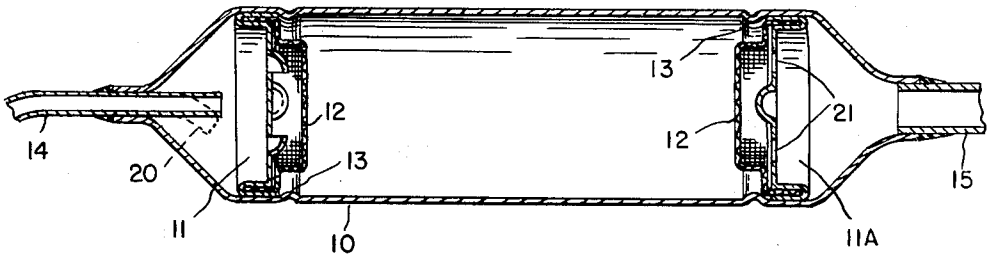
Aug. 17, 1954 E. C. STORMS 2,686,596

DEHYDRATOR

Filed Jan. 7, 1952

FIG.1.



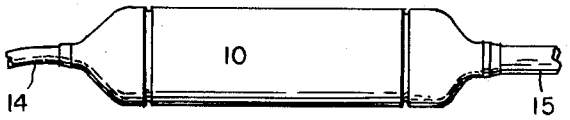


FIG.2.

FIG.3.

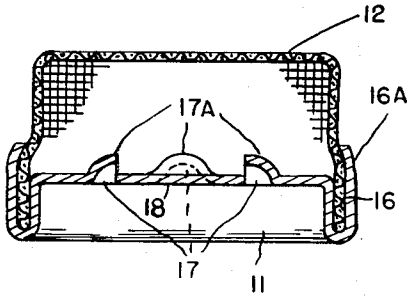
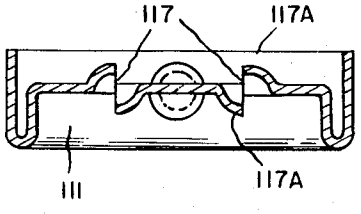


FIG.4.



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DEHYDRATOR

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1 Claim. (Cl. 210—131)

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The present invention relates to dehydrators for the refrigerant in refrigerating systems. Dehydrators of this type consist of a cartridge or casing through which the refrigerant passes. The cartridge contains dehydrating material such as silica gel. In devices of this kind it has been found that leaks sometimes develop due apparently to a sand blast effect produced by the incoming stream of refrigerant acting in conjunction with the silica gel particles resulting in a small opening in the wall of the cartridge.

Among the objects of the present invention is to eliminate the possibility of such action and the consequent leakage.

Other objects will readily occur to those skilled in the art upon reference to the following description and the accompanying drawings in which

Fig. 1 is a central longitudinal section of a cartridge made in accordance with the present invention.

Fig. 2 is a side elevation of the same.

Fig. 3 is an enlarged view of one of the details shown in Fig. 1.

Fig. 4 is a sectional view of a modified structure of a detail.

In the drawing the dehydrator is shown as consisting of a tubular casing 10 having its ends reduced and provided in each end with a partition member 11 and 11A each of which carries a screen element 12. In producing the dehydrator the casing is first internally ribbed as at 13 to provide location means for the elements 11 and 11A with their screens 12. After one of these latter elements is inserted, the adjacent end of the casing tube is reduced to fix it in place. The casing is then supplied with sufficient silica gel to fill to about the other rib 13 and the other element 11 or 11A inserted. Whereupon, the other end of the casing is reduced.

The refrigerant conduits 15 and 14 are then soldered, brazed or otherwise connected to the reduced ends as to produce a leak-proof joint, the inlet lines 14 being connected to that end carrying the element 11 and the outlet line 15 to the other end.

In Fig. 3 there is shown enlarged the partition element 11 with its screen 12.

In this figure the element is shown to be a shallow cup having its walls turned back and extended beyond the cup bottom and spaced to provide a channel 16 receiving the edge of the previously formed cup-shaped screen 12. After the screen edge has been placed in the channel, the extreme edge 16A is spun or otherwise turned inwardly to hold the screen in place.

As will be noted in this figure, the bottom wall of the cup will be provided with a central imperforate area or portion 18 surrounded by an area containing a plurality of openings 17 and instead

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of punching out the metal, the openings are formed by slitting and raising the metal into louvers 17A so that, at each opening, there is a baffle which will preclude the possibility of the stream of liquid refrigerant entering through conduit 14 from being directed against the screen 12 and through the latter against the silica gel.

As is indicated in Fig. 1, it sometimes happens that the inner end of conduit 14, instead of being arranged axially, is slightly bent, as for example, at 20. When this condition prevails, if the openings through element 11 are not baffled, the liquid stream may be directed through such an opening so that the jet strikes the screen 12 instead of being broken up by the central imperforate portion of the element.

The element 11A may be similar to element 11 if desired, but need not be. In Fig. 1, element 11A is shown as provided with punched holes 21 but is otherwise like element 11.

In Fig. 4 the partition element 111 is shown as being identical with element 11 except that the openings 117 are provided with louvres 117A upstanding from both surfaces of the cup bottom.

I claim:

In a dehydrator for refrigerating systems, in which a body of dehydrating material is enclosed in a tubular casing provided with an axially located inlet and an axially located outlet, and in which perforated partition elements are fixed adjacent said inlet and outlet for locating and confining said material, the partition elements consisting of cup members opening toward the inlet and outlet, each having its edge turned back upon itself and a cup shaped screen fixed within the turned back edge and having its bottom area spaced from the bottom area of the cup member, the bottoms of said cup members having a central imperforate area surrounded by an area provided with openings and having louvres over said openings.

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