April 30, 1935. J. H. H. TIRYAKIAN 1,999,218

HOOK

Filed Aug. 5, 1933

Fig. 1.

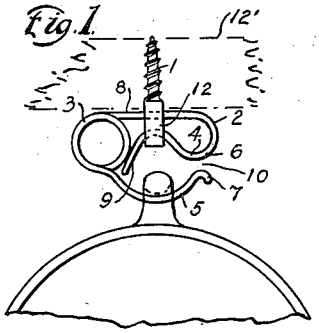


Fig. 5.

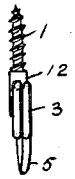


Fig. 2.

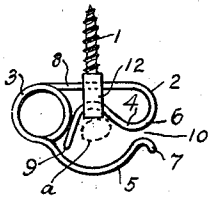


Fig. 4.

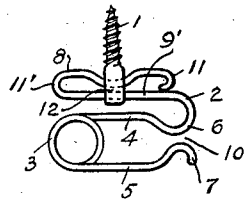


Fig. 3.

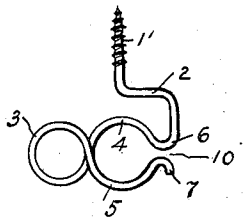


Fig. 6.

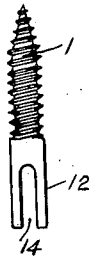


Fig. 8.

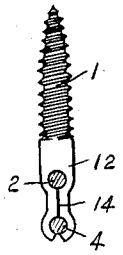


Fig. 7.



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1,999,218

HOOK

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Application August 5, 1933, Serial No. 683,756

9 Claims. (Cl. 248—22)

The present invention relates to an improvement in hooks, and, more especially, to an improvement in cupboard hooks such as are usually utilized to support chinaware, such as cups and similar articles, by their handles from the bottoms of shelves and other desirable positions within cupboards, china closets and the like.

One of the important features of the present device is in the provision of means whereby to prevent accidental displacement of the cup or article suspended on the hook, in which a resilient blocking tongue is provided to normally block the entrant portion of the hook against involuntary removal of the suspended article but to permit easy, voluntary suspension and removal of the article, when required.

A further advantage is in the provision of a resilient cushioning and sound deadening means whereby the fragile handles of china and porcelain cups and similar articles are protected against solid knocks and consequent liability of breakage.

A further advantage is in the simplicity of the structure involved, the device comprising, in one form of structure, a single piece, and in alternate forms not more than two pieces, easy to manufacture and assemble.

While I have, for the sake of clearness and in order to disclose my invention so that the same can be readily understood, described in general terms and illustrated specific devices and arrangements, I desire to have it understood that this invention is not limited to the specific form disclosed but may be embodied in other ways that will suggest themselves, in view of this broad disclosure, to persons skilled in the art. It is believed that this invention is broadly new and it is desired to claim it as such so that all such changes as come within the scope of the appended claims are to be considered as part of this invention.

In the drawing,

Fig. 1 is a side view of one form of hook showing a fragmented cup suspended therefrom;

Fig. 2 is a view, in side elevation, showing a slightly different form of hook;

Fig. 3 shows another form of hook of one piece construction, in side elevation;

Fig. 4 shows another form of cushioning hook in side elevation;

Fig. 5 shows an end view of the hook of Fig. 2;

Fig. 6 shows an enlarged view of the slotted screw stud before closing upon the wire hook form;

Fig. 7 is a bottom end view of the stud of Fig. 6; and

Fig. 8 is an enlarged view of the screw stud after the slotted shank has been closed over the wire hook form to assemble the component parts into rigid assembly, with the hook form in section.

As in Figs. 1 and 2, the hook generally denoted by 2, comprises a single piece of spring wire, of suitable gauge, which is convoluted, in substantially a flat plane, as in Fig. 5, to form opposing wing loops 3 and 6 which are so formed as to permit the location of the threaded screw stud at about the center, between the said two loops, and thus said loops form wings on opposite sides of the stud to permit of manual manipulation when screwing the stud into the bottom of a wooden shelf 12' Fig. 1.

The loops 3 and 6 have double functions as will later be pointed out.

In the structure of Fig. 2, the inner stud end 9 of the hook is bent downwardly slightly, at an angle, which at its apex is caught in and held firmly in the lower shank portion 12 of the stud 1, and then is formed into a loop 6, and again passes through the shank portion 12 as a straight length 8. At the end of the straight length 8, the wire is formed into a complete loop 3 and is then bent into a curved fulcrum suspension arm 5 and at its extreme end is bent into a reverse rounding end 7.

