# April 3, 1928.

### T. F. STUART ET AL PUSH CATCH FOR DOORS

1,664,576

PUSH CATCH FOR DOORS Filed July 16, 1926







## Patented Apr. 3, 1928.

# 1,664,576

# UNITED STATES PATENT OFFICE.

THOMAS F. STUART AND HENRY A. MOORE, OF LOS ANGELES, CALIFORNIA.

### PUSH CATCH FOR DOORS.

### Application filed July 16, 1926. Serial No. 122,820.

doors and the subject matter herein dis- of which overlies the inner end of the aperclosed and claimed is an improvement on ture 12 and formed integral with the upper

ject matter of our co-pending application for U. S. Letters Patent filed March 25, 1926, Serial No. 97,193.

The principal objects of our present invention are to generally improve upon and sim-

- 10 plify the construction of the latching device that is set forth in our aforesaid copending application as well as other existing forms of similar devices; to provide a push catch that is especially applicable for
- use on the doors of cupboards, closets, medicine cases, book cases, and the like; to pro-vide a structure that may be readily adjusted to permit of its being easily and quick-ly installed on doors of different thicknesses;
- and further, to provide a latch of the char-20 acter referred to that may be used in connection with plain or ornamental knobs of wood, glass, metal, porcelain, or composition
- With the foregoing and other objects in 25 view, our invention consists in certain novel features of construction and arrangement of parts that will hereinafter be more fully described and claimed and illustrated in the accompanying drawing, in which-

Fig. 1 is a vertical section taken lengthwise through the center of a push catch of our improved construction and showing the same in position for use upon a door.

Fig. 2 is a sectional view taken on the line 35 2-2 of Fig. 1.

Fig. 3 is a vertical section taken on the line 3-3 of Fig. 1.

Fig. 4 is a horizontal section taken on the 40 line 4 4 of Fig. 1.

Referring by numerals to the accompanying drawings which illustrate a practical embodiment of our invention, 10 designates a door and 11 a shelf or partition to the rear of said door, and for the accommodation of

- 45 our improved latch a relatively small circular aperture such as 12 is formed through the door in a horizontal plane just below the plane occupied by the underface of the shelf or partition. Secured to the under-
- 50 ber 13 having a depending finger 14.

Positioned against the inner face of door 10 below the opening 12 is a narrow ver- zontally disposed slots 37 that are formed in 55

Our invention relates to a push catch for tically disposed plate 15, the upper portion the push catch for doors that forms the sub- portion of this plate and projecting into said 60 aperture 12 is an externally threaded tubular member 16.

Plate 15 is secured to the door 10 in any suitable manner, but we prefer to make use of a single screw 18 that passes through an 65 aperture in the lower portion of said plate and said screw being seated in the body of the door.

Formed integral with the sides of plate 15 are parallel ears 19 and seated therein is a 70 pivot pin 20 that passes through the rear or inner portion of a horizontally disposed latching member 21. The forward or outer end of this latching member is provided with an upwardly projecting hook 22 that 75 is adapted, when the door is closed, to engage behind the depending finger 14 of catch member 13. Formed integral with the rear or inner portion of latching member 21 is an upwardly projecting plate 23 and formed 80 in the upper portion thereof is a short vertically disposed slot 24.

Screw-seated on that portion of the tubular member 16 that projects into aperture 12, is the internally threaded portion of a tubu- 85 lar stem 26 that projects a substantial distance outwardly from the outer face of the door 10.

The outer end of this tubular member 26 is provided with a head 27 in the outer 90 face of which is formed a slot 28 that is adapted to receive the point of a screw driver or like tool. The external diameter of tubular stem 26 is practically the same as the diameter of opening 12. 95

Extending through tubular stem 26, and tubular member 16 is a push rod 29 and formed on the outer end of this rod is a button 30. Formed on rod 29 a short distance inwardly from the button 30 is a shoulder 100 31 and arranged on said rod and bearing against this shoulder and against the end of tubular member 25 is an expansive coil spring 32.

The inner end portion of rod 29 is thread- 105 ed as designated by 33 and mounted on said threaded portion is a small block 34 from the side of the shelf or partition a short dis-tance rearwardly from its front edge and sides of which depend ears 35 that overlie in line with the aperture 12 is a catch mem-the upper portions of ears 19. Seated in the depending ears 35 are the ends of a pin 110 36 and said pin passes through short hori-

portion of latching member 21.

locked in its adjusted position by means of a set screw 34<sup>a</sup> that is seated in the side of said block.

Positioned on that portion of the tubular 10 member 25 that projects outwardly from door 10 is a knob 38 of wood, glass, metal, or other suitable material, and formed in the outer end of said knob is a recess 39 that is occupied by the head 27.

15 When the parts are properly assembled for use and applied to a door they occupy the in the size, form and construction of the positions as illustrated in Fig. 1 with the hook 22 engaging depending finger 23 and said hook and the operating parts of the 20 latch being held in the positions shown by the expansive power of spring 32 acting on rod 29.

