Oct. 21, 1952 W. G. ANDERSON, JR., ET AL 2,614,883

MOISTURE COLLECTING DEVICE

Filed May 15, 1950 2 SHEETS—SHEET 1

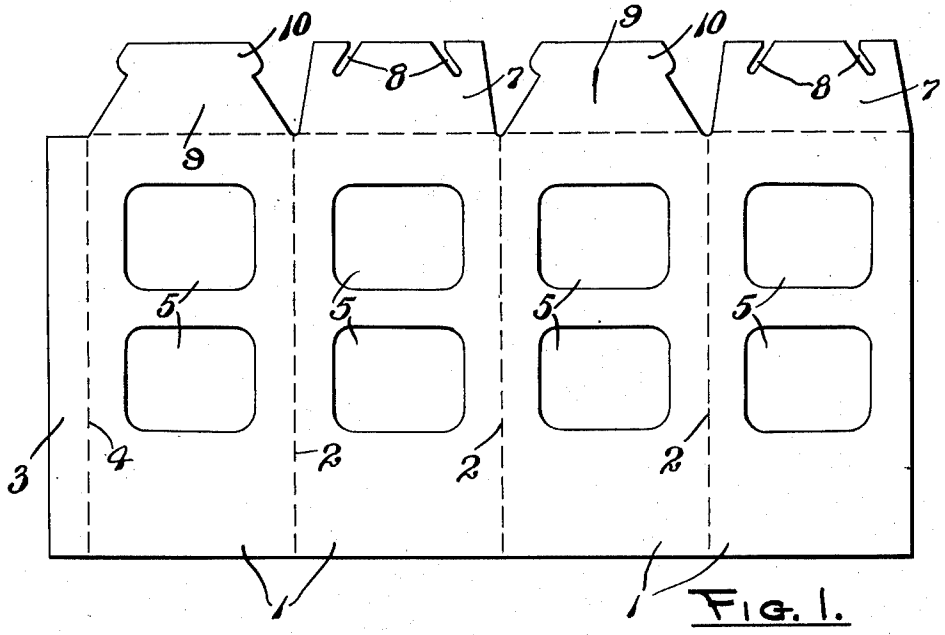


FIG. 1.

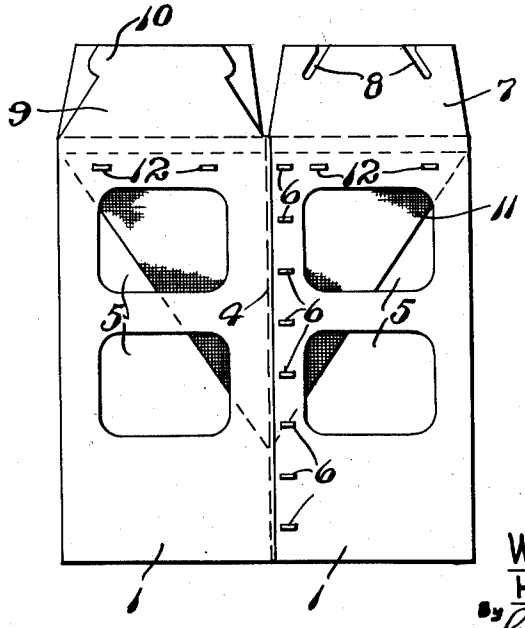


FIG. 2.

INVENTORS

WILBUR G. ANDERSON, JR.

HENRY R. KOHLHEPP

By Liverance & Van Antwerp

ATTORNEYS

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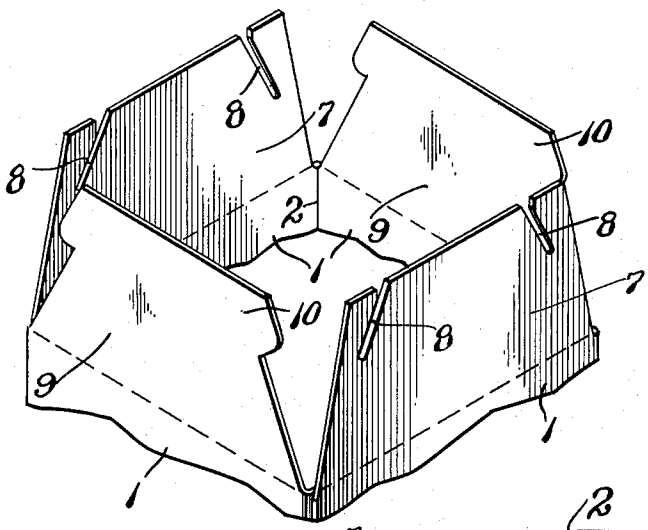
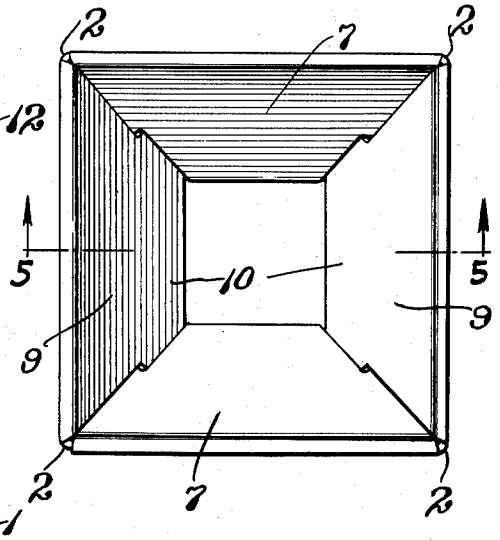


