April 28, 1953 J. CHAPETA ET AL 2,636,763

PUSH-BUTTON LATCH

Filed July 1, 1949 2 SHEETS—SHEET 1

Fig. 2

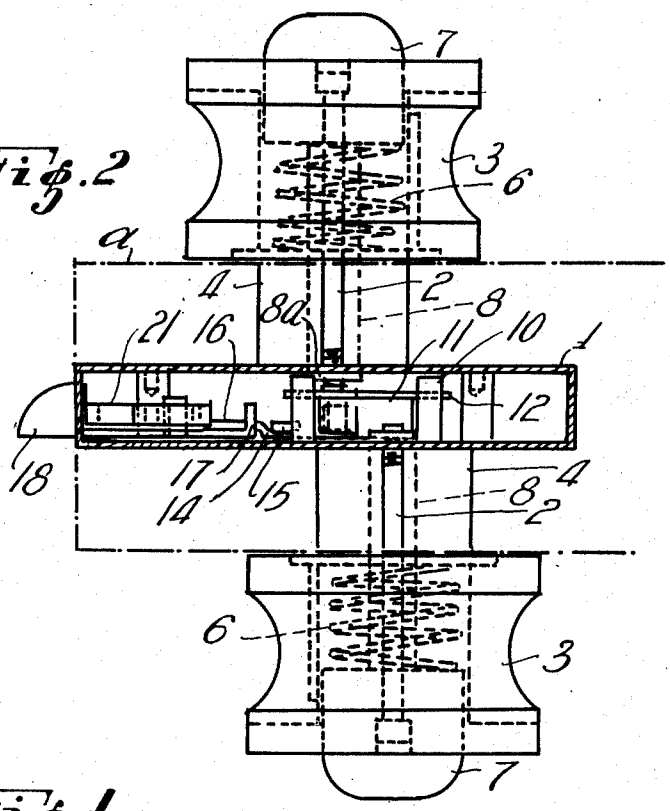
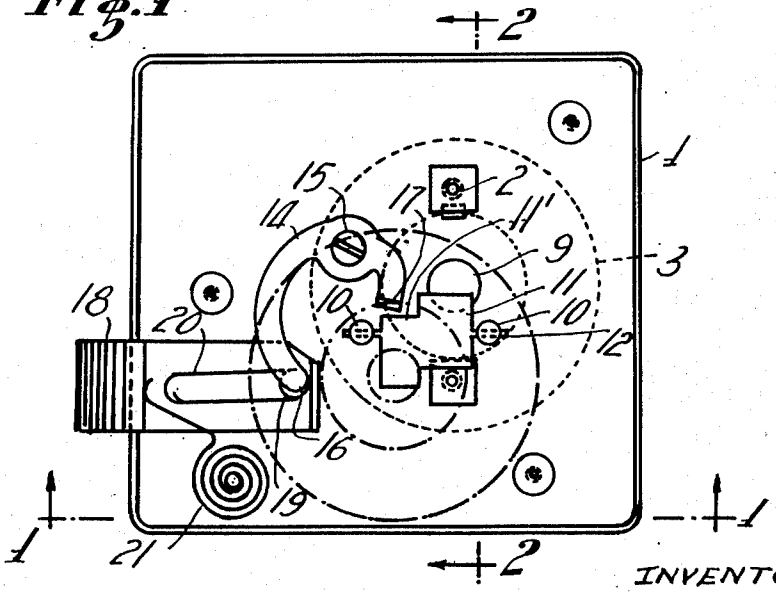



