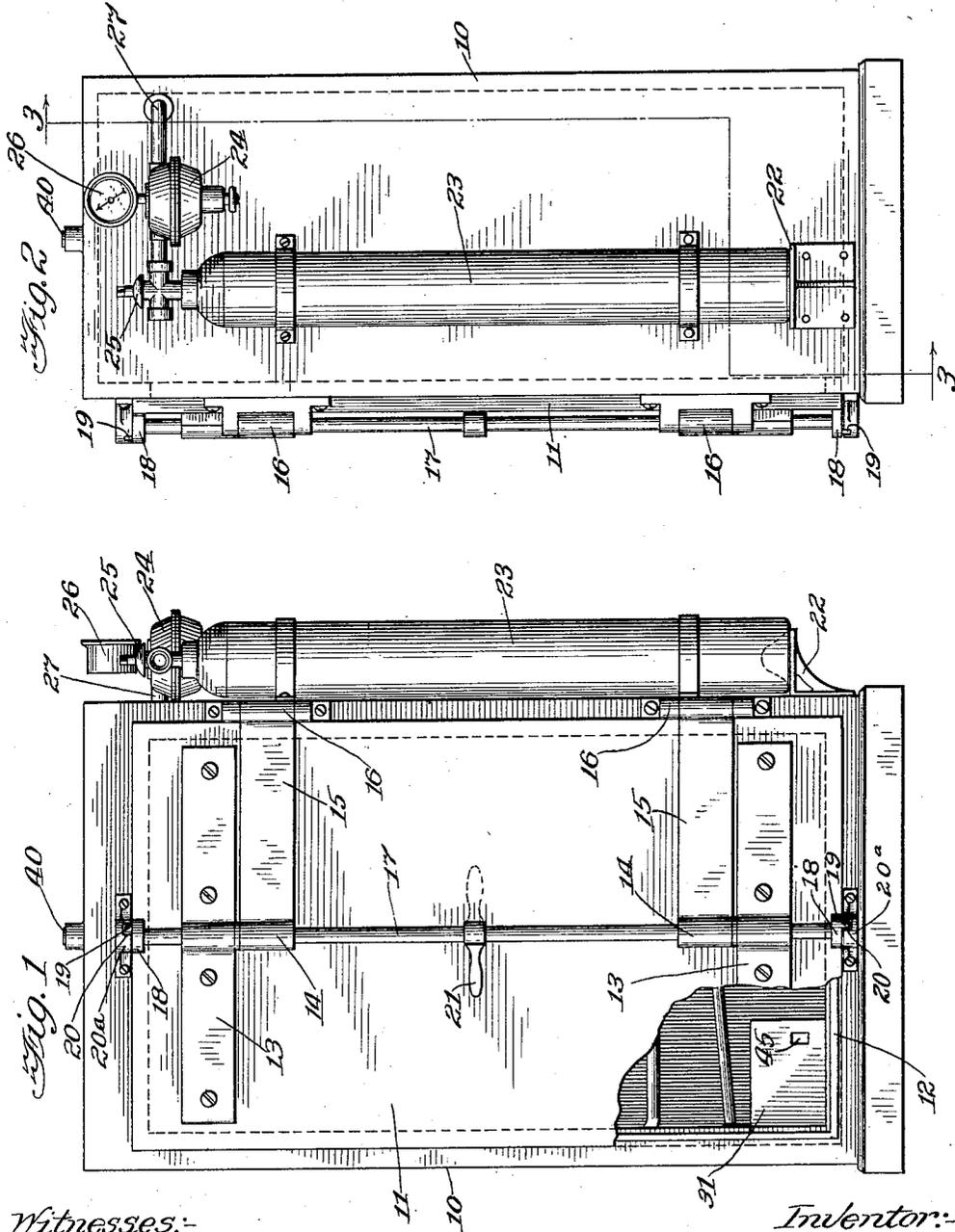


C. J. COLEMAN.  
 WARDROBE.  
 APPLICATION FILED JUNE 1, 1909.

1,097,844.

Patented May 26, 1914.

2 SHEETS—SHEET 1.



Witnesses:-  
 Wm. H. Yagle,  
 C. L. Hopkins

Inventor:-  
 Clyde J. Coleman,  
 by Jones, Redding & Ames,  
 Attys.

