

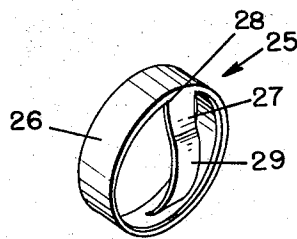
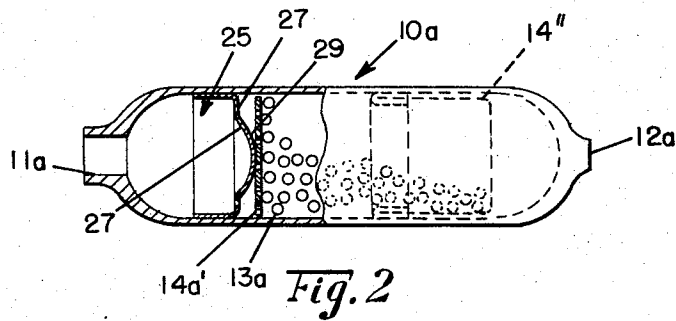
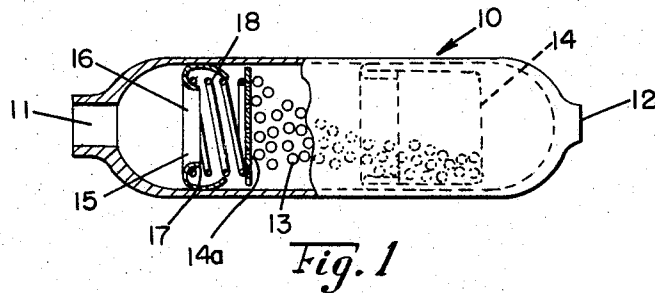
Oct. 24, 1967

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3,348,692

DRYER WITH IMPROVED DESICCANT COMPRESSING SPRING

Filed Dec. 21, 1964



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1

3,348,692

**DRYER WITH IMPROVED DESICCANT
COMPRESSING SPRING****Stephen Balogh, Lyons, N.Y., assignor to Parker-Hannifin
Corporation, Cleveland, Ohio, a corporation of Ohio****Filed Dec. 21, 1964, 419,971****The portion of the term of the patent subsequent to
Mar. 30, 1982, has been disclaimed****5 Claims. (Cl. 210-266)**

This invention relates to a spring holder for dryers.

A primary object of this invention is the provision of an improved unitary spring and holder eliminating the coil spring and separate holder heretofore used particularly in dryers of the type containing a bead supporting desiccant employed in refrigerating systems.

An additional object of the invention is the provision of a spring holder which will reduce the cost and simplify the manufacture of such dryers.

A further object of the invention is the provision of a device of this character wherein compression is applied to the desiccant to prevent movement of the beads causing attrition thereof, and wherein inherent in the structure of the device is a baffle disbursing the liquid stream of refrigerant striking the desiccant, thus eliminating attrition from such direct contact.

A further object of the invention is the provision of a device of this character which is sturdy and durable in construction, reliable and efficient in operation, and simple and inexpensive to manufacture, assemble and utilize.

Other objects will in part be obvious and in part be pointed out hereinafter as the description of the invention proceeds, and shown in the accompanying drawing wherein:

FIGURE 1 is a side view partially in elevation and partially in section disclosing a disc, coil spring, and spring holder, exemplifying the prior art as set forth in my above-mentioned copending application.

FIGURE 2 is a similar view of my new spring holder, showing the same in position in the dryer, and,

FIGURE 3 is a perspective view of the spring holder per se.

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

Having reference now to the drawing in detail, and more particularly to FIGURE 1 wherein there is shown the structure of the prior art, there is generally indicated at 10 a tubular member having a reduced inlet 11 and a similar reduced outlet 12. Contained within the dryer is a bead-type desiccant 13 comprised of relatively fine bead-type particles, which is held in position towards its outlet end by a cup-shaped filter member generally indicated at 14, and forming no part of the instant invention. In the prior art construction as exemplified in my above mentioned copending application, a baffle 14a is positioned adjacent the desiccant beads at the inlet end, and held in position by a cup-shaped spring retainer 15, having a central bore 16 therethrough, and a reverted rim 17 which defines a holder for one end of a coil spring 18, the other end of which bears against the baffle 14a. While this construction presents many advantages, the spring holder of the instant invention, constructed as it is in one piece, provides marked and substantial advantages of simplicity thereover.

FIGURE 2 discloses the spring holder of the instant invention. In this figure, 10a generally indicates a dryer hav-

2

ing an inlet opening 11a and an outlet opening 12a identical to that of the previously described modification, and containing an identical bead desiccant 13a held in position at its outlet end by an end cap 14'. At its other end the desiccant is retained by a plate-like apertured baffle 14a', the latter being held in position by the spring holder of the instant invention generally indicated at 25. The spring holder 25 comprises an annular ring 26, of metal or the like, and of a diameter to fit frictionally within the tube 10a, to which it may be secured in any desired manner. A tongue or finger 27 extends integrally from one edge 28 of ring 26, and is provided with a bowed or convexed portion 29, which abuts against the baffle 14a'. The arrangement is such that the material of which the tongue 27 is constructed being of naturally resilient nature, which is enhanced by the convexed portion 29 serves effectively to bear against the plate 14a' and hold the desiccant against moving, such as might be occasioned by the force of the refrigerant stream striking thereagainst. In addition to the above point, the strip 27 extending as it does substantially across the entire diameter of the tube 10a, serves effectively as a baffle to break the force of the refrigerant stream, and consequently to divert or disperse the liquid stream so that it does not impinge directly on the desiccant, and cannot cause attrition from such action.

From the foregoing it will now be seen that there is herein provided an improved spring holder for a dryer which accomplishes all 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.

What is claimed is:

1. In combination with a tubular dryer containing a bead-type desiccant and means for retaining said desiccant in position at one end thereof, a perforated baffle at the other end of the desiccant, an annular ring fixed in secured engagement against the interior sidewall of the tubular dryer adjacent said baffle, and a spring finger carried by said ring engaging said baffle to retain the same in position at the other end of the desiccant.

2. The structure of claim 1 wherein said spring finger is integral with said ring.

3. The structure of claim 2 wherein said finger is convexed in a direction toward said baffle.

4. The structure of claim 3 wherein said convexed finger extends diametrically entirely across said ring.

5. The structure of claim 4 wherein said ring is placed between the desiccant and the inlet end of said dryer.

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