FIG. 3.

FIG. 4.



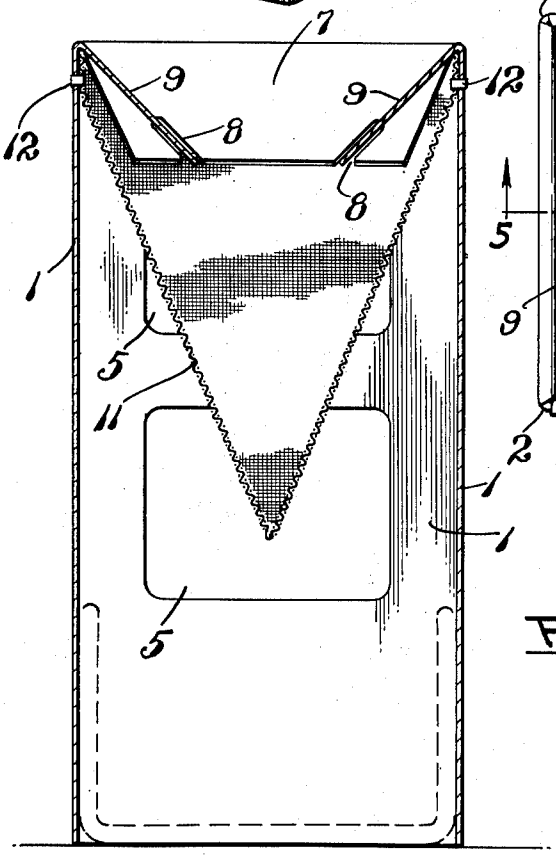


FIG. 5.

INVENTORS
WILBUR G. ANDERSON, JR.
& HENRY R. KOHLHEPP
Lineman & Van Antwerp
ATTORNEYS

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2,614,883

MOISTURE COLLECTING DEVICE

Wilbur G. Anderson, Jr., and Henry R. Kohlhepp, Grand Rapids, Mich., assignors to American Box Board Company, Grand Rapids, Mich., a corporation of Michigan

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3 Claims. (Cl. 299—24)

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The present invention relates to an apparatus for facilitating the absorption and collection of moisture from moisture laden air. One place where moisture may be objectionable and desirably should be removed is in basements of houses. There are other enclosures in which maintaining the moisture content of air at a low amount or degree is desirable, and my apparatus is designed for use at such places.

It is an object and purpose of the present invention to provide a very practical, useful, exceptionally economical and efficient moisture collecting device which may be produced in large quantities at low cost, shipped flat, and when a destination is reached, substantially instantaneously erected, that is, changed from its flat condition in which it has been shipped, to a vertically positioned support, rectangular in cross section, at the bottom of which a water holding vessel may be placed; and in the upper portion of which material, which is well known, having moisture attracting properties is held in a foraminous holder, the moisture collecting on said material condensing to water, and passing through the foraminous material and dropping into the receptacle.

An understanding of the invention may be had from the following description, taken in connection with the accompanying drawings, in which,

Fig. 1 is a plan of a blank of paperboard material, from which the body of the device is made.

Fig. 2 is a plan view, showing the completed device in its flat condition which it occupies when it is shipped from the factory to any destination where it may be used.

Fig. 3 is a fragmentary perspective view of the upper end portion of the device, before the upper end flaps are folded inwardly and downwardly to make a funnel-like upper entrance.

Fig. 4 is a plan view of the device, and

Fig. 5 is a vertical section substantially on the plane of line 5—5 of Fig. 4.

In the construction shown, a generally rectangular piece of, preferably, paperboard material is scored so as to define four successive sections 1, integrally connected at the scored or folding lines 2 as shown in Fig. 1. At one edge of one end section a narrow section 3 is provided, a scored or folding line 4 paralleling the lines 2 being the line of division between said section 3 and the adjacent section 1. The several sections 1, four in number to make the four sides of the device, have relatively large openings 5 cut therethrough, more toward the upper than toward the lower ends of the device when it is in use. By

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folding on the lines 2 and 4 the device may be shaped into a hollow vertical body, the section 3 being located within or at the inner side of the vertical edge portion of the section 1 at the opposite end of the sheet of material, and stapled by means of staples 6 (Fig. 2) to make a secure connection.