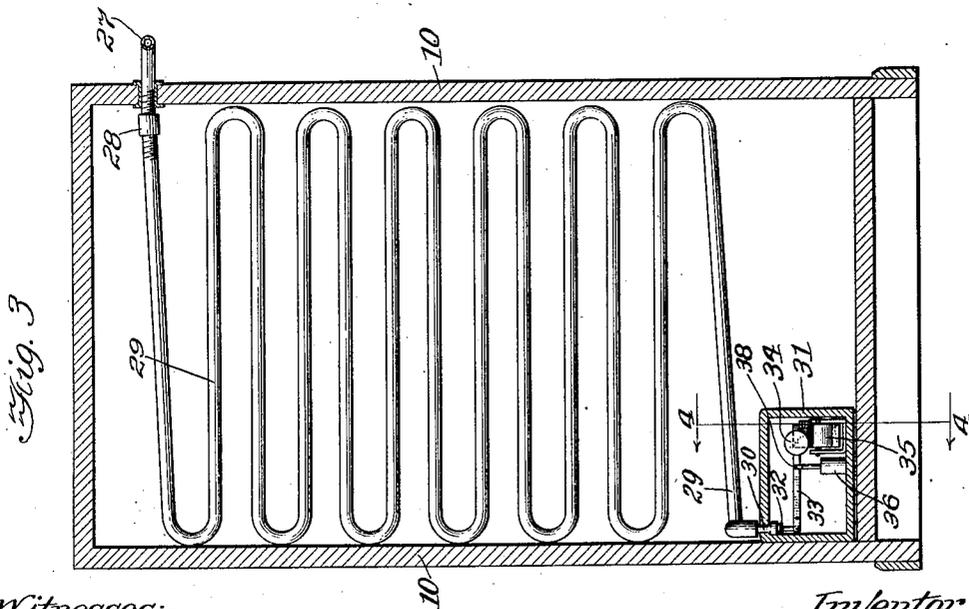
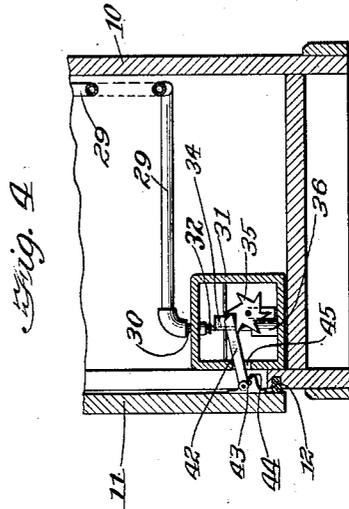
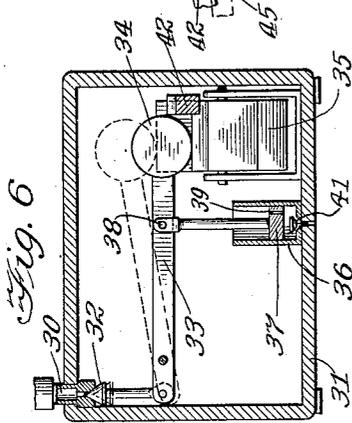
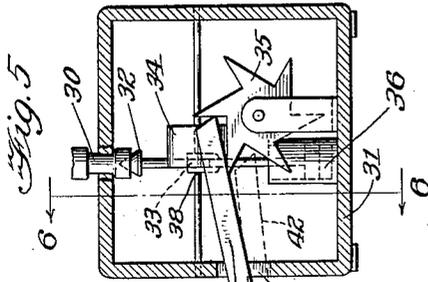
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Clyde J. Coleman,  
by Jones, Addington & Ames,  
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# UNITED STATES PATENT OFFICE.

CLYDE J. COLEMAN, OF NEW YORK, N. Y.

## WARDROBE.

1,097,844.

Specification of Letters Patent.

Patented May 26, 1914.

Application filed June 1, 1909. Serial No. 499,549.

*To all whom it may concern:*

Be it known that I, CLYDE J. COLEMAN, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented new and useful Improvements in Wardrobes, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

This invention relates to improvements in wardrobes and the like, one of its objects being the provision of a wardrobe in which furs, clothing, rugs and other articles which are subject to the ravages of moths and other vermin, may be safely stored without the possibility of vermin gaining access thereto.

It is another object of my invention to provide a storage compartment with apparatus by means of which moths or other vermin which have gained access to the compartment or which have been brought into the same upon the articles to be stored, will be exterminated, their eggs being rendered incapable of hatching, or, if the eggs hatch, the larvæ being immediately killed.

With these and other objects in view I provide a wardrobe which is capable of being hermetically closed and I provide means for displacing the air contained in the wardrobe and substituting therefor some gas which is incapable of supporting animal life. This means for replacing the air with a non-respiratory gas may be, and preferably is, arranged to operate automatically upon the closing of the door, and, in the embodiment of my invention which I have illustrated in the drawings and described in detail in the following specification, the means for effecting the substitution is brought into action by the engagement of certain parts carried by the door with mechanism located within the wardrobe.

In the accompanying drawings Figure 1 is an elevational front view of a wardrobe constructed in accordance with the present invention, a portion of the door being broken away to expose a part of the interior and show the automatic gas discharging apparatus; Fig. 2 is an elevational end view of this wardrobe; Fig. 3 is a vertical section taken on the line 3—3 of Fig. 2, looking in the direction indicated by the arrows; Fig. 4 is a fragmentary cross section taken on the line 4—4 of Fig. 3, looking in the direction of the arrows; Fig. 5 is a detail view similar

to Fig. 4 but drawn to an enlarged scale; and Fig. 6 is a section taken on the line 6—6 of Fig. 5, looking in the direction of the arrows.

Like reference characters indicate the same parts throughout the several figures of the drawings.

