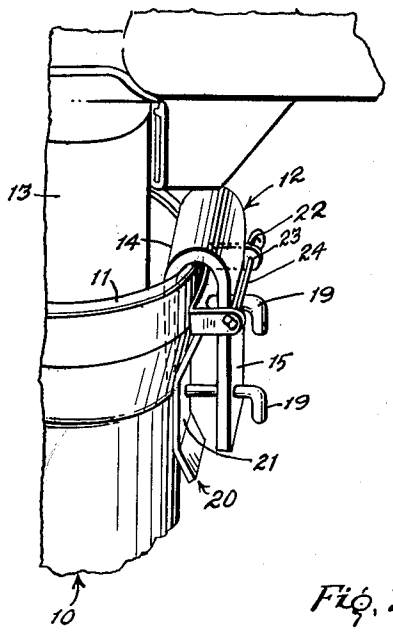
Nov. 24, 1964 C. J. McKEOWN 3,157,931

BACKING PLATE HANGER

Filed July 29, 1963

Fig. 1.



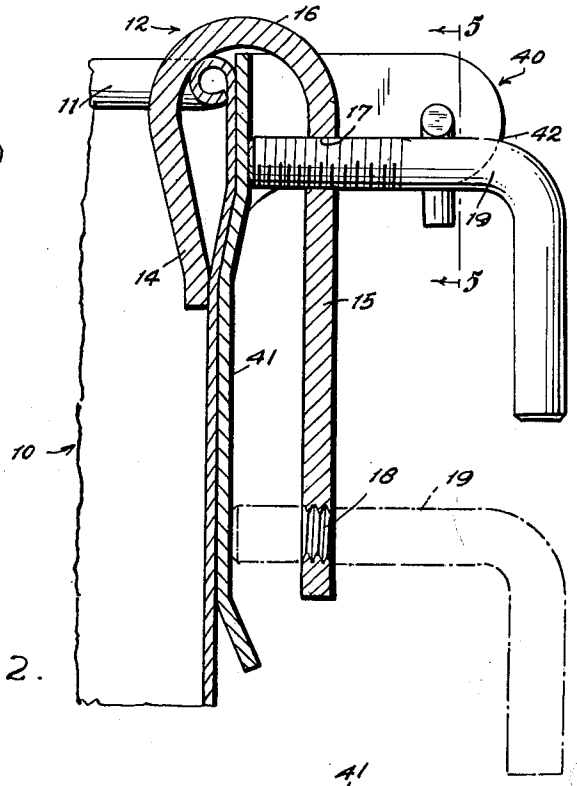
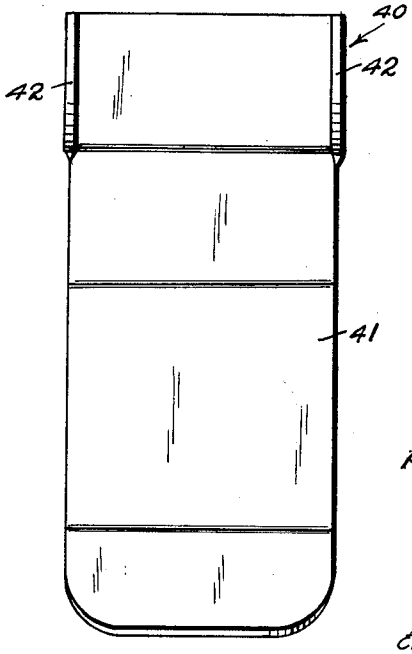


Fig. 2.

Fig. 3



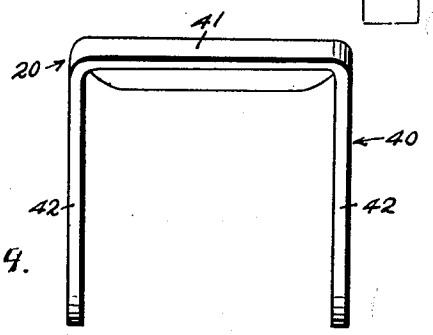


Fig. 4.

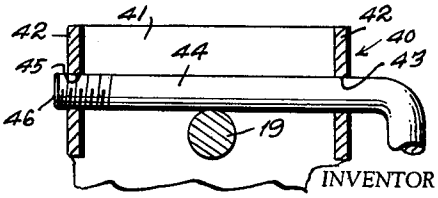


Fig. 5

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BACKING PLATE HANGER

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6 Claims. (Cl. 24—263)
(Granted under Title 35, U.S. Code (1952), sec. 266)

The invention described herein, if patented, may be manufactured and used by or for the Government for governmental purposes, without the payment to me of any royalty thereon.

The invention relates to backing plate hangers for anchoring clamps and more particularly to a clamp of the general type disclosed in my prior Patent No. 2,968,853, dated January 24, 1961. In that invention, the backing plates were attached to the clamping screws and comprised somewhat complicated and expensive devices although proving to be an advance in the art. I have now discovered that equally good or better results can be achieved by a simpler and more inexpensive single article which can be substituted for the two backing plates used in the prior patent aforesaid.

With the foregoing in view, it is an object of the invention to provide an improved backing plate hanger of the class described.

A further object is to provide such an improved hanger which is supported by one of the clamping screws and secured thereto against loss by readily removable fastener means.

Other objects and advantages reside in the specific structure of the invention, the combination of the same with a clamp of the class described, all of which will be readily apparent to those skilled in the art upon reference to the attached drawing in connection with the following specification wherein the invention is described and claimed.

