

[54] **ADJUSTABLE CONTAINER SUPPORT**
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[51] Int. Cl.² **A47F 5/00**
[58] Field of Search **248/223, 224, 225, 312, 248/DIG. 3, 220.5, 201, 204; 211/54, 57, 59, 75, 74, 119**

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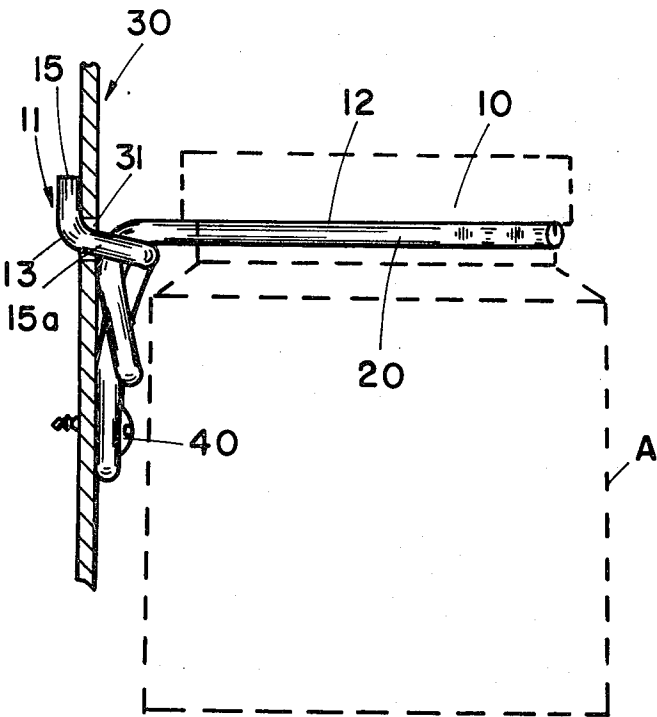
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[57] **ABSTRACT**

A bracket is disclosed for removably hanging items on a wall and in its preferred embodiment is particularly adapted for use with so-called "pegboard" type storage units. The bracket has a support member with a pair of spaced ears at the top for securement to the wall. The bracket also has a hanger member incorporating a pair of spaced, article clamping arms and a connecting portion which, at the rearward end of the arms, passes around behind the support member and adjacent the center of the bracket seats against and is secured to the front face of a central depending portion of the support bracket whereby the spacing between the arms can be varied by flexing the arms adjacent their attachment to said support. The lower end of the depending center portion is offset rearwardly to seat against the wall with the arms extending normal to the wall; the bracket being so constructed that no welded connection between its parts is loaded in tension.

11 Claims, 6 Drawing Figures



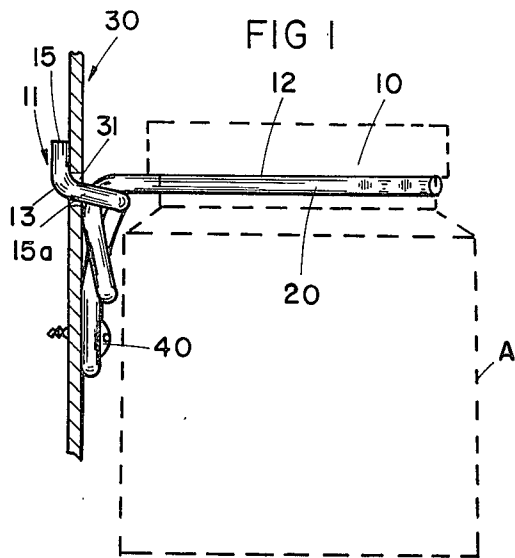
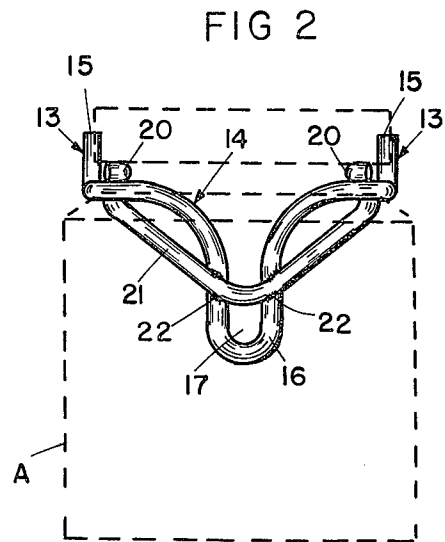
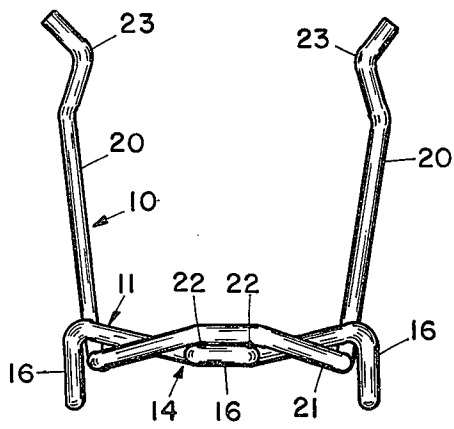


