region of the bolt 90 when the shaft 72 is extended in its axial direction to assume its engaged position. When in its engaged position, the lower peripheral surface 122 of the finger 120 contacts the lower surface 124 of the intermediate edge region 116 of the bolt 90. When the member 78 is shifted in the axial direction towards the handle 40 it assumes its disengaged position and loses contact with the bolt 90.

The lower surface 118 of the member 78 is provided with a pair of pins 126, 128 which are radially displaced from the shaft 72 and angularly displaced from each other about the shaft 72. The lower pin 126 has an extending top portion of reduced diameter which is received into the lower opening 112 of the bolt 90, while the top portion of reduced diameter of the upper pin 128 is received into the upper opening 114. The extending portions of the pins 126, 128 are of sufficient length so that they extend through their respective openings 112, 114 of the bolt 90 when the member 78 is shifted along the axial direction to assume either its engaged or disengaged positions.

The member 78 is also provided with a cam surface 132 extending about the end of the finger 120 and providing an inclined surface between the floor 118 of the member 78 and the top surface of the finger 120. The inclined or cam surface 132 contacts the inclined or cam surface 104 of the bolt 90 when the member 78 is in its engaged position.

The member 72 is placed in its engaged position when the button 70 on the end of the shaft 72 is depressed. The button 70 may be placed in its reset position and the member 78 positioned in its disengaged position by the actuation of the bolt 90 by a force exerted on the extending portion 96 causing the bolt to pivot about the pin 44 towards its retracted position. The member 78 and the shaft 72 are actuated in the axial direction towards the handle 40 by the force exerted by the cam surface 104 of bolt 90 sliding over the cam surface 132 of the member 78 (see FIGURES 7 and 13). Since the bolt 90 is constrained to move within its fixed plane of rotation within the casing 12, the member 78 together with the shaft 72 are forced to move in the axial direction to assume the disengaged position with the button 70 reset.

It is noted that when the shaft 72 and member 78 are in their engaged position, the lower edge 122 of the finger 120 is confronted by the edge 124 of the bolt 90 in its extended position. This prevents the rotation of the member 78 about its axis, and in turn prevents the rotation of the shaft 72. When the member 78 is in its disengaged position, however, the member 78 and the shaft 72 may freely rotate about their axis in either the clockwise or counterclockwise directions. The rotation of the shaft 72 in its disengaged position in either the clockwise or counterclockwise directions causes the bolt 90 to move from its extended position towards its retracted position.

The FIGURE 4*a* shows the bolt in its normal extended position, and the shaft 72 and member 78 in their normal predetermined rotational position. It is noted that the lower pin 126 of member 78 contacts the bolt 90 at the end 134 of the opening 112, while the pin 128 engages the corresponding end 136 of its respective opening 114. As the member 78 is caused to rotate in the clockwise direction against the action of its spring 84 the pin 126 maintains contact at the end 134 of the opening 112 of the bolt 90 causing the bolt 90 to rotate about its pivot 44 in the counterclockwise direction toward its retracted position. At the same time the pin 128 is caused to move along its opening 114 towards its second extremity 138 (see FIGURE 4*b*). When the pin 128 contacts the end 138 of its opening 114, the bolt 90 is fully retracted and further rotation of the shaft 72 is prevented.

Similarly, when the shaft 72 and member 78 are rotated in the counterclockwise direction, the pin 138 maintains contact with the bolt 90 at the end 136 of its opening 114, again causing the bolt 90 to pivot in the counterclockwise direction towards its retracted position. It is noted that the end 136 of the opening 114 is enlarged and that the pin 128 moves along this enlarged surface as the member 78 is rotated to its extreme position. As the bolt 90 is caused to move towards its retracted position by the action of the pin 128 (see FIGURE 4*c*), the pin 126 is caused to move along its opening 112 until it engages its second extremity 140 at which time it prevents further rotation of the shaft 72 in the counterclockwise direction. In this position the bolt 90 is also in its extreme retracted position.

