

Aug. 2, 1955

R. M. LESNIAK

2,714,546

CLOSING PLATE FOR PAD OPENINGS OF EVAPORATIVE COOLERS

Filed July 27, 1953

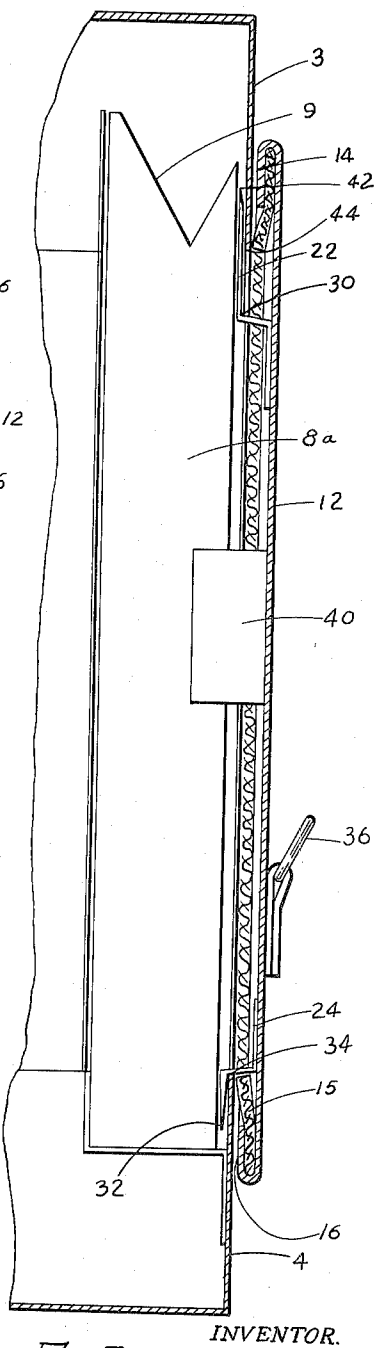
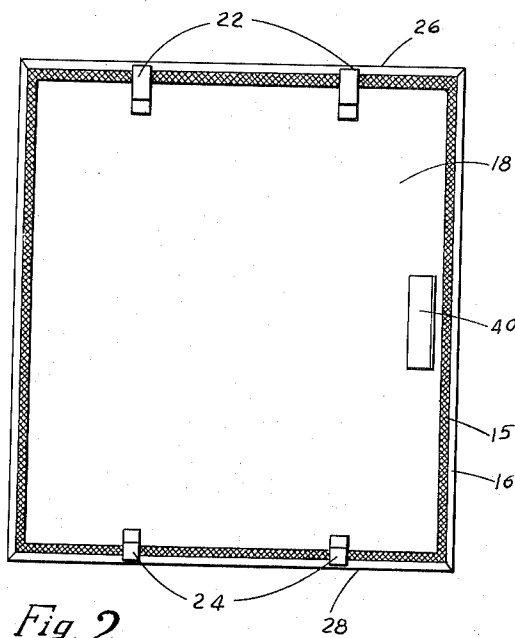
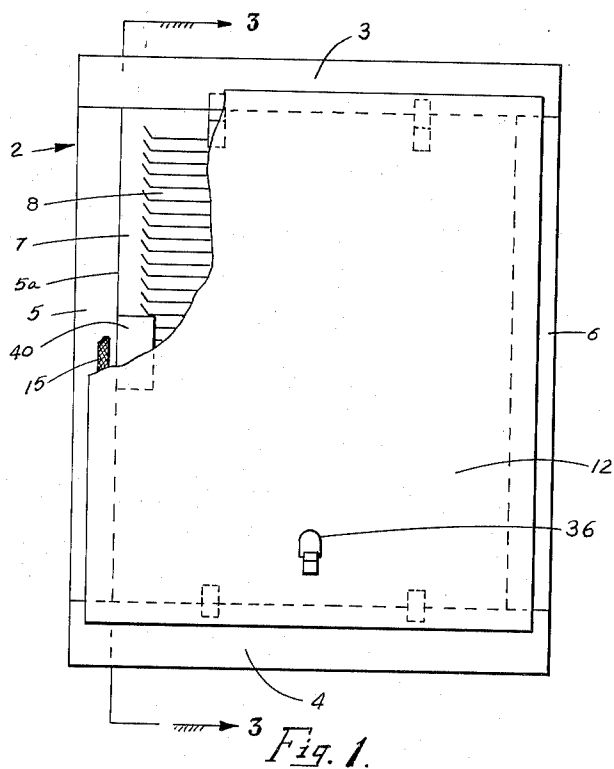