At the upper end of two alternate sections, flaps 7 extend vertically of the form shown, from the free upper edges of which two spaced apart downwardly diverging slots 8 are cut. Alternate with the flaps 7 at the ends of the other sections 1 other flaps 9 extend vertically, each at its upper end being shaped to provide connecting tabs 10 which will be received in the slots 8 when the several tabs 7 and 9 are folded downwardly and inwardly into the upper end portion of the hollow body. For example, in Fig. 5 the flaps 7 and 9 are shown in their assembled position, with the projecting tabs of the end portions 10 of the flaps 9 received in the slots 8.

A screen 11 which is of an inverted pyramidal form in the assembled structure shown in Fig. 5, at its upper edge portions is secured to the several sides provided by the sections 1 by means of staples 12. Such screen may be any suitable form or type of foraminous structure. It has four sides which converge downwardly and inwardly and meet at a point within the body of the device as shown in Fig. 5.

Initially, at the factory, the section 3 is securely connected by the staples 6 and the screen is secured in place at its upper edge portions by the staples 12. Flaps 7 and 9 extend outwardly as shown in Fig. 2 and the device is collapsed on two of the folding lines 2 so as to be flat as shown in Fig. 2. In such condition a large number of them may be shipped in a bundle, occupying relatively small space.

The erection into its operative form, shown in Fig. 5, is by merely pulling the two flat portions of the device when in flat form (Fig. 2) outwardly to cause the body to take its position rectangular in cross section (Fig. 5). The screen 11 automatically takes the position shown in such figure. The flaps 7 and 9 are then folded downwardly and inwardly, the tabs 10 entering the slots 8.

In use, through the generally funnel-like entrance provided by the downwardly and inwardly inclined sides 7 and 9, material which is usually of a crystalline form is poured and is carried by and within the screen 11. Air coming in contact with such material, either from above, though more through the entrance at openings 5 has its

moisture taken by such crystalline material which has an affinity for moisture. Such moisture condenses on the material and passes through it and through the screen and drops into a receptacle, indicated in dashed lines (Fig. 5), over which the lower end of the body may be placed.

The structure described is very economical to produce. It is shipped at the least cost, and requires no tools for its erection into operative form shown in Fig. 5. Moisture extraction from the air is facilitated.

The invention is defined in the appended claims and is to be considered comprehensive of all forms of structure coming within their scope.

We claim:

1. In a structure as described, a hollow body adapted to be positioned vertically having vertical sides integrally connected with each other and foldable into a hollow body, means permanently securing the free edge portions of said body together upon being brought together in folding, a flap extending from the upper edge of each of said sides of the body foldable downwardly into the upper end thereof to provide a funnel-like entrance member having downwardly and inwardly inclined sides, said flaps having interconnected means for securing them together when folded into the upper end of the body, and a screen permanently secured at the upper edge portions of its sides to the upper edge portions of the sides of said body, said screen sides converging downwardly and inwardly toward each other substantially to a point and adapted to serve as a holder for material attractive to and having an affinity for moisture, said sides of the body having openings therethrough for moisture laden air to pass therethrough to come to said screen.

2. In a structure as described, a hollow body of paper board material, scored on preselected lines for folding into rectangular form in cross section and having flaps at one of the ends of the sides of the body integral therewith, alternate flaps being provided with slots open at their free ends and diverging from each other toward the respective sides of the body to which attached, and the other flaps having tabs at their end portions for entering said slots when the flaps are positioned to extend inwardly into the adjacent end of the body, said body being adapted to be located with the sides positioned vertically and with the flaps at the upper end thereof, a screen within the body secured at its upper edge portions to the upper edge portions of the sides of the body, said screen extending downwardly and having converging sides, said flaps when connected and extending inwardly into adjacent end of the body extending into the open upper end of the screen, and providing a guiding funnel.

3. In a structure as described, a hollow body having vertical sides with relatively large openings therethrough, said body being open at its upper and lower ends and at its lower end being adapted to have a liquid holding receptacle placed therein when the body is placed vertically, a flap connected at the upper end of each side of the body, said flaps extending downwardly and inwardly into the upper end of the body, means connecting the flaps together at adjacent side edges, thereby providing a funnel having downwardly and inclined sides within the upper end of the body having an opening at its lower end, said body at its upper end and its inner sides being adapted to have a screen secured thereto, near the upper edges of its sides, said screen being adapted to surround said funnel.

WILBUR G. ANDERSON, JR.
HENRY R. KOHLHEPP.

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