No. 858,479. PATENTED JULY 2, 1907.

F. S. SMITH.

LATCH OPERATING ATTACHMENT FOR DOORS.

APPLICATION FILED MAR. 30, 1906.

FIG. 1.



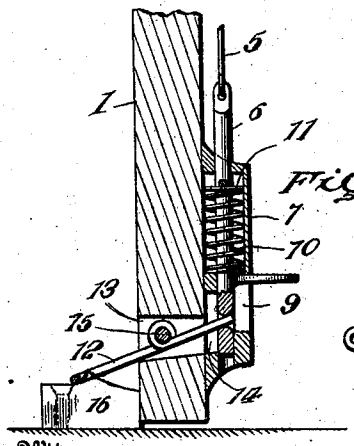


FIG. 2.

FIG. 4

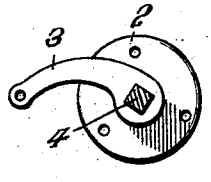
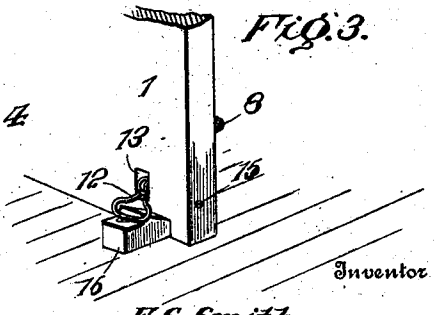


FIG. 3.



Witnesses

W. F. Woodson.

Inventor

F. S. Smith,

By Thos. Lacey, Attorneys.

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FURMON S. SMITH, OF RAMONA, MICHIGAN.

LATCH-OPERATING ATTACHMENT FOR DOORS.

No. 858,479. Specification of Letters Patent. Patented July 2, 1907.

Application filed March 30, 1906. Serial No. 308,981.

To all whom it may concern:

Be it known that I, FURMON S. SMITH, a citizen of the United States, residing at Ramona, in the county of Newaygo and State of Michigan, have invented certain new and useful Improvements in Latch-Operating Attachments for Doors, of which the following is a specification.

This invention relates to an improved attachment for doors by means of which they can be opened and closed with the foot.

Much annoyance is frequently occasioned when it is desired to open a door and both hands are full or otherwise engaged.

To this end the device comprises essentially a foot piece which is attached to the lower portion of the door and which is operably connected to the lock or latch.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view of a door having the attachment applied thereto. Fig. 2 is a vertical, sectional view through the lower portion of the door and shows the foot lever in engagement with the door stop. Fig. 3 is a perspective view of the lower corner of the door. Fig. 4 is a sectional view through the spindle upon the latch and shows the formation of the lateral arm.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

This attachment is adapted to be connected to any door and may be employed in connection with any of the conventional forms of latches which are operated by turning a knob or handle.

The numeral 1 designates the door and 2 the latch thereof. A lateral arm 3 projects from the spindle 4 of the latch and is so arranged that by pulling downwardly upon the end of the arm, the spindle will be turned so as to unlatch the door and allow the latter to be opened. In the preferred form this lateral arm 3 is given a curved formation which adds greatly to the appearance and strength of the device and is provided with an angular opening which fits over and engages with the angular portion of the spindle 4.

The outer end of the arm 3 is connected by means of a wire or other suitable tension member 5 to a bolt 6 which is slidably mounted in a casing 7 which is secured to the lower portion of the door 1 below the latch 2. This casing 7 is provided with a longitudinal opening within which the bolt 6 is located and this bolt 6 is rigidly connected to a foot plate 8. For this purpose a slot 9 having communication with the longitudinal opening through the casing is provided, and the foot plate is connected to the bolt by means of a stem which operates in the slot 9. It will also be observed that the longitudinal slot through the casing 7 is enlarged at an intermediate point to form a chamber for the reception of a coil spring 10 which is arranged around the bolt 6. The lower end of the coil spring 10 fits against the bottom of the chamber while the upper end of the spring bears against a washer 11 which is held in position by means of a pin passed transversely through the bolt. It will thus be apparent that by pressing down upon the foot plate 8 the bolt 6 will be caused to slide in the casing 7 so as to pull upon the arm 3 and turn the spindle 4 to unlatch the door. Provision is also made for opening the door with the foot from the opposite side thereof to that upon which the foot plate 8 is located. For this purpose a foot lever 12 is employed which passes through the door and engages with the bolt 6. This foot lever 12 is pivoted to the door at an intermediate point so that it is necessary to pull upwardly upon the foot lever in order to pull the bolt 6 downward. Since the foot lever 12 is designed to be pushed upwardly by means of the toe, it is preferably formed as an eye or loop and is shown in the drawings as being formed out of a single strip of metal. The ends of this metal strip are bent back upon themselves to form the eye or loop and are then bent outwardly so as to pass through the opening 13 in the door and engage with the bolt 6. For this purpose the inner face of the casing is provided wth a longitudinal slot 14 which is located directly over the opening 13 and through which the inner end of the foot lever 12 passes.