When the rotational actuating force is removed from the shaft 72, the spring 84 causes the member 78 and its shaft 72 to return to its normal rotational position, while the spring 100 urges the bolt 90 to assume its fully extended position as shown in FIGURE 4*a*.

Thus, when the shaft 72 and its member 78 are in their disengaged positions, the rotation of the shaft 72 with its member 78 in either of the clockwise or counterclockwise directions results in the retraction of the bolt 90, while the release of such actuating force permits the bolt 90 to resume its fully extended position.

When the member 78 is in its engaged position caused by the depression of the button 70, it may be placed in its disengaged position by the rotation of the handle 40 in either the clockwise or counterclockwise directions. This cannot be accomplished, however, by the rotation of the knob 64. For a description of this feature reference is made to the FIGURES 7 to 15 inclusive.

The handle 40 of the lock device 10 has a central cylindrical portion 142 through which is formed the bore or circular opening 74. The shaft 72 extends through the opening 74 as well as through the casing 12 as previously explained. The cylindrical portion 142 is also provided with an enlarged circular opening 144 at its top, forming a cavity 146 for receiving the button 70 attached to the end of the shaft 72.

The cavity 146 is provided with a pair of opposite protrusions 148, 150 each providing a V-shaped camming surface. A floor surface 152 (FIGURE 10) is provided under the protuberances 148, 150 having a depressed rectangular region 154 for receiving a pair of coil springs 156, 158 on opposite sides of a flattened area 160 of the shaft 72 proximate the button 70. The coil springs 156, 158 allow limited motion of the shaft 72 and button 70 in the axial direction, while also permitting a limited relative rotation between the handle 40 and the shaft 72. This allows the handle 40 to be rotated about its axis in either direction through a limited angle, while the shaft 72 is maintained in its original angular position. Thus, the springs 156, 158 afford an elastic coupling between the shaft 72 and the handle 40 for relative rotation about their axis.

The underside of the button 70 is provided with a pair of inclined V-shaped camming surfaces 162, 164 on opposite sides of the button which respectively contact the camming surfaces of the protrusions 148, 150 of the handle 40 when the button 70 is in its depressed or activated set position. This position is illustrated in the FIGURES 7, 8 and 14.

When the button 70 is depressed, it is noted that the member 78 is in its engaged position contacting the bolt 90, which thereby prevents rotation of the shaft 72. Thus, when the handle 40 is rotated in either direction, its elastic coupling will permit it to rotate relative to the shaft 72 which is maintained stationary. Under such relative rotation, the camming surfaces of the protuberances 148, 150 of the handle 40 will act upon the camming surfaces 162, 164 of the button 70 causing the button 70 to move in the outward direction towards its inactive or reset position. The concurrent axial movement of the shaft 72 and the member 78 in this direction, places them in the disengaged position, thereby allowing the rotation of the shaft 72 and its member 78. The continued rotation of the handle 40, thus is transmitted by the coupling springs 156, 158 to the shaft 72 which rotates the member 78 and actuates the bolt towards its retracted position.

It is noted that the slight taper 108 of the corner 110 of the bolt 90 shown in FIGURE 5*b* allows the bolt 90 to assist in moving the shaft 72 and its member 78 toward the disengaged position after the shaft 72 has been actuated in this direction to a limited extent by the handle 40. This is achieved by the additional camming action due to the taper 108 of the bolt 90 upon the edge 122 of the finger 120 of the member 78 after the member 78 has been moved in a small amount towards its disengaged position. Since the rotation of the handle 40 exerts a torque upon the shaft 72 through the springs 156, 158 and this torque is transmitted by one of the pins 126, 128 of the member 78, depending upon the direction of rotation, a force is exerted upon the bolt 90 urging it towards its retracted position. This force in turn is exerted by the taper 108 of the corner 110 upon the member 78 after it has been slightly moved from its fully engaged position. It is noted that this additional resetting force merely assists and cooperates with the camming action provided by the handle 40, so that the lock device 10 is inactivated or reset with the exertion of a minimum torque upon the handle 40, thereby, increasing the efficiency of the device 10. The position of the button 70 and its cam surfaces 162, 164, when in its inactive reset or extended position is clearly shown in the FIGURES 13 and 15.

