

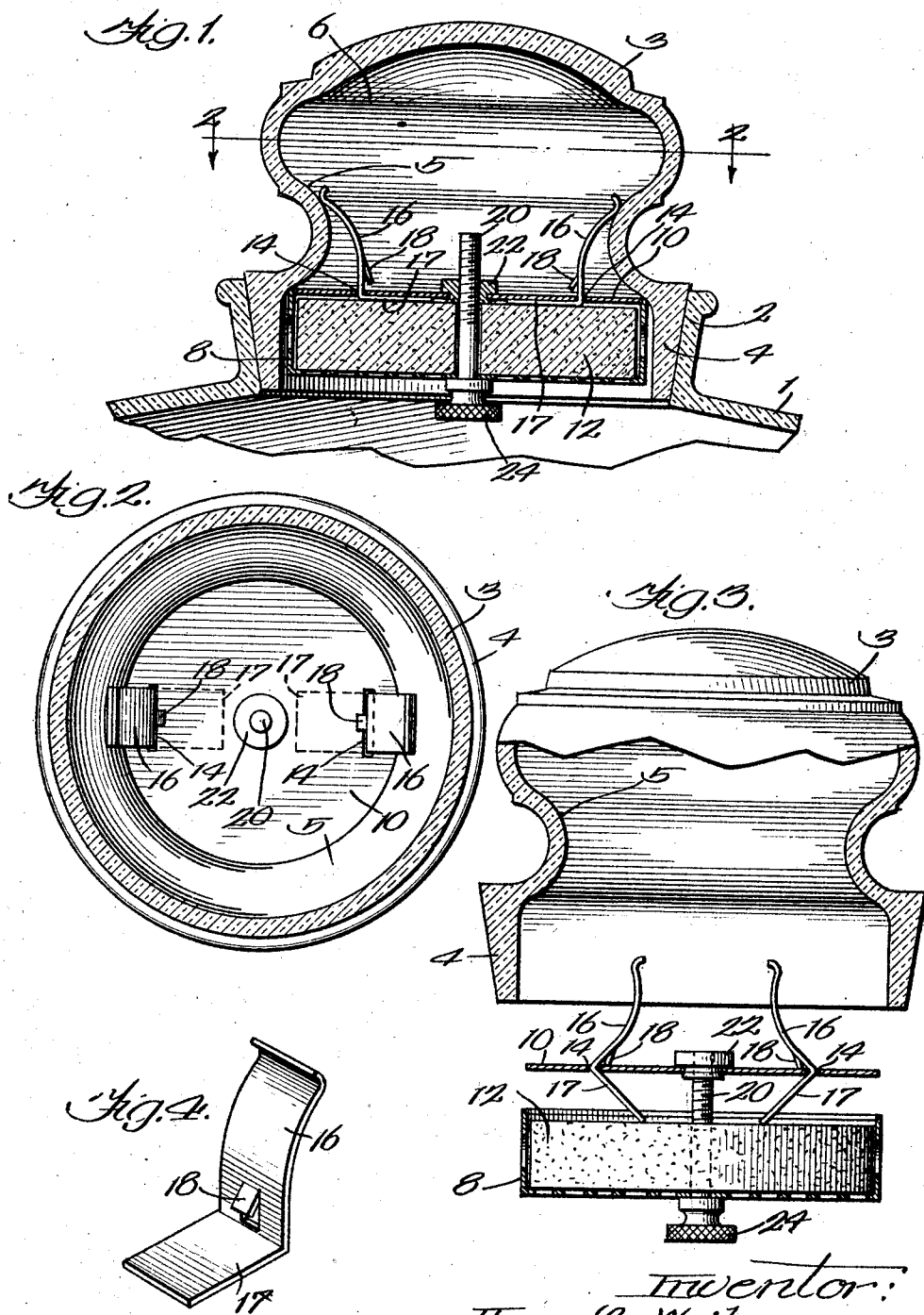
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DEVICE FOR REGULATING HUMIDITY OF CONTAINERS

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Inventor:  
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## UNITED STATES PATENT OFFICE.

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## DEVICE FOR REGULATING HUMIDITY OF CONTAINERS.

Application filed January 25, 1923. Serial No. 614,795.

*To all whom it may concern:*

Be it known that I, HENRY A. WEIHMANN, 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 such as candy jars, humidors and the like. In the case of humidors, the regulating device imparts moisture and in the case of candy jars, it absorbs moisture, but in any event, the principle is the same. My device is intended to cooperate with glass stoppers which are internally chambered, thus providing an annular shoulder from which a holder or receptacle may be supported. To facilitate explanation, let it be assumed that the device will be used in candy jars and hence will contain a moisture-absorbing substance.

My device is provided with a holder and a plurality of arms which may be expanded or collapsed to engage and disengage the internal shoulder of the chambered stopper.

My object is to provide inexpensive and easily operated means for controlling the position of the arms from which the holder is suspended. According to my invention, the arms collapse automatically when the locking device is released. Furthermore, the arms are controlled partially by the contents of the holder, the result being that if the holder is empty, the arms will not engage the stopper and the holder cannot be suspended. The holder contents, therefore, constitute a tell-tale, by which the operator may be assured that if the suspending arms function properly, the holder is duly filled.