In the preferred construction the end of the foot lever 12 simply engages with an opening in the bolt 6 so that the casing 7 can be readily removed or placed in position without in any manner interfering with the foot lever. At an intermediate point, the outwardly bent ends of the metal strip are coiled so as to form eyes which engage with a pivot pin 15 which is passed through the opening 13 from one edge of the door and upon which the foot lever is mounted. When thus constructed any upward pull upon the foot lever 12 will push the bolt 6 downward and turn the spindle 4 so as to unlatch the door and permit it to be readily opened. The foot lever 12 also coöperates with a door stop to hold the door in an opened position. The upper face of the stop 16 is formed with a projection which is adapted to engage with the foot lever 12 in such a manner as to hold the door in an opened position. The outer side of the projection upon the door stop has a gradual slant which engages with the foot lever and operates to raise the same so as to enable it to slip over the projection. The opposite side of the projection is also slightly inclined so that the door can be forcibly closed without stopping to disengage the foot lever from the door stop. However, it will be apparent that by pressing down-

ward upon the foot plate 8 the foot lever 12 can be readily raised so as to slip over the projection upon the stop 16 and the door then closed.

It will be apparent from the foregoing description that the essential feature of the invention resides in the provision of a lateral projection upon the door corresponding to the lever 12, the said lateral projection serving the double function of engaging with a door stop to hold the door in an open position and of forming a means whereby the latch can be operated through the medium of the foot.

Having thus described the invention, what is claimed as new is:

1. The combination of a door, a latch for the door, a member projecting laterally from the door, a door stop adapted to engage with the before mentioned laterally projecting member to hold the door in an open position, and means whereby the latch can be operated through the medium of the laterally projecting member.

2. The combination of a door, a latch secured thereto, a foot lever connected to the door, means whereby the latch can be operated through the foot lever, a door stop, and means for causing the foot lever to engage with the door stop to hold the door in an opened position.

3. The combination of a door, a latch for the door, a bolt slidably mounted upon the door, means whereby the latch can be operated by the sliding movement of the bolt, a foot plate slidably mounted upon one side of the door for operating the bolt, and a foot lever upon the opposite side of the door for operating the bolt.

4. The combination of a door, a latch for the door, a bolt slidably mounted upon the door, means whereby the latch can be operated by the sliding movement of the bolt, a foot lever for operating the bolt, and a stop engaging with the foot lever to hold the door in an open position.

5. The combination of a door, a latch for the door, a casing secured to the door, a rod slidably mounted within the casing, an arm projecting from the latch spindle, connecting means between the said arm and the bolt whereby the latch can be operated by the sliding movement of the bolt, a spring housed within the casing and normally holding the bolt in such position as not to interfere with the latch, and means whereby the bolt can be operated by the foot from either side of the door.

6. The combination of a door, a latch for the door, a casing secured to the door, a bolt slidably mounted within the casing, an arm projecting from the latch spindle, connecting means between the said arm and the bolt whereby the latch can be operated by the sliding movement of the latter, a spring housed within the casing and normally holding the bolt in such position as not to interfere with the latch, a foot plate on one side of the door for operating the bolt, and a foot lever for operating the bolt from the opposite side of the door.

7. The combination of a door, a latch secured thereto, an arm projecting from the latch spindle, a casing secured to the door, a bolt slidably mounted within the casing, connecting means between the bolt and the before mentioned arm whereby the latch can be operated through the bolt, a spring operating to normally hold the bolt in a raised position, a foot plate upon one side of the door secured directly to the bolt, a foot lever upon the opposite side of the door and pivoted thereto, the outer end of the foot lever being in the form of a loop while the inner end passes through the door and engages with the before mentioned bolt, and a door stop which is adapted to engage with the foot lever to hold the door in an opened position.

In testimony whereof I affix my signature in presence of two witnesses.

FURMON S. SMITH. [L. S.]

Witnesses:
J. C. BRANCH,
NELSON STOCKWELL.