Aug. 26, 1930. C. BRAND 1,774,351

DOUBLE CHAIN AND PADLOCK

Filed Feb. 21, 1929 2 Sheets-Sheet 1

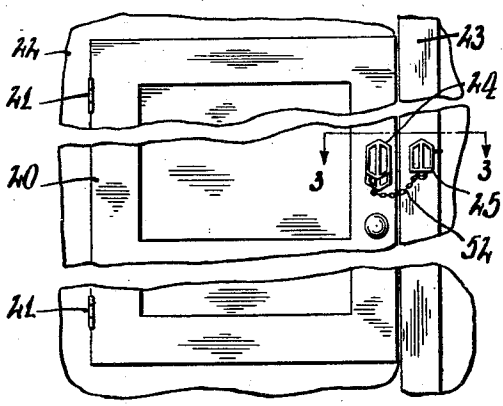


FIG 1

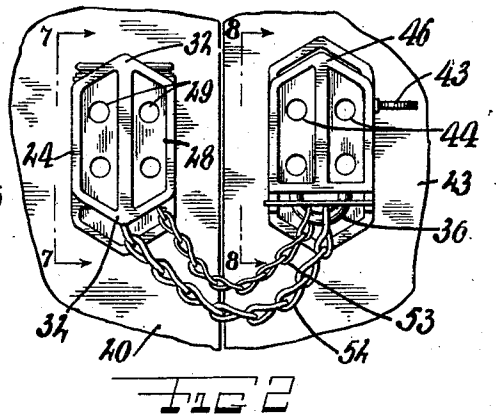


FIG 2

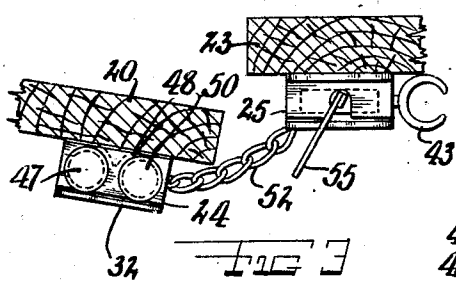


FIG 3

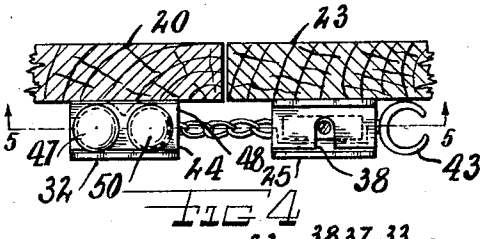


FIG 4

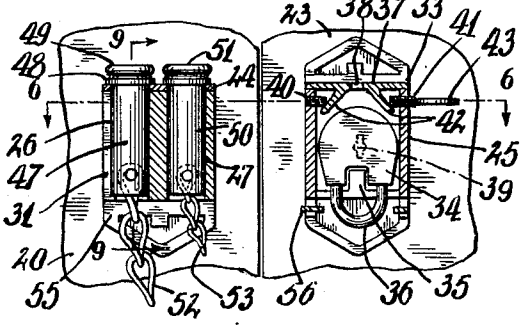


FIG 5

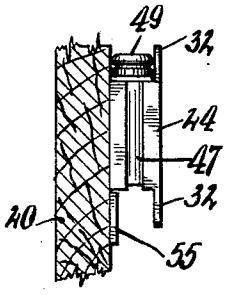


FIG 7

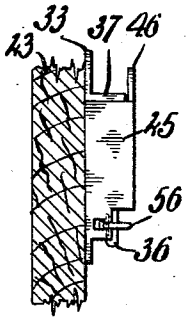


FIG 8

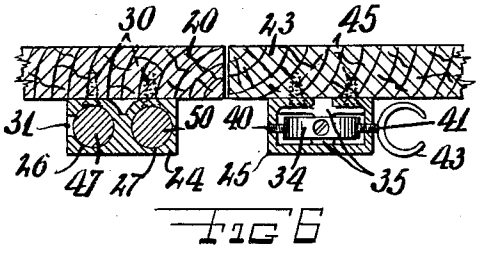


FIG 6

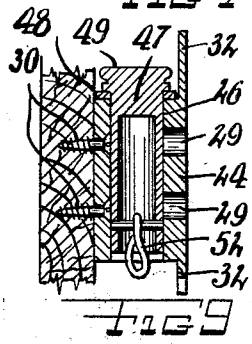


FIG 9

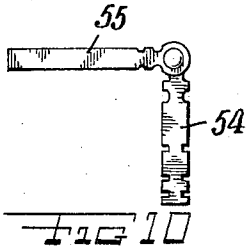


FIG 10

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DOUBLE CHAIN AND PADLOCK

