

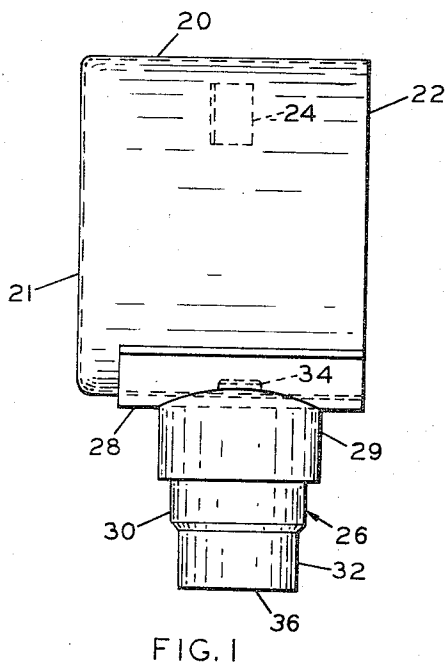
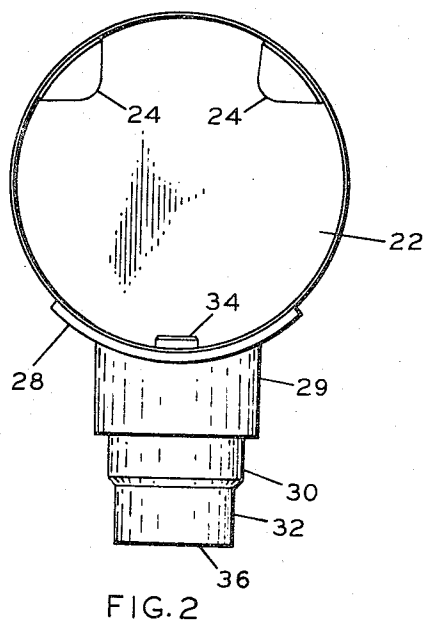
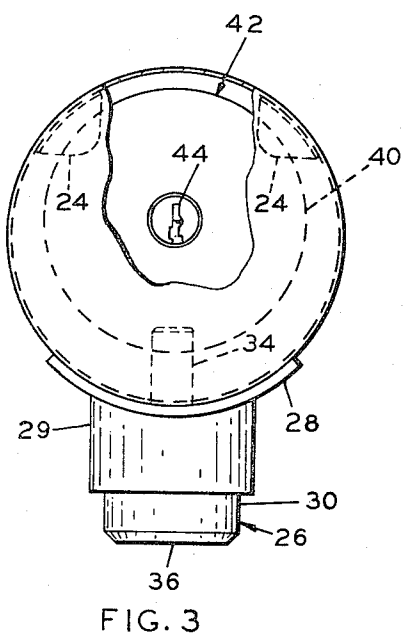
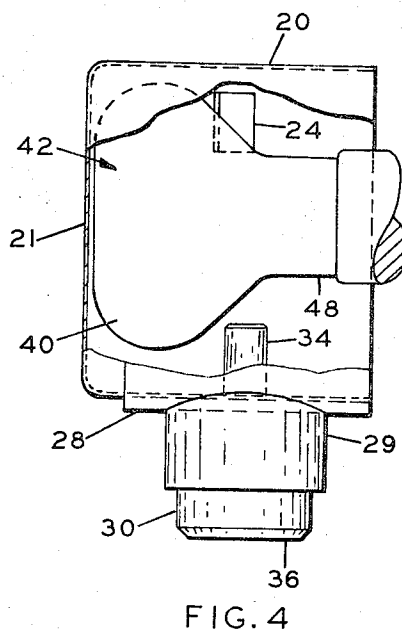
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H. A. CALLAHAN
AUXILIARY DOOR LOCK

3,340,709

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2 Sheets-Sheet 1



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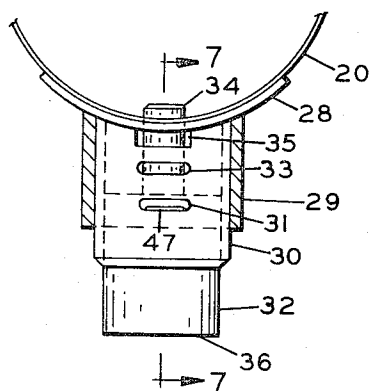


