United States Patent [19]

Briggs

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[54] **PORTABLE DOOR LOCK**

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[52] **U.S. Cl.** **292/292**

[51] **Int. Cl.²** **E05C 19/18**

[58] **Field of Search** 292/288, 289, 290, 292, 292/295, 296, 297, 298, 265, 266, 267, 268, 292/269, 270, 271, 272, 273, 274

[56] **References Cited**

UNITED STATES PATENTS

122,743	1/1872	Thomas	292/261
902,772	11/1908	Stoffel	292/296
939,785	11/1909	Auger	292/292
1,412,340	11/1922	Cruikshank	292/292
1,960,024	5/1934	Paris	292/265 X
3,432,199	3/1969	Sorrell	292/292

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Attorney, Agent, or Firm—Bruce & McCoy

[57] **ABSTRACT**

A plate having projecting tabs for engaging a latch recess in a door frame and a bolt which slidably engages an angled slot in the plate which permits the bolt to be wedged against the door.

3 Claims, 6 Drawing Figures

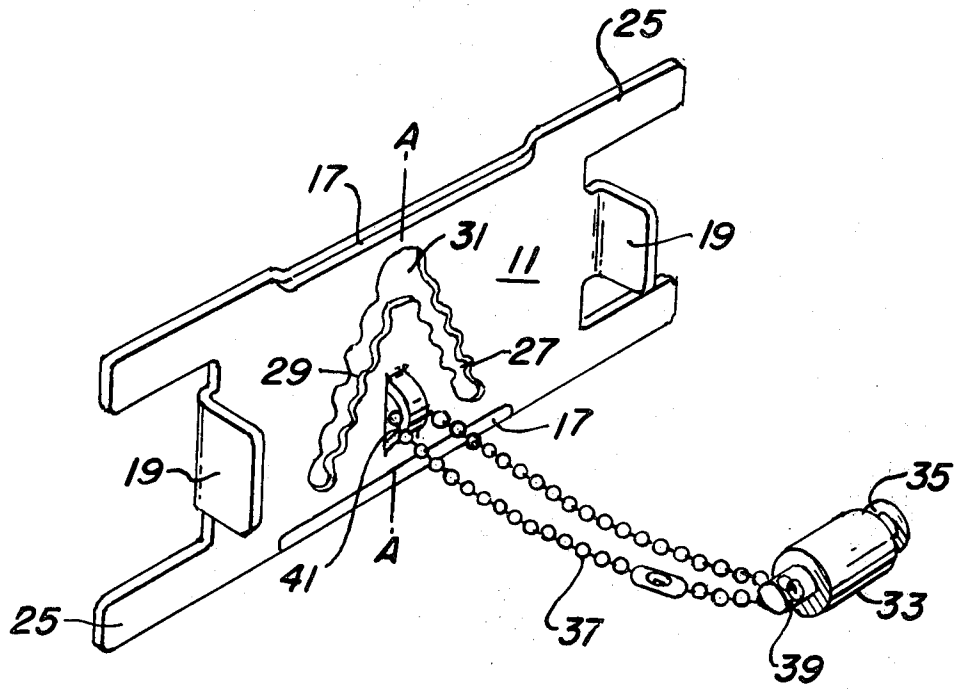


Fig. 1.

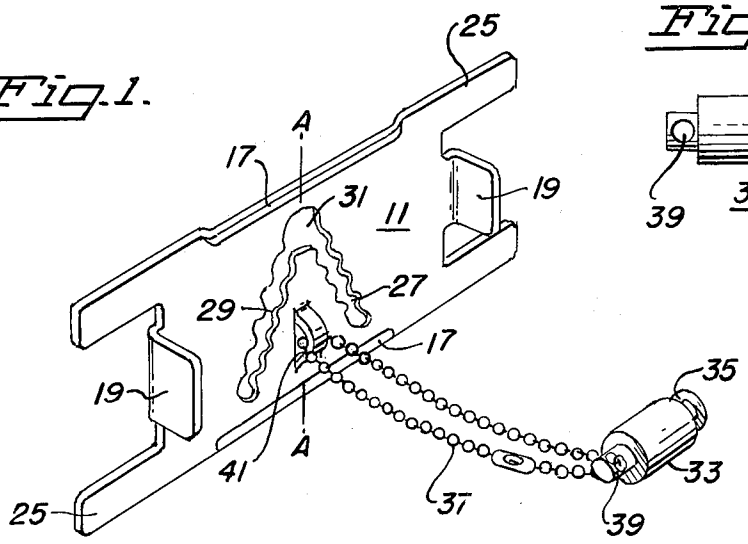


Fig. 6.