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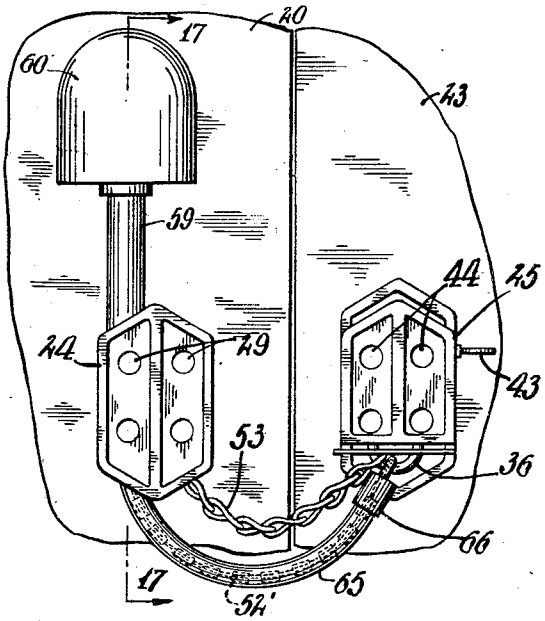


FIG 15

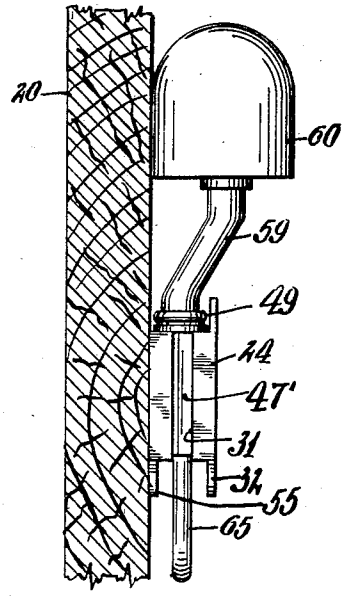


FIG 16

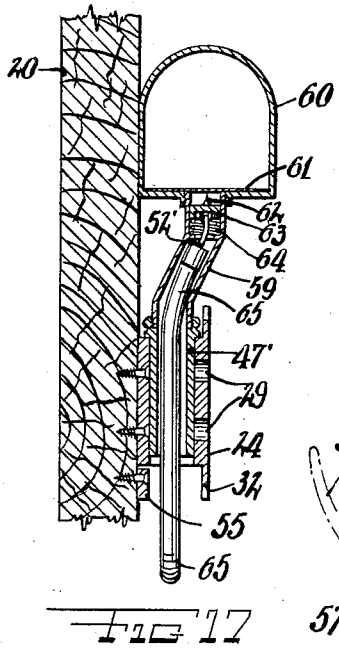


FIG 17

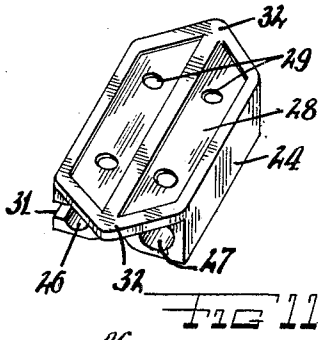


FIG 11

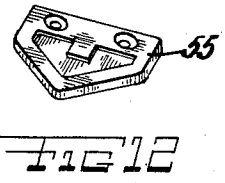


FIG 12

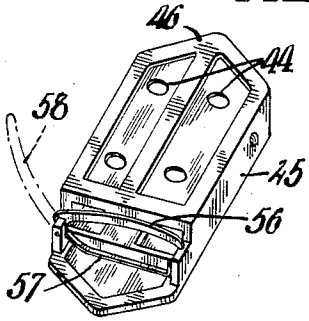


FIG 13

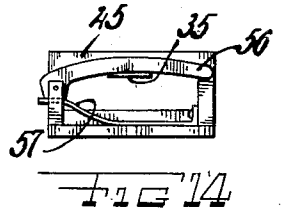


FIG 14

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Patented Aug. 26, 1930

1,774,351

UNITED STATES PATENT OFFICE

CHARLES BRAND, OF WHITE PLAINS, NEW YORK

DOUBLE CHAIN AND PADLOCK

Application filed February 21, 1929. Serial No. 341,584.

