

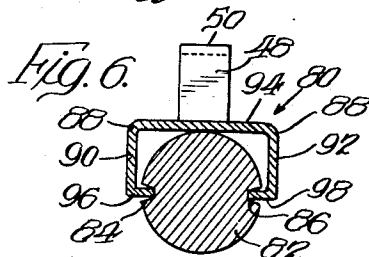
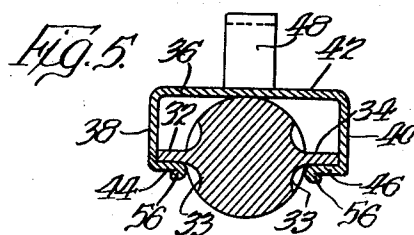
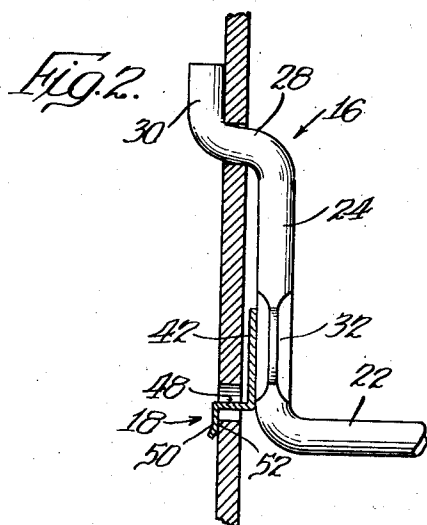
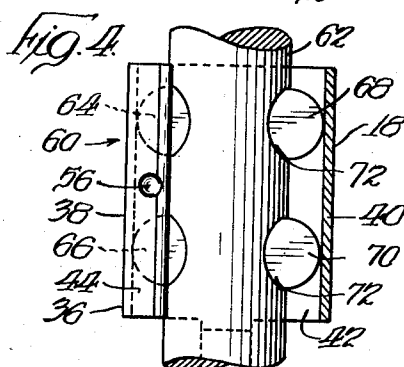
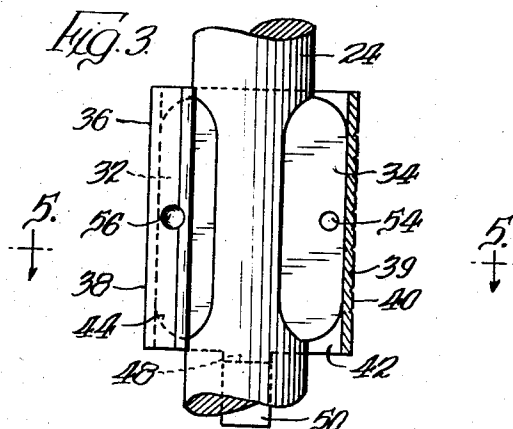
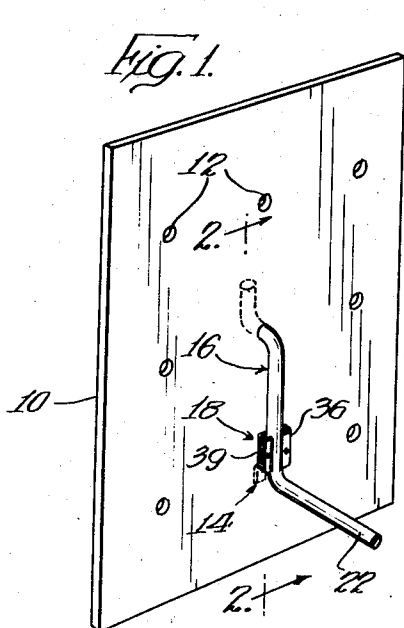
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2,859,008

FIXTURE FOR ATTACHMENT TO PERFORATED BOARD

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2,859,008

FIXTURE FOR ATTACHMENT TO PERFORATED BOARD

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The present invention relates to a fixture for attachment to a perforated board.

Perforated boards of the type to which the invention relates may consist of panels of leatherwood or the like, having round holes or perforations formed therein at uniform spacings throughout the area of the board. Fixtures for attachment to such boards or panels comprise a wide variety of hooks and other types of supports adapted to hold or display anything from snowshoes to sledge hammers, or sweaters to shellac.

