

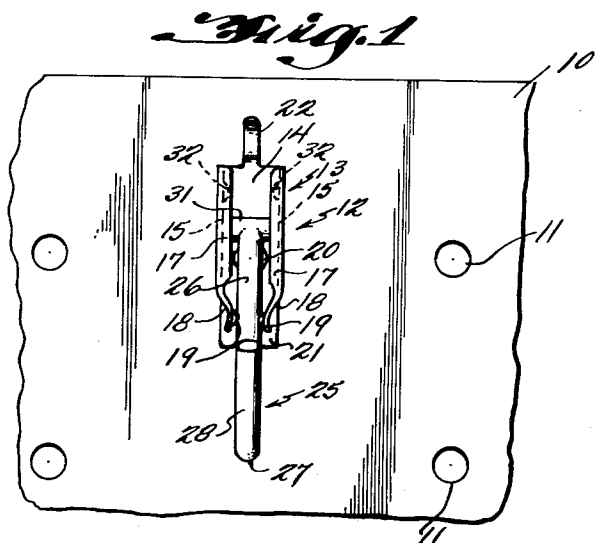
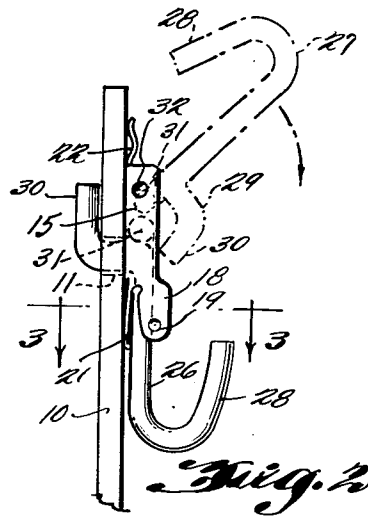
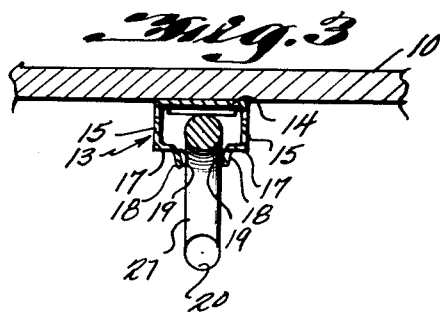
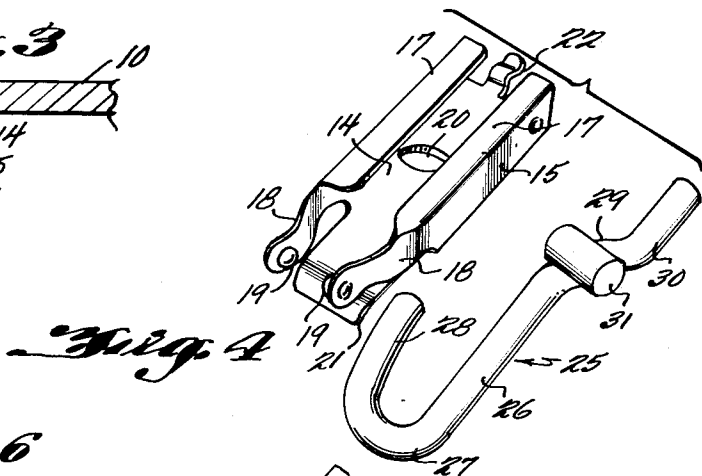
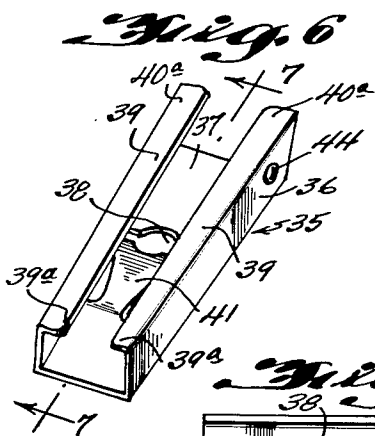
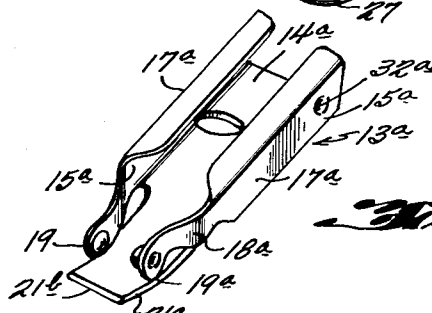
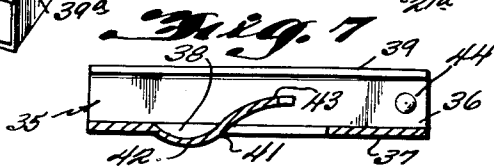
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LOCKING DEVICE

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LOCKING DEVICE

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This invention relates to a locking device, and more particularly to a locking device for perforated boards.

A primary object of this invention is the provision of an improved fixture by means of which a card or the like may be clampingly engaged against the surface of a perforated board, by the same means which provide a hook for the suspension of an object to be displayed.