It is also noted that the button 70 is provided with a pair of radial side portions 166, 168 which are received within the cavity 146 of the handle 40 between the protuberances 148 and 150. The portions 166 and 168 limit the degree of rotation of the button 70 about its axis, thereby, maintaining the camming surfaces 162, 164 of the button 70 in substantial alignment with the camming surfaces of the protuberances 148, 150 of the handle 40. This will allow the camming surfaces 162, 164 of the button 70 to be readily received within and aligned by the V-shaped camming surfaces of the protuberances 148, 150 when the button 70 is placed in its depressed position.

Summarizing the operation of the lock device 10, it is noted that the device 10 may be installed on a door or any other such device, with the handle 40 positioned on the inside and the knob 64 positioned on the outside of the structure. The shaft 72 passes from the handle 40 to the knob 64, while the bolts 50 and 52 secure the device 10 firmly in position. Thus, the installation of the device 10 requires merely the provision of three openings in the structure to receive the spacers 58, 60 and the shaft 72 therethrough.

In its normal condition, the extendible portion 96 of the bolt 90 extends to engage a keeper or other similar securing means. When the button 70 is in its reset or extended position, the shaft 72 may be rotated by either the handle 40 or the knob 64 in the clockwise or counterclockwise directions for retracting the bolt 90 and releasing the door or other object with which the lock device 10 is utilized.

When the button 70 in the handle 40 is depressed, the shaft 72 carrying the control member 78 is moved in the axial direction into its engaged position contacting the bolt 90. The bolt 90 is in its extended position and by confronting or engaging the member 78 blocks rotation of the shaft 72. Thus, the outside knob 64 which is keyed to rotate with the shaft 72 cannot be actuated and the door remains locked on the outside.

The handle 40 is elastically or resiliently coupled by springs 156, 158 with the shaft 72 so that it can rotate to a limited degree about its axis. This motion is sufficient to provide for its projections 148, 150 to exert a camming action upon the undersurface or camming surfaces 162, 164 of the button 70. This results in the movement of the button 70 and its shaft 72 in the axial direction towards the reset position of the button 70. The member 78 also moves towards its disengaged position. As previously noted, after the member 78 has been moved from its original fully engaged position, additional actuation is provided by the tapered region 108 of the bolt 90, for movement of the member 78 towards its fully disengaged position. As the member 78 assumes its disengaged position by being shifted in the axial direction toward the handle 40, the member 78 and its shaft 72 are freed for rotation about their axis causing the retraction of the bolt with the rotation of the handle 40 in either the clockwise or counterclockwise directions.

The knob 64 at this time, is also conditioned for op-

erating the bolt 90, since the button 70 has automatically been repositioned or reset to its extended position.

Thus, the lock device 10 may be locked on the inside by pressing the button 70 so that the knob 64 cannot be actuated to release the device 10, while the actuation of the handle 40 allows the operation of the bolt 90 with the automatic resetting of the button 70 so that the device 10 is in its unlocked condition.

If the button 70 is depressed while the door is open and the door is afterwards closed, the action of the keeper on the projecting portion 96 of the bolt 90, causes the bolt 90 to move towards its retracted position. This action automatically causes the button 70 to be reset and the lock device 10 placed in its unlocked position. This prevents the lockout of the operator, since it assures that the device 10 will be automatically unlocked unless the operator is on the inside with the door in the closed position before depressing the button 70.

