This invention relates to improvements in a door holder and more particularly relates to a portable device adapted to engage the bottom edge of a hinged door for holding the door in a selected set position.

Conventional door holding devices have not achieved commercial success for various inherent reasons. First, such devices are not effective to hold the door positively in a set position. Second, and probably the most important reason, the construction of such devices is such as to cause irreparable damage to the floor or the door, especially to doors which employ veneer face sheets easily damaged if the door is engaged on its bottom edge too near the faces thereof. Still another disadvantage of present devices is that they are not conveniently placed under the door for their intended purpose, and in addition are not sufficiently versatile to be operable in all clearances which may exist between the door and the floor.

A primary object of the present invention is therefore to provide a door holder which is simple and inexpensive to manufacture and which at the same time provides a more positive holding means than conventional devices.

Another object of the invention is to provide a door holder having a body portion of a structure which facilitates distortion thereof from a normally arcurate condition to a flattened door holding condition for ready insertion under a door.

A further object is to provide a door holder of the type described which does not damage the floor in use.

A further object is to provide a door holder having means thereon operative to position the door in a selected plane relative to door engaging means on the holder to prevent damage to the door.

In the description, the present door holder is intended primarily for anchoring a hinged door in a set position so that the door can be worked on in the installation of hardware, for painting, or the like. The device comprises an elongated strip of resilient material such as spring steel, and is adapted by means of its construction, comprising a particular curvature and shape, to be distorted from a generally curved normal condition to a flattened condition in a plane lower than the bottom edge of a door. The device has abutment means on the upper surface thereof forming a stop for the door to selectively position the door relative to prongs means on the device which are adapted to engage the bottom edge of the door. Such abutment also serves as a positioning means for the operator's foot in distorting the device.

The invention will be better understood and additional objects and advantages will become apparent from the following description taken in connection with the accompanying drawings which illustrate a preferred form of the device. It is to be understood, however, that the invention may take other forms and that all such modifications and variations within the scope of the appended claims which will occur to persons skilled in the art are included in the invention.

In the drawings:

FIGURE 1 is a perspective view of the present door holder;
FIGURE 2 is a side edge view of the holder showing in full lines its door engaging condition and in broken lines its normal or rest condition;
FIGURE 3 is a top plan view of the holder in its door engaging or flattened condition, taken on the line 3—3 of FIGURE 2;

FIGURE 4 is a fragmentary sectional view of the front end portion of the holder; and
FIGURE 5 is a perspective view of a sleeve cover for a portion of the holder.

Referring particularly to the drawings the door holder of the present invention comprises a body portion 10 having angular front and rear end portions 12 and 14, respectively. End portion 12 carries a shoe or friction element 16 in downwardly depending relation for gripping the floor when in use, such shoe 16 being attached to end 12 by countersunk screws 18. It is to be understood of course that shoe 16 may be otherwise attached to end 12, as by adhesive. End portion 14 does not carry a friction shoe but rather is intended to have a sliding engagement with the floor surface. This end of the body 10, by reason of its upturned relation and rounded edges does not damage the floor when sliding thereon. To facilitate a smooth sliding engagement with the floor the latter end may have a felt shoe or the like, not shown.

Body portion 10 comprises a strip of resilient material, preferably spring steel of a gauge permitting distortion of the device from a generally curved normal configuration to a flat door-engaging configuration, these two configurations being shown in broken and full lines respectively in FIGURE 2. The resilient force imparted by the body portion 10 when distorted is sufficient to anchor the device firmly to the floor surface by means of shoe 16 and thereby hold a door D in a positive set position. As viewed in plan in FIGURE 3, it will be seen that the body 10 is tapered rearwardly whereby in applying a downward force thereon the rearward portion will tend to straighten out more readily than the forward portion for a purpose to be more fully developed hereinafter.

Considering now the general curvature of the device, in its normal or rest condition, shown in broken lines in FIGURE 2, it will be seen that the front portion of the body 10 has a smaller radius of curvature than the narrower rear portion. That is, while the front portion is more or less abruptly curved the rear portion straightens out in a lesser degree of curvature, and such curvature is instrumental, together with the rearwardly tapered feature, in the efficient and convenient distortion of the device to a flattened condition for engagement under a door.

More particularly, because the front portion of the device has a shorter radius of curvature than the rear portion, and because of the rearwardly tapered construction, the narrower end will flatten out more readily than the wider end upon the application of a downward force on the upper surface of the device. Therefore, an operator may compress the device conveniently with his foot by stepping on the device, with the result that the rear portion will, due to its lesser width and greater curvature, flatten out first and slide freely along the floor to insure a flattening out distortion rather than merely an intermediate buckling. End 12 is anchored firmly to the floor by the shoe 16 and has no slidable movement.