This invention relates generally to doors and the like, and has more particular reference to a novel latching means therefor.

The invention has for an object the provision of a device of the class mentioned which is of simple durable construction, dependable in use and efficient in action, and which can be manufactured and sold at a reasonable cost.

The invention purposes the use of a door bracket secured upon a door, and a frame bracket secured upon that portion of the frame adjacent said door. The frame bracket is arranged for supporting a padlock in an inverted position so that chains may be connected with the latch element of the lock and with barrels arranged to engage in the door bracket. One barrel may be rotated for changing the operative length of the said chain which determines the amount to which the door may be partially open when the latching means is applied. A means may be provided for giving an alarm when one of the chains is broken.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawing forming a material part of this disclosure:—

Fig. 1 is a fragmentary elevational view of a door and door frame provided with the latching means.

Fig. 2 is an enlarged detail view of a portion of Fig. 1 showing the latching means in a second condition.

Fig. 3 is a horizontal sectional view as though taken on the line 3—3 of Fig. 1, but showing the door in a partially open position.

Fig. 4 is a view similar to Fig. 3, but showing the door closed.

Fig. 5 is a vertical sectional view taken on the line 5—5 of Fig. 4.

Fig. 6 is a horizontal sectional view taken on the line 6—6 of Fig. 5.

Fig. 7 is a sectional view taken on the line 7—7 of Fig. 2.

Fig. 8 is a similar view taken on the line 8—8 of Fig. 2.

Fig. 9 is a sectional view taken on the line 9—9 of Fig. 5.

Fig. 10 is an elevational view of a key for operating the padlock engaged in the latching means.

Fig. 11 is a perspective view of the block element of the door bracket.

Fig. 12 is a perspective view of the friction plate of the door bracket.

Fig. 13 is a perspective view of the frame bracket.

Fig. 14 is an end elevational view of the bracket shown in Fig. 13 with a ventilator strip thereof in an open position.

Fig. 15 is a view similar to Fig. 2, but disclosing a modified form of the device.

Fig. 16 is an edge elevational view looking from the left hand side of Fig. 15.

Fig. 17 is a sectional view taken on the line 17—17 of Fig. 15.

The reference numeral 20 indicates generally a door hinged at one of its edges as at 21 upon a door frame 22 provided with a door jamb 23. A door bracket 24 is secured upon the inner face of the door adjacent a frame bracket 25 secured upon the jamb 23. A single chain 52 is shown engaged between the frame and door brackets.

The door bracket 24 consists of a block having a left barrel opening 26 extending vertically from the top to the bottom, and a right barrel opening 27 slightly spaced from the left opening and similarly extending from the top to the bottom. The block has a front portion indicated by numeral 28 which is provided with apertures 29 permitting the insertion of a screw driver for engaging screws 30 passed thru the rear portion of the block and serving to secure the block upon the door. The diameter of the heads of the screws is of smaller size than the apertures 29 so that these screws may be passed thru the apertures for securing the door bracket in place. The left side of the block is formed with a vertical slot 31 extending the full length and communicating with the left barrel opening 26. Upper and lower shielding projections 32 are integral with the block and

extend above and below respectively of the top and bottom of the block.

The frame bracket 25 consists of a hollow block opened at the top as at 33 so that an inverted padlock 34 may be engaged therein. Side projections 35 from the interior of the block serve to support the padlock within the block so as to permit the extension of the shackle 36. A top cover 37 is mounted upon the top of the block and is formed with a key cut out 38 permitting the passage of a key for operating the padlock. Dot and dash lines 39 indicate that the padlock may be provided with a key opening on its front face and in this event the front of the block must be formed with an opening permitting the passage of the key for operating the lock. Set screws 40 and 41 threadedly engage in the sides of the block and against downwardly inclined projecting element 42 from the cover, for fastening the cover in a closed position. The set screw 41 is provided with a head 43 of ring formation forming a bracket barrel support. The front portion of the bracket is provided with apertures 44 permitting the insertion of the screw driver for reaching screws 45 engaged thru the rear of the bracket and serving to attach the bracket upon the jamb 23. An upper shielding projection 46 is integral with the block and projects upwards from the top portion.