FIG. 5

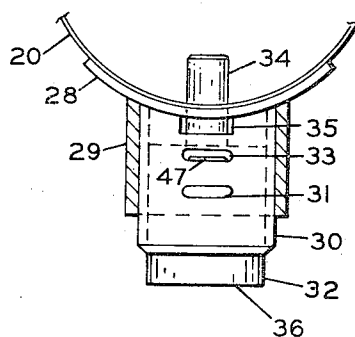


FIG. 6

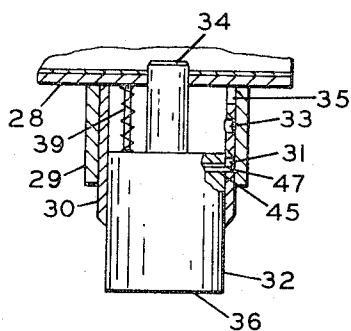


FIG. 7

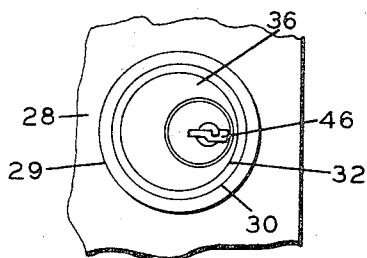


FIG. 8

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3,340,709

AUXILIARY DOOR LOCK

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ABSTRACT OF THE DISCLOSURE

An auxiliary locking device to prevent access to a door knob which comprises an outer substantially cylindrical housing having an end wall and an end opening and is adapted to completely enclose the head and neck portion of a door knob. The housing includes a plurality of fixed flanges or protrusions extending inwardly and which are spaced from the end opening. A latch is movably mounted on the housing and is extendable into the housing to cooperate with the flanges to engage the widest portion of the head of the knob and is operatively connected to a key actuated locking mechanism to lock the latch in its extended position within the housing. The locking mechanism includes a spring biased lug engageable with a plurality of spaced slots which form a means for varying the depth of the latch in its extended position. The latch is retracted from within the housing by manipulation of a key which in turn releases the lug from the slot in which it is disposed. The housing may then be removed from the knob as the fixed flanges themselves offer no resistance to removal without aid of the latch.

The present invention relates generally to door locks and particularly to a novel auxiliary door lock adapted to prevent access to the type of main door locks in which the keyhole is disposed in the door knob itself.

In general, the auxiliary door lock of the present invention comprises a housing which may be mounted over a door knob. A first latch means is mounted within the housing and cooperates with a movable second latch means to lock the housing on the door knob. The second latch means forms a portion of a locking device which is mounted on the housing. The locking device includes means for actuating the second latch means to move between an extended position cooperating with the first latch means to prevent removal of the housing and a retracted position which permits the housing to be removed from the door knob.

In many hotels and motels the type of main door lock used in one in which the key hole is disposed in the door knob.

As is the case in hotels and motels, there are many keys for each room and therefore little safety or privacy is available for persons staying in the rooms. For this reason, when the individual temporarily leaves his room, any valuables must be taken with him or stored in the main office of the establishment as there may be other persons who have keys for that room.

The use of the auxiliary door lock of the present invention permits the traveler who frequents such establishments to lock the door to his room and feel safe that only he has a key by which it may be opened.

It is therefore an object of the present invention to provide a personal auxiliary door lock which prevents access to a door knob to provide the user with additional safety especially to those who frequent hotels and motels.

It is another object of the present invention to provide an auxiliary door lock of the type described which is easily mounted on or removed, with the use of a key, from a door knob and one which is adapted to fit a variety of types and styles of conventional door knobs.

It is another object of the present invention to provide

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an auxiliary door lock of the type described which may be conveniently taken with the user as he travels from place to place.

It is still another object of the present invention to provide an auxiliary door lock of the type described which is strong and durable to discourage forcible removal.

It is a further object of the present invention to provide an auxiliary door lock of the type described which lends itself to economical manufacture and fabrication.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawings wherein a preferred form of embodiment of the invention is clearly shown.

In the drawings:

FIG. 1 is a side elevational view of an auxiliary door lock constructed in accordance with the present invention;

FIG. 2 is a rear elevational view of the auxiliary lock shown in FIG. 1;

FIG. 3 is a rear elevational view partially in section of the auxiliary lock of FIG. 1 illustrating the auxiliary lock on a conventional door knob with the latch means in an extended or locked position;

FIG. 4 is a side elevational view partially in section of the auxiliary lock shown in FIG. 1 illustrating the auxiliary lock in the same position as shown in FIG. 3; and

FIG. 5 is a partial rear elevational view partially in section of the auxiliary door lock shown in FIG. 1 illustrating the second latch means in one of its partially extended positions;

FIG. 6 is a view similar to the view shown in FIG. 5 but illustrates the second latch means in another of its extended positions, this position being extended further into the housing than the position shown in FIG. 5;

FIG. 7 is a partial rear elevational view, partially in section of a portion of the auxiliary door lock shown in FIG. 1 illustrating in more detail the locking means; and

FIG. 8 is a partial bottom view of the door lock shown in FIG. 1 illustrating the key hole for a conventional key which actuates a tumbler locking mechanism forming a portion of the locking means of the present invention.

