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M. E. BEVER.

DOOR HOLDER.

APPLICATION FILED SEPT. 26, 1904.

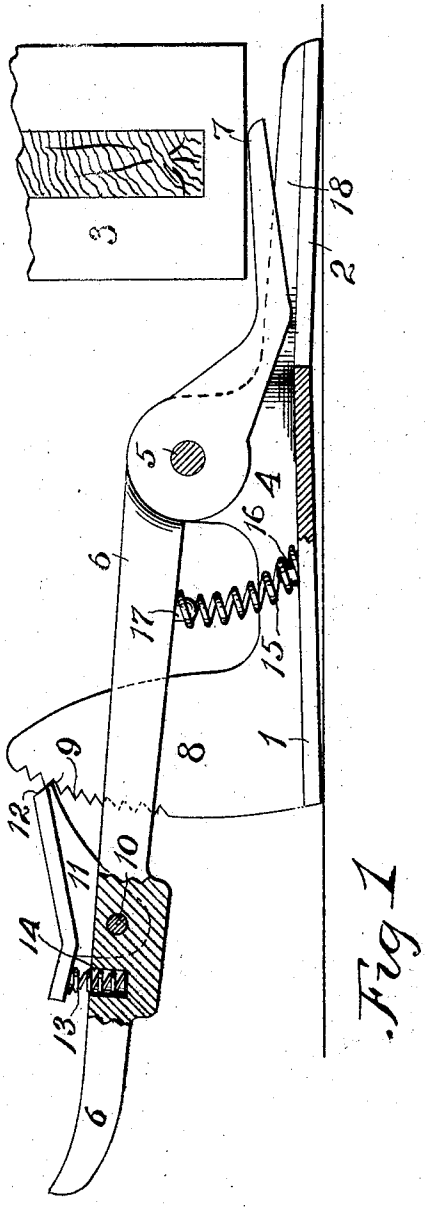

Fig 1.

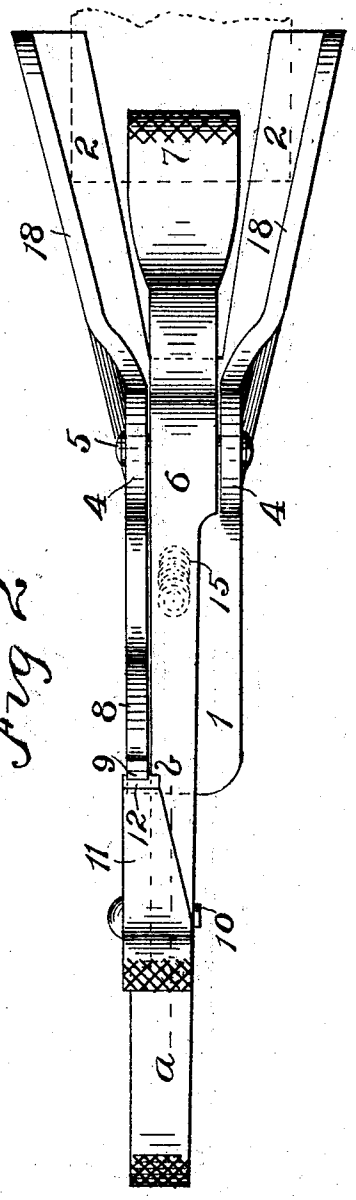

Fig 2.

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UNITED STATES PATENT OFFICE.

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DOOR-HOLDER.

No. 800,134. Specification of Letters Patent. Patented Sept. 26, 1905.

Application filed September 26, 1904. Serial No. 226,002.

To all whom it may concern:

Be it known that I, MILES E. BEVER, a citizen of the United States, residing in Kansas City, in the county of Jackson and State of Missouri, have invented a new and useful Improvement in Door-Holders, of which the following is a specification, reference being had therein to the accompanying drawings, forming a part thereof.

My invention relates to improvements in door-holders.

The object of my invention is to provide a device which when placed upon the floor may be caused to releasably engage and securely lock a door in any open position to which it may be swung.

My invention is of great value to carpenters for use in rigidly holding a door while the carpenter is engaged in mortising the same for the reception of a lock.

My invention is further applicable as a door-check for holding in the open position doors provided with strong closing-springs and which are usually difficult to retain in the open position.

The peculiarities of my invention are hereinafter fully described and claimed.

In the accompanying drawings, which illustrate my invention, Figure 1 is a view in side elevation and partly in vertical section, the section being taken in a vertical plane coincident with the dotted line *a b* in Fig. 2. In this view the forward end of the lever is shown in locked engagement with the under side of the lower end of a door. Fig. 2 is a top view of the device.

Similar characters of reference denote similar parts.

The device comprises two principal members pivotally connected to each other, one member being adapted to rest on the floor, the other member having one end adapted to be inserted under and raised against the under side of the lower end of a door, releasable means being provided for locking the two members together when the door is engaged by one of said members.

