

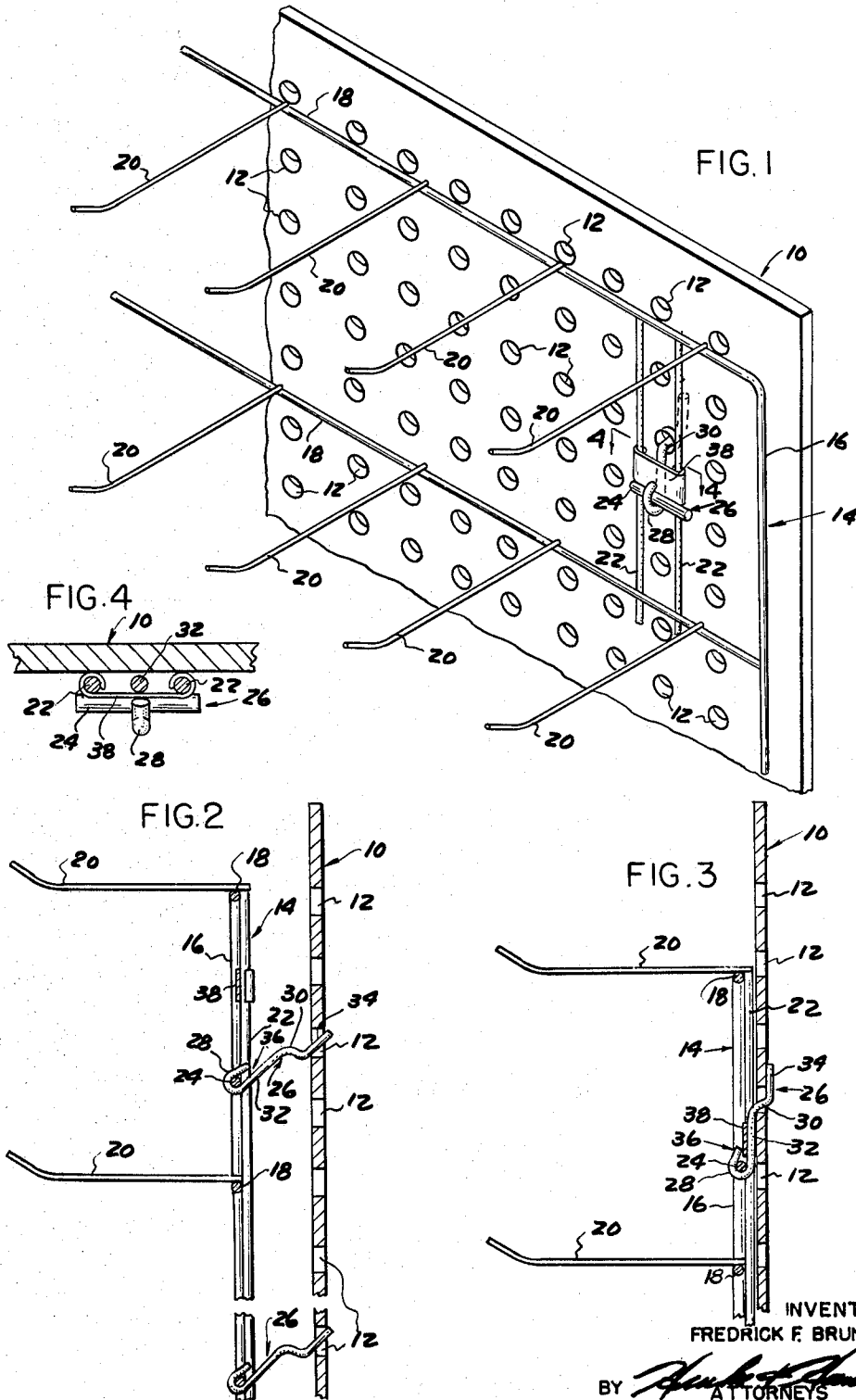
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F. F. BRUNETTE

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LOCKING SUPPORT MEANS

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LOCKING SUPPORT MEANS

Fredrick F. Brunette, 22804 Brookdale,
Farmington, Mich.

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The present invention relates to display devices for retaining merchandise and the like, particularly to such devices adapted to be secured to a perforated board member or the like and more particularly to a new support hook for mounting display devices to a perforated board or the like and including a means for locking the support hook in position.

The advent of self service merchandising techniques has brought forth a tremendous need for a great variety of display devices. Such devices must be capable of accommodating a wide variety of articles and must be capable of being readily changed to accommodate new articles and to permit rearranging of old articles to make full use of existing inventories.

To meet this need the self service retail industry relies heavily on perforated board installations. Walls and counters are provided with such materials and provide the means to support hook members and display devices of various sizes and shapes which in turn carry the merchandise which is to be sold. The customer then selects the merchandise and removes it from the hook member or display device.

