June 20, 1939. L. G. LÓPEZ 2,163,206

METAL SAFETY BAR FOR DOORS

Filed Nov. 3, 1937

Fig. 1

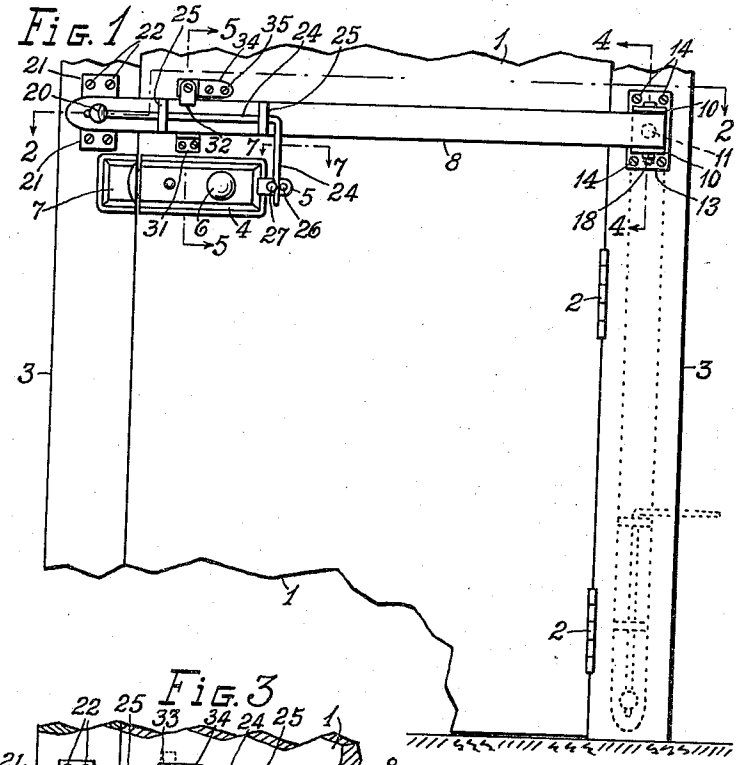


Fig. 4

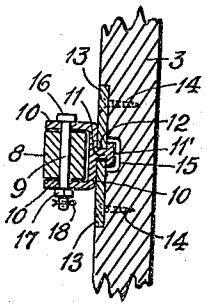


Fig. 5

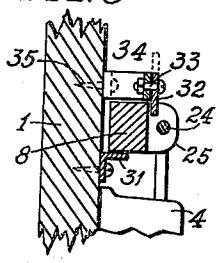


Fig. 3

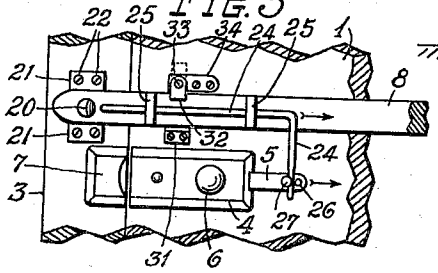


Fig. 6

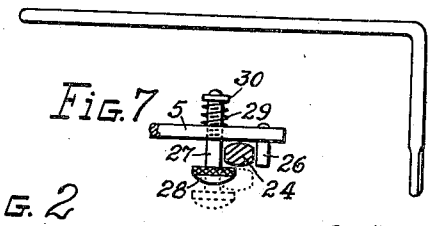


Fig. 7

Fig. 2

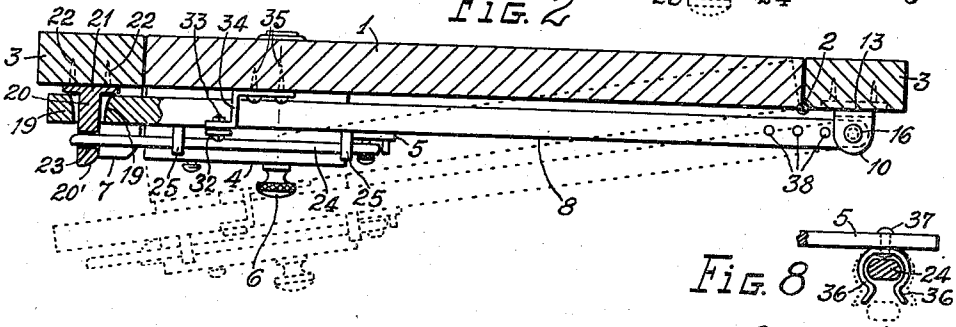


Fig. 8

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METAL SAFETY BAR FOR DOORS

Leandro Garcia López, Habana, Cuba

Application November 3, 1937, Serial No. 172,632
In Cuba September 27, 1937

3 Claims. (Cl. 292—259)

This invention refers to metal safety bars for doors, and it has for its object to provide means whereby the door safety bar is associated with the door lock-bolt so that the connection of the bar and its locking pin will follow the lock-bolt in all the positions thereof upon opening and closing the door and upon the lock-bolt being in the safety closing position, whereby is obtained a more efficient protection against violations of doors as whenever the door is closed by the lock-bolt the bar will be secured in locked position and can not be withdrawn by violation.

The invention is described with reference to the figures of the accompanying drawing, of which:

Fig. 1 is a partial front elevation of a door embodying the safety bar forming the subject-matter of this invention, in its locking position.

Fig. 2 is a horizontal section on line 2—2 of Fig. 1.

Fig. 3 is a view similar to that of Fig. 1, with certain portions cut away, showing the safety bar in its unlocking position.

Fig. 4 is a vertical section on line 4—4 of Fig. 1.

Fig. 5 is a vertical section on line 5—5 of Fig. 1.

Fig. 6 is a detailed view showing the angular rod for connecting the bar with the lock bolt.

Fig. 7 is a horizontal detailed section on line 7—7 of Fig. 1.

Fig. 8 is a detailed view showing a modified form of connection of the angular rod of Fig. 6 with the lock bolt.

In the drawing, 1 indicates a door mounted by hinges 2 on a side of frame 3, and 4 indicates a lock fixed on the door 1, and 5 is the lock bolt which is adapted to be introduced in a keeper 7 fixed to the other side of frame 3.