Thus the two portions of the curved loop 6 and the rounding end 7 form a curved entrance 10, to permit of the easy entering of a cup handle therebetween, and when reversing the movement to release the cup handle, the opposite inside bends of the portions 6 and 7 perform the same function. The coiled loop 3 acts as the resilient means to permit the flexing of the fulcrum suspending arm 5.

When a cup is suspended on the fulcrum suspension arm 5, and is inadvertently lifted or touched, the handle will rise upwardly into the pocket formed between the inside faces of loop 6 and the angularly bent end 9, as indicated by the dotted lines *a*, Fig. 2.

In Fig. 4 there is shown a somewhat modified form of hook, the threaded stud 1 being as described for Fig. 2, the wire hook 2 being bent and assembled as follows; the wire end 8 at its outer end is bent into a downwardly curved end 11, and is passed through the shank portion 12 of the stud 1, and at its opposite end is bent into a curve 11', and then is again passed through the shank portion 12 in a substantially straight section 9', is thereafter formed into a loop 6, then across in a substantially straight line 4 below the end of the shank portion 12, and is then

coiled into a complete loop 3, is then carried across in a substantially straight line as at 5, but parallel to portion 4, and terminates with a curved end 7.

Thus, in this latter structure the entrant portion 10 of this hook, as in Fig. 2, forms a curved entrance 10, and the coiled loop 3 acts as a resilient means for the fulcrum suspension arm 5.

Inadvertent touching of the suspended cup, will cause the handle to rise upwardly and contact with the resilient guard arm 4, which absorbs the shock of contact, softens the blow, and prevents in part, the sound from being amplified by the shelf 12', which at times acts as a sound amplifying diaphragm.

As in Fig. 2, the threaded stud 1, Fig. 4, is located substantially central of the loops 11—11' and they therefore act as stiff wings for manually screwing the stud 1 to the shelf bottom. The action of this hook is like that described for Fig. 2.

In Fig. 3 there is shown another modified form of structure in which the hook 2 is made of one piece of wire and comprises an upstanding end 1' having integral threads thereon, the lower end thereof being bent at right angles thereto, and then being formed into a loop 6, then curved to form the resilient guard arm 4, then coiled one turn to form resilient coil 3, then crossing over loop 3 to be curved into an opposite direction to guard arm 4 to form a fulcrum suspension arm 5, which, as in Figs. 2 and 4, ends in a curved terminal 7. In this structure, as in Figs. 2 and 4 the loop 6 and curved terminal 7 form a curved entrance 10 on their outside faces, and the inside faces of loop 6 and curved end 7 form a curved exit face from the suspension arm 5.

If the suspended cup is inadvertently touched, the handle rises upwardly and is cushioned by the resilient guard arm 4, and the force of the blow and the sound is dissipated.

In the manufacture of the hooks they are preformed in a wire bending machine, ready for assembly to the shank portion 12 of the screw stud 1.

Several forms of attaching the formed hook to the threaded stud 1, may be used, but the preferred form of assembly is as disclosed in Figs. 6, 7 and 8.

In Fig. 6, the shank portion 12 of the stud is shown slotted as at 14. The slot as in Fig. 7, splits the stud across and extends up part way into the stud as in Fig. 6.

After the threaded slotted stud is completed, the cup hooks of Figs. 2 and 4 are assembled into the slot, and then by means of a properly formed tool, such as a forming die, mounted in a press, the side walls or legs of the slotted shank portion 12 of the stud 1 are forcibly closed down around the coacting portions of the hook and thus the completed coacting parts of the structure are rigidly combined into one piece.

It will thus be noted that the hook herein described is comprised of a screw threaded portion, firmly mounting a manually manipulated wing portion having a cup handle guard portion, a curved entrance and exit portion and a resilient fulcrum suspension all of which join in their respective functions to form an improved suspension means for cups and analogous articles.

What I claim is:

1. A suspensory hook adapted to be attached to a shelf, comprising a rigid elongate stud having a threaded top end, a depending end, and a piece of resilient wire having a diameter less than that of said stud and forming oppositely extending arms; said arms including conjoint members certain of which are manipulable and conjointly secured to said depending end so as to rigidify the wire thereat, whereby the stud may be turned to screw said top end upwardly into a shelf; said arms including another member which is disposed below the first members and having a free upwardly turned end for receiving an article to be suspended.

2. A suspensory hook for shelves comprising a stiff vertically disposed stud having a top threaded end adapted to be screwed upwardly in a shelf, a depending shank, and a piece of resilient wire having a diameter less than that of said stud and carried thereby; said wire having loops or bands therein to provide arms which are disposed approximately in the plane of the axis of said stud, said arms including upper members which have portions rigid with said shank, and a lowermost member extending from one of said bends and having a free end, said latter member having its central portion disposed substantially on said axis for carrying an article to be suspended.