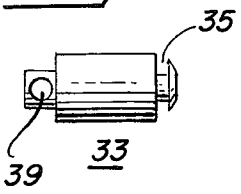


Fig. 5.

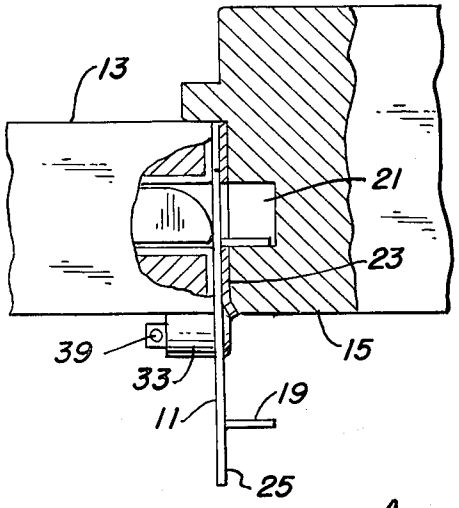


Fig. 3.

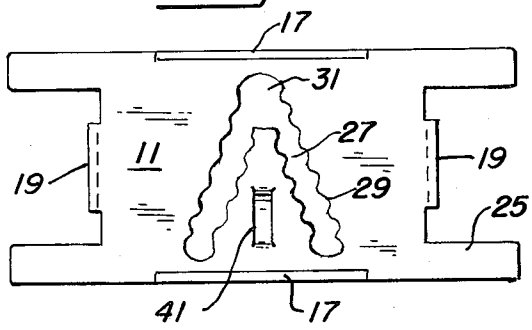
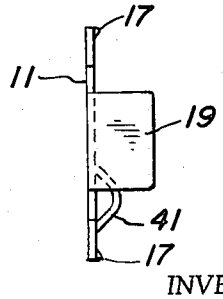


Fig. 4.



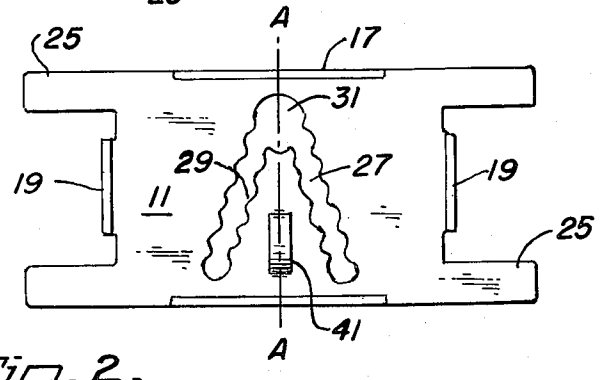


Fig. 2.

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PORTABLE DOOR LOCK

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to door locks and more particularly to a portable safety door lock which can be used to secure a door from the inside without the use of tools or keys.

2. Description of the Prior Art

There are many occasions when it is desirable to have a portable lock which can be used on interior doors of a building or house where they are not provided, or on doors which have defective or broken locks. It is also often desirable to double lock doors which are operable by a skeleton key or a jimmying material, such as a thin piece of celluloid. In order to avoid the expense and time required to install locks on these doors, a portable door lock is required which is of a simple construction and can be installed and removed without marring the paint or injuring the surface of the door or surrounding woodwork.

Where it is desirable to secure a door temporarily for short periods of time, such as during a stay at a motel, hotel, or other public accommodations, the inconvenience of installing a lock on such a door usually prevents such additional locks from being used. As a result of these circumstances, a portable lock is required which can be easily and quickly installed and released and which permits reasonably unimpeded use of the door.

Many travelers and people living in apartments, dormitories, and rooming houses prefer to utilize a safety lock for additional protection of their personal property and safety. Such a lock must be small, lightweight, inexpensive, simple to install and release, and most of all it must be an effective lock. In order to meet these requirements, many different types of devices have been made, but in general most of these devices have one or more characteristics which make them unsuitable for universal application in all of the situations here considered. They generally have too many parts for simple assembly, or they dig into or injure the woodwork, or they are not adaptable to doors with different thicknesses, or most importantly they are simply ineffective as a door lock.