The improvement constituting the subject-matter of this invention consists in a metal bar preferably of square transversal section 8 which has one of its ends permanently connected by means of a union permitting its movement in vertical and horizontal planes, to the side of the frame 3 on which the door-leaf 1 is hinged. Said union consists in a vertical pin 9 which passes through the bar 8 and is mounted through openings formed in the upper and lower branches of a fork-shaped metal piece 10 which is rotatably secured to a frame side 3 through a horizontal journal 11 provided with a retaining head 11' and mounted through an opening 12 formed in a metal plate 13 embedded in vertical position in the fore face of the side of frame 3 and fixed by screws 14, a recess 15 being formed in the frame for receiving the head of journal 11. The vertical pin 9 is held in position by a head 16 with which it is provided at one end and by a nut 17 threaded on the threaded surface of its other end and secured by a cotter-pin 18 mounted across an opening through pin 9.

The free end of bar 8 has a horn-shaped opening 19 therethrough with its wider end backwards, to readily fit a horizontal locking pin 20 having on its free end a curved surface 20' to facilitate the insertion of the opening 19 of bar 8 on said pin 20, the latter being integral with a vertical plate 21 fixed by screws 22 on the fore face of the side of frame 3 carrying the keeper 7, and the position of said locking pin 20 being such that it remains in horizontal alignment with the journal 11 above described. The pin 20 has near its free end a horizontal transverse perforation 23 adapted to receive the end of an L-shaped rod 24 slidably mounted on the fore face of the bar 8 through the medium of guides 25 fixed to the bar and provided with openings wherethrough passes the longest portion of the L-shaped rod 24, and the shortest portion of this L-shaped rod 24 is detachably connected with the lock-bolt 5 of lock 4 by means of a fixed stop 26 secured to the bolt 5 and a horizontal pin 27 provided with a stop head 28 and which passes through an opening formed in the bolt 5, said pin 27 being slidable forwards and backwards from the bolt 5 against the resiliency of a spring 27 rolled about the portion of pin 27 remaining behind the bolt 5 and having its ends resting respectively on the rear face of bolt 5 and on a collar 30 fixed at the rear end of pin 27.

