TELESCOPIC DOOR HANGER

Fig. 1

Fig. 2

Fig. 3

Fig. 4

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TELESCOPIC DOOR HANGER
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ABSTRACT OF THE DISCLOSURE

An adjustable door hanger including a telescoping rod assembly, mounting brackets, and hooks removably mounted on the rod. The mounting brackets enable the hanger to be secured to a solid structure, even though the hooks themselves are mounted over a surface which could not otherwise support them.

BACKGROUND OF THE INVENTION

At the present time, most doors used inside buildings, such as houses, apartments and the like, do not have solid cores. Room doors and closet doors are commonly of the hollow core type; that is, they have an outer frame structure on which two panels are mounted to provide the front and rear surfaces of the door. In some instances a honeycomb core is provided between the two panels to give additional support thereto. Other common interior doors include doors having a single panel set in an outer frame and doors having louvered panels.

A problem exists in attaching hooks such as closet hooks to the panels of such doors. These hooks are commonly attached by means of screws driven into the bodies on which they are mounted. The panels used on the foregoing types of doors are generally too thin to provide an adequate footing for the mounting screws, with the consequence that when a substantial weight is placed on the hooks, the screws have a tendency to pull out of the door panels.

A somewhat firmer mounting for the hooks can be provided by bolting them to the door panels. However, this approach is not feasible where it is desired that the mounting means not be visible from the side of the door opposite to that upon which the hooks are mounted.

There is, therefore, a need for a new and improved hanger assembly which can be utilized with doors which do not have solid cores.

SUMMARY AND OBJECTS OF THE INVENTION

The door hanger of the present invention includes a rod assembly and mounting brackets for securing the rod assembly to the outer frame of a door. A plurality of hooks are removably mounted on the rod assembly and spaced longitudinally thereof. The rod assembly is made of telescoping sections, whereby it is adjustable to fit doors of different sizes.

It is in general an object of the present invention to provide a door hanger which can be mounted on doors which do not have solid cores.

Another object of the invention is to provide a door hanger of the above character in which the hooks are removably mounted on the rod to permit their number and spacing to be varied as desired.

Another object of the invention is to provide a door hanger of the above character which is readily removable from the door on which it is mounted.

Another object of the invention is to provide a door hanger of the above character which is adjustable to fit doors of different sizes.

Additional objects and features of the invention will be apparent from the following disclosure in which the preferred embodiment is set forth in detail in conjunction with the accompanying drawing.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view of one embodiment of a door hanger incorporating the present invention, mounted upon a hollow core door.

FIG. 2 is a plan view, partly in section, of the embodiment shown in FIG. 1.

FIG. 3 is a sectional view taken along line 3—3 in FIG 2.

FIG. 4 is a sectional view taken along line 4—4 in FIG. 2.

Like reference numerals are used to designate corresponding elements in all figures of the drawing.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The preferred embodiment of the telescopic door hanger comprises generally an extensible rod 11, mounting brackets 12 and 13, and hooks 14. In FIGS. 1 and 2, this assembly is shown mounted on a hollow core door 15.

The hollow core door includes an outer framework comprising side frame members 16, a top frame member 17 and a bottom frame member, not shown. Panels 18 and 19 are mounted on this framework to provide, respectively, the front and rear surfaces of the door.

Extensible rod 11 comprises first and second elongate members or sections 21 and 22. As illustrated, members 21 and 22 are fabricated of hollow tubing having a substantially square profile. The cross-sectional dimensions of members 21 and 22 are such that section 21 slides telescopically within section 22. As will be apparent to those familiar with the art, the shape of the tubing used for sections 21 and 22 is not critical, as long as the same shape tubing is used for both sections. It is, however, desirable that the tubing have a substantially flat upper surface 23 to facilitate the mounting of hooks 14. Likewise, if desired, rod 11 can have more than two sections.

Mounting brackets 12 and 13 are located proximate to the ends of rod 11 and are adapted for securing the rod to the frame members 16 located in the side margins of door 15. Brackets 12 and 13 are secured to frame members 16 by means of screws 24.

In the preferred embodiment, brackets 12 and 13 are provided with means for engaging the ends of rod 11 in such a manner that rod 11 is removably mounted to the brackets. Thus, bracket 12 is provided with a raised boss portion 26 adapted for engaging the inner wall surfaces at the end of tubular section 22. Bracket 13 is provided with a raised shoulder 27 adapted for engaging the outer wall surfaces at the end of tubular section 21. If desired, the relative positions of boss 26 and shoulder 27 can be interchanged, or bosses or shoulders can be used at both ends of rod 11. Brackets 12 and 13 are conveniently formed by a conventional stamping process.

Where it is not desired that rod 11 be removably mounted to brackets 12 and 13, the brackets can be made an integral part of the rod assembly and can be attached thereto by conventional means such as brazing.
Likewise, mounting brackets which engage rod assembly 11 in the preferred embodiment, means is provided for removably mounting hooks 14 in a longitudinally spaced apart relationship on rod assembly 11. Hooks 14 include mounting tabs 31 adapted for overlying the upper surface 23 of rod assembly 11. Tabs 31 are secured to rod assembly 11 by means of screws 32. Mounting tabs 31 include mounting holes 33, through which the threaded portions of screws 32 can pass freely. Longitudinally spaced holes 34 are provided in the upper surface 23 of rod assembly 11 and adapted for threadably receiving screws 32. 