A left plunger 47 slidably engages in the left barrel opening 26 and is provided with a fixed rigidly horizontal plate 48 near its top, said plate extending over the right barrel opening 27. The left plunger 47 is provided with a head 49. A right plunger 50 is slidably mounted in the right barrel opening 27 and thru an aperture in the said horizontal plate 48. The right plunger is provided with a head 51. A heavy chain 52 is attached at one of its ends upon the bottom of the left plunger 47 and at its other end upon the shackle 36 on the padlock. A second smaller chain 53 is attached upon the lower portion of the right plunger and its other end is engaged upon the shackle 36 on the padlock.

A key 54 for operating the padlock 34 is provided with a rigidly projecting side arm 55. In Fig. 3 this key is shown engaged in the padlock. During daytime use of the latching device, the padlock is opened and the second chain 53 removed from the shackle thereof and then the plunger 50 removed from the right barrel opening and stored upon the barrel support 43. Fig. 1 shows but a single chain 52 operatively engaged in the latching device. In this condition of the device the door may be partially open as seen in Fig. 3 and persons on the inner side of the door may inspect others on the outer side to ascertain whether it is advisable to admit them. Furthermore, a person on the inner side of the door may disengage the chain 52 from its latching position and leave the room. From the outside he may then insert his hand thru the partially opened door and engage the free end of the chain 52 upon the shackle of the padlock and then snap the shackle into operative position for engaging the device as shown in Fig. 3. To reenter this person need only again insert his hand thru the partially opened door and engage the key 54 into the lock for opening the latch element thereof for permitting a disengaging of the chain 52.

It is particularly pointed out that the upper and lower shielding projections 32 and the shielding projections 46 interfere with an intruder on the outside of the door attempting to insert his hand thru the partial opening of the door and jimmy the lock or the chains at the points where the chains engage the shackle or the barrels. During night use the second chain 53 is engaged upon the shackle on the padlock and the barrel 50 engages in the right barrel opening. This second chain may be twisted by turning the head 51 of the barrel for twisting the chain and changing its operative length thus changing the amount to which the door can be opened. When the right barrel is engaged as just stated the door cannot be completely opened unless the padlock is first opened to permit the disengagement of the chain 53.

During day use with only the left barrel engaged when the door is in a completely closed position the said barrel may be drawn upwards and completely disengaged from the barrel opening and then moved laterally so that the chain 52 passes thru the slot 31 completely disengaging from the door bracket and permitting a complete opening of the door. A friction plate 55 is attached upon the door directly beneath the block of the door bracket. A ventilator strip 56 is pivotally mounted on the block of the frame bracket and on the side nearest the door bracket so as to be pivotally movable to a position engaged between the door and the jamb 23 holding the door in a partially open position permitting the passage of air for ventilating purposes. A spring 57 is mounted upon the block of the frame bracket and acts against ventilator strip in the vicinity of its pivot for holding the strip in a closed position as shown in Fig. 13 or in an open position as indicated by dot and dash lines 58 in Fig. 13. Fig. 14 also shows the open position of the ventilator strip.

In the modified form of the invention illustrated in Figs. 15, 16 and 17 a left plunger 47′ has been shown engaged in the left barrel opening. A tube 59 connects with the top of the left plunger 47′ and supports a chamber 60. This chamber may be filled with tear gas or with a mechanical or electrical alarm device. A diaphragm 61 is arranged in the bottom of the chamber and puncturable by a pin 62 projecting from a platform 63 slidably mounted in the tube 59 and urged against the

diaphragm by a spring 64 normally held restrained by the end of a chain 52′ or a wire. This chain passes thru an inner tube 65 which is provided at its free end with an end cap 66 for restraining a moving of the chain within the inner tube. The free end of the chain projects from the end cap and is shown engaged upon the shackle on the padlock.

