

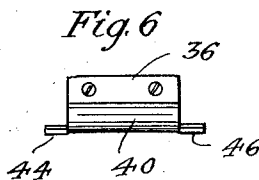
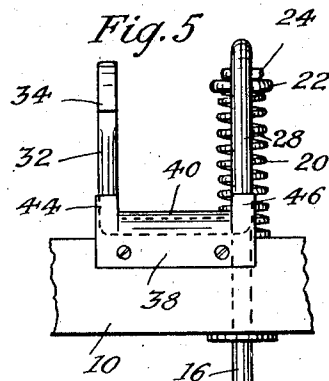
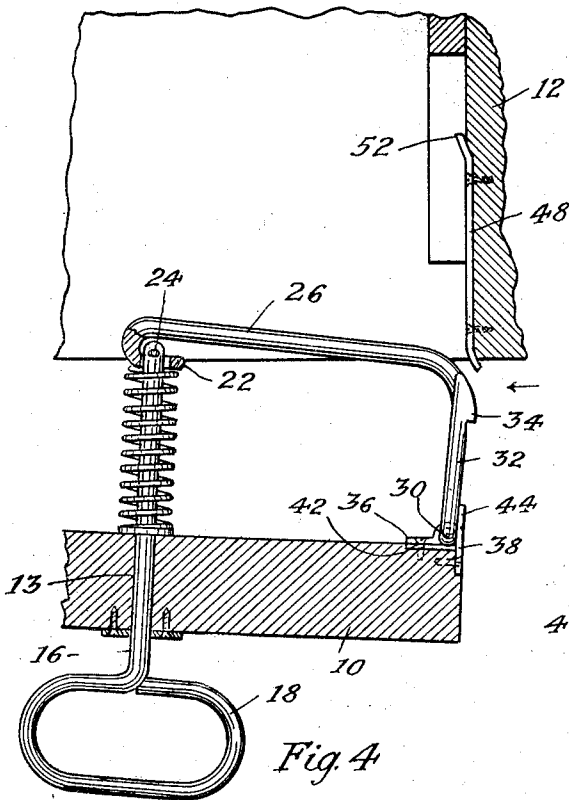
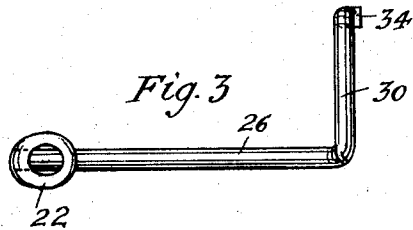
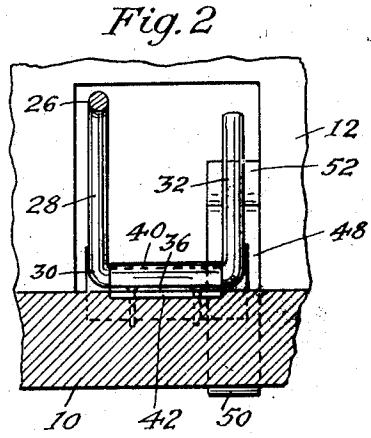
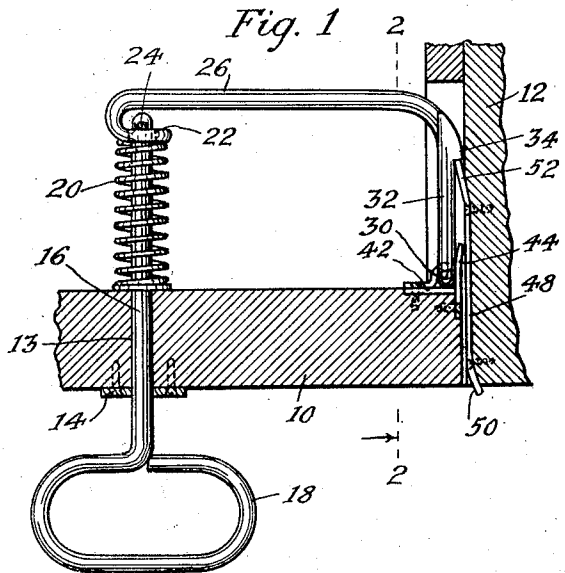
H. J. PETERSON.

LATCH.

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1,338,153.

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UNITED STATES PATENT OFFICE.

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LATCH.

1,338,153.

Specification of Letters Patent. Patented Apr. 27, 1920.

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To all whom it may concern:

Be it known that I, HALL J. PETERSON, a citizen of the United States, residing at Isanti, in the county of Isanti and State of Minnesota, have invented certain new and useful Improvements in Latches, of which the following is a specification.

My invention relates to latches intended particularly for use in connection with doors, although the device can be used in other places such as in connection with gates. An object of the invention is to provide a latch whereby a door with which the latch is used may be unlatched and opened either from the outside or from the inside by a single movement on the part of the person who opens the door. Another object is to provide an efficient latch which may be easily and economically manufactured.

The full objects and advantages of my invention will appear in connection with the detailed description, and the novel features embodied in my inventive idea will be particularly pointed out in the claims.