In its preferable form the device comprises a base 1, adapted to rest upon the floor and being preferably slightly resilient vertically, the under side of the base being concave, so that it may be supported at its forward and rear ends only. The forward end of the base is preferably bifurcated, the two arms 2 diverging outwardly and being adapted to be disposed at their forward ends beneath the lower end of the door, (denoted by 3.) The base 1 is provided with two vertical ears 4, through which is inserted a horizontal pin 5, on which is mounted and adapted to swing in a vertical plane upon the base 1 a lever 6, the forward end of which (denoted by 7) is flattened horizontally, disposed between the arms 2, the forward end 7 being disposed to the rear of the forward ends of the arms 2 and adapted to be inserted under and forced upwardly tightly against the under side of the lower end of a door, as shown in Fig. 1. The base 1 at its rear end is provided with a vertical projection 8, provided in its rear edge with a series of ratchet-teeth 9, disposed one above the other and preferably equidistant with each other from the pin 5. The lever 6 at its rear end extends to the rear of the teeth 9, said rearwardly-extending portion having pivotally mounted thereon, by means of a transverse pin 10, a pawl 11, the vertical side of which is provided with a transverse hole through which the pin 10 extends, said pin 10 being secured in a transverse hole extending through the lever 6. The pawl 11 is right-angled in form, preferably, the horizontal portion of which at its forward end 12 is beveled and adapted to engage with the teeth 9 for preventing upward movement of the rear end of the lever when the forward end thereof is engaged with the door, as shown in Fig. 1.

The pawl 11 may be swung upon the pin 10 and in and out of engagement with the teeth 9. It is normally held in engagement therewith by means of a coil-spring 13, the upper end of which bears upon the lower side of the rear end of the horizontal portion of the pawl 11, said spring 13 being mounted in a vertical recess 14, provided in the upper side of the lever 6 to the rear of the pin 10. A coil-spring 15 normally tends to force the rear end of the lever 6 upwardly, the lower end of said spring bearing upon the upper side of the base 1 and encircling a vertical projection 16, provided on the base to the rear of the pin 5. The upper end of the spring 15 bears against the lower side of the lever 6 and encircles a projection 17, disposed on the under side of said lever to the rear of the pin 5.

In operating my invention the door 3 is moved on its hinges to the position in which it is desired to hold it. The base 1 is then placed upon the floor with the arms 2 disposed beneath the door, as shown in Fig. 1. The

rear end of the lever 6 is then depressed by pressing down thereupon with the foot or with the hand until the forward end of the lever (denoted by 7) is forced tightly against the lower edge of the door. The rear end of the lever 6 or the forward end thereof or the base 1 should be slightly resilient vertically, so that after the forward end of the lever has tightly engaged the door 3 the rear end of the lever may still be permitted to move downward sufficiently for the pawl 11 to drop into the next ratchet-tooth 9. If such resiliency were not provided in one of said parts, the door 3 usually being held rigidly by its hinges after pressure has been removed from the rear end of the lever 6, said rear end would move upwardly until the pawl 11 would strike against the tooth 9. The forward end 7 of the lever 6 would thus slightly drop away from the door 3 and would therefore not hold the same securely; but by allowing resilience between the parts the teeth 9 may be made sufficiently coarse to prevent their quickly being worn out and to afford greater security in holding the pawl 11 than would be the case if the teeth 9 were finer and closer together. After the lever 6 has been forced to the position shown in Fig. 1, the door 3 being securely held, the door-holder may be left positioned in this manner for as long a period as desired. When it is desired to release the door, pressure is applied by means of the foot or otherwise to the rear end of the pawl 11, thus compressing the spring 13 and swinging the pawl 11 at its forward end, so that it disengages with the teeth 9. The coil-spring 15 will then force the lever 6 to swing upwardly at its rear end and downwardly at its forward end, freeing the lever from the door 3 and permitting the ready removal from under the door of the door-holding device.

To increase the rigidity of the arms 2, the ears 4 may be prolonged to form the vertical flanges 18, disposed longitudinally on the upper sides, respectively, of the arms 2. These flanges 18 may be of any desired height and may be employed as guides between which the door may be embraced, as represented in dotted lines in Fig. 2. The flanges 18 being diverging are adapted by proper disposal of the device to embrace doors of different thicknesses. This manner of attaching the device to the door may be resorted to when for any reason it is impracticable or inconvenient to affix the device transversely to the door, as shown in Fig. 1—as, for instance, when the door is not high enough from the floor to permit the insertion thereunder of the flanges 18. In such cases the lever 6 is slipped under the door from its outer vertical edge, as shown in Fig. 2, the instrument being adjusted until the flanges 18 embrace the sides of the door.

My device may be used for raising the door to the top of the frame and holding it in such position when it is desired to fit the butts preparatory to hanging the door. For this purpose a chisel with a block of wood is ordinarily employed. By placing the door in the frame and then inserting the lever 6 thereunder and depressing the outer end of the lever the door can be raised to the top of the frame and tightly held while the position for the butts is being marked. The device is of service also for painters who wish to securely hold a door after one side has been painted.

