April 29, 1941. B. C. PLACE 2,240,225

GARMENT OR LIKE HOOK

Filed Jan. 23, 1939

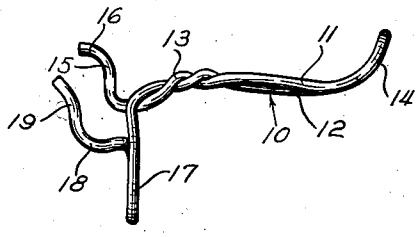


Fig. 1

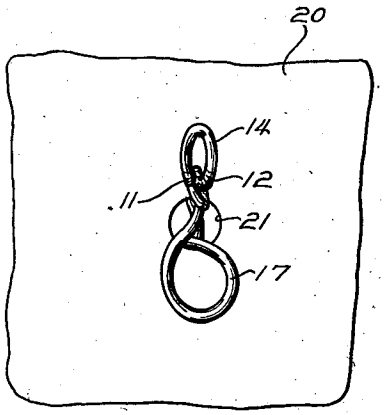


Fig. 2

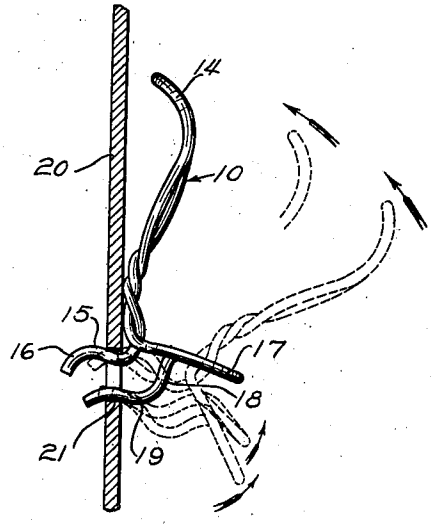


Fig. 3

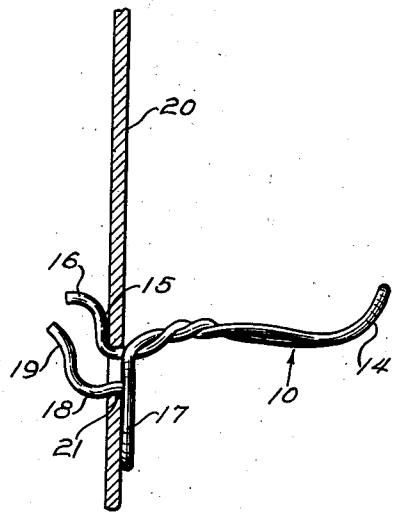


Fig. 4

Inventor

Bion C. Place

By Strauch & Hoffman

Attorneys

Patented Apr. 29, 1941 2,240,225

UNITED STATES PATENT OFFICE

2,240,225

GARMENT OR LIKE HOOK

Bion C. Place, Detroit, Mich., assignor of one-half to George E. Gagnier, Detroit, Mich.

Application January 23, 1939, Serial No. 252,447

2 Claims. (Cl. 248—217)

The present invention relates to garment or like hooks constructed from a single piece of wire and intended for ready application particularly to a metal wall having a perforation therein for reception of part of a hook structure. More particularly, the invention is concerned with a garment or like hook provided with an improved means for securing the hook to a metal wall in such a way that once the hook is attached to the perforated wall it cannot be removed except by applying forces in a direction other than the direction in which the normal load of the hook is applied.

The primary purpose of the present invention is to provide a one-piece wire hook designed for application to a perforated wall and including a hook-like projection to engage the back of the wall through the perforation therein and means formed as a part of the hook and spaced from said hook-like projection to maintain the hooked engagement between said projection and the wall and to insure an absence of relative movement between the hook and the wall once the hook is engaged therewith.

A still further object of the invention is to provide a garment or like hook that includes a yielding shoulder which, after the hook is applied, engages the edge of the perforation and the wall and thus prevents ready or inadvertent disengagement of the hook from the wall.

A still further object of the invention is to provide a hook designed especially for application to a perforated metal wall, and including a loop-like bearing portion designed to distribute a part of the load sustained by the hook over an area of the wall beneath the perforation, and that is so designed that an absence of looseness in the connection between the hook and the wall is assured when the bearing portion rests against the wall.

Still further objects of the invention will appear as the description thereof proceeds with reference to the accompanying drawing in which:

Figure 1 is a side elevational view of a preferred form of hook including the present invention;

Figure 2 is a fragmentary view of a perforated wall to which the hook of Figure 1 is applied, this view being taken so that the hook appears in end elevation;

Figure 3 is a vertical section of the perforated wall and showing a hook of the present invention partially applied to said wall, by moving the hook from positions illustrated in dotted lines;

Figure 4 is a vertical sectional view showing the hook in its final applied position.

Like reference characters indicate like parts throughout the several figures.

The garment or like hook of the present invention comprises a garment sustaining arm 10, formed by doubling a piece of wire, the doubled portions 11 and 12 of said wire being twisted together as indicated at 13 to provide a unitary arm. If desired, the end of said arm may be turned upwardly as indicated at 14 in a manner customary with garment or like hooks.