Fig. 1




INVENTORS:
JUAN CHAPETA AND
FRANCISCO VIGNA
BY Leon M. Strauss

April 28, 1953 J. CHAPETA ET AL 2,636,763

PUSH-BUTTON LATCH

Filed July 1, 1949 2 SHEETS—SHEET 2

Fig. 4

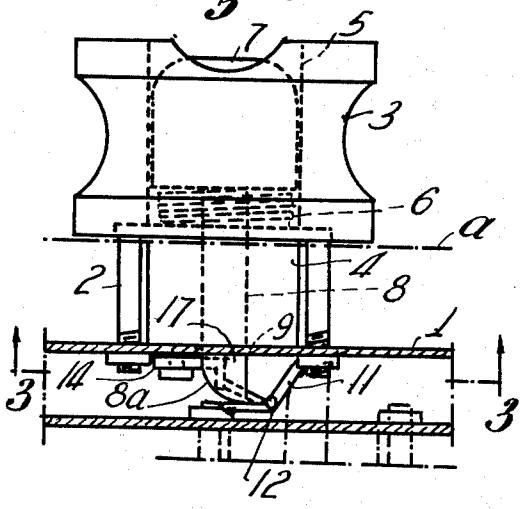



Fig. 3

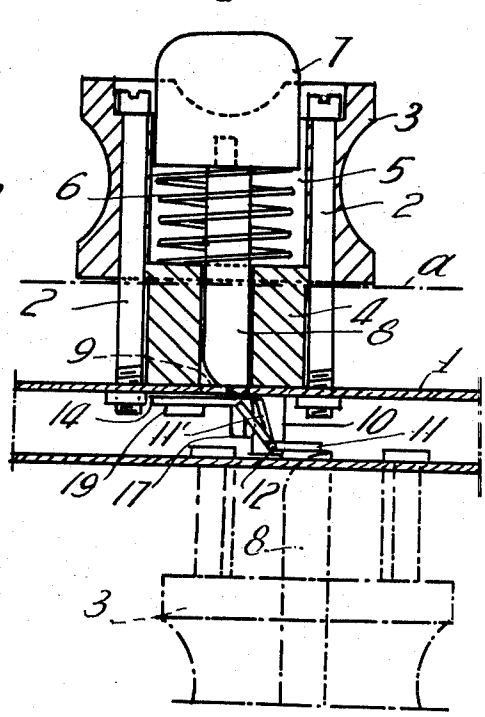



Fig. 5

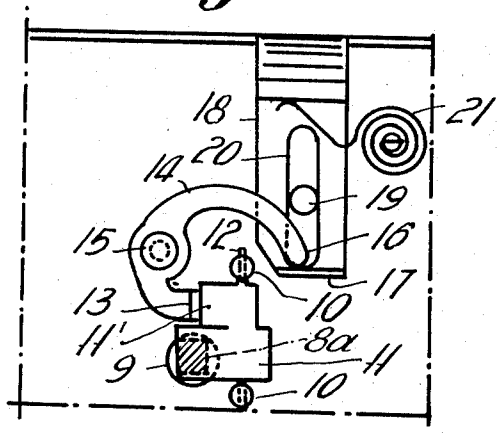
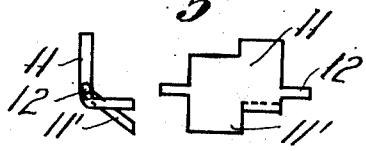



Fig. 6




INVENTORS:
JUAN CHAPETA AND
FRANCISCO VIGNA
BY Henry M. Strauss
ATT.

Patented Apr. 28, 1953 2,636,763

# UNITED STATES PATENT OFFICE

2,636,763

## PUSH-BUTTON LATCH

Juan Chapeta and Francisco Vigna,
Cordoba, Argentina

Application July 1, 1949, Serial No. 102,540
In Argentina July 17, 1948

4 Claims. (Cl. 292—166)

1

The present invention concerns a new type of lock and key to be used in general on all doors. Its design and use is very simple, as it operates just by pressing a button, thus doing away with turning handles and their cooperating parts.

To this effect, the lock has a simple mechanism that converts the straight movement of the button into another movement in line with the latch, in a 90° angle with respect to the former.

The principle of the invention consists of a well guided button which has a rod that rests on a small articulated angle which in turn operates one of the ends of a lever, while on its other end there is a connection with the latch, in such a manner that by pressing the button, the latch operates to thereby allow the door to open. There are a few complementary parts to the mechanism which will be noted as the description of the invention proceeds.

In order that this invention may be better understood in such a manner as to enable it to be easily put to practice, it has been represented in several illustrative figures in which:

Fig. 1 shows the interior mechanism of the latch, as seen from the front.

Fig. 2 is a sectional view taken on line 1—1 of Fig. 1.

Fig. 3 is another sectional view taken on line 2—2 of Fig. 1, showing the mechanism while it is inoperative.

Fig. 4 is a view similar to Fig. 3, but with the mechanism in operative position.

Fig. 5 is a sectional view taken on line 3—3 of Fig. 4.

In Fig. 6 may be seen in two views, in detail, the articulated angle that joins the rod of the button with the lever of the latch to transmit the operating movement.

In the different figures the same numbers are used for identical parts.

The construction, according to the embodiment illustrated, consists of the casing 1, of a convenient size to be installed flush with the door. This casing 1, has screws at each side and two rigid handles 3, one on each side, so that the door may be opened from either side. Evidently, if the casing 1 is flush with the door *a* (a part of which may be seen in Figs. 1 and 3) the screws 2 should be long enough to reach casing 1, and will also be flush with the respective handles 3.

Between the two above mentioned elements (handle 3 and casing 1) there is a spacer bushing 4, of the same thickness as the door *a* between the handle 3 and the casing 1, placed in such a way that it is pressed by the screws 2

2

when the latch is installed, and in this manner handle 3 is fixed on its corresponding side of the door *a*.

Handle 3 has a hole 5 in which is mounted the spring 6 and the button 7.