It has become common practice in recent years to install perforated paneling where it is desired to provide a wall surface which is decorative and yet readily lends itself to the holding and/or displaying of various articles. The fixtures of prior practices have comprised a supporting member having one or more ends formed of wire or bar stock which were adapted to be inserted in the perforations in the paneling.

A common type of support member of the class to which the invention relates includes a perforation engaging end which takes the form of a substantially Z-shaped configuration in which the legs of the Z are disposed in substantially vertical planes when the supporting member is in position on the panel. Thus, when said end is received in a panel perforation, one leg of the Z is disposed against the inside surface of the panel, and above the perforation, and the other leg of the Z is disposed against the outside surface of the panel and below the perforation. The supporting member is inserted by holding the member so that the legs of the Z lie in horizontal planes, passing said one leg through the perforation, and then lowering the outside portion of the member so that the legs of the Z are disposed in substantially vertical planes. The supporting member is removed by merely lifting it so that the legs of the Z are disposed in horizontal planes, and drawing the member outwardly from the outer surface of the panel to pass said one leg of the Z through the perforation.

The provision of a panel having a plurality of perforations therein and one or more easily removable supporting members, such as above described, results in a supporting means for items being displayed or the like which may be readily adjusted as to height and arrangement. However, the existing supporting members of this type have proved to be not entirely satisfactory. For example, if the supporting member is a simple hook formed, for instance, out of a single piece of wire or bar stock, the hook can be rotated in the hole or perforation which supports it, and also, in removing an article from the hook, the hook tends to readily become displaced from its proper position on the perforated board. Where the supporting member comprises two hooks, joined together, for instance, by a bar welded to each hook, the rotational movement of each hook is prevented, but upward movement of the hooks still is possible. The fixture of the latter case also has proved unsatisfactory from inventory and packaging cost stand-

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points, since a large bulky inventory has to be maintained to render available the various sizes of hooks spaced from each other various distances apart; they are also expensive to manufacture because of the required welding operation.

It is the main object of this invention to provide an improved fixture for attachment to a perforated panel or board which is inexpensive and of simplified construction, which eliminates wasteful packaging and inventory problems, which will remain firmly in place against all movement when once placed in position, and which is capable of being quickly removed from the board or panel and replaced in another position if so desired.

It is another object of this invention to provide an improved fixture comprising two members, each engageable in cooperating position with a panel and each other in a desired spot on the panel, to provide a support which retains its desired position on the panel without rotation or other movement.

Yet another object of this invention is to provide a fixture comprising two members, each of which is adapted to be positioned in a separate perforation in a perforated panel or board, and means for interlocking said members in fixed relationship with respect to each other and to said panel or board whereby the fixture provides a fixed supporting surface.

Still another object of this invention is to provide a fixture which may be reproduced in a large variety of lengths and forms, and which may be conveniently packaged and inventoried at a minimum cost.

In accordance with the present invention, I provide a fixture comprising two members. One of the members may consist of a hook or the like in which the end that is to be supported in the panel perforation is given the above referred to substantially Z-shaped configuration. In a preferred embodiment the leg of the Z-shaped end which is disposed adjacent the outer surface of the panel is extended downwardly to the next perforation immediately below the perforation in which the Z-shaped end is received; said leg then merges into an outwardly extending arm, which may be formed in the shape of a hook or other type of support. The second member comprises a channel shaped bracket slidably mounted on said leg, and a rearwardly extending arm engageable in the perforation in the panel or board immediately below the perforation in which the first member is disposed. The rearwardly extending arm carries a rigid foot extending normally to said arm and having a substantially flat surface, which surface is adapted to contact the inside surface of the panel when said bracket is properly positioned. Preferably, interengaging means are provided between said bracket and said leg, whereby said bracket may be moved along the axis of said leg, but rotational movement about the axis of said leg is precluded. Such interengaging means may comprise arms or flanges on said bracket member which slidably cooperate with tabs or grooves formed in said leg to prevent said rotational movement.