The upper surface of the body portion has prongs 24 and an abutment tab 26, such prongs and tab comprising an integral part of such body portion. These parts may be welded or riveted in place or struck from the body portion, if desired. Prongs 24 are adapted to engage the bottom edge of the door to lock said door and the anchoring device together, and the upright tab 26 is engageable by the door to stop hinged movement of said door.

In this regard, the tab and prongs are spaced apart a predetermined distance wherein when the door is abutted against tab 26 the prongs will be disposed more or less centrally of the door edges. Such feature of construction insures proper engagement of the prongs with the door edge and obviates any possibility of damage to the door.
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as would result if the prongs engaged the door too near the side surfaces.

Tab 26 also serves as an abutment for the operator's foot F, as seen in dotted lines in FIGURE 2, to position the foot on the device against sliding movement, the tab also serving to locate the foot at a point which most efficiently operates to distort the device to a flattened condition.

In operation, the device is placed on the floor in a position at which it is desired to anchor the door. The operator then steps on the device with his shoe engageable with the upper curved surface of the device and in abutment with tab 26. By applying weight thereto the device is distorted to substantially a flat condition, with the end 12 being stationary and the end 14 sliding freely on the floor surface, whereby the door may then be swung over the device until it engages the tab 26. Upon releasing the pressure on the device, it will spring upwardly and the prongs 24 thus positively engage the bottom edge of the door approximately centrally between the faces of the door. Friction shoe 16 grips the floor and anchors the device fixedly in place.

It is also within the contemplation of the present invention to have the tab 26 serve only as a foot positioning member and not also as a door engaging member, in which case it would be of lesser height than the prongs 24. In such a structure the operator compresses the device with his shoe in abutment with tab 26 and then swings the door into engagement with his foot. Thus it will be seen that the operator's shoes serves as a stop rather than the tab 26.

In some instances it may be desirable that prongs 24 be covered so as not to pierce the bottom edge of the floor, such as in the case of weather stripped doors. For this purpose, a friction sleeve member 28 is slidably mounted on the body portion 10 and is ordinarily carried thereon rearwardly of the prongs. When it is desired to cover the prongs 24 the sleeve 28 is moved thereover. Such sleeve has reversibly turned finger portions 30 for gripping the body portion 10 in a sliding frictional fit.

It will be seen that in accordance with the present invention there is provided a positive anchoring means for holding a door in a partially open position. By reason of the particular curvature of the body portion the device will efficiently flatten out when a downward force is applied by the operator's foot disposed in abutment with tab 26. Abutment of the door with the tab 26 insures that no damage will be caused to the door.

Another feature of the present device is that it is efficient in operation regardless of the clearance between the door and the floor. That is, when the device is distorted the rear portion thereof flattens out to a substantially straight line, FIGURE 2, whereby such device is capable of use where there is only a slight clearance between the door and the floor. Also, there is sufficient arch in the body portion to provide effective operation in wider gaps between the door and the floor.

Having now described my invention and in what manner the same may be used, what I claim as new and desire to protect by Letters Patent is:

1. A door holder adapted for removable positioning between the floor and the bottom edge of a door comprising a body portion formed of an elongated strip of resilient material, said body portion being tapered inwardly from front to rear and assuming an arcuate configuration with the front portion thereof having a smaller radius of curvature than the rear portion thereof, a depending friction foot on the front end of said body portion to anchor said end in a set position on a floor surface, and a freely sliding support surface on the rear end of said body portion, whereby upon applying a downward foot pressure on said body portion at a point intermediate the ends thereof to distort said body portion said front end is anchored by said friction foot and said rear end slides freely along the supporting surface.

2. A door holder adapted for removable positioning between the floor and the bottom edge of a door comprising a body portion formed of an elongated strip of resilient material, said body portion being tapered inwardly from front to rear and assuming an arcuate configuration with the front portion thereof having a smaller radius of curvature than the rear portion thereof, a depending friction foot on the front end of said body portion to anchor said end in a set position on a floor surface, and a freely sliding support surface on the rear end of said body portion, whereby upon applying a downward foot pressure on said body portion at a point intermediate the ends thereof to distort said body portion said front end is anchored by said friction foot and said rear end slides freely along the supporting surface.

3. A door holder adapted for removable positioning between the floor and the bottom edge of a door comprising a body portion formed of an elongated strip of resilient material, upwardly extending prong means on said body portion for engaging the bottom edge of a door in a distorted condition of said body portion, and an upwardly extending abutment on said body portion for engagement by a side surface of a door, said abutment being selectively spaced from said prong means for positioning the door centrally over said prong means in the engaging position of the door with said abutment.

4. In a door holder, a body portion comprising an elongated arcuate resilient strip, upwardly extending prong members on said body portion for connection with the bottom edge of a door, and slideable friction cover means on said body portion movable between an inoperative position out of the plane of said prong members and an operative position in the plane of said prong members to render said prong member incapable of connection with said door.

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