Referring in detail to the drawings, an auxiliary door lock constructed in accordance with the present invention is illustrated in FIGS. 1 through 4 and includes a cylindrical housing or protective cover 20 preferably constructed of a strong durable material such as iron or an alloy metal. Housing 20 is adapted to receive a conventional door knob as seen in FIGS. 3 and 4 and is provided with an end wall 21 and an end opening 22 which is larger in diameter than most conventional door knobs.

A first latch means in the form of a plurality of flanges or protrusions 24 are mounted within housing 20 and extend inwardly to reduce the diameter of opening 22.

It is important to point out that one large flange covering substantially the same area as the plurality of flanges may be employed without departing from the spirit of the invention.

A locking means indicated generally at 26 which may take the form of a conventional lock such as the Corbin lock, manufactured by the Corbin Lock Co., is connected to housing 20 by a mounting flange 28.

Flange 28 is fixedly mounted on housing 20 and includes a collar 29 in surrounding relationship to the base of lock means 26 to prevent access to slots 31, 33 and 35 provided in a stationary member 30 of locking means 26.

Lock means 26 also includes a movable member 32.

Movable member 32 is connected to a second latch means in the form of a latch 34 and is biased by spring 39 to move downwardly as viewed in FIGS. 1 and 2. Member 32 is movable to a completely retracted position wherein no portion of latch 34 extends within housing 20.

A tumbler lock mechanism, not shown, which is of conventional construction, and therefore will not be described in detail herein as disposed within movable member 32.

A lug 45 forms a portion of the above referred to tumbler lock mechanism and is movable between a retracted position within member 32 and an extended position as viewed in FIG. 7.

Lug 45 is biased toward said extended position and includes a tapered lip portion which resists movement of member 32 in a downward direction as viewed in FIG. 7. The same tapered lip 47 upon upward movement forces lug 45 to retract to permit continued movement of member 32 upward as viewed in FIG. 7.

As member 32 is moved vertically upward, lug 45 is held in a retracted position by inner walls 27 of stationary member 30 until it reaches one of the slots 31, 33 or 35.

Being biased outwardly lug 45 engages with slot 31 unless further upward pressure is applied wherein, because of the tapered lip 47, it is again forced to retract to permit further upward movement until it reaches slots 33 or 35.

However, once lug 45 is engaged in either slot 31, 33 or 35, downward movement of member 32 is prevented thereby locking latch 34 in either one of the positions shown in FIGS. 5 or 6 depending upon which slot 31 or 33 lug 45 engages. It is understood that further upward movement of member 32 would cause lug 45 to engage in uppermost slot 35 to lock latch 34 in the fullest extended position possible.

Lug 45 is operatively connected in a conventional manner to the aforementioned tumbler mechanism whereby insertion of an appropriate key, not shown, and rotation thereof in key hole 46 disposed in face 36 of member 32 causes lug 45 to retract thereby permitting member 32 to move downwardly under the biasing force of spring 39.

It is important to point out that when latch 34 is in the extended position of FIGS. 3 and 4 a clearance still exists between first latch means 24, latch 34 and the neck portion 48 of door knob 42.

Further, latch 34 and first latch means 24 are offset with respect to one another as latch 34 is disposed forwardly of a vertical plane defined by first latch means 24 with respect to end opening 22. This construction makes it very difficult to rotate the door knob 42 by rotating housing 20. This feature permits use of the auxiliary door lock of the present invention to prevent the opening of doors in the home especially by young children. This particularly is useful if the door is not provided with any type of built-in lock or such a lock is not functioning.

In operation, the user mounts housing 20 over the head 40 of a conventional door lock 32, assuming that latch 34 is in the fully retracted position wherein latch 34 does not extend into housing 20. When latch 34 is disposed in this fully retracted position, sufficient clearance is afforded between first latch means 24 and the interior opposite wall of housing 20 to permit housing 20 to be mounted on the door knob quite easily.

Then the user merely applies pressure on movable member 32 in an upward direction, as viewed in FIGS. 1-4 until lug 45 engages the desired slot 31, 33 or 35.

