

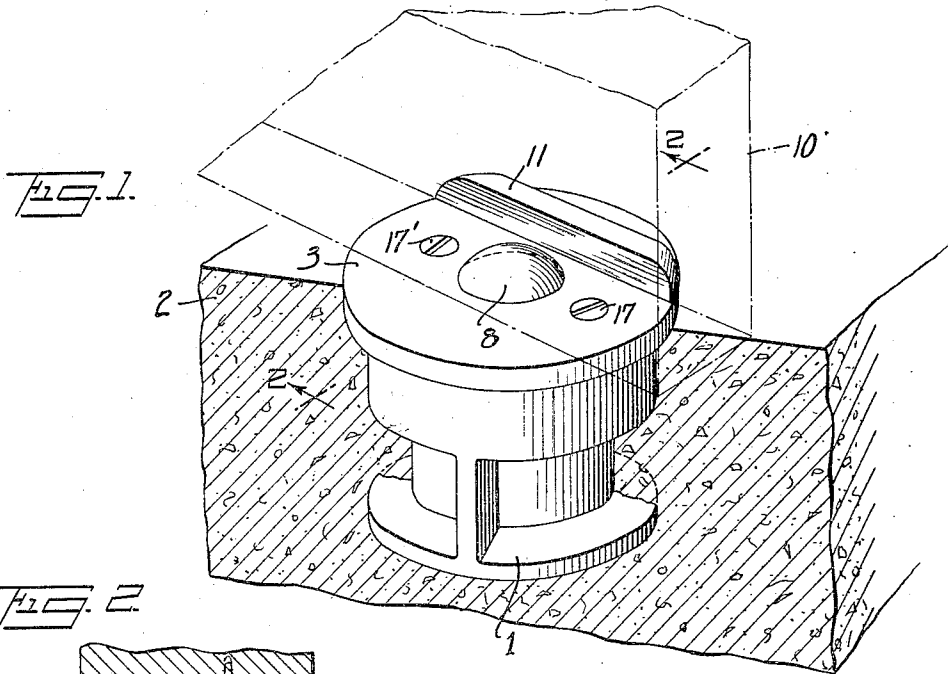
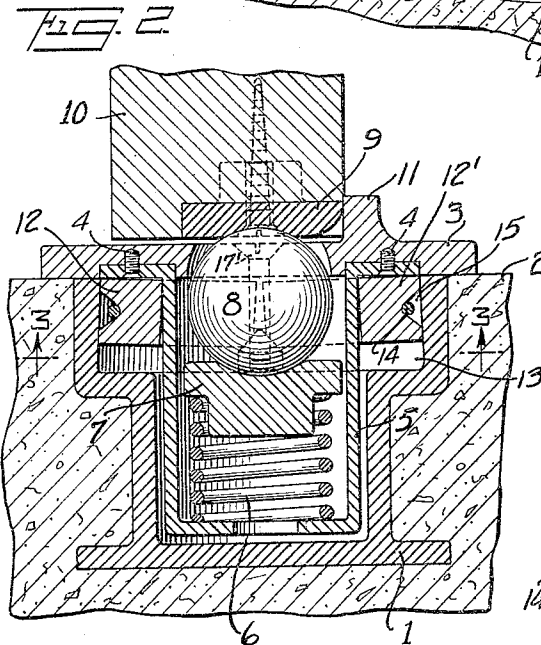
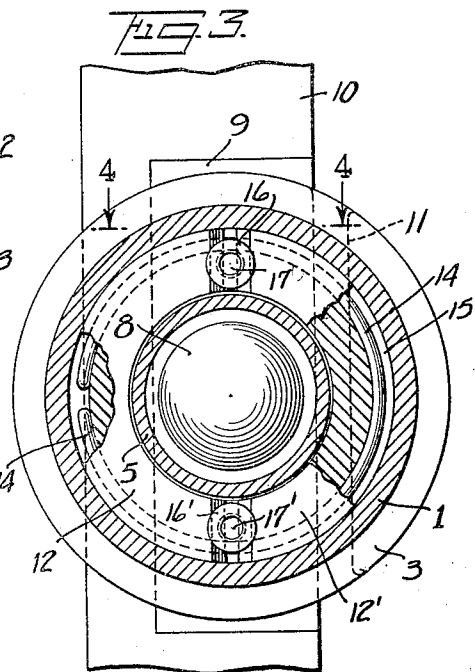
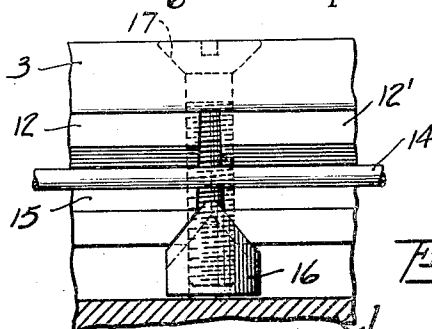
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DOOR STOP AND HOLDER

