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2,189,048

SILENT DOOR STOP

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FIG. 1

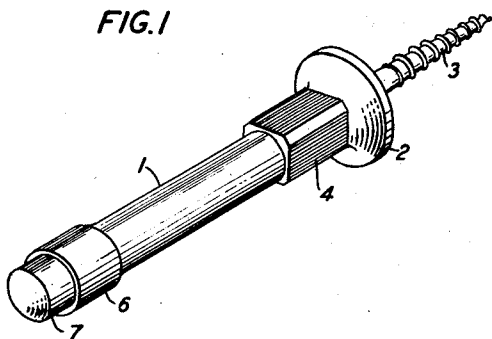


FIG. 2

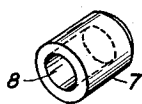


FIG. 4

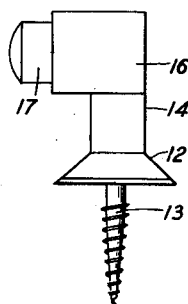
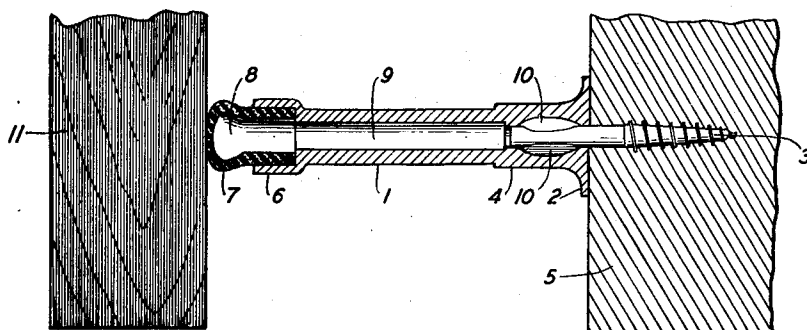


FIG. 3



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SILENT DOOR STOP

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2 Claims. (Cl. 16—86)

This invention relates to a silent door stop and, more particularly, to a silent door stop provided with a resilient tip having an air-chamber formed therein for silently cushioning and absorbing shocks exerted against the tip of the door stop.

Heretofore, door stops have comprised a wooden body member having a tip for receiving bumps from a door. This proved to be undesirable because, when a door was bumped against the hard wooden tip with some degree of force, the attendant bang produced an objectionably loud noise and also caused a scar on the door. To mitigate these deleterious effects in some measure, subsequent door stops were made with a solid rubber tip which was sometimes mounted upon a stud projecting from the body of the door stop. This was some improvement but was not entirely satisfactory as there was only a small amount of rubber protruding between the end of the stud and the point where a door would strike it.

Accordingly, it is an object of this invention to provide a silent door stop of pleasing appearance with shock-absorbing means for protecting walls and for obviating the noise and scars produced by bangs.

It is also an object of the invention to provide a silent door stop with a tip composed of resilient material having an air-chamber formed therein for silently absorbing the shock, or force, produced by a door being bumped thereagainst.

These objects are attained by providing a body member of attractive material with a resilient tip composed preferably of soft rubber. The resilient tip has an air-chamber formed therein which extends considerably beyond the end of the body member and nearly to the external end of the tip. This air-chamber acts as a cushion and serves to silently absorb the impact of a door against the tip.

These and other features of the invention will be more fully described in detail in connection with the following detailed description of the drawing in which:

Fig. 1 is a view in perspective of the silent door stop;

Fig. 2 is a perspective view of the resilient tip and the air-chamber formed therein;

Fig. 3 is a front sectional view of the silent door stop secured to a wall and showing it at the moment of the impact of a door against the tip; and

Fig. 4 is a side view of a modified form of the

silent door stop designed to be secured to a floor instead of to a wall.

The silent door stop is shown to comprise a body member 1 of any suitable attractive material, preferably a well known kind of thermoplastic material, such as cellulose acetate, which will not tarnish, chip, or peel. This body member 1 is molded, or formed, into any pleasing shape, such as that shown in Fig. 1, which includes a base 2 the inside of which holds one end of a dowel screw 3. Above the base 2 is a squared portion 4 which is preferably straight-knurled for assisting in screwing the door stop into some base 5, such as the baseboard of a wall.