If the door knob 42 is of the conventional configuration having a relatively narrow neck 48, as shown in FIGS. 3 and 4, the user pushes member 32 until lug 45 engages with the uppermost slot 35 locking latch 34 in the fully extended position. If, however, the door knob is of a configuration having a thicker neck, then lug 45 may be

prevented from extending upwardly far enough to reach slot 35.

However in such a case, lug 45 may engage either slot 31 or 33, in order to lock latch 34 in an extended position over the head of the door knob depending upon the thickness of the neck portion of the particular door knob.

Therefore it will be understood that the auxiliary door knob of the present invention is adapted to fit a wide variety of door knobs having different configurations as latch 34 may be selectively locked at various depths into housing 20.

Once housing 20 is locked over the door knob 42 in the manner shown in FIG. 3, the keyhole 44 of the main door lock which is disposed in door knob 42 is rendered inaccessible.

To remove housing 20, a conventional key, not shown, for the specific locking means 26 is inserted into keyhole 46, provided in the face 36 of member 32. The key is manipulated to actuate the lock mechanism of locking means 26 thereby retracting lug 45 from the slot in which it is engaged. This frees biased member 32 and latch 34 to return to the retracted position illustrated in FIGS. 1 and 2 or to the previously described fully retracted position.

Housing 20 is then easily removed from the door knob 42 and the key for the main door lock may be inserted into keyhole 44 to unlock the door.

It is important to point out that the simple construction of the auxiliary locking means wherein a conventional locking means may be employed in the construction lends itself to quick and easy operation in addition to relatively inexpensive manufacture and fabrication. However, other types of locking devices may be used to lock and release latch 34 without departing from the spirit of the invention.

While the form of embodiment of the present invention as herein disclosed constitutes a preferred form, it is to be understood that other forms might be adopted, all coming within the scope of the claims which follow.

I claim:

1. An auxiliary door lock adapted to prevent access to a door knob of the type having an enlarged head portion relative to a narrower neck portion comprising, in combination, a housing provided with sidewalls, an end wall, and an end opening adapted to receive the head portion of a door knob; flange means mounted in said housing near but spaced from said end opening; and latch means mounted on said housing and movable between an extended position within said housing for engagement of said head portion between said flange means and said latch means and a retracted position providing clearance between said flange means and said head portion, said latch means and said flange means being spaced at unequal distances from said end opening, and locking means to prohibit movement of said latch means in said extended position.
2. The device defined in claim 1 wherein said latch means is biased toward said extended position and includes a lug biased outwardly at substantially a right angle to the movement of said latch means; and an annular collar surrounding said latch means and mounted to said housing including a plurality of slots for receiving said lug to prevent further movement of said latch means.
3. An auxiliary door lock adapted to prevent access to a door knob of the type having an enlarged head portion relative to a narrow neck portion comprising, in combination, a housing provided with substantially cylindrical side walls, an end wall, and an end opening larger than said head portion of said door knob; flange means fixed in said housing and spaced from said end opening; a cylindrical collar mounted on said housing and including a plurality of longitudinally spaced slots; and a locking member including a latch means movably mounted within said collar, said locking member including a key actuated movable lug biased outwardly from said locking member and engageable with a respective one of said slots

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to prevent further longitudinal movement of said locking member.

4. The device defined in claim 3 wherein said lug includes a tip portion having one tapered side to permit movement of said locking member and latch means toward said extended position.

5. An auxiliary door lock adapted to prevent access to a door knob of the type having an enlarged head portion relative to a narrower neck portion comprising, in combination, a housing provided with side walls, and an end wall, and an end opening adapted to receive the head of a door knob; flange means within said housing disposed near but spaced apart from said end opening; latch means movable into said housing between an extended position wherein the distance between said first latch means and said second latch means is less than the widest portion of the head of said door knob and a retracted position wherein the distance between said first latch means and said second latch means is greater than the widest portion of the head of said door knob, said latch means being biased to return to said retracted position; an annular collar mounted on said housing and including a slot; and locking means fixed to said latch means and mounted within said collar and including a key actuated lug movable perpendicular to the direction of movement of said latch means between extended and retracted positions and engageable with said slot for locking said latch means in said extended position.

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6. The device defined in claim 5 wherein said first latch means and said second latch means are longitudinally spaced at unequal distances from said end opening of said housing.

7. The device defined in claim 5 including means for varying the depth of said extended position of said second latch means wherein said key actuated lug is biased outwardly from said locking means and said annular collar includes a plurality of spaced slots for receiving said lug to vary the depth of said latch means within said housing.

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