An additional object of the invention is the provision of such a fixture provided with means whereby the attachment of a hook to the board simultaneously locks its supporting member against the board in clamping relation, so that a display card or a price tag or the like may be slipped behind the fixture for simultaneous display with the article suspended from the hook.

A further object of the invention is the provision of such a device which, when applied in position, will not be disengaged accidentally, and which will effectively suspend and clamp the articles which it is designed to hold in fixed position until manually released.

A further object of the invention is the provision of such a device which will not mar the surface of the board, due to the fact that the associated parts are substantially immovable, with the exception of the suspending and locking hook, after positioning on the board, that is, there is no movement of the parts in contact with the board during application of the device or removal of the same.

Still another object of the invention is the provision of such a device which is sturdy and durable in construction, reliable and efficient in operation, and relatively simple and inexpensive to manufacture.

Still other objects reside in the combinations of elements, arrangements of parts, and features of construction, all as will be more fully pointed out hereinafter and disclosed in the accompanying drawing wherein there are shown preferred embodiments of this inventive concept.

In the drawings:

FIGURE 1 is a plan view of one form of locking fixture embodying the features of the instant invention shown as applied to a punch board.

FIGURE 2 is a side elevational view of the device of FIG. 1, a different position of adjustment of the parts being indicated in dotted lines.

FIGURE 3 is an enlarged sectional view taken substantially along the line 3—3 of FIG. 2 as viewed in the direction indicated by the arrows.

FIGURE 4 is an exploded enlarged perspective view of the component parts of the fixture in disassembled relation.

FIGURE 5 is a perspective view of a modified form of one of the components of the fixture.

FIGURE 6 is a view similar to FIG. 5 showing a still further modification, and

FIGURE 7 is a sectional view taken substantially along the line 7—7 of FIG. 6 as viewed in the direction indicated by the arrows.

Similar reference characters refer to similar parts throughout the several views of the drawing.

Having reference now to the drawing in detail, there is shown at 10 a fragment of a conventional perforated board provided with the usual spaced openings 11. The board may, of course, be any desired size or shape, and the perforations may be spaced in any desired manner.

The device of the instant invention, generally indicated at 12, comprises a fitting 13, which is comprised of a channel-shape member which includes a bottom plate 14, and side walls 15, the side walls 15 being provided with in-

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wardly extending spaced apart flanges 17, which overlie the central portion of the bottom wall 14. In the modification disclosed in FIGS. 1 to 4 the side walls 15 are provided at one end with extending resilient fingers 18, the inner surface of each of which is provided with a detent 19. A central opening 20 is provided in an intermediate portion of the back wall 14, for a purpose to be more fully described hereinafter. The end of the bottom wall 14 adjacent fingers 18 extends outwardly, and is curved downwardly to form a resilient finger 21, which is adapted to bear against the board 10 when the device is positioned on the board. A spring finger 22 adapted for the holding of a card or ticket extends from the other end of bottom wall 14.

The other component of the device comprises a hook generally indicated at 25, which includes a shank 26, which terminates at one end in a bight 27 in an upwardly extending portion 28 forming the hook proper. The opposite end of the shank 26 includes an offset portion 29, which terminates in a shank extension 30, which is substantially parallel to the shank 26. A transverse bar 31 extends across the upper extremity of the shank 26 at its juncture with the offset portion 29, the bar 31 being dimensioned to fit between the side walls 15 and beneath the flanges 17.

In the use and operation of the device, the fitting 13 is first positioned flush with the board with the opening 20 aligned with the selected one of the openings 11. The hook member 25 is then positioned as indicated in the dotted line position in FIG. 2, with the bar 31 extending between the side walls 15 and beneath the flanges 17. The bar is then slid downwardly until the shank extension 30 is aligned with the openings 20 and 11, and then swung about the bar 31 as a pivot to the position shown in full lines in FIG. 2. In this position the shank extension 30 extends upwardly and clampingly engages the rear of the board 10, while the shank 26 fits flush against the spring extension 21, which is forced downwardly to hold the fitting 13 securely against the outer face of the board 10. The detents 19 serve to retain the shank 26 in clamping position.

Additional detents 32 formed in side walls 15 engage bar 31 when the fitting is released from the board to prevent complete disassembly of the fitting 12 and hook 25.

With the device in this position the hook 28 may be used to suspend any article to be displayed therefrom, while a card may be slipped beneath the spring finger 22. Additionally, before the clamping of the device a card may be slipped beneath the spring finger 21, so that two or more cards or tags or other indicia may be displayed in association with the hook or any article suspended thereby.

FIGURE 5 discloses a modified form of the fitting, which is adapted to be used with the hook 25. In this modification the fitting 13a includes the bottom wall 14a, side walls 15a, flanges 17a, spring fingers 18a, and detents 19a and 32a. In this modification the forwardly extending spring projection 21, which curves downwardly, or toward the surface of the board, is supplanted by a spring finger 21a, which extends away from the surface of the board, so that pressure of the shank 26, when the hook 25 is in position, is exerted against the tip 21b of the projection 21a to force the same downwardly, and at the same time obtain the same clamping effect of the fitting against the board 10.

