Aug. 22, 1933. O. KARTZMARK 1,923,933

DOOR STOP AND CATCH

Filed Oct. 12, 1931

Fig. 1

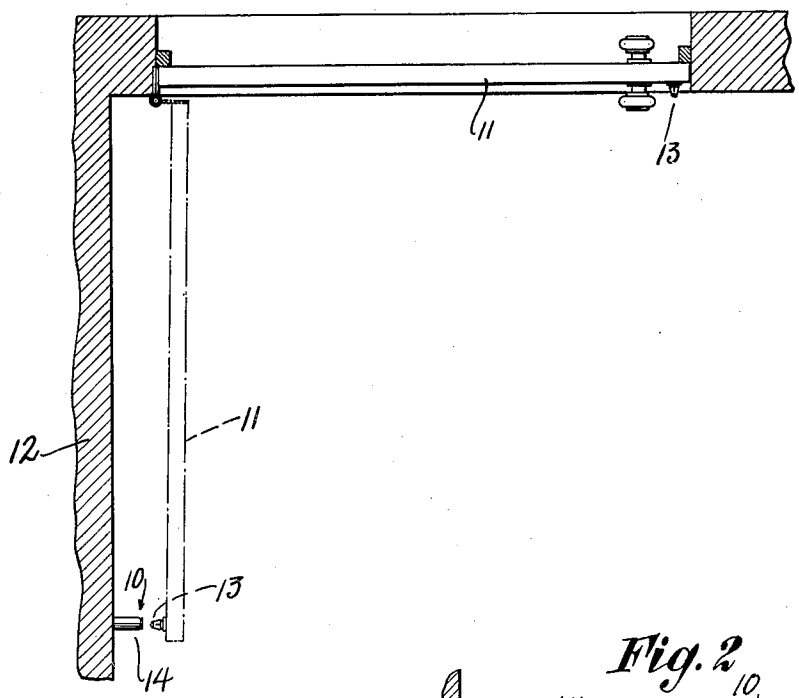


Fig. 2

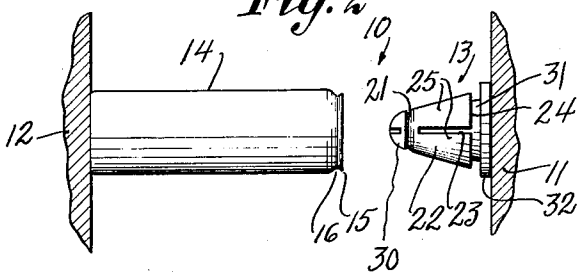


Fig. 5

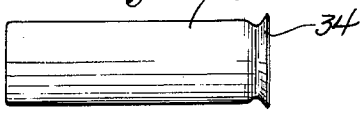


Fig. 3

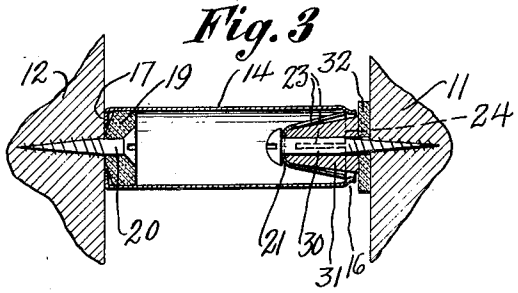
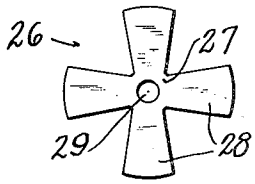


Fig. 4



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DOOR STOP AND CATCH

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5 Claims. (Cl. 292—70)

This invention relates to door stops and holders.

One object of the invention is to provide a device of the character described whereby a socket of ordinary nonresilient tubular form may coact with an improved resilient head, or in an improved manner therewith, greatly decreasing the cost of manufacture.

Another object of the invention is the provision of a device of the nature set forth having an improved socket mounting for facilitating alinement of the head and socket, or to prevent the socket from being jarred loose by impact.

Another object of the invention is to furnish a device of the type mentioned having a head and an improved mounting therefor; also improved associated means to prevent noisy or jarring impingement of the stop.

A further object of the invention is to construct a device of simple, inexpensive form, and which is durable, rugged, and efficient in use.

Other objects and advantages of the invention will become apparent as the specification proceeds.

With the aforesaid objects in view, the invention consists in the novel combinations and arrangements of parts hereinafter described in their preferred embodiments, pointed out in the subjoined claims, and illustrated on the annexed drawing, wherein like parts are designated by the same reference characters throughout the several views.

In the drawing:

Figure 1 is a fragmentary horizontal sectional view showing a typical application of the invention.

Fig. 2 is a side view of a device embodying the invention, in disconnected position.

Fig. 3 is a central sectional view thereof in the engaged position for holding a door open.

Fig. 4 is a plan view of a blank of which the head may be formed.

Fig. 5 is a side view of a modified socket.

The advantages of the invention as here outlined are best realized when all of its features and instrumentalities are combined in one and the same structure, but, useful devices may be produced embodying less than the whole.

It will be obvious to those skilled in the art to which this invention appertains, that the same may be incorporated in several different constructions. The accompanying drawing, therefore, is submitted merely as showing the preferred exemplification of the invention.

Referring in detail to the drawing, 10 denotes a device embodying the invention and which may be used as a releasable engagement means for various purposes, with different articles or objects. To illustrate the invention, the same is shown as a door stop and holder which may be suitably reversibly mounted on a door 11 and a support or wall 12. Thus the device may include a head 13, and a socket 14, preferably mounted on the door and wall respectively.