It is therefore an important object of the present invention to provide a portable door lock which is universally adaptable to various types and thicknesses of doors.

It is another object of the present invention to provide a door securer which effectively locks a door without injuring the woodwork of the door or the door jamb.

It is a further object of the present invention to provide a portable door lock which utilizes only two coacting parts.

It is still another object of the present invention to provide a portable door lock which can be readily installed and removed.

And yet a further object of the present invention is to provide a portable door lock which is lightweight, small, and relatively inexpensive to manufacture.

SUMMARY OF THE INVENTION

The present invention meets all of the requirements heretofore stated. It comprises a relatively thin plate for fitting between the edge of a door and its jamb. The plate has a projecting means for engaging a latch recess in the jamb. A track means on the plate is inclined with respect to the plane of the door when the plate is disposed in operating position between the door and its jamb. A bolt means is provided which is selectively engagable with the track means and extends across at least a portion of the face of the door when the door is closed and when the bolt means is engaging the track means and when the projecting means is engaging the latch recess in the door jamb. When the bolt means is moved along the track toward the door, it will abut and restrain the door in its closed position.

DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of the portable door lock of the present invention;

FIG. **2** is a bottom plan view of the present invention;

FIG. **3** is a top plan view of the present invention;

FIG. **4** is an end view of the present invention;

FIG. **5** is a cross section of a closed door and door jamb showing the present invention in operating position; and

FIG. **6** is a side elevation of the bolt of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Reference is made to the drawings for the details of a specific embodiment of the present invention. There shown is a stamped base plate **11** for fitting between the end of a door **13** and its jamb **15.** It is made of a relatively thin but strong material, such as nickel plated steel, in order to withstand bending stresses when a force is applied to the door to force it open.

The two edges of the plate have been stamped into an offset configuration **17** to provide additional strength to the plate along those edges.

In the preferred embodiment, the base plate is constructed symmetrical about a center line A—A, in order to accommodate doors hinged from either vertical edge or doors opening in either direction. Each half of the plate around centerline A—A is a mirror image of the other half.

The device shown has a projecting means **19** for engaging a latch recess **21** of the jamb. In the present invention, the projecting means comprises a tongue **19** which projects or extends relatively perpendicular from the plate proximate one end thereof, but spaced therefrom. In other words, the tongue is disposed in spaced relation to the end of the plate. This tongue engages the latch well or latch recess of the typical striker plate **23** which is secured to the face of a door jamb. The tongue can be split into parallel projections to accommodate a deadlock bolt.

The tongue is disposed at a position removed from the end of the plate in order to provide the stabilizing projections **25** which surround or extend across the latch well in abutting relation to the striker plate. The stabilizing projections effect a secure positioning of the base plate against the striker plate and engaging of the tongue in the latch well. The stabilizing projections are spaced laterally from the tongue to keep them seated on the striker plate of the door jamb rather than projecting across the latch recess. The stabilizers could be formed with a cross bar at their ends for further rigidity.

A track means **27** is formed on the plate and is inclined with respect to the plane of the door when the plate is disposed in operating position between the door and its jamb. In the present invention, the track means comprises a "V" shaped slot having serrated edges **29.** Each leg of the slot is inclined at an angle with respect to the plane of the tongues which parallel the plane of the door. The slot has an enlarged opening **31** at the common ends of the two legs thereof. As an alternative, the track could be milled out of the base plate or otherwise formed thereon without departing from the contemplated invention. Likewise, the slot could comprise individual channels, each having enlarged portions at one of their ends.

A bolt means **33** is provided which is selectively engagable with the track means of the plate. The bolt means extends across at least a portion of the face of the door when the door is closed and when the bolt means is engaging the track means and the projecting means is engaging a latch recess in the door jamb. When the bolt means is moved along the track toward the door, it comes into contact with and abuts the door whereby it restrains the door in its closed position.

The bolt means is formed with an annular groove **35** which engages the serrated edges of the slot for selective positive engagement therealong. Selective positive engagement means that the bolt means can be moved to any position along the track, which is defined as a selective position, and it will remain in that position as a result of the serrated edges and will not move back along the track. This latter feature provides the definition of positive engagement therealong.