To affix the fixture on a perforated panel or the like, the first member is inserted in a panel perforation and as it is swung down, the bracket is positioned on said leg so that its arm and the normally extending foot will pass through the perforation immediately below said first perforation. When said leg is in a substantially vertical position, the bracket is slid downwardly to bring said surface of said foot into contact with the inner surface of said panel. I have found that this fixture prevents upward movement of the outwardly extending arm comprising the supporting element of the fixture, as well as horizontal rocking movement of the arm. While it is not necessary, interlocking means may be provided between the bracket and said leg of said first member for releasably restraining all movement of said second mem-

ber with respect to said first member when the foot of the rearwardly extending bracket arm is correctly positioned. Such interlocking means may comprise dimples or indentations formed in said flanges of said brackets which resiliently cooperate with notches or holes formed in said tabs provided on the sides of said leg.

From the foregoing, it will be obvious that the present invention provides substantial advantages over prior practices. The present invention not only provides a fixedly mounted supporting member for perforated boards or panel, which may be readily removed and re-affixed in a different position, but it also provides a locked fixture having a minimum of elements and which may be inexpensively manufactured and packaged.

In addition to the foregoing, it is an object of the present invention to provide a fixture for a perforated board or panel which is economical of manufacture, convenient in use, capable of ready attachment to and detachment from a perforated board or panel, and which may readily and inexpensively be made available in a large variety of shapes and sizes.

Other objects and advantages of the present invention will become apparent in the following description of preferred embodiments of the present invention.

Now, in order to acquaint those skilled in the art with the fixture of the present invention, and with the manner of making and using it in combination with a perforated panel or board, I shall describe, in connection with the accompanying drawing, several preferred embodiments of the fixture comprising my invention.

In the drawing:

Figure 1 is a perspective view of a portion of a perforated panel showing one form of the fixture comprising my invention in position on the panel;

Figure 2 is a cross-sectional view along line 2—2 of Figure 1;

Figure 3 is a fragmentary, front elevational view of the invention shown in Figure 1, with a portion of the bracket member broken away to expose one of the tabs comprising one form of interengaging and interlocking means;

Figure 4 is similar to Figure 3, but shows a different form of tab type interlocking means;

Figure 5 is a cross-sectional view along line 5—5 of Figure 3; and,

Figure 6 is a cross-sectional view similar to that of Figure 5 but showing a modified form of the invention in which the interlocking means has been omitted.

Referring now to the drawings in which like numerals are employed to designate like parts throughout the several views, reference numeral 10 generally indicates a portion of a perforated panel consisting of, for instance, a suitable hardboard, such as leatherwood. It is to be understood, however, that the invention is as readily applicable to panels made of wood, metal or any other suitable material. The panels or boards on which my invention is adapted to be used are ordinarily provided with a plurality of round perforations 12 equally spaced from each other. If desired, however, the perforations 12 may be drilled or otherwise formed in the panel as and where needed. Generally indicated at 14 is a preferred embodiment of my present invention.

The fixture 14 comprises a first or supporting member 16, formed out of a suitable length of wire or bar stock or the like, and a second or bracket member 18. The member 16 comprises an outwardly extending arm 22, of which the outer portion thereof has been omitted, but which may take the form of a hook or other common type of support. As shown most clearly in Figure 2, the arm 22 merges into the vertically disposed leg 24, which is offset at 28 to provide a short, upstanding projection or leg 30. It is to be noted that the leg 30 and leg 24 merge to provide a substantially Z-shaped configuration. Formed in any suitable manner, as by a stamping operation, at each side of the lower end of

leg 24, are tabs or projecting portions 32 and 34, provided for a purpose hereinafter made clear. The formation of the tabs ordinarily leaves grooves 33 (see Figure 5) in the body of leg 24 adjacent each side of the tabs, as will be understood by those skilled in the art.

