Feb. 19, 1952 C. H. WUMMEL ET AL 2,586,757

DOOR HINGE CHECK

Filed Aug. 4, 1948

Fig. 1

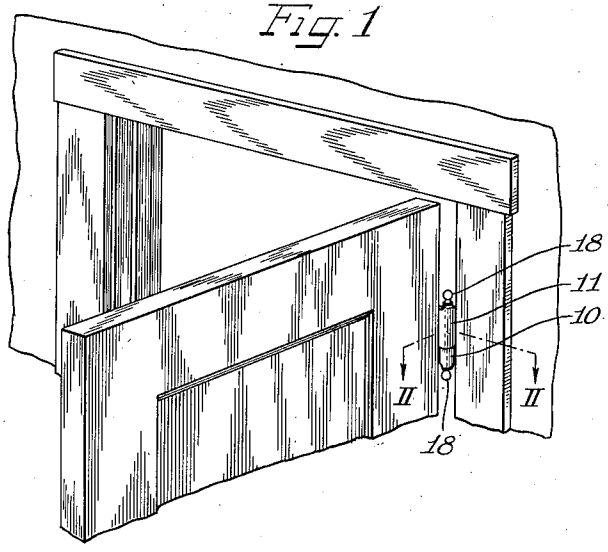


Fig. 2

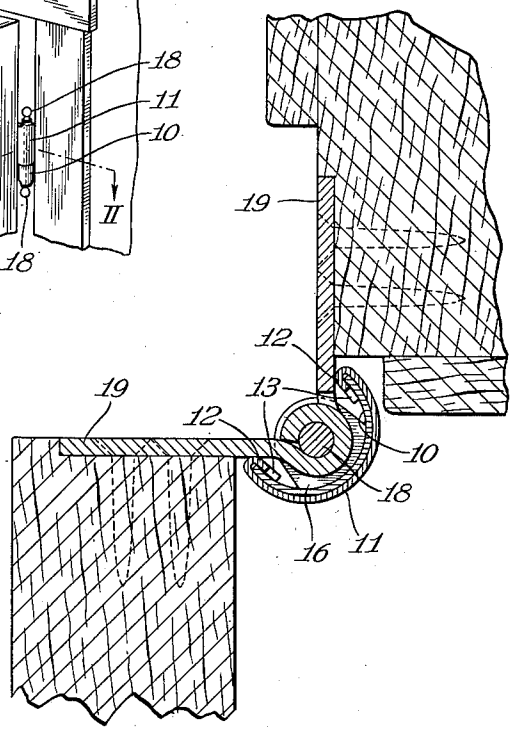
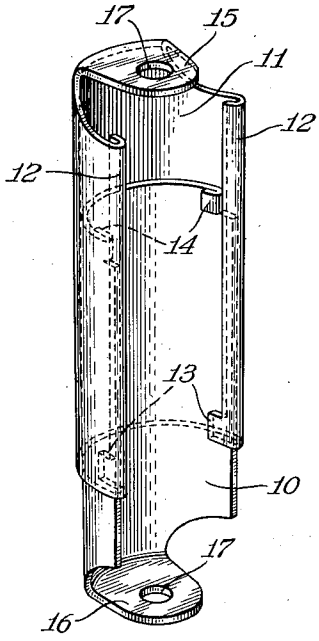


Fig. 3



Inventors
Clarence H. Wummel &
Edward V. Dubowski

by The Firm of Charles A. Hill Attys

Patented Feb. 19, 1952 2,586,757

UNITED STATES PATENT OFFICE

2,586,757

DOOR HINGE CHECK

Clarence H. Wummel and Edward V. Dubowski, Chicago, Ill.; said Dubowski assignor to said Wummel

Application August 4, 1948, Serial No. 42,368

6 Claims. (Cl. 16—137)

1

This invention relates to a device which limits the angular degree of opening of a door hinge, and particularly to a device which fits over a door hinge and opposes its opening after a certain angle has been reached.

A door stop usually consists of a rubber-tipped metal rod extending outward from either the base of a door or the wall in back of a door. This prevents a door from opening too wide whereby the door knob may strike the wall and damage the plaster. While these door stops prevent injury to the plaster, they do not adequately protect the door which is frequently sprung out of line by striking the metal rod with too much violence. Another objection to the metal rod door stop installed in the wall is that it has an area on the floor around it which is difficult to clean due to the presence thereof.

Accordingly, it is an object of this invention to provide a door stop which avoids these disadvantages.

Another object of this invention is to provide a cheap, easily made, and effective door check which attaches to a door hinge and limits the angle to which the door hinge will open.

A further object of the invention is to provide a door check which attaches to a door hinge and which may be adjusted to fit a wide variety of hinge lengths.

A still further object of the invention is to provide a door check which attaches to a door hinge and which may be deformed to change the angle to which the hinge will open.

Other and further objects of the invention will become apparent to those skilled in the art from the following detailed description of the annexed sheet of drawings which discloses preferred embodiments of the invention.

On the drawing:

Figure 1 is a view of the hinge and check in position on a door;

Figure 2 is a top cross-sectional view taken along the line II—II of Figure 1 and showing the hinge plate impinging upon the edges of the door check; and

Figure 3 is a perspective view of the door check showing how the two members are in telescopic relation with each other to provide a wide variety of sizes of hinge to which the device may be adapted.