In the event that an intruder breaks into the house and cuts the chains of the latching device the chain 52′ will be loose and permit the spring 64 to move the platform 63 upwards so that the pin 62 punctures the diaphragm 61. In the event that tear gas is within the chamber 60 this gas will escape and act upon the intruder in the customary fashion. Alarm mechanism not shown on the drawing can also be placed in the chamber for giving an alarm which would notify that the chain has been broken. It is pointed out that the left plunger 47′ may be raised so as to be free from the left barrel opening and then moved laterally for causing the inner tube 65 to pass thru the slot 31 for the purpose previously described relative to the preferred form.

My improved device may be used for left and right hand doors, inside or outside, also for sliding doors.

It is to be understood that my safety device may be used not only on doors but also on windows or any other place where a safety lock of the type described may be used.

While I have shown and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:—

1. In a device of the class described, a door bracket, comprising a block with a left barrel opening and a right barrel opening, the front portion of the block being formed with apertures permitting the insertion of a screw driver, the rear portion being formed with apertures aligned with said apertures, for accommodating supporting screws, the left side being formed with an aperture communicating with the left barrel, and upper and lower shielding elements project from the top and bottom of the block.

2. In a device of the class described, a door bracket, comprising a block with a left barrel opening and a right barrel opening, the front portion of the block being formed with apertures permitting the insertion of a screw driver, the rear portion being formed with apertures aligned with said apertures, for accommodating supporting screws, one side being formed with an aperture communicating with one barrel and upper and lower shielding elements project from the top and bottom of the block.

3. In a device of the class described, a frame bracket, comprising a hollow block with a top opening, a cover secured on the block, elements projecting from the inner side of the block for supporting a padlock in an inverted position with its shackle projecting from the bottom, the front portion of the block being formed with apertures permitting the insertion of a screw driver, the rear portion being formed with apertures aligned with said apertures, for accommodating supporting screws, and an upper shielding element projecting from the top of the block.

4. In a device of the class described, a frame bracket, comprising a hollow block with a top opening, a cover secured on the block, elements projecting from the inner side of the block for supporting a padlock in an inverted position with its shackle projecting from the bottom, a ventilation strip pivotally mounted on the block, the front portion of the block being formed with apertures permitting the insertion of a screw driver, the rear portion being formed with apertures aligned with said apertures, for accommodating supporting screws, and an upper shielding element projecting from the top of the block.

5. In a device of the class described, a frame bracket, comprising a hollow block with a top opening, a cover secured on the block, elements projecting from the inner side of the block for supporting a padlock in an inverted position with its shackle projecting from the bottom, a ventilation strip pivotally mounted on the block, a spring for holding the strip in extended or retracted position, the front portion of the block being formed with apertures permitting the insertion of a screw driver, the rear portion being formed with apertures aligned with said apertures, for accommodating supporting screws, and an upper shielding element projecting from the top of the block.

6. In a device of the class described, a plunger, a tube connected with the top thereof, a chamber for holding a gas or alarm device mounted on the top of the tube, a diaphragm in the bottom of the chamber, a slidable platform in the tube, a pin on the platform capable of puncturing the diaphragm, a spring for urging the platform towards the diaphragm, a chain restraining the spring, a tube for the chain, and an end cap on the free end of the second tube for holding the free end of the chain.

7. In a device of the class described, a plunger, a tube connected with the top thereof, a chamber for holding a gas or alarm device mounted on the top of the tube, a diaphragm in the bottom of the chamber, a slidable platform in the tube, a pin on the plat-

form capable of puncturing the diaphragm, means for urging the platform towards the diaphragm, a chain restraining the spring, a tube for the chain, and an end cap on the free end of the second tube for holding the free end of the chain.

8. A latching device of the class described, comprising a door bracket with a barrel opening, a plunger slidable therein, a door jamb frame bracket, a padlock supported on said door jamb frame bracket, and a chain connected with said plunger and adapted for attachment on the shackle of said padlock.

9. A latching device of the class described, comprising a door bracket with a barrel opening, a plunger slidable therein, a door jamb frame bracket, a padlock supported on said door jamb frame bracket, and a chain connected with said plunger and adapted for attachment on the shackle of said padlock, said door bracket having a side slot communicating with said barrel opening, said plunger having a top head preventing passage thru the barrel opening, and said chain being attached on the bottom of the plunger and capable of passing thru said side slot upon the withdrawing of the plunger from the barrel opening.

In testimony whereof I have affixed my signature.

CHARLES BRAND.