Extending approximately at right angles to the length of the garment sustaining arm 10 is a projection 15 formed from one end of the piece of wire, said projection preferably having a rounded end 16. The projection 15 constitutes a wall engaging projection of hook-like form.

Disposed in a plane approximately at right angles to the length of the hook is a loop-like wall engaging bearing portion 17 extending inwardly from which is a rounded wire portion 18 having an upwardly curved end portion 19, said wall bearing portion 17, rounded shoulder portion 18 and upwardly extending portion 19 being formed from the other end of said piece of wire.

The hook of the present invention is applied to a metallic or like wall 20 having a perforation 21 therein in the following manner:

The hook is disposed approximately in the lowest dotted line position and the portions 15 and 19 are passed through the perforation. The hook is then moved toward the wall and turned as indicated by the arrows in Figure 3 to bring the hook in the position illustrated in full lines in Figure 3. Normally the portion 18, 19 is spaced from the portion 15, 16, so that it is necessary to move the portion 18, 19 toward the portion 15, 16 in engaging the hook with the wall through the perforation 21. When the portion 18, 19 is moved toward the portion 15, 16 the loop 17 is placed under torsion inasmuch as said loop is disposed in a plane normal to the length of the portion 18. Since the wire from which the loop is constructed will not assume a set condition when the loop 17 is placed under torsion, it will be understood that the portion 18 is yieldable with respect to the remainder of the hook, though said hook may be constructed from relatively stiff wire, and though the wire be untempered or only slightly tempered.

In view of the necessity of moving the portion 18, 19 toward the portion 15, 16 it will be understood that a snug fit between the portions of the hook that pass through the opening 21 of the wall 20 is insured. After the hook reaches the full line position of Figure 3, the engagement

thereof with the wall 20 is completed by swinging the hook arm 10 downwardly away from the wall causing the hook-like projection 15 to engage in back of the wall 20 providing a shoulder of substantial width preventing withdrawal of the hook. At the same time, the rounded portion 18 is passed through the perforation and springs away from the portion 15, 16 presenting a rounded shoulder, when the hook is in its final position, engaging the inner lower corner of the wall of the perforation 21, the torsion in the loop 17 being partially released, though not entirely, when the hook is in final position. It will thus be clear that diametrically opposite portions of the wall of the perforation 21 are firmly engaged by the inner end of the arm 10 and by the rounded portion 18 insuring an absence of play between the hook and the wall once the hook has been engaged therewith. In final position the bearing portion 17 abuts firmly against the outside of the wall 20. If desired, the portion 18 may extend at a more acute angle to the bearing portion 17 than illustrated in the drawing, the resistance of the hook to disengagement being dependent in large measure upon said angle.

The hook applied in the manner just described is capable of resisting substantial weight applied to the arm 10 inasmuch as the said weight is divided between the hook-like projection 15, the wall bearing portion 17, and the rounded shoulder 18. While it is possible to remove the hook from the wall, if desired, inadvertent disengagement of the hook from the wall cannot occur because the yieldable shoulder 18 prevents disengagement of the hook due to any vibration or jarring. However, the hook can be removed by an operation analogous to an unlocking action, by rotating the arm 10 toward the wall thus first disengaging the rounded shoulder from the lower edge of the wall of the perforation, after which the hook can be removed in the reverse manner from that employed when it was applied.

The primary purpose of the rounded shoulder is to maintain the engagement between the hook-like projection 15 and the wall, the load on the arm 10 being sustained principally by said projection and the bearing portion 17.

It will be understood that while a garment hook is illustrated in the drawing, the hook arm 10 may assume any form found to be desirable for whatever purpose is intended to be served by the hook. Or the arm 10 may be straight and serve as a bracket or like supporting arm, the shape and purpose of said arm forming no part of the present invention.

The invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The present embodiment is therefore to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all changes which come within the meaning and range of equivalency of the claims are therefore intended to be embraced thereon.

What is claimed and desired to be secured by United States Letters Patent is:

1. A one-piece wire garment or like hook having an arm formed from a doubled portion of the wire, one end of said wire forming a hook for passage through an aperture in a support to engage the rear wall of the support, the other end of said wire being bent to form a loop disposed in a plane substantially perpendicular to said arm for bearing engagement with the support below the aperture, said last mentioned end being further bent into approximate parallelism to a portion of said hook to provide a yieldable end portion normally spaced from said portion of the hook a distance greater than the diameter of the aperture, said end portion having a rounded shoulder and being adapted to be engaged with the support by a snap-fastener action.

2. A one-piece wire garment or like hook having an arm formed from a portion of the wire, one end of said wire being bent to form a hook for passage through an aperture in a support to engage the rear wall of the support, the other end of said wire being bent to form a loop disposed in a plane substantially perpendicular to said arm for bearing engagement with the support below the aperture, said last mentioned end being further bent to provide a yieldable end portion normally spaced from a portion of said hook a distance greater than the diameter of said aperture to resiliently engage the aperture wall at a point substantially diametrically opposite the hook portion in order to maintain the engagement of said hook with the support.

BION C. PLACE.