March 16, 1926. 1,577,129

T. KNUTSON

DOOR HOLDER

Filed March 8, 1924

Fig. 1.

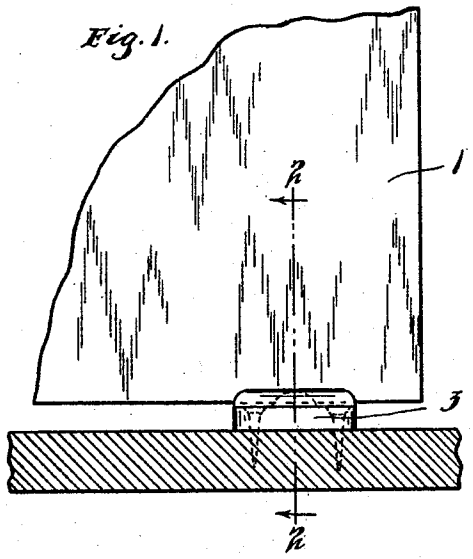


Fig. 2.

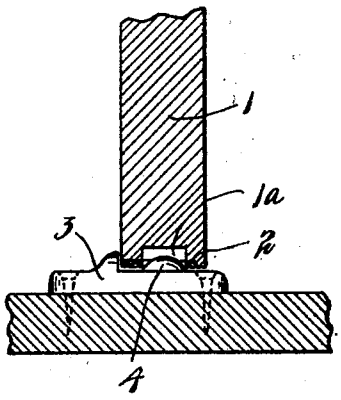


Fig. 3.

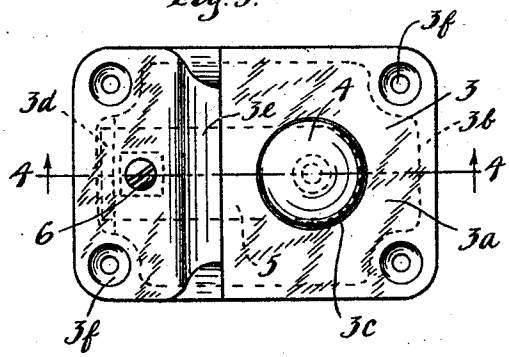


Fig. 5.

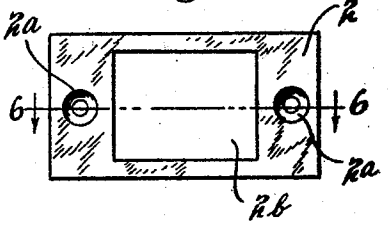


Fig. 4.

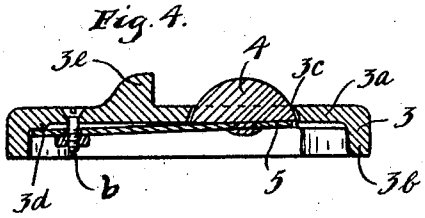
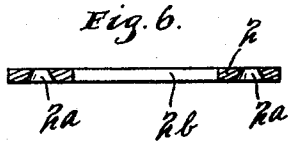


Fig. 6.



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UNITED STATES PATENT OFFICE.

THOR KNUTSON, OF MINNEAPOLIS, MINNESOTA.

DOOR HOLDER.

Application filed March 8, 1924. Serial No. 697,742.

To all whom it may concern:

Be it known that I, THOR KNUTSON, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in a Door Holder; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a device for holding a door or other similar movable member in open or other stationary position. While various door holding devices of the type adapted to be secured to the floor have been proposed, most of the same have necessitated the cutting of recesses in the floor.

It is an object of this invention to provide a very simple and efficient door holding device comprising parts which do not require a recess to be cut in the floor.

It is a further object of the invention to provide such a device comprising a flat casing adapted to rest on and be secured to the floor, which casing has stop means thereon and a top portion having an aperture therein through which aperture a rounded member is resiliently projected adapted to engage in a slot in a plate attached to the bottom of the door, said door having a recess therein in alinement with said slot.

These and other objects and advantages of the invention will be fully set forth in the following description made in connection with the accompanying drawings in which like reference characters refer to the same parts throughout the different views, and in which,

Fig. 1 is a view of the device as applied to the floor and the door showing the door in front elevation and the floor in section;

Fig. 2 is a vertical section taken on the line 2—2 of Fig. 1, as indicated by the arrows;

Fig. 3 is a top plan view of the casing and parts used;

Fig. 4 is a vertical section taken on the line 4—4 of Fig. 3, as indicated by the arrows;

Fig. 5 is a plan view of the plate used on the door; and

Fig. 6 is a vertical section taken on the line 6—6 of Fig. 5, as indicated by the arrows.