The spring finger 22 may be omitted in this modification, and may also, if desired, be omitted in the foregoing modification and the card positioned directly beneath the upper end of the bottom wall 14, when the parts are in the position as shown in FIG. 1. The use and operation of this device is exactly the same as that of the foregoing modification.

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FIGS. 6 and 7 disclose a still further modification of the fitting, and include a channel-shaped member 35, having side walls 36 and a bottom wall 37 provided with an opening 38. Top flanges 39 extend inwardly from the upper extremities of the side walls 36, the arrangement being such that the bottom wall 37 tapers from the upper to the lower end of the device, to form a substantial wedge shape. The flanges 39 are of the same width uniformly throughout, so that the ends 39a are closer together than the opposite ends 40a, and are so positioned that when the shank 26 of a hook 25 is passed therebetween, they serve the same purpose as the detents 19 in retaining the shank in clamping engagement against the bottom 37, at the same time clamping the bottom 37 against the board by means of the shank extension 30. In this modification the bottom 37 is provided with a spring finger 41 struck therefrom, the finger 41 having a downwardly biased portion 42 which serves to engage against the surface of the board 10, and an upwardly extending portion 43 which engages the underside of the shank 26 when the hook is clamped in position. Detents 44 corresponding to detents 32 are also formed in side walls 36 and serve the same purpose.

In this modification the use and operation of the device is identical to that of the previously described modifications.

From the foregoing it will now be seen that there is herein provided an improved locking fixture which accomplishes all of the objects of this invention, and others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

1. A locking fixture for perforated boards comprising a channel-shaped fitting including a bottom, a pair of sides and a pair of top flanges extending inwardly from said sides, said bottom having a central opening therein adapted to be aligned with an opening in a board, said channel-shaped fitting having clamping means at one end thereof, spring means at the bottom of said channel fitting, and a hook comprising a bight, a shank, an offset portion on said shank, a shank extension extending from said offset portion in substantially parallel relation to said shank, and a transverse bar at the juncture of said shank in said offset portion, said offset portion extending through said opening with said transverse bar seating in said channel beneath said flanges, said shank, in locking position, extending into engaging relation with said clamping means to hold said hook in clamping position, with said shank extension adapted clampingly to engage the back of said perforated board.

2. A locking fixture for perforated boards comprising a channel-shaped fitting including a bottom, a pair of sides and a pair of top flanges extending inwardly from said sides, said bottom having a central opening therein adapted to be aligned with an opening in a board, said channel-shaped fitting having clamping means at the end thereof, spring means at the bottom of said channel fitting, and a hook comprising a bight, a shank, an offset portion on said shank, a shank extension extending from said offset portion in substantially parallel relation to said shank, and a transverse bar at the juncture of said shank in said offset portion, said offset portion extending through

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said opening with said transverse bar seating in said channel beneath said flanges, said shank, in locking position, extending into engaging relation with said clamping means to hold said hook in clamping position, with said shank extension adapted clampingly to engage the back of said board, and a spring finger extending from one end of said bottom adapted to hold a card against the perforated board.

3. A locking fixture for perforated boards comprising a channel-shaped fitting including a bottom, a pair of sides, a pair of top flanges extending inwardly from said sides, said bottom having a central opening therein adapted to be aligned with an opening in the board, said channel-shaped fitting having a pair of resilient fingers comprising extensions of the sides at one end thereof, and a spring member comprising an extension of the bottom at said one end, and detents on said fingers, and a hook comprising a bight, a shank, an offset portion on said shank, a shank extension extending from said offset portion in substantially parallel relation to said shank and a transverse bar at the juncture of said shank in said offset portion, said offset portion extending through said opening with said transverse bar seating in said channel-shaped fitting beneath said flanges, said shank in locking position extending between said fingers with said detents engaging over said shank to hold said hook in clamping position with said shank extension adapted clampingly to engage the back of said perforated board.

4. The structure of claim 3 wherein said spring member comprising an extension of the bottom of said channel-shaped fitting comprises a resilient tongue having its end upwardly turned toward said flanges.

5. The structure of claim 3 wherein said spring member comprising an extension of the bottom of said channel-shaped fitting comprises a resilient finger having its end outwardly turned away from said flanges toward the back of said fitting.

6. A locking fixture for perforated boards comprising a channel-shaped fitting including a bottom, a pair of sides and a pair of top flanges extending inwardly from said sides, said bottom having an opening therein, and a portion struck from said bottom to form a spring finger extending upwardly toward said flanges, said flanges and said side walls tapering inwardly from one end of said fitting to the other to form a detent at the reduced end, and a hook comprising a bight, a shank, an offset portion on said shank, a shank extension extending from said offset portion in substantially parallel relation to said shank and a transverse bar at the juncture of said shank in said offset portion, said offset portion extending through said opening with said transverse bar seating in said channel beneath said flanges, said shank in locking position extending between the detent formed by the reduced end of said flanges to hold said hook in clamping position with said shank extension adapted clampingly to engage the back of said perforated board.

7. The structure of claim 1 wherein detents are formed in said sides to hold said cross bar and hence said hook in said channel-shaped fitting when said fixture is unclamped from said board.

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