Holes 34 are uniformly spaced along both of the sections 21 and 22 of rod assembly 11. In the region of overlap; that is, where member 21 lies within member 22, the holes 34 in member 22 are in registry with the corresponding holes in member 21. Thus, in this region, the screws 32 engage both of the tubular members, thereby locking them together, in addition to securing the hooks 14 to the rod assembly. Alternatively, screws 32 can be made to engage only section 22 in the region of overlap, with separate means, not shown, being provided for adjusting the length of the rod assembly. Where separate locking means is used, rod assembly 11 can be adjusted to any desired length, rather than being limited to the discrete intervals corresponding to the spacing of holes 34.

Means is provided for preventing rotation of hooks 14 about screws 32, that is, twisting of hooks 14 with respect to rod assembly 11. This means comprises a lug 36 formed on the lower surface of mounting tab 31. Lugs 36 are adapted for engaging longitudinally spaced holes 37 formed in upper surface 23 of rod assembly 11.

In the drawing, hooks 14 are illustrated as being conventional closet hooks having two vertically spaced hanger prongs. If desired, other types of hooks may be used.

Operation of the door hanger can be described briefly as follows. Let it be assumed that mounting brackets 12 and 13 have been secured to frame members 16 in the side margins of door 15 by means of screws 24. Rod assembly 11 is collapsed to a length somewhat shorter than the distance between the brackets 12 and 13 by sliding member 21 into member 22. The assembly is then positioned between the mounting brackets and extended so that the outer end of member 21 engages shoulder 27 on mounting bracket 13 and the end of member 22 engages boss 26 of bracket 12. Hooks 14 can be mounted as desired on rod assembly 11 by means of screws 32. Preferably, at least one hook should be located in the region where section 22 overlaps section 21 so that the two sections can be locked together by a mounting screw 32. If no hook is desired in this region, the sections can be held in place simply by means of a screw 32 inserted in one of the sets of co-registering holes. The rod can be removed from the brackets by removing all screws and hooks in the region of overlap and sliding the two sections together until their ends are free of the mounting brackets.

Alternatively, rod 11 can comprise a single member of fixed length. In this embodiment, hooks 14 can be permanently mounted on rod 11, if desired. Otherwise, this embodiment is similar to that having a plurality of telescoping sections described above. In either embodiment, the member forming rod 11 can conveniently be fabricated of extruded aluminum.

While the hanger has been described with specific reference to hollow core doors, it will be appreciated that the use of the device is not limited to this type of door or to doors at all. It has been described in regard to this type of door because it allows hooks to be mounted on them where conventional hooks cannot be used.

It is apparent from the foregoing that there has been provided a new and improved telescopic door hanger which enables hooks to be mounted over surfaces which are incapable of supporting hooks themselves. As will be apparent to those familiar with the art, various changes and modifications can be made in the assembly without departing from the scope of the invention as defined by the following claims.

1. In a door hanger assembly, an extensible rod assembly including first and second axially elongated members, said members being formed so that said first member is slidably mounted in said second member, said members being telescopically movable to a plurality of predetermined axial positions in which portions of said members overlap each other, each of said elongated members being formed to include a plurality of spaced apart openings, the spacing between the openings in each of said elongated members being equal so that the openings in the overlapping portions of said members are in registry in each of said axial positions, mounting brackets proximate to the outer ends of said first and second members, a plurality of longitudinally spaced hooks, and means removably mounting said hooks in the openings in said elongated members.

2. A door hanger as in claim 1 wherein said second elongated member is fabricated of hollow tubing having a substantially rectangular cross section and wherein said first elongated member likewise has a substantially rectangular cross section.

3. A door hanger as in claim 1 for use on a hollow core door of the type having spaced side frame members and wherein said mounting brackets are adapted to be secured to said side frame members.

4. A door hanger as in claim 1 together with means for preventing twisting of said hooks with respect to said rod assembly.

5. In a combination of the character described, a hollow core door comprising an outer framework, said framework including spaced apart side frame members and first and second panels mounted on said framework to provide front and rear door surfaces, and a door hanger mounted on said hollow core door, said door hanger including first and second axially elongated members, said members being formed so that said first member is slidably mounted in said second member, said members being telescopically movable to a plurality of predetermined axial positions in which portions of said members overlap each other each of said elongated members being formed to include a plurality of spaced apart openings, the spacing between the openings in each of said elongated members being equal so that the openings in the overlapping portions of said members are in registry in each of said axial positions, mounting brackets proximate to the outer ends of said first and second members, a plurality of longitudinally spaced hooks, and means removably mounting said hooks in the openings in said elongated members.

6. In a hanger assembly suitable for use on doors of the type having a rigid outer framework providing at least two mounting surfaces which lie in substantially the same plane, an extensible rod assembly including first and second elongated members, said elongated members being formed so that said first member is telescopically mounted in said second member, mounting brackets mounted on said elongated members proximate to the outer ends thereof, the length of said rod assembly being adjustable to permit said mounting brackets to be mounted on the mounting surfaces of doors having different framework spacings, said elongated members being formed to include a plurality of openings axially spaced apart in such manner that the openings in said first member are in registry with the openings in said second member in the region of overlap between said first and second members, a plurality of longitudinally spaced apart
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hooks, and means cooperating with the openings for removably mounting the hooks on the rod assembly.

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