

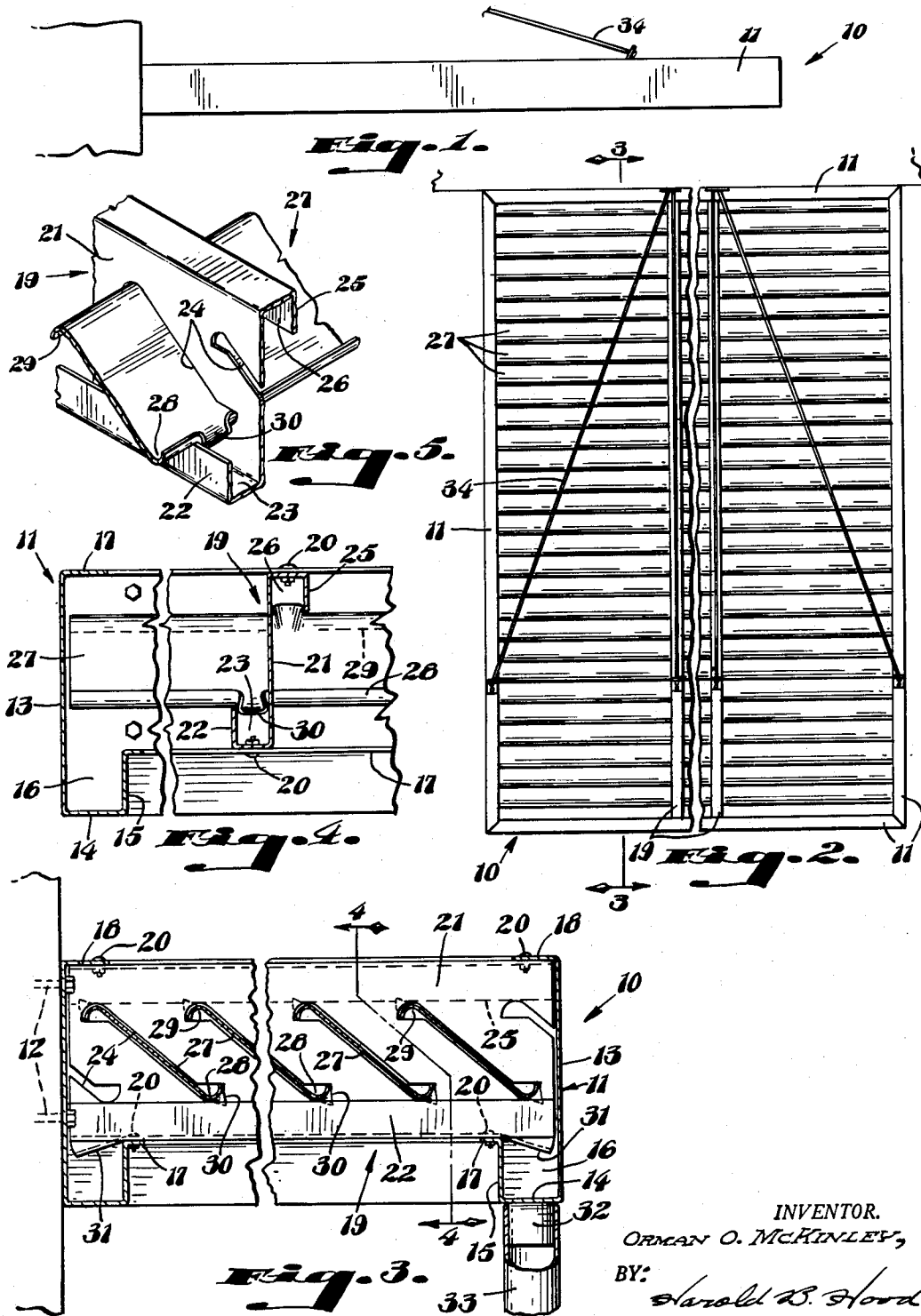
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PATIO COVER

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The present invention relates to a patio cover and particularly to that type formed of overlapping slat members so arranged as to prohibit the passage of rain but to permit the free passage of air for ventilation purposes.

The primary object of the invention is to provide a novel construction for a patio cover, of the above type, which will lend itself admirably to fabrication from stock structural members.

A further object is to provide a lightweight, yet sturdy structure, so constructed as to provide nearly absolute protection against water leakage while, at the same time, permitting the free passage of air through the structure for ventilation purposes.

Further objects will become apparent as the description proceeds.

To the accomplishment of the above and related objects, my invention may be embodied in the form illustrated in the accompanying drawings, attention being called to the fact, however, that the drawings are illustrative only, and that change may be made in the specific construction illustrated and described, so long as the scope of the appended claims is not violated.

Fig. 1 is a side elevation of my patio cover shown in its intended position for use;

Fig. 2 is a longitudinally shortened plan view of the cover of Fig. 1;

Fig. 3 is a transverse sectional view through the cover of Fig. 2 substantially on line 3—3 thereof, but drawn on an enlarged scale;

Fig. 4 is a fragmentary sectional view taken substantially on line 4—4 of Fig. 3; and

Fig. 5 is a fragmentary perspective view showing a detail of the cover construction.

Referring more particularly to the drawings, it will be seen that my invention comprises a patio cover, referred to generally by the reference numeral 10, comprising a substantially horizontal, perimetral frame 11 which may be attached to a building, or the like, by means of screws 12 (Fig. 3). Frame 11 comprises a substantially vertical wall portion 13 turned inwardly along its lower edge, as at 14, and then up to provide a relatively short vertical portion 15 defining an upwardly-opening trough 16. For purposes of fabrication, I prefer further to turn both the upper edge 17 of portion 15 and the upper edge 18 of wall 13 inwardly, as shown.

