April 21, 1925.

D. M. BERNOTOW

1,534,341

DEVICE FOR REGULATING HUMIDITY OF CONTAINERS

Filed Jan. 25, 1923

Fig. 1.

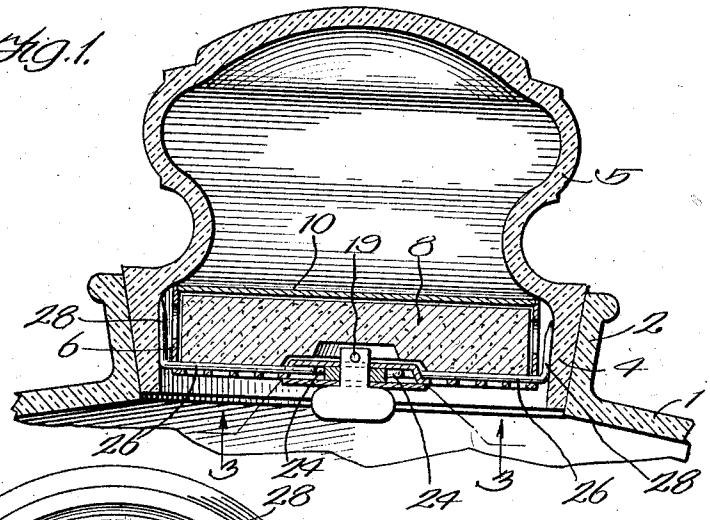


Fig. 2.

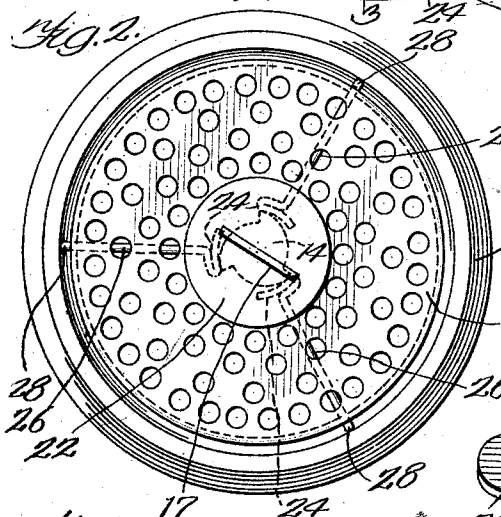


Fig. 4.

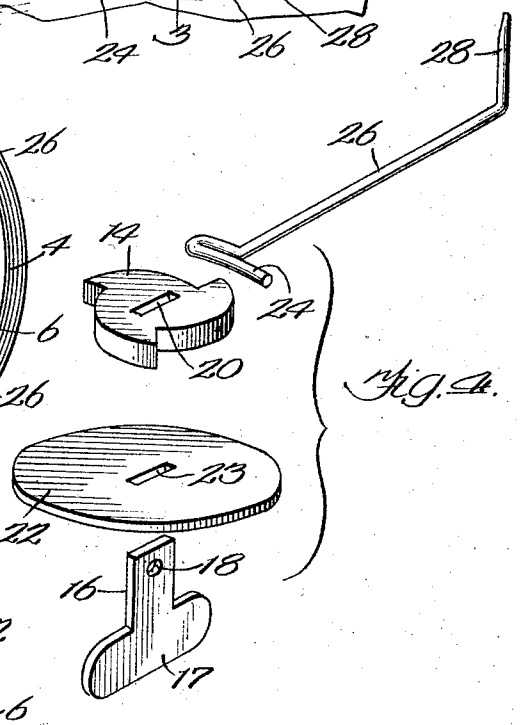
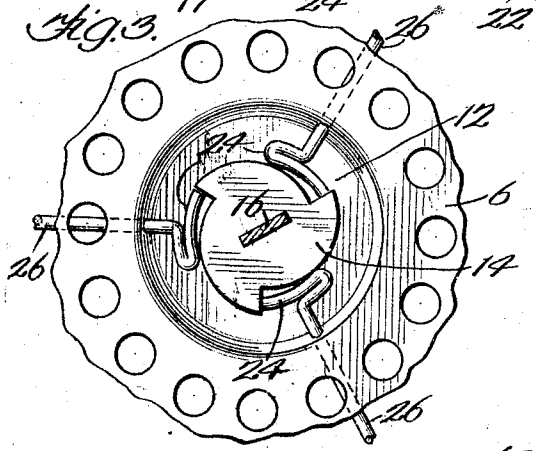


Fig. 3.



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UNITED STATES PATENT OFFICE.

DOMINIK M. BERNOTOW, OF CHICAGO, ILLINOIS, ASSIGNOR TO BUNTE BROTHERS, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

DEVICE FOR REGULATING HUMIDITY OF CONTAINERS.

Application filed January 25, 1923. Serial No. 614,924.