FIG 4

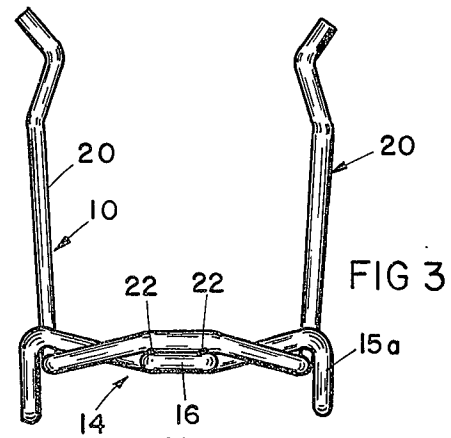


FIG 3

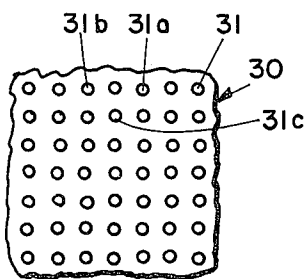


FIG 5

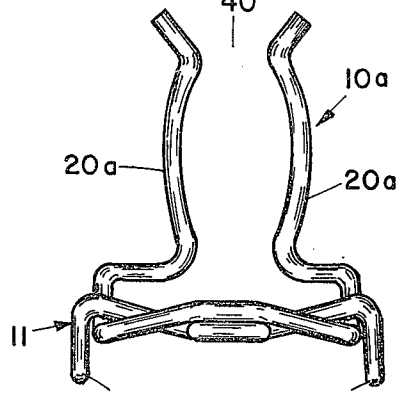


FIG 6

ADJUSTABLE CONTAINER SUPPORT

FIELD OF THE INVENTION

The invention is a bracket designed to be secured to a vertical surface such as a pegboard to provide means of detachably supporting and storing an object such as a jar, can or other container. The bracket provides a support which will detachably support the jar or other container, yet, permit quick mounting or removal of the object. The invention is designed to provide a bracket which will readily adjust itself to containers of various sizes. The bracket is specifically designed when used with pegboard to overcome the problem of the bracket becoming detached from the board when the containers are attached or removed. It is also designed to overcome the problem of bracket weakness, yet permit the use of a minimum of materials.

BRIEF DESCRIPTION OF THE INVENTION

The bracket of this invention consists of two parts, a support element and a hanger element. The hanger element has a pair of clamping arms designed to be capable of resiliently spreading sufficiently to receive and then clamp the container. These arms are joined by a connecting portion which is shaped to partially wrap about the support element. The support element is designed to be secured to the supporting surface such as a pegboard or wall and to hook around the rearward end of the support bracket and have a central portion which extends downwardly to provide a stabilizing foot or leg. This foot or leg extends behind the central connecting portion of the hanger bracket. At this point only, the two elements are rigidly connected. This arrangement permits the arms to resiliently flex about a point adjacent the center of the bracket, thus relieving the juncture of the arms and the connecting portion from the bending strain normally imposed at this juncture. This also provides a bracket having three-point contact with the supporting surface to stabilize it against vertical loads.