3. A hook for supporting cups below a shelf, comprising an elongate stud having a top threaded end, a depending shank, and a piece of resilient wire having loops or bends therein to provide oppositely extending arms, said arms being conjoint and including members which are conjointly secured to said shank, so as to render said secured members stiff thereat for turning purposes whereby to screw said threaded end upwardly into a shelf, said loops being at the outer ends of said arms, one of said loops being bent downwardly below and on one side of said shank, and another member extending from a loop at the opposite side of said shank and disposed therebelow for receiving the handle of a cup, said latter member having a free end which is disposed adjacent said downwardly turned loop, whereby the handle may be snapped into position.

4. A device for suspending cups below a shelf, comprising an elongate stud having a threaded top end, a depending shank, and a piece of resilient wire having loops therein to provide oppositely extending conjoint arms; said arms including at least one member which is manipulable and secured at its central portion with said shank to render said member partly rigid, so that said top end may be screwed upwardly into a shelf, one of said loops being disposed at one end of said member and being bent downwardly lower than the end of said shank, there being another of said loops at the opposite end of said member, a lowermost member extending from the last mentioned loop and having a free end turned upwardly and coacting with said downwardly bent loop so as to form a pocket below the stud, and a downwardly turned terminal on said free end, whereby to provide a resilient entrance to said pocket for the handle of a cup.

5. A device for carrying cups below a shelf, comprising an elongate stud having a threaded top end, a depending shank, and a piece of resilient wire having loops or bends therein to provide oppositely extending arms; said arms being conjoint and including at least one member which is manipulable and conjointly secured to said shank, so as to render said member stiff adjacent the shank, whereby to screw said threaded end upwardly into a shelf; another member

yieldably disposed below the first member, there being an interposed loop, said loop having a downward bend therein on one side of said shank; and a lowermost member extending from one of said loops on the opposite side of said shank for receiving the handle of a cup, said lowermost member having its end coacting with said downwardly bent loop to form a resilient entrance for the handle, whereby if the cup is accidentally moved or hit said handle may engage the second mentioned member without injury to the handle.

6. A suspensory device adapted to be secured on the lower face of a shelf for hanging cups under the shelf, said device comprising a stiff pointed screw stud stiff enough to be screwed upwardly into the shelf without twisting, and a single piece of resilient spring wire of smaller diameter than said stud and formed with arms and yieldably opposed jaws and including a portion attached to said stud; the arms and jaws being approximately in the same plane with each other and the stud and extending in opposite directions from the axis of the stud and serving as a wing head for positioning said stud; said arms adapted to serve for screwing the stud into or from the shelf without straining said wire.

7. A suspensory device adapted to be secured to the lower face of a shelf for hanging cups under the shelf, said device comprising a screw stud stiff and strong enough to be screwed upwardly into the shelf without twisting and having a depending end provided with a substantially diametric slot; and a single piece of resilient spring wire of smaller diameter than said stud and formed with a supporting jaw portion secured to said stud and having one end portion curved, substantially in a radial plane, outwardly, downwardly and upwardly, to form a curved jaw portion and then backwardly and secured adjacent to the stud; the other end of the wire being extended outwardly in the opposite direction substantially in said plane, and convoluted and then curved downwardly, inwardly and outwardly upwardly and then downwardly outwardly to form an upwardly curved free end jaw adjacent to the upper jaw to form yieldable entrance to and from the hook; opposite ends of said supporting portion and the backwardly turned portion, said convolutions and curved jaws being approximately in the same plane and serving as a wing head for said stud; said head adapted to cooperate for screwing the stud into or from the shelf without straining the wire.

8. A device for suspending a cup below a shelf, comprising a rigid elongate metal stud having a top threaded end adapted to be screwed upwardly into a shelf, a depending end, and a single piece of resilient wire having a diameter less than that of said stud, said wire having bends therein to provide oppositely extending arms, at least one of said arms having a portion thereof intimately connected with said depending end and carried thereby, and another arm positioned below the first arms and having its central portion disposed on the axis of said stud for carrying a cup by its handle thereon.

9. A suspensory hook for a cup, comprising a threaded metal stem, a wire carried by and extending from the bottom of said stem, said wire having on one side of said stem an arm or handle, so that the stem may be screwed vertically upwardly into the bottom face of a shelf, said wire including another arm which is disposed below the first arm and in the vertical plane thereof, said second arm having therein a depending curve or portion whereon to receive the handle of a cup, said curve being substantially on the axis of said stem, and coacting bent portions of said wire disposed between said arms, said latter portions including a coil which is disposed at the opposite side of said stem, whereby the inherent resiliency of said bent portions may render the lower arm yieldable, as described.

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