The second or bracket member 18 of the fixture 14 comprises a channel shaped member 36 having substantially plane end walls 38 and 40, and a substantially plane back or rear wall 42. Formed on the outwardly extending edges of walls 38 and 40 are opposed flanges 44 and 46, respectively, and extending rearwardly from the lower edge of wall 42 is an arm 48 provided with a rigid, normally disposed foot 50 having a substantially plane surface 52. The leg 24 of member 16 is slidably received within the walls of bracket member 18, and walls 38 and 40 are of such length, in the embodiment shown in Figures 1-3 and 5, that the outwardly facing surfaces of tabs 32 and 34 will be resiliently urged into contact with the inner surfaces of flanges 44 and 46, respectively. The opposed flanges 44 and 46 and tabs 32 and 34 comprise interengaging means cooperating between the leg 24 and bracket member 18. The interengaging means permits sliding movement along the axis of leg 24 but prevents rotational movement of the bracket about said axis. As shown more particularly in Figure 3, the tabs 32 and 34 are each provided with a small, centrally disposed hole 54 (only one being shown) and said flanges are each provided with an inwardly directed indentation or dimple 56 (only one of which is shown). The holes 54 and indentations or dimples 56 comprise interlocking means and it will be apparent, that when indentations or dimples 56 are received in holes 54, the bracket member will be resiliently restrained from movement with respect to the first member until the respective members are physically separated. The opposed edges of flanges 44 and 46 may be curled outwardly at 56, as shown more particularly in Figure 5, to prevent the edges from digging into the sides of leg 24.

The fixture 14 shown in Figures 1-3 and 5 may be affixed to the panel 10 by inserting the end of leg 30 of member 16 in the desired perforation, and then swinging the member 16 downwardly. As arm 48 approaches the outer surface of the panel, the bracket member is slidably moved to a position where the arm and its foot 50 will enter, for instance, the perforation immediately below the one in which leg 30 was inserted. When arm 48 has been inserted to the point where foot 50 will clear the rear or inner surface of the panel, the bracket member is slid downwardly until a sufficient portion of surface 52 is in contact with the inner surface of the panel. As shown, the side walls 38, 40 of the bracket are preferably serrated or notched at 39 to facilitate gripping of the same by the user's fingers, and the foot 50 is preferably bent rearwardly at the lower end thereof to facilitate association of the foot with the panel in the manner described. At this point it should be clear that the interengaging means greatly aids in the positioning of the bracket member for inserting arm 48 in the lower perforation 12. As the interengaging means prevents rotation of the bracket member 18 about leg 24, the arm 48 will be aligned in the vertical plane passing through the perforations 12 in which the fixture is inserted when leg 24 is disposed in said plane, thus eliminating the necessity of further positioning the foot 50 after it is positioned vertically so that it will enter the lower perforation. In fixture 14 the interlocking means becomes effective at the point where a sufficient portion of surface 52 is in contact with the inner surface of the panel and indentations or dimples 56 enter holes 54 in tabs 32 and 34, respectively. The fixture is then locked into position on the panel. It should be noted that since the flat inner surface 52 of foot 50 is in connection with the inner surface of the panel, upward movement of the fixture is prevented, and horizontal sideward rocking movement is substantially eliminated. It has been found that the interlocking of the indentations or dimples 56 and the holes 54 occurs with an audible "click," which

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provides a positive indication that the bracket is locked in a position that will effectively restrain member 16 from undesirable movement.

When it becomes desirable to remove the fixture 14 from panel 10, it is merely necessary to apply sufficient pressure to bracket member 18 to remove indentations or dimples 56 from holes 54 and to slide the bracket upwardly on leg 24 until foot 50 will pass through the lower perforation 12. The member 16 is then swung upwardly to withdraw arm 48 from said perforation 12. To withdraw member 16 from the upper perforation 12, the member is swung upwardly until the legs of the Z-shaped portion are disposed in substantially horizontal planes. The member is then drawn outwardly of the perforation 12 to withdraw leg 30 from said perforation.

