Sept. 9, 1924. 1,507,933

R. O. ROBLIN

HUMIDIFIER

Filed March 8, 1923 2 Sheets-Sheet 1

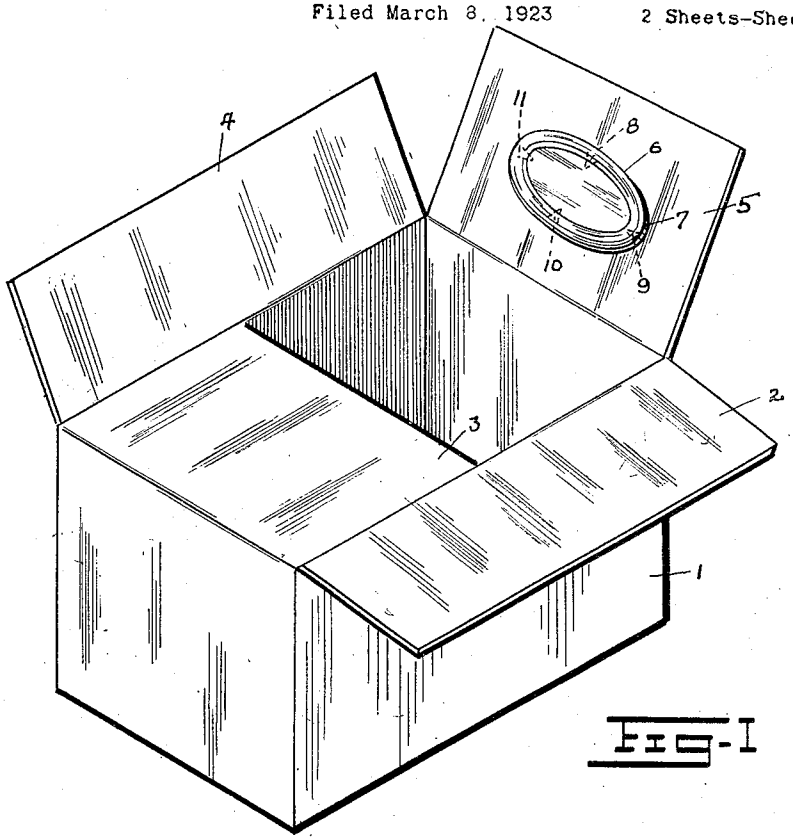

FIG-1

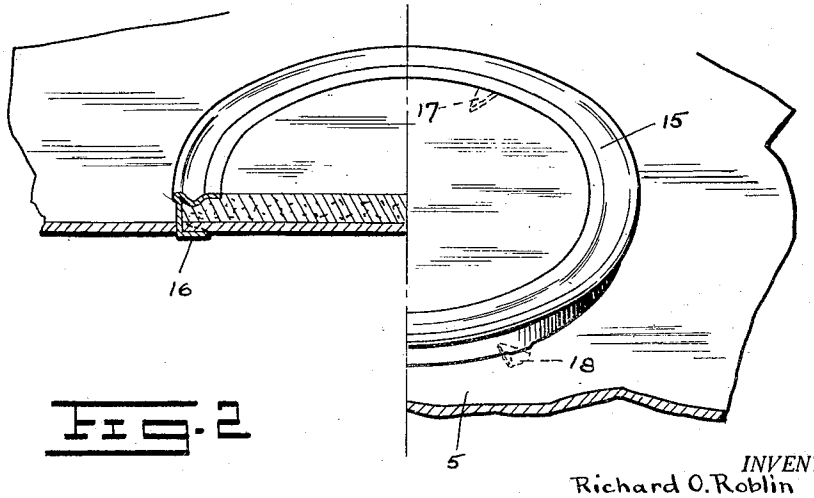

FIG-2

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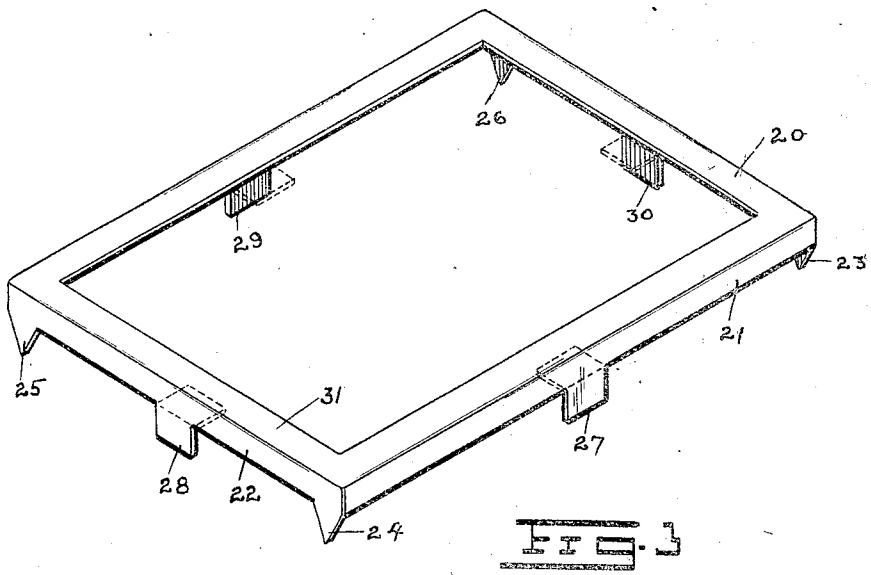