To release the catch in order to open the door, the knob 38 is engaged between the 25 first and second fingers of the hand and the thumb is pressed against button 30, thereby moving rod 29 inwardly against the resist-ance offered by spring 32. As the rod is thus moved inwardly, the pin 36 that is car-<sup>30</sup> ried by the depending ears 35 of block 34 will traverse the horizontal slots 37 and the bearing of the pin 36 against plate 23 at the front edge of notch 24 will swing the latching member 21 upon its pivot pin 20, thereby 35 moving the free end of said latching member downwardly and disengage hook 22 from finger 13.

The door may now be opened and when the pressure of the thumb on button 30 is 40 relieved, spring 32 will act to restore the operating parts to their normal positions.

When the door is again closed, the hook 22 on the free end of latching member 21 will strike against finger 14 and pass down-<sup>45</sup> wardly beneath said finger and immediately, under the influence of spring 32, latching member 21 will swing upwardly to its normal horizontal position so that hook 22 will re-engage behind depending finger 14, thus 50 latching the door in closed position.

Tubular member 26 may be adjusted inwardly or outwardly upon tubular member 16 for the accommodation of knobs of different lengths and block 34 may be adjusted <sup>55</sup> upon the threaded portion 33 of rod 29 in order to control the position of latching member 21 and also to control the length of its vertical swinging movement.

In applying our improved latching device <sup>60</sup> to a door, it is only necessary to bore a single small hole in said door and to set only two screws, one of which fastens plate 15 to the inside of the door and the other fastening plate 13 to the shelf 11.

the ears 19 and said pin also passes through latch is the arrangement of the hook 21 and the slot 24 that is formed in the inner end hook actuating parts 34, 35, and 36 wholly beyond the inner surface of the door to The block 34, after adjustment upon the which the device is applied, for by such ara threaded portion 33 of push rod 29, may be rangement it is not necessary to notch or re- 70 cess the door for the accommodation of the parts just mentioned.

A door latch of our improved construction is comparatively simple, may be easily and quickly installed, may be readily adjusted 75 so as to be applied to doors of different thicknesses, and is adapted to receive practically all sizes and designs of ornamental knobs.

It will be understood that minor changes 80 various parts of our improved door latch may be made and substituted for those herein shown and described without departing from the spirit of invention, the scope of 85 which is set forth in the appended claims. We claim as our invention :

1. A door latch comprising a tubular housing that is adjustable in length, a knob removably mounted on the outer portion of 90 said tubular housing, a plate at the inner end of said housing, which plate is adapted to be secured to the door to which the latch is applied, a latching hook pivotally mounted on said plate, a spring-held push rod passing 95 through the tubular housing, a member adjustably mounted on the inner end of said push rod and a pin and slot connection between said adjustable member and the inner end of said latching hook. 100

2. A door latch comprising a tubular housing that is adjustable in length, a knob removably mounted on the outer portion of said tubular housing, a plate at the inner end of said housing, which plate is adapted 105 to be secured to the door to which the latch is applied, a pair of spaced ears projecting outwardly from said plate, a latching hook having its inner end positioned between and pivotally connected to said ears, the inner 110 end of said latching hook being provided with a slot, a spring-pressed push rod extending through the tubular housing, a member adjustably arranged on the inner end of said push rod and a pin seated in said 115 adjustable member and occupying the slot in the inner end of said latching hook.

3. A door latch comprising a tubular housing that is adjustable in length, a knob removably mounted on the outer portion of 120 said tubular housing, a plate at the inner end of said housing, which plate is adapted to be secured to the door to which the latch is applied, a pair of spaced ears projecting outwardly from said plate, a latching hook 125having its inner end positioned between and pivotally connected to said ears, the inner end of said latching hook being provided with a slot, a spring-pressed push rod ex-A particularly desirable feature of our tending through the tubular housing, a 130

end of said push rod, a pin seated in said adjustable member and occupying the slot in the inner end of said latching hook and means for locking said adjustably mounted hook to said push rod.

4. The combination with a door in which is formed an aperture, of a longitudinally adjustable tubular member passing through 10 said aperture, a knob detachably mounted on the projecting portion of said tubular member, a plate that is adapted to be secured to the inner face of the door to which the tubular member is applied, a pair of spaced 15 ears projecting outwardly from the sides of

said plates, which ears are provided with horizontally disposed slots, a latching hook

member adjustably arranged on the inner having its rear end arranged between and pivotally connected to said ears, the rear portion of said latching hook being pro- 20 vided with a slot, a spring-held push rod passing through the tubular member, a block adjustably mounted on the inner end of said push rod, ears depending from said block and positioned outside the ears on the 25 plate and a pin seated in the ears that depend from said block, which pin passes through the slots in the ears on the plate and through the slot in the inner end of the 30 latching hook.

In testimony whereof we affix our signatures.

#### THOS. F. STUART. HENRY A. MOORE.

R