The socket 14 is sufficiently elongated to form a stop. It may consist of a tube which may be open at its ends, and is otherwise closed, so that the tube is relatively rigid as distinguished from being resilient. Hence the necessity for specially forming the socket is avoided, and the cost of manufacture kept low. The socket may thus have a front opening 15 which may be slightly inturned or lipped at 16 to afford releasable engagement with the head, and said opening is of fixed diameter.

The socket 14 is preferably resiliently mounted so that it or the mounting will not be subject to excessive jar if lateral impact against the socket should occur, as by any article or furniture in the room. Hence the socket may have a rear inturned annular flange 17, upon which may interiorly rest a resilient means such as a rubber washer 19. A fastening means or screw 20 may extend centrally through the washer into connection with the wall 12 for mounting the socket. The socket will thus be adapted to yield laterally both under impact and for alinement with the head, should the latter be slightly out of line with the socket.

The head 13 may be of a resilient character and arranged to releasably engage the socket. Thus the head may be of cup shaped form having a front end wall 21 and a side wall 22 terminating in a rear opening facing the support or door 11. The side wall may include a plurality of slots 23 extending substantially from the end wall 21 to the rear edge 24 of said side wall and forming therebetween the resilient tongues 25. One simple form of making the head may include the provision of a blank 26 having a central portion 27 provided with radial extensions 28. This blank may be stamped into the cup shaped form, the extensions 28 becoming the resilient tongues 25. In the portion 27, a central opening 29 may be provided for the passage of a fastener or screw 30 for mounting the head.

Within the head, there may be placed a spacer such as 31, this spacer being adapted to abut the front end wall 21 and the support 11 or associated part thereof. The screw 30 passes through this core and the latter is sufficiently small to

afford a space between the same and the tongues 25 for deflection of the latter. By means of this spacer the rear edges 24 of the tongues are spaced from the support.

To prevent noisy or jarring contact of the socket and the support 11 in the engaged movement, a resilient means such as a rubber washer 32 may be placed between the support 11 and the head or core 31 thereof. The screw may extend through the washer, and the latter projects laterally beyond the edge of the socket to contact the edge of the socket when the door is swung open.

In Fig. 5 is shown a modification of a socket 33 which may in all respects be similar to that shown at 14, except that it is provided with a relatively large flaring entrance for easily guiding the head into the socket.

In this invention when the device is used to hold the door open, the head enters the socket with the tongues 25 locking at their edges 24 inside of the lip 16. These tongues may deflect in different degrees according to the alinement of the head and socket. The lip 16 is so arranged that upon exerting a suitable pull on the door, the head 13 is removed from the socket with the tongues springing together and sliding past the lip 16. Due to the resilient mounting of the socket, the same is accommodative to the socket. Should the door be slammed open, the member 32 takes the impact and avoids noise. By making the head 13 itself resilient, any nonresilient tubular socket may be used which is cheap to make. In stamping out the head, the same is simultaneously produced in the resilient form.

It will be appreciated that various changes and modifications may be made in the device as shown in the drawing, and that the same is submitted in an illustrative and not in a limiting sense, the scope of the invention being defined in the following claims.

I claim:

1. A door stop and holder including a metallic socket and a head of like material, said head having an end wall and a conoidal side wall, the side wall consisting of a plurality of closely spaced free ended tongues affording an opening therebetween opposite to said end wall, said socket being an elongated cylindrical spacer tube adapted to axially receive said head and having an end lip to detachably engage said tongues at the free ends thereof, a core within the head seated against said end wall and spaced from said tongues in close relation thereto, said core projecting through said opening, and a fastener extending through said end wall and said core and adapted to secure the latter to a support for carrying the head.

2. A door stop and holder including a socket and a head, said head having an end wall and a side wall, the side wall consisting of a plurality of spaced free ended tongues of arcuate form in transverse section and affording an opening therebetween opposite to said end wall, said tongues continuously uniformly diverging toward said opening, said socket including a metallic sleeve having an annular lip detachably engageable with said tongues at the free ends thereof, and a core within the head for mounting the same, said core diverging in the direction of the tongues and affording an enlarged base portion beyond the ends of the tongues, and a fastener extending through said end wall and said head for securing the core to a support with said base portion bearing on the support, said end wall being seated on the core and the tongues being laterally spaced therefrom.

3. A door stop and holder having a head and a socket therefor, said socket having a rigid side wall and a continuous lip extending inward of the socket along an end opening thereof, said head including a conoidal sheet metal shell open at the larger end and having means at the smaller end for mounting the head, said shell having a plurality of spaced narrow slots providing a plurality of tongues of arcuate form in transverse section, said tongues being in comparatively close side by side relation, said tongues being interconnected at the small end of the shell and being free ended at the large end of the shell for engagement with the lip.

4. A door stop and holder having a head and a socket therefor, said socket having a rigid side wall and a continuous lip extending inward of the socket along an end opening thereof, said head including a conoidal sheet metal shell open at the larger end and having means at the smaller end for mounting the head, said shell having a plurality of spaced narrow slots providing a plurality of tongues of arcuate form in transverse section, said tongues being in comparatively close side by side relation, said tongues being interconnected at the small end of the shell and being free ended at the large end of the shell for engagement with the lip, said tongues extending in substantially straight lines from the small to the large end of the shell, and there being means in said shell in close proximity to the free ends of the tongues for limiting inward deflection of a tongue.

5. A door stop and holder including a head and a socket therefor, said head including a conoidal member having a plurality of resilient tongues, means for mounting the head on a support including an element spacing said member from the support, said element having a portion extending laterally beyond said head so as to constitute an abutment for the socket, and a single fastening means extending through said head and the abutment element and into said support, said tongues having free ends in proximity to said abutment, said socket having an annular inturned lip for engaging over the free ends of said tongues, and the free ends being so spaced from the abutment as to afford only sufficient space for receiving said lip between said abutment and the free ends of said tongues.

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