In the drawing:

FIGURE 1 is a perspective view showing one species of the invention in use;

FIGURE 2 is an enlarged longitudinal, sectional view showing a slight modification of the invention in use;

FIGURE 3 is a frontal elevational view of the backing plate apart from the rest of the structure;

FIGURE 4 is a top plan view of the backing plate of FIGURE 3; and

FIGURE 5 is a vertical sectional view taken substantially on the plane of the line 5—5 of FIGURE 2.

Referring specifically to the drawing, wherein like reference characters designate like parts in all views, 10 designates any suitable receptacle such as a galvanized iron can having a beaded upper rim 11 over which extends the novel clamp 12 of the invention which may support any suitable article such as an immersion water heater 13 fragmentarily illustrated in FIGURE 1. Clamp 12 comprises a bifurcated body of any suitable sheet material, such as sheet metal, which has an inner leg 14 and an outer leg 15 which are connected by a bight 16 which rests atop the rim 11 of the can 10. The heater 13 is supported on the inner leg 14 and bight 16 in any suitable manner as by being welded thereto.

The outer leg 15 is formed with at least one but preferably two vertically spaced and aligned threaded holes 17 and 18, the upper hole 17 being adjacent the bight 16 and the lower hole 18 being near the lower end of the outer leg 15. Clamping screws 19 are threaded through the holes 17 and 18 to secure the clamp 12 to the can 10 in a well known manner. To protect the can 10 from damage by the free forward ends of the clamping screws 19, a backing plate according to the invention is used.

In the species of FIGURE 1, the backing plate 20 comprises a clamping screw engaging body 21 which may be shaped to be complementary to the shape of the can 10 in the region of the rim 11. The upper end of the body 21 is formed with a pair of integral outwardly projecting ears 22 which are formed with laterally aligned apertures 23. Readily removable fastener means such as the cotter pin 24 is extended through the apertures 23 and detachably secured therein in a well known manner. Obviously a nut and bolt would serve as well. In use, the backing plate is disposed inside the clamping screws 19 with the ears 22 straddling the outer leg 15 of clamp 12. The apertures 23 are located outwardly of the leg 15 and above the screw 19 for the upper hole 17. Thus, the backing plate 20 is supported by the uppermost screw 19 and secured against lateral escape by the straddling of the outer leg 15 by the ears 22. It is apparent that the arrangement just described is a simple and economical one which, at the same time, protects can 10 from damage and secures the backing plate not only against loss but in the proper position for use at all times.

The species of FIGURES 2 to 5 inclusive is basically the same arrangement except for the means securing the backing plate in position. There, the backing plate 40 has a clamping screw engaging body 41 shaped like the body 21 of the first species and is provided with corresponding outwardly projecting ears 42 in straddling relation to the outer leg 15. One ear 42 is formed with an unthreaded aperture 43 therethrough while the other ear is formed with an aligned threaded aperture 45 therethrough. A pin 44 having a threaded end 46 is freely passed through the aperture 43 and has the threaded end 46 threadedly engaged with the other aperture 45. As in the first species the apertures 43 and 45 are outwardly of the outer leg 15 and above the uppermost clamping screw 19 so that the latter supports the backing plate as before.

It is apparent from the foregoing that while there has been shown and described what are now considered to be the two preferred species of the invention, it is understood that the same is susceptible of still other forms and expressions. Consequently, the invention is not considered as being limited to the precise structures shown and described hereinabove but only as hereinafter claimed.

I claim:

1. In a clamping structure including first and second spaced and opposed elongated rigid legs for receiving a part to be clamped therebetween, said legs being integrally connected by a bight portion, said first leg being formed with at least first and second internally threaded holes therethrough in longitudinally spaced relation, clamping screws threaded through said holes, there being an upper screw in the region of said bight; the improvement comprising a backing plate, said plate being disposed between said legs and extending longitudinally thereof and adapted to be engaged by said screws to clamp an article between said plate and said second leg, said plate including a pair of spaced and opposed ears fixed thereto in the region of said bight, said ears straddling said first leg and having terminal portions extending laterally outwardly thereof, and readily removable anchoring means extending between said ears laterally outwardly of said first leg and above said upper screw to secure said plate in assembled relation with said clamping structure.

2. A clamping structure according to claim 1, wherein said ears are formed with laterally aligned apertures therethrough, and said anchoring means comprising an elongated rigid member extending through said apertures.

3. A clamping structure according to claim 1, wherein said ears are formed with laterally aligned apertures therethrough, one of said apertures being formed with

an internal thread, a pin extending through said apertures and having an externally threaded front end threadedly engaged in said threaded aperture, and said pin providing said readily removable anchoring means.

4. A clamping structure according to claim 1, wherein said ears are formed with aligned apertures therethrough, and a cotter pin extending through said apertures to provide said readily removable anchoring means.

5. In a clamping structure including first and second spaced and opposed rigid legs for receiving an article to be clamped therebetween, said legs being integrally connected by a bight portion, said first leg being formed with at least one internally threaded hole therethrough, a clamping screw threaded through said hole; the improvement comprising a backing plate, said plate being disposed between said legs and extending longitudinally thereof, said plate being adapted to be engaged by said screw and to clamp an article between said plate and said second leg, said plate including rigid integral means projecting forwardly therefrom in straddling relation to said first leg, said rigid integral means having free end portions projecting forwardly beyond said first leg, and rigid connecting means readily detachable connecting said free end portion of said rigid integral means beyond said first leg and above said clamping screw to secure said plate in assembled relation to said clamping structure.

6. A clamping structure according to claim 5, wherein said connecting means comprises a readily detachable screw threaded connection between said free end portions of said rigid integral means.

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