In Figure 4 there is shown an embodiment of the invention which is similar to the embodiment of Figures 1-3 and 5, but differs in the structure of the interengaging means and interlocking means employed. The fixture 60 comprises a first or supporting member 62 similar in all respects to member 16 of fixture 14 except for the formation of the tabs, and the second or bracket member 18, earlier described. Formed on each side of member 62 are the pairs of tabs 64, 66 and 68, 70 which are adapted to engage flanges 44, 46, respectively. As shown, the tabs 64, 66 and 68, 70, respectively, are spaced apart a sufficient distance to receive between them the dimples 56, respectively, as member 18 is slid downwardly with respect to member 62 to position surface 52 of foot 50 against the inner surface of a panel, for instance, panel 10. Indicated at 72 are the grooves which are formed when the tabs are, for instance, stamped out of the body of member 62. As in the case of fixture 14, the tabs 64, 66 and 68, 70 are positioned on the body of member 62 to lock bracket member 18 in a position which will effectively restrain member 60 from undesirable movement. This position is achieved when a substantial portion of surface 52 is in contact with the inner surface of the supporting panel. It will be appreciated that the interlocking of the indentations or dimples 56 of member 18 in the spaces between the respective pairs of tabs will provide an audible "click" which is a positive indication that the bracket is locked in its most effective position.

Figure 6 illustrates a simplified form of the invention in which the interlocking means illustrated in connection with the embodiments of Figures 1-5 has been omitted. Fixture 80 comprises a first or supporting member 82, similar in all respects to member 16 of fixture 14 except that the interengaging tabs have been omitted. Instead, grooves 84 and 86 are formed on each side of the member 82 at the approximate location where tabs 32 and 34 are formed on the sides of member 16 of fixture 14. Bracket member 88 is similar to bracket member 18, and is in the form of a channel shaped member having side walls 90 and 92, rear wall 94 and opposed, outwardly disposed flanges 96 and 98, with the ends of said flanges being disposed in grooves 84 and 86. The grooves 84 and 86 and the flanges 96 and 98 comprise the interengaging means between member 82 and bracket member 88 in this embodiment, and such means is effective to prevent rotation of the bracket about the leg of member 82 while permitting sliding movement of the bracket member with respect to the supporting member. The grooves 84 and 86 are sufficiently longer in length than the bracket member 88 to allow the bracket member to be positioned as desired. Bracket member 88 is also provided with the arm 48 having foot 50, bearing surface 52, which is adapted to be inserted in a panel perforation below that in which the upper end of member 82 is inserted. If desired, the dimensions of the member 82 and the bracket member 88 can be such that the opposed ends of flanges 96 and 98 will resiliently grip the member 82 in the respective grooves 84 and 86; however, in the form of the embodiment illustrated, the various elements are so dimensioned that the

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flanges 96 and 98 are merely slidably disposed in the respective grooves.

Fixture 80 may be applied to a perforated panel, for instance, panel 10, in the same manner described in connection with the fixtures 14 and 60. In this embodiment, however, no interlocking means is relied on to prevent sliding movement of the bracket member 88 with respect to member 82.

While the various embodiments of the invention have been shown to be applied to two adjacent panel perforations, it is to be understood that the first or supporting member, for instance, member 16 of fixture 14, may be of such length, and have the tabs 32 and 34 so disposed thereon, as to have one or more perforations intervene between the perforation in which the Z-shaped end of the first member is disposed, and the perforation in which the arm 48 is disposed. Moreover, I comprehend that the portion of the leg of the first member intervening between the Z-shaped end and the tabs or grooves of the respective embodiments may be adjustable, as may arm 48 and foot 50.

The foregoing description and the drawing are given merely to explain and illustrate my invention, and the invention is not to be limited thereto, except insofar as the appended claims are so limited, since those skilled in the art who have my disclosure before them will be able to make modifications and variations therein without departing from the scope of the invention.

I claim:

1. A device of the type adapted to be supported by a perforated panel adjacent the outer surface thereof, comprising first a load supporting member having an end portion adapted to be engaged in a panel perforation to support said member, and a straight leg-like portion extending from said end portion to be disposed in engagement with the outer surface of the panel, and a load supporting portion extending from said leg-like portion; a second member slidably carried by the said leg-like portion, said second member comprising a channel-shaped member slidably receiving said leg, said second member including an arm extending at a substantially right angle to said channel-shaped member and to said straight leg-like portion of the load supporting member and adapted to be positioned in a perforation other than the first-mentioned perforation, said arm including a rigid normal extending flat-surfaced foot adapted to be passed through the last-mentioned perforation, said foot being disposed in spaced parallel relation to said leg-like portion and adapted to contact the inside surface of the panel upon sliding movement of said second member along said leg portion of the load supporting member.