The other end of the body member 1 is enlarged to form a head 6 having an orifice for snugly receiving one end of a resilient cylindrical tip 7 composed of any suitable material, such as soft rubber. The outer end of tip 7 is rounded. Formed in the other end of the tip 7 is a cylindrical air-chamber 8, as is shown in Fig. 2. To insert the rubber tip 7 into the orifice in the head 6 of body member 1, the rubber cylinder 7 is pinched or squeezed together at its open end thereby compressing the air-chamber 8 and expelling a certain amount of air therefrom. The rubber cylinder 7 is then forced into the orifice in the head 6 and allowed to assume its normal shape but, in so doing, it creates a partial vacuum which, together with friction, retains the rubber cylinder 7 firmly and securely within said orifice. It should be noted that, for increased flexibility, the greater part of this air-chamber 8 extends beyond the end of body member 1, as is shown in Fig. 3, and that the air-cushion 8 also extends well into the external rounded end of tip 7 so that there is only a relatively thin wall of rubber between air-cushion 8 and the point where a door 11 strikes against tip 7.

To economize on material, a cavity, or air-chamber 9, is hollowed out of body member 1, as is shown in Fig. 3. The air-chamber 9 is extended through the squared portion 4 and base 2 to provide for the insertion of the dowel screw 3 having flanges 10—10. This extension is narrower than the air-chamber 9 in order to fit the shank of the dowel screw 3.

When the door 11 is banged against this silent door stop, it compresses the resilient tip 7, as is shown in Fig. 3. Since tip 7 is preferably made of soft rubber which is relatively thin at the point where the door 11 strikes it and since the air-chamber 8 protrudes considerably beyond the end of the body member 1, the air-chamber 8

silently cushions, or absorbs the shock and thud, or noise, of the door 11 banging against the tip 7 with the result that the impact of the door 11 against tip 7 is silent.

- 5 A modification of the invention is shown in Fig. 4 which illustrates a silent door stop, embodying the principles of the invention, designed for being secured to a floor. This modified silent door stop comprises a base 12 and a squared portion 14 similar to base 2 and squared portion 4. Above this squared portion 14 is an enlargement forming a head 16 which is squared in shape for enabling the silent door stop to be secured to a floor by means of a wrench without marring the surface of the thermo-plastic material. Like head 6, head 16 is provided with an orifice for snugly receiving one end of a resilient cylindrical tip 17 which is similar to tip 7 and which has an air-chamber, similar to air-chamber 8, protruding beyond the head 16. When this modified silent door stop is securely positioned on a floor, it operates in the same silent manner as that described for the silent door stop shown in Figs. 1 and 3.
- 25 It is to be understood that the above description and illustrations are for the purpose of describing and illustrating the principles and features of operation of the invention and that the invention is not to be limited to the specific shapes or dimensions shown and described. Various modifications in the construction of the silent door stop may be made without departing from the spirit and scope of the invention which is to be limited only by the claims appended hereto.

What is claimed is:

1. A silent door stop for absorbing the noise that would otherwise be caused by the impact

of a door thereagainst, said silent door stop including in combination a body member having a dowel screw embedded therein for enabling the door stop to be secured to a base, a smooth and flangeless hollow rubber cylinder open at one end, and a thin wall of rubber molded integrally with said hollow rubber cylinder at the other end thereof for forming an air-chamber therein, said body member having an enlarged head for snugly engaging and securely retaining by friction the open end of said rubber cylinder for forming an air-tight air-chamber extending appreciably beyond the end of said body member and having only said thin wall of rubber at its outer end for increasing the ability of the air-chamber to silently cushion the impact of a door against the tip of the rubber cylinder.

2. A silent door stop for absorbing the noise that would otherwise be produced by the impact of a door thereagainst, said silent door stop including in combination a body member having a cylindrical orifice extending for some distance within said body member, a smooth and flangeless hollow rubber cylinder open at one end, and a thin wall of rubber molded integrally with said rubber cylinder at the other end thereof for forming a chamber therein, said body member having an enlarged head around the end of its cylindrical orifice for snugly engaging said rubber cylinder at its open end for forming an air-tight air-chamber composed of the orifice in the body member and the chamber in the rubber cylinder for silently cushioning the impact of a door against the end of said rubber cylinder, said air-tight air-chamber having a partial vacuum for securely retaining said rubber cylinder.

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