In connection with the operation of the lock device 10, it is noted that the bolt 90 is in no manner made inoperative or prevented from moving between its extended and retracted positions. The bolt 90 in its extended position, however, does act upon the member 78 and its shaft 72 to prevent their rotation when the button 70 is depressed. The prevention of rotation of the shaft 72 and member 78 in turn prevents their action upon the bolt 90 for actuating it towards its retracted position. The bolt 90 itself is utilized for preventing the shaft 72 and member 78 from operating upon it to move it towards its retracted position. A retraction of the bolt 90 by the exertion of an external force upon its extending portion 96 unlocks the device 10 so that the operation of the knob 64 is effective in withdrawing or retracting the bolt 90. The camming action of the handle 40 in axially actuating the shaft 72 although the shaft 72 is prevented from rotation about its axis is accomplished by the resilient coupling afforded by the springs 156, 158.

It is noted that a structure of the lock device 10 includes relatively few components of simple form which coact to provide an effective and efficient lock device of low cost and high adaptability and utility.

It will, of course, be understood that the description and drawings, herein contained, are illustrative merely, and that various modifications and changes may be made in the structure disclosed without departing from the spirit of the invention.

What is claimed is:

1. A lock device comprising a casing, a bolt having a first end pivotally supported by said casing and a second end with an extendible portion movable between an extended position and a retracted position, and an actuating means operating to move said bolt between its extended and retracted positions including a pivotal member with a pair of separate bolt engaging elements, one of the elements of said member actuating said bolt from its extended position toward its retracted position when said member is rotated in its clock-wise direction while the other one of said elements actuates the said bolt toward its retracted position when said member is rotated in the counter clock-wise direction, the elements of said member being radially displace from the center of rotation of said member and angularly displaced from each other about the center of rotation of said member, said elements comprising first and second pins extending from said member parallel to the axis of rotation of said member, said bolt being provided with first and second openings each respectively receiving one of the first and second pins of said member, said first and second openings of said bolt each providing a contact end, the first and second pins of said member each contacting said bolt at the contact end of its respective opening, said first pin maintaining contact at the contact end of said first opening for actuating said bolt toward its retracted position when said member is rotated in the clock-wise direction while said second pin maintains contact with said bolt at the contact end of said second opening to actuate said bolt toward its retracted position when said member is rotated in the counter clockwise direction.

2. The lock device of claim 1 in which the first and second openings of said bolt are of elongated configuration each extending between first to second ends, each of said pins normally contacting said bolt at the first end of its respective said opening, and upon actuation of said bolt by one of said pins the other of said pins disengaging said bolt at the first end of its opening and moving along its opening in said bolt until it contacts said bolt at the second end of its opening preventing further extension of said bolt, and including spring means for urging said member toward a predetermined normal rotational position.

3. The lock device of claim 1 including a shaft secured with said member for rotating said member about the shaft axis and for displacing said member in the direction along said shaft axis, and in which the first and second openings of said bolt being positioned with the distance between their first ends being greater than the distance between their second ends.

4. A lock device comprising, in combination, a casing, a bolt supported by said casing having an extendible portion movable within the plane of said bolt between an extended position and a retracted position relative to said casing, actuating means for moving said bolt between said extended and retracted positions, control means movable upon said casing perpendicular to the plane of said bolt between a first disengaged position and a second position directly engaging said bolt in its extended position, independently of movement of said bolt to prevent operation of said actuating means, said bolt having a cammed surface for engagement with said control means to move said control means from its second position to its first disengaged position in response to the depressing of the extendable portion of said bolt from its extended position toward its retracted position, said actuating means including a handle having a cammed surface acting upon said control means to effect movement of said control means from its second position to its first disengaged position in response to actuation of said handle.

5. The lock device of claim 4 in which said control means includes a button extending through said handle, said button being depressed for moving said control means to its second position for engaging said bolt and automatically inactivated upon actuation of the handle of said actuating means, the button of said control means being automatically inactivated when the extendible portion of said bolt is depressed from its extended position toward its retracted position.