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DOOR STOP AND HOLDER

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The present invention relates to an improved door stop and holder of the type which are anchored into the masonry of the floor. Such door stops and holders ordinarily comprise a casing of iron or the like which is anchored into the floor and which contains a casing with a heavy spring and ball or the like carried thereby, part of the ball extending through a cover plate for yielding engagement with the under surface of the door; the cover plate having a horizontally extending raised portion or stop for engagement with the side of the door.

A major disadvantage of this type of door stop and holder has been that the stop, being positioned at the time that the floors are being laid and before the door with which it cooperates is hung, is frequently found to have its horizontal projection improperly aligned with respect to the side of the door when open, with the result that the door stop functions improperly or not at all, or the floor has to be torn up and the door stop repositioned. The present invention provides a means in door stops of the general type described for permitting ready adjustment of the cover plate after installation of the stop whereby alignment of the horizontal projection on the cover with the side of the door may be effected at any time.

In the accompanying drawing the preferred embodiment of the invention is illustrated.

Fig. 1 is a perspective view partly in section showing the improved door stop positioned and in use;

Fig. 2 is a sectional view taken along the line 2—2 of Fig. 1;

Fig. 3 is a view partly in section and partly in elevation taken along the line 3—3 of Fig. 2; and

Fig. 4 is an enlarged fragmentary view taken along the line 4—4 of Fig. 3.

The improved door stop and holder includes a cylindrical receptacle 1 of cast iron or the like which is anchored into the masonry 2 of the floor so as to have its upper edge flush with the floor surface; the upper portion of the receptacle 1 being of a relatively larger diameter than is the lower portion,

and its inner cylindrical surface being slightly under-cut as shown. A circular cover plate 3 of a diameter at least as great as the outer diameter of the upper portion of receptacle 1 and preferably greater, as shown, is symmetrically positioned over the receptacle but is not secured thereto. Secured to the under side of the cover plate 3 by screws 4 is a cylindrical casing 5 which has an outside diameter less than the inner diameter of the lower part of the receptacle and a depth less than that of the interior of the receptacle so as to be centrally suspended therein. A heavy coiled spring 6 within casing 5 carries a support 7 for a ball 8 the upper portion of which extends through a central circular opening in the cover plate 3; the ball being forced upwardly by the spring 6 for yielding engagement with a suitably shaped plate 9 carried by the door 10 in the usual manner. Cover plate 3 has the usual horizontal ridge 11 thereupon for engagement with the side of the door 10 when the door is positioned over the ball 8.

To maintain plate 3 ordinarily in a fixed position while permitting adjustment thereof when desired a grooved ring, split into two portions 12 and 12', is inserted in the annular space 13 between the outer wall of casing 5 and the inner under-cut wall of the enlarged upper portion of receptacle 1. A single turn 14 of a relatively powerful coiled spring is located in a circumferential groove 15 in the ring portions 12 and 12' and tends to hold the portions 12 and 12' together with their inner surfaces flush with the outer surface of casing 5 and out of engagement with receptacle 1; the thickness of the ring being slightly less than the width of the annular chamber 13. The ring portions 12 and 12' are forced apart in opposition to the spring 14 by a pair of wedge shaped members 16 and 16' which are internally threaded and are located beneath the two junctions of the ring portions 12 and 12'. Screws 17 and 17' passing through the cover plate 3 and through suitable vertical grooves in the ring portions at their junctions are screwed into the wedge members 16 and 16' respectively so as to cause the ring portions to be

forced apart (as shown best in Fig. 4) when the wedge members 16 and 16' are raised by tightening of the screws 17 and 17'. The lower edges of the ring portions 12 and 12' are cut away to fit the upper ends of the wedge members 16 and 16' to prevent turning thereof with the screws 17 and 17'. Thus, when screws 17 and 17' are turned so as to lower wedges 16 and 16' into position where the spring 14 holds the adjoining edges of portions 12 and 12' in contact, the cover plate 3 may be turned to position ridge 11 or, if desired, the plate 3 and portions carried thereby may be lifted from receptacle 1. When, however, screws 17 and 17' are turned to raise wedge members 16 and 16' into the position shown in the drawing, plate 3 cannot be turned nor can it be lifted from the receptacle because of the frictional grip between ring portions 12 and 12' and the inner under-cut wall of receptacle 1 against which the ring is forced by the wedge members 16 and 16'. The cooperation between the split ring 12-12', the spring 14, wedge members 16 and 16' and screws 17 and 17' thus provide a ready means for angular adjustment of the door stop while insuring rigidity of the parts when in use.