The problem has heretofore been that such hook members are readily removed and often are removed from the perforated board accidentally by the customer as he is removing the merchandise. Further, the dimensions of display racks and the like which can be carried by such perforated board has been heretofore limited because with hook members as they have been heretofore constructed it was possible to provide only one horizontal row of such hook members for each rack. This resulted from the construction of such hook members which required that they be inserted into the board at an angle inclined upwardly from the normal supporting position. Because the hook members have been heretofore rigidly secured to the display racks and the like they were to support this means that the entire rack or display device must be moved upwardly and the bottom moved outwardly from the board to permit insertion of the hook members. Thus it is possible with such a construction to provide only a single row of horizontally spaced hook members. Further, because of the outward positioning of the bottom of the rack and the consequent inward positioning of the top of the rack or device which is necessary to insert the hook members, the vertical placement of the horizontal row of hook members is also limited.

The result has thus been that racks or devices supported in this manner are not securely locked to the board and are free to swing somewhat on the hook members. Further, such racks have not been capable of supporting relatively heavy merchandise because inadequate support is provided by a single row of support hooks. Further such racks could not be made to take up the entire available space because installation of the racks required some room for movement of the rack to insert the hook members.

The present invention provides a new support member for securing racks and the like to perforated board and the like which overcome the disadvantages of heretofore known constructions for such support members. The support member is pivotally carried by the rack or the like so that all maneuvering which must be done to insert the support member into the perforated board is accomplished by pivoting the support member rather than the rack.

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This permits the hook members to be placed at any desired vertical or horizontal position and permits any number of horizontal rows of hook members to be provided. Further, since it is not necessary to move the rack during installation except horizontally, the rack or the like can be dimensioned to take space provided by the perforated board. To prevent the support hooks from pivoting to a position which would permit the rack from disengaging, means for locking the hook members in the securing position are provided.

It is an object then of the present invention to increase the size and load carrying capabilities of display racks and the like adapted for mounting on perforated board and the like by providing a new support hook construction for such racks permitting any number of horizontally and vertically spaced hooks to be used to support the display rack.

It is another object of the present invention to increase the use of perforated board for display purposes and the like by providing a hook member pivotally mounted to a display rack or the like to permit ready insertion of the hook member into the perforated board and locking means operable to lock the hook member in the inserted or supporting position.

Still further objects and advantages of the present invention will readily occur to one skilled in the art to which the invention pertains upon reference to the following drawings in which like reference characters refer to like parts throughout the several views and in which:

FIG. 1 is a fragmentary perspective view of a display assembly embodying the hook member of the present invention.

FIG. 2 is a fragmentary cross sectional view illustrating the manner in which the display rack of FIG. 1 is mounted in position,

FIG. 3 is a fragmentary cross sectional view similar to FIG. 2 but illustrating the rack in a mounted and locked position, and

FIG. 4 is an enlarged cross sectional view taken substantially on line 4—4 of FIG. 1.

Now referring to the drawings for a more detailed description of the present invention, FIG. 1 illustrates a preferred assembly embodying the invention as comprising a vertically mounted board member 10 provided with a plurality of horizontally and vertically spaced perforations 12. Such board members are commonly available presently and are used to store household articles and tools around the home as well as providing means for displaying merchandise in detail stores and the like.

A display rack 14 is illustrated as comprising joined vertically and horizontally extending wire members 16 and 18 respectively and spaced outwardly extending hanger members 20. The articles to be displayed (not shown) are intended to be carried by the hanger members 20. It is to be understood that the display rack 14 is merely exemplary of the types of racks which can be supported by the support member of the present invention and the invention is not intended to be limited to the particular display rack 14 illustrated.

The display rack 14 is preferably provided with a plurality of horizontally spaced vertically extending wire members 22. The wire members 22 are preferably secured as by welding to extend between a pair of adjacent horizontally extending wire members 18. Although only one pair of wire members 22 is illustrated it will be apparent as the description proceeds that in actual practice a number of such pairs will be provided at various points on the display rack 14.

A horizontally extending wire member 24 extends between the wire members 22 and is secured in place preferably by welding. The wire member 24 provides the means for pivotally carrying a hook member 26. The

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hook member 26 is preferably provided with an end portion 28 bent around the wire member 24 to provide the pivotal connection. The hook member 26 is preferably medially bent as at 30 to provide substantially parallel portions 32 and 34. As can best be seen in FIGS. 2 and 3 the free end of the end portion 28 is preferably spaced somewhat from the portion 32 as illustrated at 36. The space 36 is of a width to prevent the end portion 28 from being removed from the wire member 24.

As illustrated in FIGS. 2 and 3, the display rack 14 is mounted to the board member 10 by inserting the hook members 26 into the appropriate perforations 12 provided in the board member 10. As best shown in FIG. 2, the portions 34 of the hook members 26 are preferably inserted horizontally or angularly upwardly into the perforations 12. The rack 14 is then moved vertically downwardly somewhat and horizontally toward the board member 10 to bring the hook members 26 to the position illustrated in FIG. 3. The pivotal connection between the hook members 26 and the wire members 24 permits the hook members 26 to be readily pivoted to the mounted position. In the mounted position as shown in FIG. 3 the portion 34 of the hook member 26 engages the underside of the board member 10 while the medial bent portion 30 extends through the perforation 12 and the portion 32 engages the outer surface of the board member 10.