Fig. 3

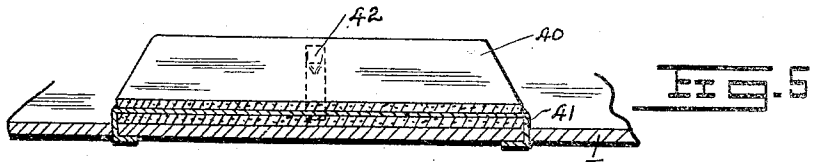

Fig. 5

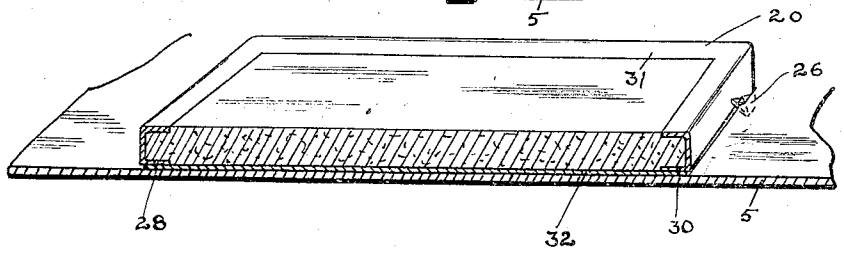

Fig. 4

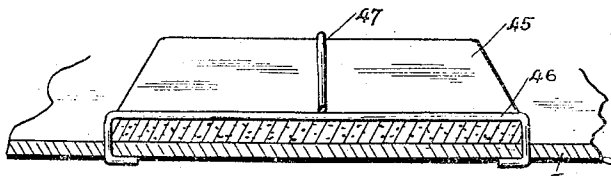

Fig. 6

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UNITED STATES PATENT OFFICE.

RICHARD O. ROBLIN, OF ROCHESTER, NEW YORK, ASSIGNOR TO ROBLIN DEMERATH CO., INC., A CORPORATION OF NEW YORK.

HUMIDIFIER.

Application filed March 8, 1923. Serial No. 623,815.

To all whom it may concern:

Be it known that I, RICHARD O. ROBLIN, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Humidifiers, of which the following is a specification.

The object of this invention is to provide a new and improved form of humidifier.

Another object of the invention is to provide new and improved means for attaching it to the inside of a shipping case, and another object is to provide means for isolating the moist part of the humidifier from direct contact with the shipping case.

These and other objects of the invention will be fully illustrated in the drawings, described in the specification and pointed out in the claims at the end thereof.

In the drawings:

Figure 1 illustrates a shipping case made of ordinary corrugated cardboard or paper products stock with one form of the humidifier attached to one of the lids thereof.

Figure 2 is a perspective view of another form of the humidifier partly in section.

Figure 3 is a perspective view of the metal frame for the third form of the humidifier.

Figure 4 is a perspective view of the humidifier and metal frame therefor as shown in Figure 3 attached to the box.

Figure 5 is a view of another form of the humidifier formed of the porous or absorbent material with the strips of metal embedded therein with the ends thereof exposed and formed into points for fastening the humidifier in place.

Figure 6 is a view of another form of the humidifier formed of the porous or absorbent material without a metal rim with metal strips passing over the absorbent material with the ends thereof formed into points for fastening the humidifier in place.

In the drawings, like reference numerals indicate like parts.

Marshmallows are a well-known form of candy and should have a considerable percentage of moisture therein in order to keep them in an attractive condition. They are usually packed in small packages and a number of these small packages are packed in a shipping case in which they are shipped and in which they are usually kept until disposed of to the retail purchaser. As evaporation is constantly going on in a dry atmosphere, the marshmallows dry out more or less before they are sold to retail purchasers especially if the period of shipment or storage is of any considerable length. To prevent this drying out of the candy I provide a humidifier which can be easily attached to the inside of the box and detached therefrom and which will keep the air in the box provided with a suitable amount of moisture and thus keep the marshmallows in good condition regardless of the dryness of the surrounding air.