A plurality of transverse frame members 19 span the frame 11 and are supported, at their opposite ends, on said frame by having their ends inserted between the mutually facing surfaces of portions 17 and 18. Such members are then fixed in place by means of spot welding or by screws or rivets 20, as shown.

Each member 19 comprises a substantially vertical web portion 21 having its lower edge turned back on itself to provide a relatively short vertical portion 22 defining an upwardly-opening trough 23. Web portions 21 are further formed with a plurality of substantially parallel slots 24 spaced longitudinally along the member 19 and in-

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clined away from the vertical to form acute angles with the lower edge of the member 19. The upper end of each slot overhangs the lower end of the adjacent slot, for a purpose soon to become apparent.

Each member 19 preferably has its upper edge turned back on itself to provide a relatively short vertical portion 25, similar to portion 22, defining a downwardly-opening channel 26, similar to trough 23, for a purpose later to become apparent.

The slots 24, of adjacent members 19, are so positioned that the slots of one such member are aligned with the slots of the other such members. Through each of these aligned slots is threaded a slat member 27. Because of the positioning of the slots 24, the upper edge of each slat member 27 will overlie the lower edge of an adjacent slat member, as clearly seen in Fig. 3.

Each slat member 27 has its lower edge turned back on itself to form an upwardly-opening trough 28 along such lower edge. The slots 24 are, of course, formed at their lower ends to accommodate this trough. Preferably, the upper edge of each slat member is turned back on itself to form a similar, but downwardly-opening, trough or channel 29 along the upper edge and the slots 24 are likewise formed to accommodate this channel.

As will be seen from an inspection of Fig. 3, the slots 24 terminate along the mutually facing edges of portions 22 and 25. Thus the edges of the slats 27, in effect, rest upon these edges of portions 22 and 25.

After the slats 27 have been threaded through the respective slots 24 and properly positioned in the members 19, those points along the troughs 28 adjacent the troughs 23 are returned toward the plane of the slat and entered into the confines of the troughs 23 to form spouts 30 providing discharge paths from troughs 28 to troughs 23. In addition, this construction serves to fix slats 27 against subsequent longitudinal movement.

Similarly, those points along the channels 29 adjacent the channels 26 of members 19 are returned toward the plane of the slats 27 and entered into the confines of troughs 26. This not only locks the slats 27 against longitudinal movement but also fixes the members 19 against twisting or tipping, even when formed of very thin gauge material.

Rain striking the slats 27 from directly above, or from the right as viewed in Fig. 3, will be directed toward the troughs 28. The provision of the upper channels 29 prevents any water from running down the under sides of slats 27 since the water will drip from the down-turned edges thereof onto the subjacent slats by which it will be drained into the trough 28 of that slat. The water will pass out of troughs 28 through spouts 30 into troughs 23 of members 19. From there it will flow out the ends of these troughs into trough 16 of frame 11. Since, in construction, the ends of members 19 will usually butt against the inner side of frame wall 13 thereby preventing the free discharge of water from troughs 23 to trough 16, I prefer to bend down a portion of the floor of troughs 23 at each end to provide spouts 31 for discharging the water into the trough 16. Alternately, a hole could be formed at those points for the same purpose, but the provision of the spout has proven the better means of overcoming this difficulty.

At any desired point about the perimeter of trough 16, a discharge spout or thimble 32 can be fixed for conveying the water to a downspout 33, or the like. In addition to the screws 12, further supporting means for cover 10 are provided, here shown in the form of cables 34 fixed at one end to the building and at their other ends to the frame 11 and members 19. If the downspout 33 is placed at a point along frame 11 remote from the building (as shown), the cables 34 can be adjusted to lower the outer

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edge of cover 10 slightly to direct the water in trough 16 toward thimble 32. Or, if the downspout 33 is placed adjacent the building, the cables 34 can be adjusted to raise the outer edge of the cover slightly to direct the water toward thimble 32.

Slats 27 can be formed of any suitable type of metal such as aluminum, or some alloy thereof, but I have found more suitable materials to be sheet or extrusion plastics, Fiberglas, or the like, which may be suitably treated, if desired, to provide for any desired degree of translucence or opacity. This permits light to pass through the slats, as desired, and presents a more pleasing and attractive product from a commercial standpoint.

I claim as my invention:

1. A patio cover comprising a substantially horizontal, perimetral frame means, a plurality of spaced, substantially parallel supporting members supported at their opposite ends from said frame means and each comprising a substantially vertical web portion turned back on itself along its lower edge to define an upwardly-opening trough along said lower edge, the web portion of each such supporting member being further formed with a plurality of longitudinally spaced, substantially parallel slots, each forming an acute angle with the said lower edge of said supporting member with the upper end of each slot overhanging the lower end of an adjacent slot, and a plurality of slat members threaded through aligned slots of adjacent supporting members for support thereon, each

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such slat member having its lower edge turned back on itself to form an upwardly-opening trough, those points along each such trough adjacent the troughs of said supporting members being returned toward the plane of the slat member and entered into the confines of the respective troughs of the supporting members to form spout means establishing discharge paths from the troughs of said slat members to the troughs of said supporting members.

2. The device of claim 1 in which the web portion of each of said supporting members is turned back on itself along its upper edge to form a downwardly-opening channel, and each of said slat members has its upper edge turned down toward the trough of the said adjacent slat member, those points along the said upper edge of each such slat member adjacent the channels of said supporting members being returned toward the plane of said slat member and entered into the confines of the respective channels of the said supporting members.

References Cited in the file of this patent

UNITED STATES PATENTS

2,474,713	Auble	June 28, 1949
2,557,775	Yancho	June 19, 1951
2,565,282	Thompson	Aug. 21, 1951
2,639,476	Davis	May 23, 1953