These and other objects and purposes of the invention will be more fully understood upon reading the following drawings and detailed description.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevation view of the invention showing it attached to a wall surface such as a pegboard;

FIG. 2 is a front elevation view of the invention;

FIG. 3 is a bottom view of the invention showing the arms of the hanger element in normal position;

FIG. 4 is a bottom view of the invention showing the arms of the hanger element spread as they would be by a container being inserted between them;

FIG. 5 is a fragmentary elevation view of a typical section of pegboard; and

FIG. 6 is a view similar to FIG. 4 showing a modification of the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The bracket 10 has two components, a support element 11 and a hanger element 12. These two elements are preferably made from a suitable spring-like material such as steel wire or small diameter rod. The material must be resilient in the sense that it must be capable of limited spring action and provide sufficient resistance to deflection that it will not deform under normal

loading but will permit the bracket to be snapped around a container and firmly and positively clamp the container.

The support element 11 is a single piece having a pair of laterally spaced end portions joined by a connecting portion 14. The end portions 13 are generally L-shaped providing a pair of upstanding ears 15 and a pair of generally forwardly extending leg portions 15a. The connecting portion 14 extends inwardly, i.e., toward the vertical centerline of the bracket, and the midsection is formed into a deep, depending, generally U-shaped loop 16. The bottom of the loop is closed and the sides of the loop, adjacent the bottom, are generally parallel and vertical. The lower portion of the loop 16 is offset rearwardly a distance and for a purpose which will be subsequently explained. The upwardly opening slot 17 formed by the loop 16 is preferably of a width suitable for insertion of a screw between the sides.

The hanger bracket 12 is also of one-piece construction and is generally U-shaped in plan view having a pair of forwardly extending arms 20, joined at their rearward ends by a connecting portion 21. As viewed in elevation from the front, the connecting portion 21 is shaped into a downwardly extending shallow V. At the juncture of each of the arms 20 and the connecting portion 21, the hanger element passes around the rear face of the support element 11 at the juncture of the end portions and the connecting portion 14. The middle of the connecting portion 21 is offset forwardly to pass in front of and bear against the front face of the depending loop 16 of the support element 11. The points of contact between the connecting portion 21 and the loop 16 are located substantially below the plane of the arms 20 and a short distance above the closed bottom of the loop 16. At the points of contact between the loop 16 and the connecting portion 21, the two elements are rigidly joined together by suitable means such as welding 22. It will be observed that the loop 16 is relatively narrow and, thus, the points of welded attachment are closely adjacent the vertical centerline of the bracket.

The ends of the arms 20 are inwardly offset at 23 to provide lip-like structure for positively holding a container inserted between them. Forwardly of the offsets 23, the ends of the arms are flared laterally to facilitate the entry of a container between them. FIG. 3 illustrates the bracket when the arms are in their normal position. FIG. 4 illustrates the bracket with the arms spread apart as though they were clamped about a container seated between them which is somewhat larger than the normal spacing between the arms. It will be observed in FIG. 4 that when the arms 20 are forcibly spread apart, the hanger bracket 10 does not flex about the juncture between the arms 20 and the central connecting portion 14 but rather about a point immediately adjacent the welds 22 where the support and hanger elements are joined. This is important because it eliminates the stress fatigue which would be experienced were the arms forced to flex about the juncture. Also, without sacrificing the clamping or holding ability of the hanger element 10, the degree to which the arms 20 can be reasonably separated is significantly increased. Thus, the bracket may be used to support containers of a substantially greater range of sizes than would otherwise be possible. Also, by extending the central connecting member 21 downwardly, the point of connection between the support bracket and the

rearward end of the arms is increased, further increasing the range of permissible flexing of the arms to accommodate containers of various sizes.

The bracket is shown mounted to a typical pegboard wall in FIG. 1. As shown in FIG. 5, the pegboard 30 is of conventional design having a plurality of equally spaced openings 31 arranged in both vertical and horizontal rows. In FIG. 1, an ear 15 is shown inserted through one of the holes 31 with the front or forward face of the ear 15 seated against the inside surface of the pegboard 30. This is a conventional means of securing a bracket to a pegboard. The downward pivoting of the bracket about the ear 15 is limited by the lower end of the loop 16 seating against the outer or front face of the pegboard. Preferably, the arrangement is such that when the bracket is stable, the arms 20 are normal to the front face of the pegboard and, if the pegboard is vertical, the arms will be horizontal.

