April 21, 1925. 1,534,339

I. D. PERRY

DEVICE FOR REGULATING HUMIDITY OF CONTAINERS

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Fig. 1.

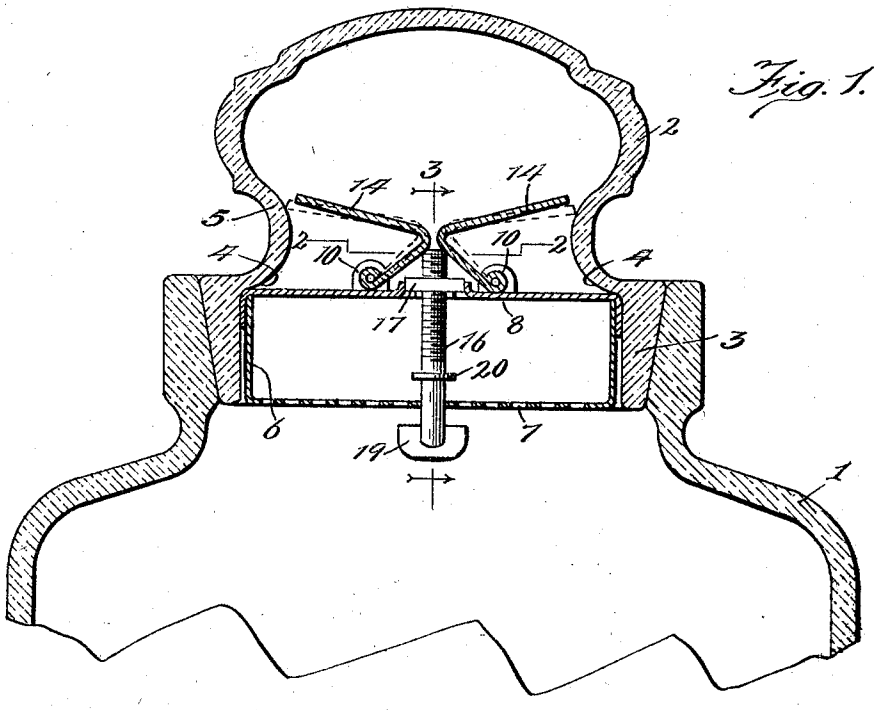


Fig. 2.

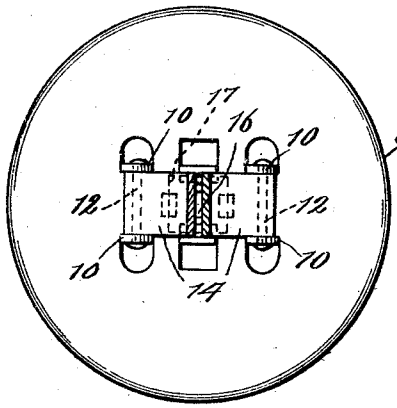
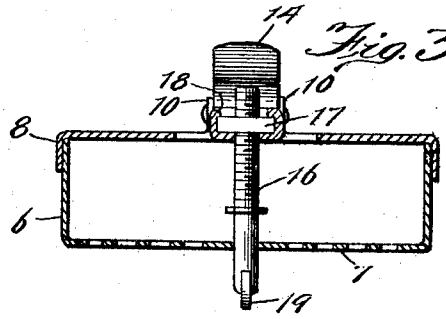


Fig. 3.



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Fig. 4.

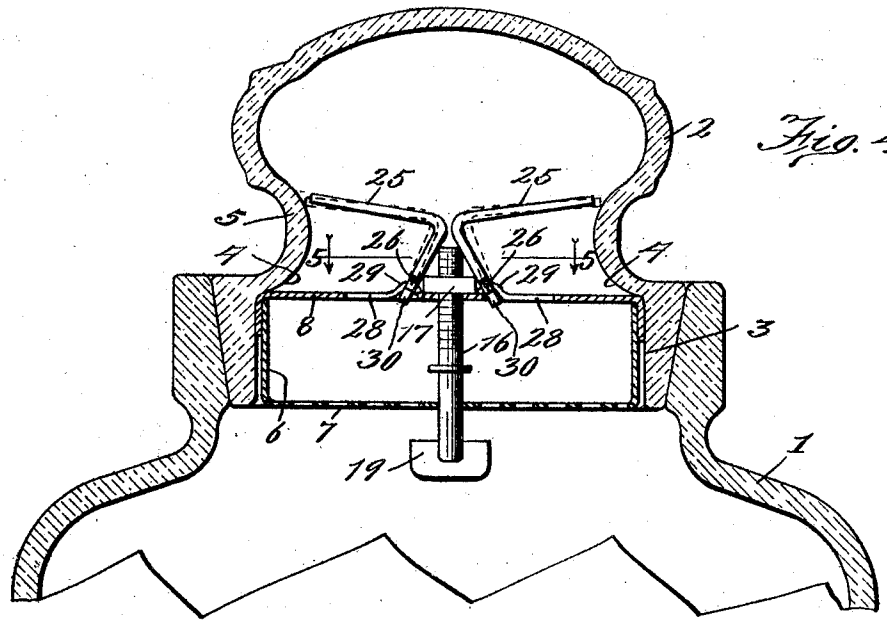


Fig. 5.