In this position the portions 32 and 34 extend substantially vertically. To lock the hook member 26 in the mounted position, a locking member 38 is provided. The member 38, as can best be seen in FIG. 4, preferably comprises a flat piece of preferably metal material having its lateral edge portions bent around the wire members 22 so that the member 38 is slidably movable vertically along the wire members 22. The locking member 38 is thin enough to fit within the space 36 provided between the end portion 28 and the portion 32. When the hook member 26 is pivoted to the mounted position, the space 36 is substantially vertically disposed so that upon moving the locking member 38 within the space 36, the hook member 26 is prevented from pivoting and the hook member 26 is thus locked in the mounted position.

It is apparent that with the hook member of the present invention a display rack or the like can be securely mounted to perforated board and once the locking member 38 is moved into place there is little danger of the rack being accidentally separated from the board. Further, because it is not necessary to tip the rack to mount it to the board and because very little vertical and horizontal displacement of the rack is necessary during mounting, any number of the hook members can be provided and the hook members can be provided at any desired area to provide a secure mounting and to provide adequate support for even heavy articles. The pivotally mounted hook members also permit a maximum use of the available area of the perforated board by display racks and other display devices.

Although it has been preferred to describe the hook members of the present invention as being used to attach racks and the like to perforated boards such hook members could be used if desired to support a single hanger member.

It is also apparent that although I have described but a single embodiment of the present invention, many changes and modifications can be made therein without departing from the spirit of the invention as expressed by the appended claims.

I claim:

1. In combination with a display device and a perforated support member, means for mounting said display device on said support member, said means comprising
 - (a) a hook member adapted to be inserted into said perforated support member,
 - (b) means pivotally connecting said hook member to said display device, and

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(c) means for selectively locking said hook member in one pivoted position with respect to said display device.

2. The combination as defined in claim 1 and in which

- (a) said hook member is provided with an end portion bent around a portion of said display device to provide said pivotal connecting means,
- (b) the free end of said end portion being spaced from the adjacent portion of said hook member to define a slot therebetween, and
- (c) said locking means comprising a member carried by said display device and selectively movable to a position within said slot at said last mentioned pivotal position to lock said hook member in said pivotal position.

3. In combination with a display device and a perforated support member, means for mounting said display device on said support member, said means comprising

- (a) a hook member and means pivotally connecting said hook member to said display device,
- (b) said hook member being insertable into said perforated support member and being provided with portions engaging said support member at one pivotal position of said hook member to secure said display device to said support member,
- (c) means selectively locking said hook member in said last mentioned pivotal position.

4. The combination as defined in claim 3 and in which

- (a) said pivotally connecting means comprising a wire member carried by said display device and an end portion of said hook member being bent upon itself around said wire member,
- (b) the free end of said end portion being spaced from the adjacent portion of said hook member to define a space therebetween, and
- (c) said locking means comprising a member carried by said display device and selectively movable to a position within said space when said hook member is pivoted to said last mentioned pivotal position.

5. The combination as defined in claim 3 and in which said pivotally connecting means comprises a pair of spaced parallel members carried by said display device, a wire member secured to said parallel members and extending therebetween and an end portion of said hook member bent around said wire member and returned upon itself to pivotally connect said hook member to said wire member.

6. The combination as defined in claim 5 and in which said locking means member comprises a flat sheet of material extending between said parallel members and movable therealong.

7. The combination as defined in claim 6 and in which opposite lateral edge portions of said locking means member are bent around said parallel members.

8. In combination with a display rack and a perforated vertically disposed board member, means for mounting said display rack to said board member, said means comprising

- (a) said display rack being provided with a pair of spaced parallel wire members disposed to extend vertically when said display rack is attached to said board member and a wire member extending between said first mentioned wire members and substantially normal thereto,
- (b) a hook member pivotally carried by said second mentioned wire member and pivotal in a vertical plane when said display rack is disposed in a position for attachment,
- (c) said hook member having a portion insertable into said perforated portion and engaging said board member in a locking engagement upon said hook member being pivoted from said inserting position, and
- (d) means carried by said first mentioned wire members and movable therealong to a position engaging said

hook member and locking said hook member in said locking engagement pivotal position of said hook member.

9. The combination as defined in claim 8 and in which
- (a) said last mentioned means comprises a member 5 extending between said first mentioned wire members and having the lateral edge portions thereof bent around said first mentioned wire members,
- (b) the end portion of said hook member being bent around said second mentioned wire member and the 10 free end of said end portion being spaced from the

- adjacent portion of said hook member to define a slot,
- (c) said locking member being movable to a position within said slot at said locking engagement pivotal position of said hook member.

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CLAUDE A. LE ROY, *Primary Examiner.*