As shown on the drawings:

The device of this invention may be constructed of two pieces of sheet metal as best shown in Figure 3. An inside member 10 is formed to telescope into an outside member 11. These sheet

2

metal members are preferably formed into rounded or semi-circular channels. The edges 12 of the outside member 11 are folded loosely over the edges of the inside member 10 and the member 11 thus defines a track upon which the member 10 may slide in telescopic fashion.

It is preferable, although not necessary, that the members 10 and 11 be prevented from separating. This is accomplished by providing lugs along the edges of the two members at the point where they would otherwise be separated. In the case of the outside member 11 a lug 13 consists of an additional piece of metal extending outward from the edges 12. In the case of the interior member 10 a lug 14 consists of a portion of the metal folded on the inside of the channel. As the interior channel member 10 is pulled out from outer channel member 11, the lug 14 impinges upon the lug 13 and further movement is stopped. Thus, when the two parts of the hinge check are placed together and the lugs are turned in the proper manner, separation of the two members 10 and 11 is prevented by the lugs.

Opposite ends of the channel members 10 and 11 are turned inward to give the device the appearance of a trough the length of which may be varied. The outer member 11 has an end closure 15 while the interior member 10 has an end closure 16. Apertures or openings 17 are formed in alignment in the end members 15 and 16 along what would be the axis of rotation of the channel members 10 and 11. The apertures 17 are disposed to have the pintle of a hinge inserted therethrough. The channel members 10 and 11 are cut away around the end closures 15 and 16 in order to allow spring tension to exist around the edges of the channel members 10 and 11.

The degree any particular hinge is allowed to open depends upon the design of the hinge itself and also upon the degree of angular opening of the hinge check device. Normally the device is adjusted to check further opening of the hinge after the door has opened to about a 90° angle. By making the device of sheet metal, which may be deformed by forcing the door to a wide aperture after the device has already impinged upon the door hinge plates, it is possible to control the angle at which the checking takes place. This may be seen from Figure 2 where a pintle 18 extends through hinge plates 19 and also through one of openings 17 of the checking device. The edges 12 of the checking device impinge upon the hinge plates 19 and prevent further opening of the hinge after about a 90° angle has been reached. If it is desired to have the door open

to more than a 90° angle before being checked, it is only necessary to force the side 12 further apart by pushing on the door until the checking device is deformed.

In placing the device of Figure 3 upon a hinge it is only necessary to remove the pintle or hinge pin 18. The checking device is then adjusted to the proper length over the hinge and the pin 18 inserted through openings 17 and hinge plates 19. A single hinge equipped with this door check will prevent a door from impinging against the wall, but if each hinge is equipped with such a check device the control of the door is more permanently accomplished.

Figure 1 shows the hinge check device in place on a hinge. The light, easily installed device is quiet in operation. It has the advantage over the rod type door stop in that a door is checked at an angle of 90° or slightly greater, and consequently a door caught by the wind is checked before it can gain enough momentum to do great damage either to itself or to the wall around it.

From the above description it should be understood that this invention provides a door check the construction of which may be varied through a wide range without departing from the principles of this invention, and it is, therefore, not the purpose to limit the patent granted hereon otherwise than necessitated by the scope of the appended claims.

We claim as our invention:

1. A door hinge check comprising two telescoping channel sections closed at opposite ends, the other ends thereof being open and provided with lugs on the open ends to prevent separation of said sections, and aligned apertures through each of said closed ends, said apertures being disposed for the passage therethrough of a hinge pintle.

2. A door hinge check comprising two round bottom channels which telescope into each other, the outer of said channels having the edges folded over the inner of said channels, opposite ends of said channels being folded inward, lugs at the open ends of said channels to prevent the separation thereof, and an aperture through each of said folded inward ends, said apertures combining to form a passage for a hinge pintle.

3. A door hinge check comprising two rounded metal channel members in nesting relationship to each other, the outer of said channel members having its edges folded over the inner of said

channel members loosely enough to permit said inner channel member to slide back and forth, opposite ends of said channel members being folded inwardly whereby said channel members cooperate to form a single trough-like member which may be varied in length by sliding said inner channel member back and forth, and an aperture in each folded inward end, said apertures being disposed for the passage therethrough of a hinge pintle.

4. A door hinge check comprising two rounded channel members disposed to telescope one within the other, opposite ends of each channel member having a folded inward portion, and an aperture in each of said folded inward ends, said apertures cooperating to form a passageway for a hinge pintle.

5. A door hinge stop comprising two sheet metal channel members of semi-circular cross section disposed to telescope one within the other, means for closing one end of each of said channel members, and an aperture in each of said closing means, said apertures forming a passageway for the pin of a hinge.

6. A check for a hinge having a pintle joining a pair of hinge plates for relative hinged movement thereabout, comprising a pair of telescoping channel members, one of said channel members having spaced inturned terminal edges slidably engaging the other of said channel members and forming resilient arms for abutting said plates upon relative opening movement of said plates about said pintle, and the opposite ends of said telescoping channel members being inturned and extending along opposite ends of said hinge plates for securing said members to said pintle without interfering with hinged movement of said plates.

CLARENCE H. WUMMEL.
EDWARD V. DUBOWSKI

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
431,349	Hart	July 1, 1890
515,334	Held	Feb. 27, 1894
1,309,748	Schroeder	July 15, 1919
1,552,916	Farrington	Sept. 8, 1925
2,372,431	Kahle	Mar. 27, 1945