The button 7 is not quite flush with the outer handle surface, as may be seen in Fig. 3.

Furthermore, button 7 has a rod 8 which, after passing through bushing 4 and hole 9 of casing 1, enters the latter for operation with a mechanism, as shall be more apparent later on. The free end of the rod 8 is rounded on one of its sides, as indicated in 8*a*.

Within casing 1 there is mounted on two small bases 10 the articulated angle piece 11 which has, for this purpose, two axle ends 12 (Figs. 1, 5 and 6) which rest on these two bases in such a manner that an oscillating movement or a rotative movement is achieved, and the wings must coincide with holes 9, and therefore with the ends 8*a* as well, of the rods 8 of each button 7. The coincidence of these two wings with the angle piece 11 and the ends 8*a* should be such that as either rod 8 slides, the angle piece 11 may be rotated proportionately, that is, it should rotate a fraction of a turn in relation to the rectilinear movement of rod 8.

A third wing 11' has almost the same inclination as one of the other two wings, coincides with the end 13 of the lever 14 (Figs. 1 and 5). This lever 14 which is curved, rotates around axle 15 which joins casing 1, and its other end 16 rests in the groove 17 of latch 18.

A pin or bolt 19 acts as a guide for the latch, as it is fixed to casing 1 and fits freely in the longitudinal groove 20 of latch 18 thereby permitting a sliding movement. The spring 21 acts on latch 18 with a tendency to keep said latch 18 projected.

When the latch is operated by pressing either one of the buttons 7, the following operation takes place (Figs. 4 and 5): rod 8 slides in far enough to scrape end 8*a* with the corresponding wing of angle piece 11, causing it to rotate a fraction of a turn, since it is mounted on the ends of axles 12 on bases 10. The rotation of this angle piece 11 gives an angular movement to lever 14 as it is in contact with its wing 11' and its end 13; in this manner the movement is transmitted to the latch 18 upon contact with the other end 16 so that the latch 18 slides in such a way to permit the door to open.

Upon releasing button 7, it will return to its normal or initial position by the action of spring 6.

If the door should slam shut, or if it should

shut without having pushed either of the buttons 7, the latch 18 will operate by itself, sliding automatically into its corresponding position after making its contacts just an instant before the door closes, as can be easily seen, since it has a free sliding movement by this effect, and its spring 21 will hold it under the circumstances which have been mentioned.

The casing 1 may be installed with latch and key, independent from the mechanism described.

Evidently certain modifications of detail may be made in the construction, without altering the principle of the present invention which is clearly determined in the appended claims which follow.

Having thus described the invention, what is claimed as new and desired to be secured as Letters Patent, is:

1. A push button latch; comprising a casing provided with at least two apertures, a latch bolt slidable in said casing, spring means normally projecting said latch bolt through one of said apertures, an angle piece provided with a plurality of wings, said angle piece being mounted for oscillating movement in said casing, a lever having two ends, a pivot intermediate said ends and swingably supporting said lever in said casing, one end of said lever operatively engaging said latch bolt, a rod extending into the other of said apertures and into the path of one of said wings of said angle piece, and manual means associated with said rod and adapted to slidably operate said rod in said casing, whereby when said rod engages the said one of the wings of said angle piece another of said wings abuts against the other end of said lever to thereby retract said latch bolt.

2. A latch according to claim 1, wherein said rod is normally spring biased and out of engagement with said one wing of said angle piece, said rod having two ends, one of said rod ends being provided with a rounded surface for engagement with said lever, said manual means for operating said rod being connected to the other end of said rod.

3. A latch according to claim 1, wherein the wings of said angle piece are angularly positioned with respect to each other.

4. In a push button latch; a casing provided with an opening and two apertures, a latch bolt slidable in said casing, spring means normally projecting said latch bolt through said casing opening, an angle piece provided with a plurality of wings, pivot means mounting said angle piece for oscillating movement in said casing, a lever arranged for pivotal movement in said casing and having two ends, one end of said lever operatively engaging said latch bolt, rod means, respectively, extending into each aperture of said casing, each rod means being disposed in alignment with a corresponding wing of said angle piece, and manually operable means on each of said rod means for slidably operating its respective rod means in said casing, whereby when either of said rod means engages its corresponding wing of said angle piece another of said wings of said angle piece engages the other end of said lever to actuate said latch bolt and to retract it.

JUAN CHAPETA.
FRANCISCO VIGNA.

References Cited in the file of this patent

UNITED STATES PATENTS

| Number | Name | Date |
|---|---|---|
| 224,040 | Prouty | Feb. 3, 1880 |
| 644,255 | Meyer | Feb. 27, 1900 |
| 2,532,399 | Fernandez | Dec. 5, 1950 |