

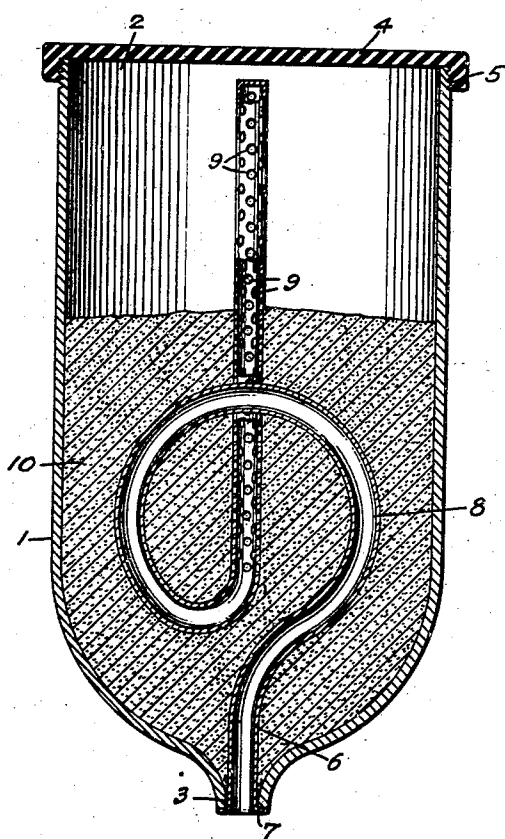
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HYGROSCOPIC MATERIAL DISPENSER

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HYGROSCOPIC MATERIAL DISPENSER

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1 Claim. (Cl. 222-211)

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The invention described herein may be manufactured and used by or for the Government for governmental purposes without the payment to me of any royalty thereon.

This invention relates to a dispensing container for granular materials and particularly to those types of granular materials such as salt which are hygroscopic and tend to cake by absorption of moisture.

Both in the home and industry considerable difficulty has been experienced in dispensing of small amounts of hygroscopic material. A dispensing container for such material should, from the standpoint of convenience, be ready for immediate use without removing any type of cover. Under such conditions the dispenser must necessarily have at least one opening exposed to the air and accordingly caking of the hygroscopic material within the dispenser occurs due to the absorption of the water vapor from the air with which it is in contact through such openings.

Accordingly, it is an object of this invention to provide an improved dispenser for granular material which is always ready for use.

A particular object of this invention is the provision of a dispenser for hygroscopic materials which prevents the absorption of moisture in the air by the hygroscopic material and yet is always ready for use.

The specific nature of the invention as well as other objects and advantages thereof will clearly appear from a description of a preferred embodiment as shown in the accompanying drawing wherein the hygroscopic material dispenser is illustrated in longitudinal section.

In the accompanying drawing there is shown in assembled relation a preferred embodiment of this improved dispenser. The dispenser comprises a hollow container shell 1 having a large open end 2 and a restricted open end 3. A diaphragm cap 4 of rubber or other suitable flexible moisture proof material is tightly secured to the large end 2 of the dispenser by means of the threads 5 or any other conventional fastening means. The end 7 of a piece of hollow tubing 6 is secured in air sealing relation to the small end 3 of the container 1. The hollow tubing 6 projects within the container 1 and is coiled about within the container, having at least one full turn portion 8. The portion of tubing 6 beyond the full turn coil 8 is provided

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with numerous perforations 9 of sufficient size to permit the granular material which is to be dispensed by the device to pass into the tube 6 without difficulty. The granular material 10 may be inserted within the container by removal of the cap 4.

In use, the pressure within the container 1 is increased by depressing the flexible cap 4 either manually or by suitable mechanical means. This produces a movement of air thru the perforations 9 and out the end 7 of tubing 6. Such air movement carries along a portion of the granular material 10 into the tubing 6 and such portion is forcibly ejected out of the container 1 thru the end portion 7 of the tubing 6.

With the construction as disclosed however the provision of at least one full turn 8 in the tubing 6 forms a trap for any water vapor that may attempt to enter within the container 1 thru the open end portion 7 of the tubing 6. It is a well-known fact that water vapor, being lighter than air, will tend to collect in the top regions of any enclosed space which is free of air currents. Thus when the container is not in use, any vapor that penetrates into tube 6 through the open end 7 will tend to collect in the upper bend portions of the coil 8 and remain there, out of contact with the granular material, since there will be little air movement within the container. Thus the amount of moisture entering the interior of the container over long periods of non-use will be greatly reduced and the granular material 10 is effectively kept free of contact with water vapor. Hence, if the material 10 is hygroscopic, the tendency for it to cake or harden will be substantially eliminated.

I claim:

A granulated material dispenser comprising a container arranged to receive said granulated material therein, a flexible cap secured across one end of said container, a discharge opening formed in the opposite end of said container, a piece of tubing having one end connected to said discharge opening and the other end thereof extending substantially through the length of said container and perforated to permit passage of the granulated material into said tubing, said tubing being formed into at least one complete loop intermediate its said perforated end and discharge end to form a vapor trap.

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