Fig. 3.
BY Roman M. Lesniak
Scott L. Nowiel
attys

1

2,714,546

CLOSING PLATE FOR PAD OPENINGS OF EVAPORATIVE COOLERS

Roman M. Lesniak, Phoenix, Ariz.

Application July 27, 1953, Serial No. 370,419

2 Claims. (Cl. 312—296)

This invention pertains to closing plates for evaporative cooler pad openings.

Heretofore evaporative coolers have been made with pad openings which are rectangular in shape and surrounded by top, bottom and side flanges which are parts of the cooler body. Evaporative pads enclosed by frames fit into these openings and are constructed so as to be easily replaceable within the pad openings of the cooler case.

During the winter season when the cooler is inoperative it has been found necessary to cover the cooler so as to close the outer faces of the pads and prevent the entry of dirt and moisture into the cooler body. It is also very necessary to close the cooler to prevent the entry of cold air into the cooler duct system. Various means have been employed and suggested including canvas covers which fit over the cooler body but these are awkward to install and are not permanent in their nature.

In view of the foregoing, one of the objects of my invention is to provide a metal plate which will fit over the cooler pads of an evaporative cooler of conventional design and will form a substantially air tight closure for the cooler pad.

Another object is to provide a closing plate for an evaporative cooler pad opening which has a gasket adapted to close on the top, bottom and side flanges of the cooler body adjacent the cooler pad opening and spring clips on its inner surface adapted to slidably engage under the edges of the top flange of the cooler body adjacent the pad opening, and provide sliding motion for said plate at the top so that clips at the bottom of said plate can be engaged over the bottom edge of the pad opening in said case.

Other objects will appear hereinafter.

I attain the foregoing objects by means of the devices, structure, and combination of parts shown in the accompanying drawings in which—

Figure 1 is a front view of an evaporative cooler case showing my improved closing plate in position on one of the cooler pad openings; portions being broken away to show construction therebeneath;

Figure 2 is an elevation of the back side of my closing plate showing the position and construction of the spring holding and positioning cleats; and

Figure 3 is a side sectional elevation taken on line 3—3 of Figure 1 showing the closing plate positioned on the cooler case, but drawn on an enlarged scale.

Similar numerals refer to similar parts in the several views. The evaporative cooler case 2 is formed with a top flange 3, a bottom flange 4 and side flanges 5 and 6 surrounding the opening 7 into which the cooler pad 8 is fitted. The pads, as is well known to the art, are composed of a louvered outer plate into which excelsior padding is packed. Each pad is formed with side plates 8a, an open bottom, and a V-trough 9 at the top to distribute water onto the top portion of the pad.

My closing plate consists of a flat rectangular metal plate 12 which is folded inwardly at each of its four edges thus providing finishing hems 14. These hems have edge

2

folds of a sufficient radius so that gasket material 15, such as loosely woven webbing, can be included under and held by the inner flange 16 of the hem. This material extends inwardly from the inner edge of the flange a sufficient distance to form an adequately wide resilient gasket to contact the flanges 3, 4, 5 and 6 of cooler case 2.

On the inner face 18 of plate 12 four retaining cleats 22 and 24 of spring tempered metal are attached. Cleats 22 are at the top of the plate and adjacent top edge 26, while cleats 24 extend toward bottom edge 28 and are adjacent to it. All cleats have offsetting bends so that their inner portions are spaced from, and parallel to the inner face of plate 12.