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

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

Figure 2 is a plan view of the line 2—2, Figure 1.

Figure 3 is a sectional elevation of my device, showing the same about to be inserted into or withdrawn from the stopper.

Figure 4 is a perspective view of the arms, by which the holder is suspended.

Like numerals denote like parts throughout the several views.

In the form selected to illustrate the invention, the jar 1 has a neck 2, into which the stopper 3 fits. This stopper is of well-known form, having an approximately cylindrical lower flange 4 and an internal annular shoulder 5 beneath a chamber 6 formed within the stopper. In other words, the stopper is chambered and has a constricted throat forming an internal annular shoulder from which the holder may be suspended.

The holder 8 is in the form of a disk-like receptacle having a foraminated bottom and provided with a loose cover 10. The holder is adapted to contain a substance 12, which in the case of a candy jar may be calcium chloride, or a pad in which calcium chloride forms the active ingredient.

These pads are known commercially and may consist of fibrous material impregnated with the chemical. These pads may be in the form of briquettes which may be handled as a unit and are tough enough to stand considerable abrasion without much damage.

The cover 10 is in the form of a sheet metal disk having two parallel slots 14 located at some distance from the center. These slots accommodate rigid arms 16 shown in perspective in Figure 4. The upstanding portion of the arm is curved upward and outward, and at the base is a foot 17 which extends radially inward and underlies the cover as illustrated. A small tongue 18 is struck out of the upright portion 16 of the arm, to form a finger which will support the arms when in collapsed position, as shown in Figure 3. The arms are controlled manually by means of a screw stud 20 which works in a nut 22 at the upper end, and at the lower end has a knurled head 24 by which the stud may be rotated. The nut is rigidly secured to the cover 10 to prevent it from rotating when the stud is rotated. Said stud passes up through the holder and both the holder and the absorbent pad 12 have apertures of sufficient size to permit the stud to slide freely, as well as rotate.

In operation, let it be assumed that the holder had been filled with the absorbent pad, as illustrated in Figure 3. Let it also

be assumed that the stud has passed up through the pad and holder, and that they are resting upon the knurled head of the stud as shown in Figure 3. The operator  
5 next assembles the arms 16 in the cover 10 and screws the stud a slight distance into the nut. The nut will thus be held at the upper end of the stud and the arms will be overbalanced; that is, the weight of the feet  
10 17 will swing the upper end of the arms inward, the said feet resting upon the top of the pad as illustrated in Figure 3. The arms are now collapsed, whereupon the entire device may be passed up into the stopper, the pad holder striking the lower portion  
15 of the throat of the stopper and being arrested by it. The operator now rotates the stud 20 by turning its head 24, thus causing the nut 22 and cover 10 to be drawn downward. This downward movement causes the arms to be swung outward and to engage the shoulder 5, as illustrated in Figure 1. It will be evident that if the holder is empty, there will be nothing to  
20 press upward on the feet 17 and consequently nothing to rotate the arms outward. Therefore, unless the holder is filled, the arms will not properly function and will fail to engage the stopper. Consequently,  
25 the operator will be advised that the holder is not filled. This will prevent a careless operator from inserting an empty holder.

From the above description and reference to the drawings, it will be evident that the  
35 arms by which the holder is suspended, are controlled in part manually and in part by the contents of the holder. It will also be evident that the range of angular movement of the arms is considerable, thus compensating for any ordinary degree of variation  
40 in the size of different stoppers. It will also be evident that when the stud 20 is backed off, the arms collapse automatically; consequently no special manipulation is necessary to enable the arms to be inserted into  
45 the stopper. On the contrary the arms tend to assume the collapsed position as soon as

the stud is backed off and hence there is no need to turn the stopper and holder upside down for the purpose of assembly.

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

1. In a device of the class described, the combination of a holder adapted to receive  
55 moisture-regulating substance, a loose cover for the holder, arms pivotally mounted in the cover and having feet which underlie the cover and are adapted to be supported upon the contents of the holder, and means  
60 for controlling the position of the cover vertically with reference to the holder.

2. In a device of the class described, the combination of a holder adapted to receive  
65 moisture-regulating substance, a loose cover for the holder, arms pivotally mounted in the cover and having feet which underlie it, and are adapted to be supported upon the contents of the holder for expanding the  
70 upper ends of the arms, a nut fastened to the cover, and a rotatable threaded stud freely movable vertically with respect to the holder and its contents for controlling the height of the cover above the holder, said  
75 stud having at its lower end a head upon which the holder may rest.

3. In a device of the class described, the combination of a briquette of moisture-regulating material, a holder for housing it, a  
80 loose cover for the holder, arms pivotally mounted upon the cover and having upstanding portions adapted when expanded to enter the chambered portion of a chambered stopper, said arms having feet under-  
85 lying the cover and overlying the briquette whereby when the cover is close to the top of the briquette, the arms will be expanded, and manually operated means for controlling the distance of the cover from the top  
90 of the briquette.

In witness whereof, I have hereunto subscribed my name.

HENRY A. WEHMANN.