Since the juncture between the arms 20 and the connecting portion 21 of the hanger element 12 is seated behind the support element 11 at the juncture of the legs 15a and the connecting portion 14, it is necessary that the lower portion of the loop 16 be offset rearwardly at least the thickness of the hanger element where the latter passes behind the support element, if the arms 20 are to be maintained in horizontal position.

FIG. 6 illustrates the fact that the bracket of this invention can be modified, without in any way changing its principles of construction, to accommodate narrow objects such as a hammer handle. In this case, the arms 20a of the bracket 10a are offset inwardly immediately forward of the support bracket to provide a narrowed article receiving slot 40. The same principle of attachment to the front of the support element closely adjacent the bracket centerline is maintained, thus, retaining all of the advantages of adjustability and strength. By retaining the wide spacing between the ears 15, lateral stability is retained along with the increased degree of flexibility of the arms 20a.

It will be observed by this arrangement, that a particularly strong bracket is produced. The torsional loads imposed by the weight of a container such as the container A tend to pivot the bracket about the point of contact between the ears 15 and the back face of the board 30. In doing so, they impose a tension load on the top connection between the hanger element 12 and the support element 11 and this is absorbed by the hanger element passing behind the support element and thus engaging the support element in bearing. Thus, no fastener or welded connection is placed in tension which might ultimately break. At the same time, the rearwardly acting forces of this force couple are transmitted from the hanger element 12 to the support bracket at the points of weld 22. Here the forces are again acting in compression or bearing and thus, the welds are relieved of any tension or torsional loads. Once again, the construction of the bracket makes it capable of substantially higher loadings than would be possible were these loads imposed across a weld or the like in tension or torsion.

If it is desired to positively stabilize the bracket against any kind of tipping during the insertion or removal of the containers, a screw 40 (FIG. 1) can be installed at the bottom of the loop 16. Preferably, this screw can be threaded into one of the holes 31 of the pegboard. The bracket can be so designed that the ears 15 are spaced to seat in alternate holes such as the

holes 31a and 31b with the screw inserted in the hole 31c midway between the holes 31a and 31b in the next lower row of holes as is suggested in FIG. 5.

It will be recognized that if this bracket is not to be used with a pegboard-type structure, eyelets could be substituted for the ears 15 to receive screws which are inserted into the wall structure.

It will be seen that this invention provides a very simple, strong and inexpensive bracket. The two components of the bracket can be formed from wire or small diameter rod by suitable means such as a wire wrapping machine or by suitable dies. The assembly consists simply of interlocking the two elements and welding them together. Because of the construction of the bracket, it is substantially free of possible failure due to fatigue and is capable of sustaining significantly higher loading than presently existing brackets designed for the same purpose.

While a preferred embodiment of this invention has been described, it will be recognized that various modifications may be made without departing from the principles of the invention and such are to be considered part of the invention.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. In a bracket for supporting elements on a vertical wall, said bracket comprising a one-piece support element and a one-piece hanger element, each of said elements being generally U-shaped with their base portions extending vertically; said hanger element having a pair of forwardly extending arms, one joined to each end of the element's base portion; said hanger element at the junction of said arms and base portion passing behind said support element and said base portion of said hanger element seated against and rigidly secured to the front of said base portion of said support element at a point spaced substantially below said arms of said hanger element, the lower end of said base portion of said support element being offset rearwardly with respect to the upper part of said base portion at least the thickness of the portion of said hanger element passing rearwardly of said support element; means at the lateral upper ends of said support element for securing it to a wall.

2. A bracket as described in claim 1 wherein said points of attachment of said base portions of said elements are centered laterally of said bracket and spaced laterally from said arms.