Referring to the drawings, in Fig. 1 is shown the outer and lower corner of the door 1 and the same has secured to its bottom and set thereinto a plate 2. While the plate 2 may be of various shapes, in the embodiment of the invention illustrated, it is shown as a simple flat rectangular plate adapted to be attached by screws passing through the ends thereof, the heads of which enter the countersunk holes 2^a so that the lower surface of the plate and fastening means are flush with the bottom edges of the door. Said plate has a slot 2^b extending therethrough, shown as of rectangular shape and the door 1 is provided with a recess 1^a in alinement with the slot 2^b.

A portion of the device attached to the floor comprises a casing 3 which, in the embodiment of the invention illustrated, is shown as generally of rectangular shape with rounded corners and as comprising a top plate or portion 3^a with a depending flange 3^b at its edges, said casing thus having a chamber therein. The top plate 3^a has an opening 3^c therein of circular shape and a member 4 is adapted to be projected into this opening. Said member 4 has a rounded upper surface or, in other words, is substantially in the shape of a half sphere and it will be noted that the sides of opening 3^c are substantially parallel to the surface of member 4. The member 4 rests upon and is secured in any convenient manner to one end of a plate spring 5, said member being illustrated as having a portion projecting through an opening in said spring and riveted thereon. The other end of the spring 5 rests upon a ledge 3^d of comparatively small height at one end of casing 3 and said spring is held in place by a headed and nutted screw 6 passing through the top plate 3^a and through said spring having its head countersunk in the plate 3^a, the nut on said screw contacting the lower side of spring 5. The casing 3 has a rib 3^e projecting across the greater part of its top surface, the side of said rib towards the member 4 being vertical and forming a substantially right angle with the top of plate 3^a. The opposite side of the rib, as well as the ends thereof, are formed with curved surfaces which merge into the top of the plate 3^a. The casing 3 is adapted to rest upon and be secured to the floor by screws passing through the countersunk holes 3^f at the corners thereof.

In operation, the casing 3 will be suitably disposed to hold the door in open position or

other position, as desired, and will be so arranged that the side of the door will contact the vertical face of the rib 3^e, said rib thus forming a stop means for positioning the door or arresting the movement thereof. As the door swings towards the rib 3^e the slot 2^b and plate 2 will swing over the member 4. Said member will be depressed as the door swings thereover but will be projected upwardly into the slot 2^b and thus hold the door from movement. The width of the slot 2^b is slightly less than the diameter of the member 4. Said slot 2^b preferably will be of greater length than width to afford some leeway for the adjustment of the casing 3. It will be noted that the nut on the screw 6 can be tightened or loosened and will vary the tension on spring 5.

From the above description it is seen that applicant has provided a very simple and efficient door stop and holding means. The casing 3 can be readily positioned and does not necessitate any recessing of the floor. The plate 2 is also easily positioned in the door and, in operation, is practically invisible therein. The member 4 centers itself in the slot 2^b and holds the door in position so that there will be no rattling. The casing 3 and member 4, preferably are made of metal although other material may be used, if desired, and it may also be desirable to cushion the stop face of the rib 3^e. The device has been commercially made and amply demonstrated in actual practice and found to be very successful and efficient.

It will, of course, be understood, that various changes may be made in the form, details, arrangement and proportions of the parts without departing from the scope of applicant's invention which, generally stated, consists in such a device as shown and described and defined in the appended claims.

What is claimed is:

1. An article of manufacture having in combination, a comparatively flat plate adapted to be secured to the floor and spaced therefrom at its intermediate portion, said portion having a substantially circular aperture therethrough, a resilient means secured to the lower side of said plate, a rounded member secured to said means and projected upwardly into and through said aperture by said means, said member substantially fitting said aperture and being limited in its upward movement by the wall of said aperture and said plate having an upstanding shoulder adjacent said aperture.

2. A door holding device comprising a flat casing adapted to be secured to the floor having a rigid top portion with an opening therethrough, a semi-spherical member projecting upwardly through said opening, a spring plate to which said member is secured disposed in said casing and attached at one end thereto, a tension regulating means for said spring, a plate secured to the bottom of the door having a slot extending therethrough, said door having a recess in alinement with said slot whereby said member will be projected into said slot and recess to hold said door in position.

3. The combination with a door swinging about a vertical axis with its bottom edge spaced slightly from the floor and provided with a recess, of a door stop and holder therefor comprising a hollow member adapted to be secured to the top of the floor having a substantially flat rigid top portion spaced slightly below said bottom edge of said door and having an aperture therethrough, a depressible stop member having a rounded head projecting upwardly through said aperture and substantially closing the same, resilient means within said hollow member supporting said last mentioned member, a stop shoulder at the top of said hollow member adjacent said depressible member and adapted to limit the opening movement of said door, whereby, when said door is swung over said stop member, its bottom edge will depress said depressible projecting member which will enter said recess so that the door will be held against movement.

In testimony whereof I affix my signature.

THOR KNUTSON.