These cleats are arranged so that the upper cleats 22 may be inserted beneath flange 3 on the cooler case and the entire plate slid upward until the lower edge of flange 3 reaches the bottom offset bend 30 of these cleats, whereupon at this position, the lower end edges 32 of lower cleats 24 clear the upper edge 34 of lower case flange 4. The entire plate 12 may then be pressed close to, and parallel with, the plane of flanges 3, 4, 5 and 6 and slid downward so that lower cleats 24 engage over lower flange 4. The plate then rests on the offset bends of cleats 24 and is secured in place over the pad opening 7 by the resilient holding of all cleats and its edges are sealed by gasket material 15 onto the outer faces of the said flanges.

Insertion of upper cleats 22 and the sliding motion necessary to fix the plate on the cooler body is accomplished by the use of handle 36 which normally lies substantially flat on the outer face of plate 12.

In order to definitely position the closing plate 12 transversely on the flanges 3, 4, 5 and 6, I provide the positioning fin 40 which consists of a thin inwardly extending metal tab disposed so that it may be inserted between the edge plate 8a of the cooler pad 8 and the adjacent inner edge 5a of one of the side case flanges such as flange 5. This plate prevents transverse sliding or displacement of the plate 12 either during installation or after it has been attached.

Removal of the pad is effected by grasping handle 36, sliding the plate upward until the lower edges 32 of cleats 24 clear the upper edge 34 of flange 4; then swinging the plate outward to clear flange 4 and sliding it downward until the upper ends 42 of top cleats 22 clear the lower edge 44 of top flange 3.

While the above described construction is preferred because of its simplicity and effectiveness, it is to be understood that the webbing may be replaced by any other form of gasket material so long as it is sufficiently resilient and firmly attached to the edges of the plate 12.

Cooler cases having the flanges surrounding the pad openings readily accept closing plates as described, and these may be readily installed at the close of the season without the necessity of removing the pads. Plates are installed over each pad opening of each cooler and thereby the interior of the dwelling is protected as desired.

I claim:

1. A closing plate for evaporative coolers having cases with rectangular pad openings surrounded by flanges consisting of a rectangular flat metal plate having edge folds forming hems, resilient gasket material secured under said folds and extending inwardly from said hems to provide a sealing gasket between the inner face of said plate and the outer faces of said case flanges, a lifting handle on the outer face of said plate, and resilient cleats attached to the inner face of said plate adjacent the top and bottom edges thereof, retaining said plate on said case flanges, said cleats having offsets so that their outer portions will extend under the top and bottom flanges of said cooler case; the upper offsets of the cleats adjacent the upper edge of said plate being disposed so that said plate may

3

be pushed upward on the top flange of said case to permit movement of said cleats adjacent the bottom edge of said plate over the top edge of the bottom flange of said case, and a vertically extending positioning fin on the inner face of said plate disposed for insertion between the inner edge of one of the side flanges of said case pad opening, and the adjacent lateral portion of a pad frame inserted in said opening to prevent transverse displacement of said plate relative to said case.

2. A closing plate for evaporative coolers having cases with rectangular pad openings surrounded by flanges consisting of a rectangular flat metal plate having an inner face and an outer face, resilient gasket material secured to the inner face of said plate adjacent the perimeter edges thereof to provide a sealing gasket between the inner face of said plate and the outer faces of said case flanges, a lifting handle on the outer face of said plate, and resilient cleats attached to the inner face of said plate adjacent

4

the top and bottom edges thereof, retaining said plate on said case flanges, said cleats having offsets so that their outer portions will extend under the top and bottom flanges of said cooler case; the upper offsets of the cleats adjacent the upper edge of said plate being disposed so that said plate may be pushed upward on the top flange of said case to permit movement of said cleats adjacent the bottom edge of said plate over the top edge of the bottom flange of said case, and a vertically extending laterally disposed fin on the inner face of said plate engaging lateral portions of said cooler case to prevent transverse displacement of the said plate on said case flanges.

References Cited in the file of this patent

UNITED STATES PATENTS

1,369,969	Fairbanks et al.	Mar. 1, 1921
2,137,905	Church et al.	Nov. 22, 1938
2,571,071	Smith	Oct. 9, 1951