6. A lock comprising, in combination, a casing, a bolt having a first end pivotally supported by said casing and a second end with an extendable portion movable between an extended position and a retracted position, actuating means effecting movement of said bolt between its extended and retracted positions, said actuating means comprising a member pivotally supported upon said casing having a pair of separate bolt engaging elements, one of said elements engaging said bolt to effect movement thereof from its extended position toward its retracted position in response to rotation of said member in a clock-wise direction, the other one of said elements engaging said bolt and effecting movement thereof toward its retracted position in response to rotation of said member in a counter clock-wise direction, said elements of said member being radially displaced from said center of rotation of said member and angularly displaced from each other about the center of rotation of said member, and said elements comprising first and second pins extending from said member parallel to the axis of rotation of said member.

7. The lock device of claim 6 in which said bolt is provided with first and second openings each respec-

tively receiving one of the first and second pins of said member.

8. A lock device comprising a casing, a bolt supported by said casing and having an extendible portion movable between an extended position and a retracted position, an actuating shaft means movable within said casing relative to said bolt between a first disengaged position out of engagement with said bolt and a second engaged position engaging said bolt, said shaft means having portions fixed thereto, said portions in said second position of said shaft abutting said bolt to prevent said shaft from rotating about its axis.

9. A lock device comprising a casing, a bolt supported by said casing and having an extendible portion movable between an extended position and a retracted position, an actuating shaft means rotatable upon said casing about its axis, said shaft means having a portion abutting said bolt for moving said bolt between its extended and retracted positions in response to rotation of said shaft means and being displaceable longitudinally along its axis between a first disengaged position out of engagement with said bolt and a second engaged position engaging said bolt, said shaft means when in its second engaged position confronting said bolt for blocking rotation of said shaft about its axis.

10. The lock device of claim 9, in which said bolt is movable between said extended and retracted positions in both of said first and second positions of said shaft.

11. The lock device of claim 10 including a handle mounted upon said shaft for rotating said shaft means about its axis and displacing said shaft means from its second to its first position.

12. The lock device of claim 11 including a button movably received through said handle and secured with said shaft means for setting said shaft in its second position when depressed, said handle being provided with a cammed surface engaging said button for automatically repositioning said button and displacing said shaft to its first position when said handle is rotated.

13. The lock device of claim 12 including spring means urging said blot toward its extended position, said bolt being provided with a cammed surface engageable with said shaft means for automatically displacing said shaft means to its first position when the extendible portion of said bolt is depressed.

14. The lock device of claim 13 in which said shaft means includes a member secured with said shaft and acting upon said bolt to move said bolt between its extended and retracted positions with the rotation of said shaft means and having a control segment engaging said bolt when said bolt is in its extended position and said shaft means is in its second position without blocking movement of said bolt toward said retracted position, said bolt when in engagement with the segment of said member preventing rotation of said shaft.

15. The lock device of claim 14 further comprising lost motion means coupling said handle with said shaft means to allow limited relative rotation therebetween.

16. The lock device of claim 15 in which said bolt is pivotally supported by said casing and has first and second elongated openings each with first and second ends, and the member of said shaft means has first and second pins respectively received within the first and second openings of said bolt, each of said pins normally contacting said bolt at the first end of its respective said opening, said first pin maintaining contact with said bolt at the first end of said first opening for actuating said bolt toward its retracted position when said handle is actuated to rotate said shaft means in the clockwise direction while said second pin maintains contact with said bolt at the first end of said second opening to actuate said bolt toward its retracted position when the handle is actuated to rotate said shaft means in the counter clockwise direction, upon actuation of said bolt by one of said pins the other of said pins disengaging said bolt at the first end of its opening and moving along its opening in said bolt until it contacts said bolt at the second end of its opening preventing further extension of said bolt, and including spring means for urging said handle and shaft means towards a predetermined normal rotational position.

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