My improved humidifier is useful for keeping other articles in good condition such as cigars, etc.

In the use of my invention reference numeral 1 indicates a box having the hinged lids 2, 3, 4 and 5. Fastened to the lid 5 is the humidifier 6 which is made of a channel shaped oval ring 7 having prongs 8, 9, 10 and 11 integral therewith. The absorbent part of the humidifier is made by preparing a suitable composition of plaster of Paris to which may be added lime and possibly some coloring matter which is molded on a table or plate within the metal ring so as to fill the channel thereof and make a firm engagement therewith. Any other composition that makes a suitable absorbent material may be used. When the composition sets the humidifier is ready for use and consists of the metal ring with a porous web or filler therein that is capable of absorbing and retaining moisture.

This humidifier is then dipped in water to moisten and the sharp teeth or prongs thereon are pushed through the lid from the under side thereof and turned down or bent down on the upper side of the lid and the humidifier is then fastened in place. When the lids are folded into the box they are folded so that the humidifier is exposed directly to the interior of the box so that it will keep the air therein in a moist condition. To prevent the moisture in the humidifier being lost by capillary attraction or otherwise the humidifier can be kept out of contact with the lid of the box or the contents of the box by interposing a layer of waterproof material such as wax paper or sheet metal, etc., between the humidifier and the lid to which it is attached and between the humidifier and the contents of the box.

As the humidifier dries out the teeth can be

straightened out and the humidifier can then be removed from the box and dipped in water to moisten it and then again attached to the box at the same or a different place and this can be repeated as often as is necessary and as long as the box retains any of its contents. If it is preferred, a small amount of water can be poured directly on the humidifier while the lid is held open and the humidifier will retain it up to the saturation point.

In Figure 2 I have shown a second form of my humidifier which is indicated by the reference numeral 15. This humidifier is channel shaped as shown in section at 16 and is provided with three teeth 17, and 18, the third tooth being omitted from the showing because of the section.

In Figure 3 I have shown still another form of the humidifier indicated by the reference numeral 20. This humidifier is stamped from a sheet of metal from which the corners are cut out and the four sides are then bent up at right angles as indicated at 21 and 22 forming an angle iron on the four sides. The corners are provided with prongs or teeth 23, 24, 25 and 26 and intermediate of the corners are provided the lugs 27, 28, 29 and 30. The metal web 31 connects the four sides together and forms the top or bottom of the finished humidifier.

For the purpose of filling the humidifier with the porous composition the frame is laid on the table with the web 31 down and composition is molded into it and the lugs 27, 28, 29 and 30 are turned down to fasten it in place forming with the metal web and side a channel shaped opening at that point.

As shown in Figure 4 a water proof layer 32 is interposed between the humidifier 20 and the lid 5 of the box to which it is attached. As above pointed out this water proofing can be used on either or both sides of any form of the humidifiers above referred to and any of the forms can be detached and moistened and attached again as often as may be desired.

In this way I have provided a humidifier that is very cheaply made, is very easily attached and detached and is very effective for the purpose of keeping the moisture of the atmosphere in the box uniform and keeping the contents of the box in good condition.

The paper of the box to which the humidifier is attached should be waxed, especially the paper on the inside of the box, to make it waterproof. This will help to keep the proper atmosphere in the box.

It is also obvious that the metal rim of the humidifier might be dispensed with and that wire or metal strips might be embedded in the porous or absorbent material having the ends thereof projecting from the porous or absorbent material and forming points by which it could be attached to the box. Such a form is shown in Figure 5, in which reference numeral 40 indicates the blocks of absorbent material and 41 and 42 represents the strips embedded therein having exposed ends formed into points for fastening it in place.

Figure 6 shows another form of humidifier in which the block of absorbent material is indicated by the reference numeral 45 and wire bails 46 and 47 pass over it the ends of which are shaped into points for the purpose of holding the block in position.

I claim:

1. A humidifier for a box comprising a metal frame, an absorbent cake cast in the frame to form an integral part thereof, prongs provided on said frame and forming an integral part thereof, said prongs being adapted to penetrate the wall of the box the portion of the prongs projecting through the outside of the box being adapted to be bent over to firmly clamp the absorbent cake and its frame within the inside of the box.

2. A humidifier for a box comprising a metal frame, an absorbent cake cast in the frame to form an integral part thereof, prongs provided on said frame and forming an integral part thereof, said prongs being adapted to penetrate the wall of the box, said metal frame being embedded within said absorbent cake to reinforce said cake.

In testimony whereof I affix my signature.

RICHARD O. ROBLIN.