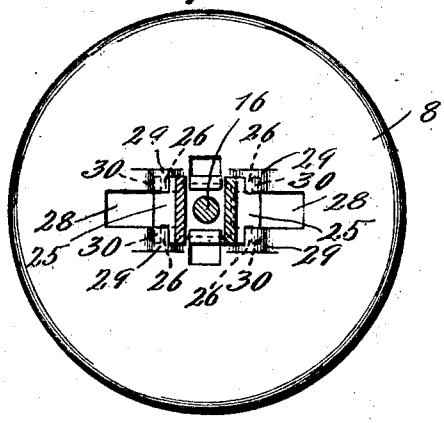


Fig. 6.

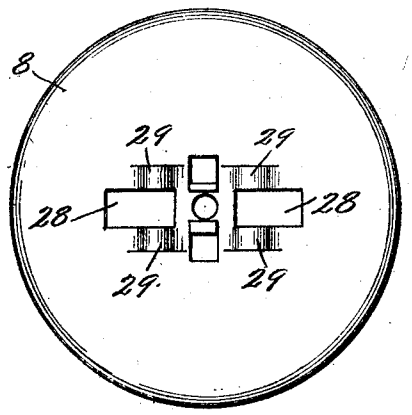
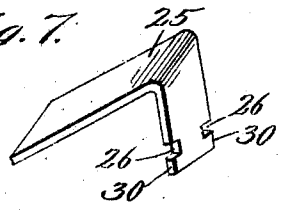


Fig. 7.



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UNITED STATES PATENT OFFICE.

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DEVICE FOR REGULATING HUMIDITY OF CONTAINERS.

Application filed December 18, 1922. Serial No. 607,731.

To all whom it may concern:

Be it known that I, IRA D. PERRY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Devices for Regulating Humidity of Containers, of which the following is a specification.

My invention relates to means for controlling the moisture content in the air within a glass jar or similar container. The invention is of special utility in connection with the use of hollow stoppered candy jars, the purpose being to keep the air within the jar as dry as possible to prevent the candy from becoming sticky. Generally speaking I provide a receptacle for containing a dehydrating substance and equip it with fastening means composed of arms which are comparatively stiff and means for causing said arms to positively engage the stopper, thus locking the receptacle to the stopper. I obtain my object by the mechanism illustrated in the accompanying drawings, in which

Figure 1 is an assembly view showing my device in position within the cap or stopper of a jar. The view is taken in axial vertical section.

Figure 2 is a plan section on the line 2—2 Figure 1.

Figure 3 is a sectional elevation on the line 3—3 Figure 1.

Figure 4 is similar to Figure 1 but shows a modified type of means for retaining the dehydrating material in position within the stopper.

Figure 5 is a plan section on the line 5—5 Figure 4.

Figure 6 is a plan view of the cover showing the arms removed.

Figure 7 is a perspective view of the type of retaining arm employed in the form shown in Figures 4 and 5.

Like numerals denote like parts throughout the several views.

Referring first to the type shown in Figure 1, the jar 1 has a stopper 2 having a flange 3 which fits into the mouth of the jar. The stopper is internally chambered and has an internal annular shoulder 5 which faces upward and inward and an annular shoulder 4 which faces downward and inward.

The dehydrating material (not shown) is designed to be held within a receptacle which, according to the illustrated form, consists of a cylindrical box 6 having a foraminous bottom 7 and a cover 8. In the illustrated design the cover is circular in outline and has a marginal flange which fits over the upper edge of the box. The design of the receptacle may, however, be considerably altered without departing from the spirit of the invention.

The cover 8 has upstanding ears 10 which are preferably struck out of the metal of the cover itself. They are arranged in pairs and apertured in alignment with each other to support pins 12 which are arranged horizontally and form pivots for the lower end of retaining arms 14. These arms are approximately V shaped and may be made of strap metal as stiff and heavy as desired. The parts are so proportioned and arranged that the bends of these retaining arms closely approach each other above the center of the cover. Their outer ends extend radially outward far enough that when the bends are sufficiently elevated above the cover the outer upper ends of the arms will engage the shoulder 5 of the stopper and hold the cover in close contact with the shoulder 4. It will be observed that the arms are approximately V-shaped, the outer end of one arm being connected to the receptacle, and the outer end of the other arm resting upon the internal shoulder of the stopper. The arms are rotated about their pivots to engage and disengage the shoulder 3 by a screw 16, the upper end of which works in a nut 17 held centrally in the cover 8. In the illustrated form the nut is rigidly held on the top of the cover by lugs 18, which are formed from the metal of the cover itself. The screw extends down through the bottom of the box 6 and at the lower end has wings 19 or other means by which it may be readily grasped and rotated by the user. The upper end of the screw underlies the bends of the arms 14 and the parts are so designed and proportioned that