3. In a bracket for use in pegboard-type storage devices, said bracket comprising: a support element having a forward face and a rear face and a pair of laterally spaced upstanding ends for penetrating and engaging a pegboard, said support element having an integral depending central portion; a generally U-shaped hanger having a pair of forwardly extending, spaced arms and a connecting base portion, said base portion being offset downwardly from the plane of said arms; said hanger element, at the juncture of said connecting base portion and said arms extending behind said support element at the base of said upstanding ends; said connecting base portion of said hanger element passing in front of said offset portion of said support element and being rigidly secured thereto at a point spaced from and below said arms.

4. In a bracket as described in claim 3 wherein said upstanding ends are generally L-shaped with a for-

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wardly extending leg portion, the forward ends of said leg portions being integral with the upper lateral ends of said central portion, said central portion adjacent the vertical centerline of said bracket having a generally U-shaped depending loop closed at the bottom; said connecting base portion of said hanger element passing in front of said loop at a point above the bottom of said loop and being secured to the sides thereof.

5. In a bracket as described in claim 4 wherein the lower end of said loop portion is offset rearwardly at least the thickness of said hanger element.

6. In a bracket as described in claim 5 wherein said hanger element is made of a resilient material whereby the spacing of said arms may be increased with said arms flexing about the points of securement to said sides of said loop.

7. In a bracket for use in pegboard-type storage devices comprising: a one-piece support element and a one-piece hanger element; said support element, in front elevation, having a central U-shaped depending loop having upstanding sides with the upper ends thereof being formed into laterally extending leg portions, the lateral ends of said leg portions being formed to extend upwardly to provide a pair of pegboard penetrating and engaging ears; said ears, in side elevation, being generally L-shaped with the lower portions thereof extending forwardly; said hanger element having a pair of forwardly extending arms joined at their rearward ends by a laterally extending, downwardly bowed connecting portion, said hanger element at the juncture of said arms and connecting portion being seated about the rear face of said support element at the juncture of the forwardly extending lower portions of said ears and the leg portions of said support element; the central portion of said connecting portion of said hanger element being seated against the forward face of said depending loop and rigidly secured thereto whereby lateral flexing of said arms will occur adjacent said points of attachment of said hanger element to said sides of said loop.

8. A bracket as described in claim 7 wherein the lower portion of said loop is rearwardly offset whereby said arms of said bracket, when mounted on a pegboard, will be generally normal to the face of the pegboard.

9. In combination, a pegboard having a plurality of holes arranged in an equally spaced pattern in vertically spaced rows and a bracket for supporting elements thereon, said bracket having a one-piece support

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element and a one-piece hanger element; said support element, in front elevation, having a central U-shaped depending loop having upstanding sides with the upper ends thereof being formed into laterally extending leg portions, the lateral ends of said leg portions being formed to extend upwardly to provide a pair of ears penetrating and engaging said pegboard; said ears, in side elevation, being generally L-shaped with the lower portions thereof extending forwardly; said hanger element having a pair of forwardly extending arms joined at their rearward ends by a laterally extending, downwardly bowed connecting portion, said hanger element at the juncture of said arms and connecting portion being seated about the rear face of said support element at the juncture of the forwardly extending lower portions of said ears and the leg portions of said support element; the central portion of said connecting portion of said hanger element being seated against the forward face of said depending loop and rigidly secured thereto whereby lateral flexing of said arms will occur adjacent said points of attachment of said hanger element to said sides of said loop; said lower portion of said loop being offset rearwardly and seated against the forward face of said pegboard, said rearward offset being such that said arms of said hanger element are normal to the face of said pegboard.

10. The combination described in claim 9 wherein a detachable fastener is mounted through the lower end of said loop to further secure said bracket to said pegboard.

11. A bracket adapted to be secured to a wall for detachably supporting a container, said bracket comprising: a first element and a second element; said first element at its upper end having means for anchoring it to a wall, said first element also having a depending lower portion, the bottom end thereof being adapted to seat against a wall; said second element having a pair of forwardly extending, horizontally spaced article clamping arms integrally joined by a depending portion; said second element at the juncture between said arms and said depending portion extending behind said first element, and the bottom of said depending portion being seated against and secured to the forward face of said first element adjacent the lower end of said lower portion thereof, whereby loads imposed on said second element are transmitted to said first element by compression where the elements bear against each other.

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