My invention may be variously modified without departing from its spirit.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination with a base provided with a vertical rigid projection having a series of ratchet-teeth, of a lever pivotally mounted on said base and having one end adapted to be inserted under and raised against the lower end of a door, a pawl mounted on said lever and adapted to releasably engage said ratchet-teeth for holding the lever in locked engagement with the door, and means for swinging the lever in the opposite direction.

2. The combination with a lever one end of which is adapted to be inserted under and raised against the lower end of a door, of a base having a concave lower side adapted to rest upon the floor, said base being vertically resilient and having pivoted to it between its ends the said lever and provided with a vertical rigid projection having a series of ratchet-teeth, and a pawl pivotally mounted on the lever and adapted to engage said ratchet-teeth for holding the lever in locked engagement with the door and base.

3. The combination with two members pivotally connected with one another, one of said members being adapted to rest upon the floor and the other member being adapted to be inserted under and raised against the lower end of a door, one of said members being provided with a vertical rigid projection having a series of ratchet-teeth, and a pawl mounted on the other member and adapted to engage said ratchet-teeth and hold the door-engaging member in locked engagement with the door.

4. The combination with a base provided with a vertical rigid projection having a series of ratchet-teeth, of a lever pivoted thereto one end of which is adapted to be inserted under and raised against the lower end of a door, a pawl pivotally mounted on said lever and adapted to engage and releasably lock with said ratchet-teeth when the lever is moved to a position to engage the door, a spring mounted between the base and the lever for swinging the lever in the opposite direction, and a spring for normally holding the pawl in locked engagement with the ratchet-teeth.

5. The combination with a base provided with a bifurcated forward end adapted to embrace the sides of the door, of a lever pivotally mounted on said base and having its for-

ward end disposed between the arms of the bifurcated end of the base, the forward end of the said lever being disposed nearer to the pivotal connection between the base and the lever than the forward ends of said arms of the base, and a pawl mounted upon the rear end of the lever and adapted to releasably engage and lock the base to the lever.

6. The combination with a base adapted to rest upon the floor and having a vertical projection provided with a series of ratchet-teeth disposed one above the other, of a lever pivotally mounted on said base and having one end adapted to engage the lower end of a door, said end of said lever being disposed to the rear of the corresponding end of the base, and a pawl pivotally mounted on the lever and adapted to engage the teeth on the base for holding the lever in locked engagement with the door.

7. The combination with a base the forward end of which is adapted to be placed under the lower end of a door and the other end of which is provided with a vertical projection having a series of ratchet-teeth, of a lever pivoted to said base, the forward end of the lever being disposed in the rear of the forward end of the base, said end of the lever being adapted to be raised against the lower end of a door, a spring between the base and the lever for forcing the lever in the opposite direction, and a pawl mounted on the lever and adapted to engage the ratchet-teeth and hold said lever in locked engagement with the door.

8. The combination with a base having a bifurcated forward end adapted to embrace the sides of the door and a vertical toothed projection on its rear end, and two vertical oppositely-disposed ears, of a lever pivotally mounted between said ears and having its forward end disposed between the arms of the bifurcated end of the base, said forward end of the lever being disposed to the rear of the forward ends of said arms, a pawl pivotally mounted on the rear end of the lever and adapted to engage said ratchet-teeth and prevent upward movement of the rear end of the lever, a spring for forcing the rear end of the lever upwardly, and a spring for holding the pawl engaged with said ratchet-teeth.

9. A door-holder comprising a base provided with two vertical diverging flanges on its upper side adapted to embrace the sides of the door, a lever pivotally mounted on the base between said flanges and adapted to be inserted at one end under and raised against the lower edge of a door, and releasable means for locking the base and lever together.

10. The combination with a base provided with two vertical diverging flanges on its upper side adapted to embrace the sides of the door, and having a vertical projection provided with a series of ratchet-teeth disposed one above the other, of a lever pivoted to the base between said flanges, and movable in a vertical plane, and a pawl mounted on the lever and adapted to engage with said teeth.

11. The combination with two members pivoted together, one having two vertical diverging flanges on its upper side one at each side of said other member and adapted to embrace the sides of a door, and a pawl pivoted to one member and adapted to engage teeth provided in the other member.

12. The combination with a base provided with two vertical diverging flanges on its upper side adapted to embrace the sides of the door, and having a vertical projection having thereon a series of ratchet-teeth, of a lever pivoted to said base between said flanges, a pawl pivoted to the lever and adapted to engage the said teeth for locking the lever against movement in one direction, a spring for moving the lever in said direction, and a spring mounted on the lever for keeping the pawl engaged with said teeth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MILES E. BEVER.

Witnesses:
WARREN D. HOUSE,
HENRY F. ROSS.