when the screw is backed off, so that its upper end is flush with the upper surface of the nut, the arms 14 will fall downward as shown in full lines in Figure 1 in which position they disengage the shoulder 5 and are free to pass out through the neck of the stopper. By rotating the screw to move it forward and upward the arms will be rotated about their pivots in a direction to move the upper outer end outward so as to overlie the shoulder 3 as illustrated in dotted lines in Figure 1. This holds the cover suspended within the stopper. The box 6 will be supported either by frictional engagement with the flange of the cover or by resting upon the wings 19.

In operation, when it is desired to remove the box and contents from the stopper the screw 16 is first backed off sufficiently to permit the arms 14 to swing inward and disengage the shoulder 3 of the stopper. My entire device may be thereupon lowered away and removed from the stopper. The screw may then be backed off further so as to entirely release the nut 17. This will permit the cover 8 to be lifted off and the dehydrating material within to be removed and renewed. After fresh dehydrating material has been introduced the cover may be replaced and the reverse operation performed. If desired a pin 20 may be passed through the screw within box 6 to prevent the screw from being entirely removed from the box when the box and cover are separated.

The form of device shown in Figures 4, 5 and 6 is similar in general principle to the form hereinabove described, the chief difference being in the details by which the arms are articulately connected to the cover. In this form the arms 25 have notches 26 at the side near the lower end and these are designed to engage the sides of slots 28 formed in the cover. Near the inner end, at the points 29, the metal at the sides of the slots is rounded upward so as to form a seat for the projecting lugs 30 formed on the arms 25 below the notches 26. The arms are assembled with the cover by first inserting the lugs 30 lengthwise of the slot and then turning them crosswise so that the lugs will seat in the uppressed seats 29. When the parts have been thus assembled there results an articulate connection between the arms and the cover and the general effect and principle of operation are the same as before.

From the foregoing it will be evident that my device may be regarded as having a receptacle provided with arms which are hinged to the cover in such manner that they can swing into and out of the chambered portion of a chambered stopper thus enabling them to engage and disengage the converging portion of the internal surface of the stopper at the lower portion of the chamber so as to support the receptacle within the stopper or to release it as the case may be. These arms are controlled by screw mechanism operable from a point beneath the receptacle. In view of the degree of control, which the operator has over the position of the arms, a considerable range of variation in the dimensions of the stopper may be compensated for. The arms may be rigid or may be resilient in accordance with the wish of the designer, but I prefer to make them comparatively stiff or rigid for by so doing the receptacle when secured in place becomes locked there, and there is no danger of the receptacle accidentally dropping out when the stopper is handled.

While the form of the receptacle and cover may be varied, a suitable design is illustrated, in which the cover is flanged sufficiently to fit over the top of the receptacle and hold the latter and its contents by friction. This makes it possible for the receptacle to be charged and the cover forced down into place preparatory to inserting it in the stopper. This enables the receptacle and its cover to be manipulated as a single unit while being applied to the stopper.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. A device of the character described having a receptacle for containing dehydrating material, arms articulately connected to said receptacle, and swingable into and out of the chambered portion of an internally chambered stopper, and means for controlling the position of said arms whereby the receptacle may be attached to and detached from the stopper, the arms being comparatively rigid whereby they may lock the receptacle in position.

2. A device of the character described comprising a receptacle for dehydrating material, arms hinged to the upper portion of the receptacle and adapted to swing their outer ends outward and inward approximately in a vertical diametral plane, the arms being rigid, and screw mechanism for controlling the position of the arms about their hinges.

3. A device of the character described having a receptacle comprising a box with cylindrical sides and a cover having cylindrical sides adapted to interfit with the sides of the box and frictionally engage the same so that the receptacle may be handled as a unit, rigid arms movably mounted on the cover, and means carried by the box for positively moving said arms in a direction to force their outer ends outward in an approximately vertical diametral plane.

4. For a candy jar having an internally

chambered stopper, the combination of a receptacle for containing dehydrating material, substantially rigid V-shaped arms hinged to the top of the receptacle, one of the ends of each arm being articulately connected to the container, and the other end of each arm overlying the internal shoulder of the stopper, and means for positively holding the last mentioned ends in engagement with the internal shoulder of the stopper.

In witness whereof, I have hereunto subscribed my name.

IRA D. PERRY.