In its horizontal position, the bar 8 rests at its lower edge on an angular plate 31 fixed by screws on the face of door 1 adjacent the bar 8, and the latter is also retained in its safety position by a vertical clamp 32 rotatably mounted by a horizontal pivot 33 on the free end of a Z-shaped plate 34 which at its other end is secured by screws 35 to the face of door 1 adjacent the bar 8.

The length of the longest portion of the L-shaped rod 24 is such that in the closed position of the bolt 5, that is, when the end of the latter is introduced in the keeper 7, the free end of said L-shaped rod 24 is introduced in the horizontal opening 23 of the locking pin 20 (see Figs. 1 and 2 of the drawing), in which position, when the ordinary safety means is applied to the bolt 5 of lock 4, the bar 8 will also be safely secured, thereby preventing disconnection of the L-

shaped rod **24** from the pin **20** fixed to the frame **3** of the door.

When the lock **4** is operated by the respective key from the outside or by the handle **6** from the inside, upon the bolt **5** being caused to withdraw from the staple **7**, the L-shaped rod **24** will also slide and disengage the opening **23** of locking pin **20**, and whenever the door **1** is closed against frame **3**, the L-shaped rod **24** will enter the opening **23** of locking pin **20** at the same time that the bolt **5** enters the keeper **7**.

When it be desired to withdraw the bar **8** from the position in which it locks the door **1**, it will be sufficient to rotate the bar **8** forewards to disengage the horn-shaped opening **19** from the locking pin **20**, after having disconnected the L-shaped rod **24** from the bolt **5**, and by causing the clamp **32** to rotate upwards, it will then be possible to cause the bar **8** to rotate together with the fork **10** on the horizontal journal **11**, to take the vertical dropping position indicated by dotted lines in Fig. 1 of the drawing.

In Fig. 8 is indicated a modified form of the means for connecting the L-shaped rod **24** with the bolt **5**, the above described fixed stop **26** and slidable pin **27** being replaced by a resilient fork-shaped clamp **36** fixed by a rivet **37** to the bolt **6**. For disconnecting the L-shaped rod **24** from the resilient fork **36**, it is only necessary to cause the longest portion of the L-shaped rod **24** to rotate in its guide pieces **25** and to pull forewards the shortest portion of the rod **24** to withdraw it from the interior of resilient clamp **36**.

The bar **8** may be provided near its connection with fork **10** with a plurality of drill holes **38** each of them being adapted to receive the vertical pin **9**, the length of the bar **8** being thus adaptable to doors of different width, by cutting the bar **8** beyond the hole **38** to be used.

This bar **8** is adaptable to doors of any kind, or of one or more leaves, and to any kind of locks.

What I claim is:

1. A metal safety bar for doors, in combination with a locking-pin secured to the door frame, the bar having at one end thereof means for connecting it with the door-frame which permit its rotation in two perpendicular planes, and means slidably mounted on the other end of the bar, said means being connected to the bolt of a door lock and adapted to be detachably connected to the locking-pin, so that the latter means may automatically follow all of the movements of the lock bolt.

2. A metal safety bar for doors, in combination with a locking-pin secured to the door frame, the bar having at one end thereof means for connecting it with the door frame, which permit its rotation in two planes one vertical and another horizontal, and an L-shaped rod slidably mounted in guides fixed to the bar, which L-shape rod has a portion thereof detachably connected to the bolt of a door lock and the other portion thereof being adapted to engage the locking pin in its locking position.

3. A metal safety bar for doors, in combination with a perforated locking-pin secured to the door frame, the bar having at one end thereof means for connecting it with the door frame which permit its rotation in two planes, one vertical and another horizontal, and an L-shaped rod slidably mounted in guides fixed to the bar body which L-shaped rod has its shorter portion detachably connected with the bolt of a door lock and its longer portion adapted to be inserted in the perforation of the locking pin in its locking position.

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