To all whom it may concern:

Be it known that I, DOMINIK M. BERNOTOW, 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 devices for regulating the humidity of containers including humidors and candy jars. My device is specially applicable to jars having a glass or similar stopper with a depending cylindrical flange; and according to one form of my invention, I have provided a holder or receptacle for containing a moisture-absorbing substance such as calcium chloride or the like. My purpose is to provide simple and efficient, and easily controlled, manually operated means for causing the holder to engage and disengage the lower flange of the stopper and maintain itself in position frictionally when the jar is in use. My device is hand-releasable so that it may be readily disengaged from the stopper and the moisture-absorbing substance renewed.

I obtain my object by the mechanism illustrated in the accompanying drawings, in which

Figure 1 is an assembly view showing the device in position in the stopper of a candy jar. The parts are shown chiefly in central vertical section.

Figure 2 is a bottom plan view of the parts shown in Figure 1, but omitting the jar portions shown in Figure 1.

Figure 3 is a bottom plan view of the operating cam and associated parts by which the holder is enabled to engage and release the stopper.

Figure 4 is a distributive view showing the operating cam and associated parts separated but in such relative positions as to illustrate the manner in which they are brought together in the complete device.

Like numerals denote like parts throughout the several views.

In the illustrated construction, the jar 1 has an upstanding neck 2 which receives the annular flange 4 which forms the lower portion of the stopper 5. These parts are well known and my device is equally applicable to other designs, the important characteristic so far as my present invention is concerned being that the stopper has an annular flange at the bottom, the inner surface of which is approximately cylindrical. My holder and its operating mechanism are particularly designed for a stopper having this characteristic, and is distinguished from those holders now known, in which the engaging mechanism enters into the chambered portion of the stopper.

In my device the receptacle 6, which is adapted to contain the absorbent substance 8, has cylindrical side walls and a foraminated bottom. It may or may not be provided with a cover 10, although usually a cover is desirable. The bottom of the holder or receptacle is pressed upward at the center to form a housing 12 for a cam 14. This housing is circularly apertured at the center to accommodate the stem 16 of a key 17. The upper end of the stem has an aperture (see Figure 4) for receiving a pin 19 (see Figure 1) which overlies the housing 12, and rotatably supports the key. The cam has a center slot 20 for receiving the stem of the key so that the cam may be rotated by the key. The cam is supported by a disc 22 which rests upon the head of the key and has a slot 23 for receiving the key stem.

The cam is triune, having three acting surfaces adapted to operate simultaneously upon the heads 24 of three gripping rods 26. These rods are slidably mounted upon the bottom of the holder 6 and project through suitable apertures in the side walls of the holder. They also project through suitable apertures in the sides of the housing 12. They are arranged radially and approximately equidistantly (angularly) and at their outer ends have upstanding fingers 28 adapted to engage the internal cylindrical surfaces at the mouth of the stopper as shown in Figure 1.

In operation, when it is desired to introduce the holder into the stopper, it is first filled by removing the cover 10 and introducing a quantity of moisture-absorbing substance 8. This substance is preferably in the form of a disk or pad chambered at the bottom to accommodate the housing 12 and stem 16 of key 17. When the holder is filled and the cover 10 properly positioned, the entire device is inserted into the mouth of the stopper, whereupon the operator rotates the key in such direction as to cause the

heads 24 of the rods 26 to be forced radially outward and firmly engage the internal side walls of the stopper. The rise of the cam surfaces is gradual, the result being that the mechanism is self-locking,—that is, the frictional coefficient engagement of the cams with the gripping rods 26 is sufficient to hold the cams in the position to which they are rotated by the operator. In addition, the rods are usually of wire which is more or less resilient, and the result is that the fingers 28 grip the sides of the stopper with great firmness and securely hold the receptacle or holder 6 in position in the jar. When it is desired to release the holder from the stopper, the key is rotated in the opposite direction, which permits the rods to move radially inward.

From the foregoing, it will be evident that my device consists principally of a holder for the moisture-regulating material, a multi-part cam, and rods which are arranged radially and adapted to be forced outward by the rotation of the cam in the proper direction. The throw of the cam surfaces is sufficient to operate the rods through a range sufficient to compensate for such variation as may be found in ordinary commercial jars.

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

1. A holder for humidity regulating material, said holder being of the type designed to be attached to the stoppers of candy jars and the like wherein the stopper is internally chambered, said holder having radially slidable rods arranged approximately in a common horizontal plane for projecting into the chambered portion of the stopper, a multi-part cam arranged in the same plane as the rods and centrally positioned for projecting them radially outward, and means for rotating said cam.

2. In a device of the class described, the combination of a cylindrical holder for the moisture-regulating material, a plurality of rods arranged approximately radially in said holder and slidably mounted therein, said rods being spaced at approximately equal angles, and a multi-part cam for controlling said rods, said cam being arranged in a horizontal plane, the eccentricity of the cam surfaces being sufficiently small to enable friction to hold the cam locked against accidental rotation.

In witness whereof, I have hereunto subscribed my name.

DOMINIK M. BERNOTOW.