2. A device of the type adapted to be supported by a perforated panel adjacent the outer surface thereof, comprising first a load supporting member having an end portion adapted to be engaged in a panel perforation to support said member, and a straight leg-like portion extending from said end portion to be disposed in engagement with the outer surface of the panel, and a load supporting portion extending from said leg-like portion; a second member slidably carried by the said leg-like portion, said second member comprising a channel-shaped member slidably receiving said leg, said second member including an arm extending at a substantially right angle to said channel-shaped member and to said straight leg-like portion of the load supporting member and adapted to be positioned in a perforation other than the first-mentioned perforation, said arm including a rigid normal extending flat-surfaced foot adapted to be passed through the last-mentioned perforation, said foot being disposed in spaced parallel relation to said leg-like portion and adapted to contact the inside surface of the panel upon sliding movement of said second member along said leg portion of the load supporting member, and interengaging means between said first and second members preventing relative

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rotation and accommodating relative sliding of said first and second members.

3. A device of the type adapted to be supported by a perforated panel adjacent the outer surface thereof, comprising first a load supporting member having an end portion adapted to be engaged in a panel perforation to support said member, and a straight leg-like portion extending from said end portion to be disposed in engagement with the outer surface of the panel, and a load supporting portion extending from said leg-like portion; a second member slidably carried by the said leg-like portion, said second member comprising a channel-shaped member slidably receiving said leg, said second member including an arm extending at a substantially right angle to said channel-shaped member and to said straight leg-like portion of the load supporting member and adapted to be positioned in a perforation other than the first-mentioned perforation, said arm including a rigid normal extending flat-surfaced foot adapted to be passed through the last-mentioned perforation, said foot being disposed in spaced parallel relation to said leg-like portion and adapted to contact the inside surface of the panel upon sliding movement of said second member along said leg portion of the load supporting member, and interengaging and interlocking means between said first member and said second member preventing relative rotation of the two and releasably restraining said second member from sliding movement with respect to said first member, said means comprising at least one tab projecting from each side of said leg-like portion of said first member, said tabs being received within said channel-shaped member and engaging the flanges thereof, and cooperating detent means between the engaging surfaces of said tabs and said flanges.

4. A device of the type adapted to be supported by a perforated panel adjacent the outer surface thereof, comprising first a load supporting member having an end portion adapted to be engaged in a panel perforation to support said member, and a straight leg-like portion extending from said end portion to be disposed in engagement with the outer surface of the panel, said leg-like portion having longitudinal grooves in the opposite side surfaces thereof, and a load supporting portion extending from said leg-like portion; a second member slidably carried by the said leg-like portion, said second member com-

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prising a channel-shaped member having opposed flanges slidably received in said grooves in said leg-like member, said second member including an arm extending at a substantially right angle to said channel-shaped member and to said straight leg-like portion of the load supporting member and adapted to be positioned in a perforation other than the first-mentioned perforation, said arm including a rigid normal extending flat-surfaced foot adapted to be passed through the last-mentioned perforation, said foot being disposed in spaced parallel relation to said leg-like portion and adapted to contact the inside surface of the panel upon sliding movement of said second member along said leg portion of the load supporting member.

5. A fixture adapted to be supported by a vertical perforated panel, comprising a first member having a Z-shaped portion consisting of spaced parallel inner and outer legs adapted to engage the inner and outer surfaces of the panel, respectively, when said inner leg is received in a perforation, said outer leg having a load supporting arm extending therefrom, a second member slidably carried by the outer leg of said Z-shaped portion, said second member comprising a channel-shaped member slidably receiving said outer leg, said second member including an arm extending at a substantially right angle to said channel-shaped member and to said straight leg-like portion of the load supporting member and adapted to be positioned in a perforation other than the first-mentioned perforation, said arm including a rigid normal extending flat-surfaced foot adapted to be passed through the last-mentioned perforation, said foot being disposed in spaced parallel relation to said outer leg and adapted to contact the inside surface of the panel upon sliding movement of said second member along said outer leg of said first member.

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