The bolt means **33** is secured to the base plate **11** by a flexible connecting means **37,** such as a small length of metal chain. The chain passes through a hole **39** in the bolt and a stamped loop **41** on the base plate. The connecting means prevents the plate and bolt from becoming separated or one of them from being lost.

The slotted plate and bolt can be engaged to coact by inserting the annular grooved end of the bolt through the enlarged hole of the slot and aligning the annular groove with the serrated edges and then sliding the bolt along the slot with the serrated edges engaged within the annular groove on the bolt. The bolt and plate coact to effect a positive sliding engagement whereby the bolt cannot be pulled out of the slot except through the enlarged opening. The bolt can be slid along the slot, which is angled with respect to the door, and thereby wedged into abutting relation against the face of the door. The angle and the serrated edges of the slot prevent an outside opening force on the door from sliding the bolt and opening the door. If the slot angle is too great, pressure on the door will slide the bolt along the slot, and if the angle is too small, the door securer will be severely limited in its adaptability to various thicknesses of doors unless it is made wider so the slot can be longer.

The head or end of the bolt which contains the annular groove must be made thick enough to withstand considerable bending force on the bolt in order to keep the door locked. Likewise, the thickness of the width of the annular groove must be only slightly greater than the thickness of the plate in order to provide a relatively close tolerance fit of the bolt in the slot to prevent undue looseness in the sliding action. This prevents the door securer from being worked loose by repeated jiggling of the secured door. As the force of gravity inherently tends to keep the bolt in the lower narrow portion of the inclined track, the effectiveness of the relationship is apparent.

There are numerous advantages of the present invention. The door securer can be made reasonably inexpensively because the base plate can be formed by simply a punching operation and the bolt by a screw machine. The fact that the device has only two basic parts which fit together make it simple to install and remove. It is a relatively small, lightweight device which can be easily carried in a pocket and ready for immediate use.

The present invention lacks many of the disadvantages of the prior art, such as being made up of multiple separate pieces which are difficult to assemble, any one of which can be easily lost or dropped in the dark. The invention does not injure the door or its jamb and it does not require tools or keys for its use.

It will be apparent from the foregoing description of the invention, in its prefered form, that it will fulfill all the objects attributable thereto. While the invention has been illustrated and described in considerable detail, the protection is not to be limited to such details as have been set forth.

I claim:

1. A portable door lock for use in a door assembly having a door hinged at one vertical edge for unidirectional opening, a door jamb adjacent the other vertical edge, and a latch recess in said jamb, the securer comprising

a relatively thin metal base plate for fitting between the edge of the door and the adjacent jamb when the door is closed, said plate having first and second ends,

a tongue projecting at approximately right angles from each end of said plate in spaced relation thereto for fitting in and engaging the side of the latch recess in said jamb,

a pair of elongated slots having serrated edges formed in said base plate, said slots angled with respect to each other and forming an inverted "V" and having an enlarged opening at their common ends,

a bolt having an annular groove around one end thereof for mating with the serrated edges of either of said slots in positively engaged and selective sliding relation for adjustment therealong and wedging against said door when it is closed, and

the ends of said plates adjacent said tongues forming stabilizing projections on both sides of said tongues, said projections spaced to permit a spring latch deadlock to fit therebetween.

2. A portable door lock comprising

a relatively thin plate for fitting between the edge of a door and its jamb,

at least one tongue extending relatively perpendicular from said plate proximate one end thereof, but spaced therefrom, for engaging a latch recess in the door jamb,

an elongated serrated edged slot having an enlarged opening and formed at an angle with respect to said tongue, and

a bolt formed with an annular groove around one end thereof for mating with the edges of said slot in positively engaged and selective sliding relation for adjustment therealong into wedged abutting relation with the face of the door.

3. A portable door lock comprising

a relatively thin plate for fitting between the edge of a door and its jamb,

at least one tongue extending relatively perpendicular from said plate proximate one end thereof, but spaced therefrom, for engaging a latch recess in the door jamb,

an elongated serrated edged slot formed at an angle with respect to said tongue, and

a bolt formed for positively engaged sliding relation in said slot for adjustment therealong into wedged abutting relation with the face of the door, said bolt being secured to said base plate by a flexible connecting means.

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