To install the device the box or receptacle 1 is set into the floor with its upper edge flush with the surface of the floor. The receptacle is preferably of cement box form as shown so that in the case of cement floors it may be securely anchored in the cement. The cover plate need not be applied until the door is hung so that the plate, which is usually of polished brass, and the attached parts are not subjected to injury during the completion of the building. When the door has been hung and the cover plate applied, the latter may be easily adjusted so as to properly position the elongated stop member thereon with relation to the side of the door.

As will be evident to those skilled in the art, my invention permits various modifications without departing from the spirit thereof or the scope of the appended claims.

What I claim is:

1. In a door stop and holder of the type wherein a receptacle set into the floor contains a member adapted to yieldably engage the under-surface of a door through an aperture in the cover plate of the receptacle, the combination comprising a casing within the receptacle supported by the cover plate and containing said member, locking means adapted in locking position to prevent angular adjustment of the position of the cover plate while flush with the top of said receptacle and in unlocking position to permit such adjustment and control means accessible at the upper surface of the cover plate for operating said locking means.

2. A door stop and holder according to claim 1 including means tending to maintain

said locking means in unlocking position where angular adjustment of the position of the cover plate relative to said receptacle is permitted, said control means being adapted to move the locking means to locking position against said last mentioned means.

3. A door stop and holder according to claim 1 wherein said locking means is carried by the cover plate and when in locking position frictionally grips the inner walls of the receptacle.

4. In a door stop and holder of the type wherein a receptacle set into the floor contains a member adapted to yieldably engage the under-surface of a door through an aperture in the cover plate of the receptacle, the combination comprising a casing within the receptacle supported by the cover plate and containing said member, a split ring surrounding said casing and located within the receptacle, and adjustable means for causing said ring to frictionally grip the inner wall of said receptacle, said last-mentioned means operating to cause said ring to be supported by the cover plate when gripping the receptacle and being accessible for adjustment exterior of the cover plate.

5. A door stop and holder according to claim 4 including means normally tending to force said ring out of engagement with the receptacle and said adjustable means including a wedge shaped internally threaded member and a screw passing through the cover plate into said member and serving when tightened to spring said ring.

6. A door stop and holder comprising in combination a receptacle, a centrally apertured cover plate therefor, a casing supported by said plate and positioned within said receptacle, a member within said casing adapted to yieldably engage a door through the aperture of said plate, a device within the receptacle and carried by said plate for preventing relative movement of said plate and said receptacle, and means including screws accessible at the upper surface of said plate for adjusting said device to permit relative movement of said plate and said receptacle.

7. A door stop and holder comprising in combination a receptacle adapted to be set into the floor, a centrally apertured cover plate therefor, a casing rigidly carried by said plate and positioned within said receptacle, a member within said casing adapted to yieldably engage the under surface of a door through the central aperture of said plate, said casing and said receptacle having such dimensions as to provide an annular chamber within the cylinder about said casing, a circumferentially grooved ring in said annular chamber split into two sections, a spring in the groove of said ring tending to hold the sections thereof together, a pair of wedge shaped members within said chamber

and adapted when raised to force the sections of said ring apart and into frictional engagement with the receptacle and means accessible at the upper surface of said cover plate for raising said members to cause the sections of said ring to grip the receptacle and thereby prevent relative movement of said plate and said receptacle and for lowering said members to permit such relative movement.

8. A door stop and holder comprising in combination a receptacle, a centrally apertured cover plate therefor, a casing within said receptacle, a member within said casing adapted to engage the under surface of a door through the central aperture of said plate, a device within said receptacle, means tending to hold said device out of engagement with the side walls of said receptacle, and means accessible through said cover plate for forcing said device into frictional engagement with said receptacle, said casing and said device being carried by said cover plate.

9. In a door stop and holder of the class described, a receptacle adapted to be set into the floor having its upper end open, a cover plate for said end of the receptacle having an upstanding elongated stop member adapted to be engaged by the side of the door, said plate having an aperture therein, an upwardly spring pressed detent projecting thru said aperture for engagement with the bottom edge of the door when the door is in engagement with said stop member, and means for securing said cover plate to said receptacle having provision for adjustment to vary the angular position of said stop member while maintaining unchanged the plane of the upper surface of said cover plate.

In testimony whereof, I have signed my name to this specification.

ERNEST L. TEICH.