Referring to the drawings, which illustrate the application of my invention in one form,—

Figure 1 is a horizontal section through a door showing my latch applied thereto, the same being in latched position. Fig. 2 is a section on line 2—2 of Fig. 1. Fig. 3 is a side elevation of the latch member turned at right angles to the position shown in Fig. 1. Fig. 4 is a view similar to Fig. 1 but showing the door partly open. Fig. 5 is a view of the latch looking in the direction of the arrow in Fig. 4. Fig. 6 is a view of the bearing member turned through ninety degrees from the position shown in Fig. 5.

Referring to the particular construction shown in the drawings 10 designates a portion of a door, the same being hinged in the usual manner, and 12 designates the portion of the door frame which is adjacent the latch. The door is provided with a hole 13 at the proper position and the outside of the door around the hole may be provided with a wear plate 14 secured to the door by screws. A rod 16 extends through the hole 13 and the outer end of the rod is bent into oval form to constitute a handle portion 18, and the inner portion of the rod is surrounded by a coil spring 20 while an eye portion 22 formed at the end of a

latch member is mounted on the end of the rod 14 between the spring and a cotter pin 24 which passes through a hole in the end of the rod. The latch member consists of a rod having an arm 26 which at one end is bent back upon itself to form the eye portion 22 and at its other end is bent at right angles to form the arm 28, the latter being in turn bent at a right angle to form the pivotal portion 30. This latter portion is bent at a right angle to form an arm 32 the outer end of which has a shoulder 34. Adjacent the inner edge of the door a bearing member is secured thereto by screws, and this bearing member has the portions 36 and 38 at right angles to each other, and between these portions is a curved portion 40 within which the pivotal portion 30 is adapted to turn. In case the bearing member is not secured to the door at its extreme edge it is obvious that the portion 38 would not need to be turned down at an angle with relation to the portion 36. A wear plate 42 may be provided for engagement by the pivotal portion opposite the curved portion 40. The portion 38 of the bearing member is provided at its ends with lugs 44 and 46 for a purpose which will presently appear. The door frame is provided with a plate 48 having an outwardly-curved end 50 over which the shoulder portions 34 may slide, and it is also provided with an inwardly-curved end 52 with which the shoulder 34 may engage when the door is closed. The purpose of the lugs 44 and 46 will now be apparent. These lugs are so located that they are engaged by the arms 32 and 28, respectively, and hence the shouldered end of the arm 32 cannot move out so far that it will not slide over the curved end 50 of the plate 48. If it were not for this last-mentioned construction it would be necessary to construct the rod 16 of a length proportioned to the thickness of the door, and hence a standard rod 16 could not be employed for doors having different thicknesses. By providing the lugs 44 and 46 the rod 16 may be given a length sufficient to operate on doors of maximum thickness and the same rod will work equally well on doors having a minimum thickness.

The operation and advantages of my invention will be readily understood from the foregoing description. Assuming that the door is in closed position as shown in Fig.

1, an outward pull on the handle 18 disengages the shoulder 34 and at the same time swings the door open. If the person is inside the building an outward push on the arm 26 disengages the shoulder and at the same time swings the door open. In either event a single movement serves both to release the latch and open the door. The spring 20 normally holds the arms 32 and 28 in engagement with the lugs 44 and 46, and hence the shoulder 34 is always properly positioned to allow the door to be either pushed or pulled shut, whereupon the shoulder 34 will engage the end 52 of the plate 48 to hold the door securely closed until the shoulder is released in either of the ways previously mentioned. The main parts of my latch may be easily and economically manufactured from metal rods and the plates may be readily formed from sheet metal. It is to be understood that various changes may be made in the form, proportion of parts and details of construction without departing from the spirit of my invention.

I claim:

1. A latch comprising a handle member adapted to be slidably mounted in a door, a rod connected to said member for operation thereby, said rod consisting of a portion loosely attached at one end to said handle member, a portion extending at right angles from the other end of said first-mentioned portion, a pivotal portion extending at right angles from said second-mentioned portion, and a portion extending at right angles from said pivotal portion, said last-mentioned portion having a latch-engaging shoulder, a bearing member secured to the

door for pivotally holding said pivotal portion, and means for normally holding said latch-engaging shoulder in operative position.

2. A latch comprising a handle member adapted to be slidably mounted in a door, said member having a handle portion at one end, a coiled spring mounted upon said member toward the other end thereof, a rod connected to said member for operation thereby, said rod consisting of a portion loosely attached at one end to said handle member, a portion extending at right angles from the other end of said last-mentioned portion, a pivotal portion extending at right angles from said second-mentioned portion, and a portion extending at right angles from said pivotal portion, said last-mentioned portion having a latch-engaging shoulder, and a bearing member secured to the door for pivotally holding said pivotal portion, the latch-engaging shoulder being normally held in operative position by the aforementioned spring.

3. A latch comprising a handle member adapted to be slidably mounted in a door, a rod connected to said member for operation thereby, a bearing member secured to said door for pivotally holding a portion of said rod, a latch engaging shoulder carried by another portion of said rod, a spring normally holding said shoulder in latch engaging position, and lugs on said bearing member for engagement by said rod for preventing said shoulder from moving outwardly beyond latch engaging position.

In testimony whereof I hereunto affix my signature.

HALL J. PETERSON.