10 indicates the wardrobe, the front of which is normally closed by a door 11. This door is mounted upon crane hinges so that the door may seat itself evenly all around against a strip 12 of cork or the like which extends around the doorway. Extending across the door are two strips or bars 13, 13, to which are pivoted, at points about midway across the door, the ends 14 of similar bars 15, these bars being hinged at 16 to the edge of the wardrobe. Extending vertically along the face of the door is a pressure bar 17 which is provided upon each of its ends with a head 18 which carries a tongue 19 arranged to run in cam grooves 20 formed in the inner faces of projections 20<sup>a</sup> which are provided upon the frame of the wardrobe adjacent the top and bottom edges of the door 11. These cam grooves are so formed that, when the bar 17 is revolved by throwing a handle 21 with which it is provided around to the position shown in dotted lines in Fig. 1, the door 11 is pressed firmly into contact with the cork strip 12, air tight connection being thus made between the edge of the door and the edge of the wardrobe.

Arranged upon a suitable support on the outside of the wardrobe, as for instance upon the shelf 22 shown in Figs. 1 and 2, is a tank 23 which contains compressed carbonic acid gas or other gas which is incapable of supporting animal life. This tank may be similar to the tanks that are supplied charged with gas for use in connection with the dispensing of what is known as "soda water". The tank is provided upon its upper end with suitable means, such as an ordinary reducing valve 24, for regulating the pressure at which gas may be delivered by the tank.

The construction of the reducing valve 24 will not be described herein at length as it may be of any of the well known forms of reducing valve used for this purpose in similar relations. Between the reducing valve and the tank there is an ordinary valve 25 by the closing of which the tank may be cut off entirely from the rest of the apparatus. A pressure gage 26 may also be provided if desired. A pipe 27 leads

from the reducing valve 24 into the wardrobe and by means of a suitable coupling 28 is connected with a sinuous pipe 29 which extends back and forth across the rear side of the wardrobe. The sinuous pipe 29 is bent forwardly near the bottom of the wardrobe and terminates in a pipe 30 which extends downward into a box or casing 31. A valve 32 is arranged in the box 31 for normally closing the end of the pipe 30, means being provided for automatically opening this valve upon the closing of the door of the wardrobe and for maintaining the same open for a suitable and preferably for a determinate length of time.

The automatic means for actuating the valve 32 comprises a pivoted lever 33, one end of which is connected to the stem of the valve 32 while the other end carries a weight 34 which, when permitted to drop, closes the valve and maintains the same closed. A star wheel 35 is provided for raising the weight 34 and thus opening the valve 32, the star wheel being arranged to be rotated through a portion of a complete revolution each time that the door is closed after having been opened for the purpose of putting into the wardrobe such articles as are to be stored therein. The teeth of the star wheel 35 are made of considerable width and the weight 34 is arranged to project over the star wheel for a portion of the width of said star wheel and rest upon the teeth thereof. When the star wheel is provided with six teeth, as is the case in the construction illustrated, its rotation through one-sixth of a revolution raises the weight 34 from the position shown in Figs. 5 and 6 in full lines to that shown in Fig. 6 in dotted lines, thus drawing down the valve 32 and permitting gas to flow from the lower end of the pipe 29, and then, the tooth of the star wheel passing from beneath the weight, allows the weight to fall again. However, the rapid falling of the weight 34 and consequent rapid closing of the valve 32 is prevented by the provision of a dash pot 36, the stem of the piston 37 of which is connected to the lever 33 at 38, (Fig. 6). In the piston is arranged a small passage 39 which permits the air to flow slowly from the chamber of the dash pot, the weight being thus allowed to slowly descend, whereby the valve 32 is slowly brought to its seat. The valve 32 discharges the gas into the lower portion of the space within the wardrobe, and when a heavy gas such as carbonic acid gas is employed the gas will gradually fill the chamber within the wardrobe from the bottom, the level of the gas gradually rising. Some means should be afforded for the escape of the air from the upper part of the wardrobe, this means consisting, in the construction illustrated, of an outwardly opening valve 40 located in the roof of the

wardrobe, (Figs. 1 and 2). When the piston is being moved upward by the lever 33 air is quickly admitted to the dash pot cylinder by means of an inwardly opening valve 41. The size of the dash pot cylinder, the size of the opening 39 and the arrangement of the various parts are such that the period during which the valve 32 is kept open is equal to, or slightly longer than, the period required to allow sufficient gas to flow from the pipe 30 to completely discharge the air from the wardrobe and replace the same with carbonic acid gas.

The means whereby the star wheel 35 is turned through a sixth of a revolution upon the closing of the door and made to lift the weight 34 and open the valve 32 consists of a pawl 42 which is pivoted at its outer end to a bracket 43 secured upon the inner side of the door (Fig. 4). When the door is open this pawl rests upon a suitable stop 44 and is thereby supported in position to enter an opening 45 in the front of the box 31 which contains the valve-operating mechanism. When the door is closed the pawl enters the box in the position shown in dotted lines in Fig. 5, engages the star wheel 35, in the angle between two teeth thereof and pushes the star wheel around through one-sixth of a revolution, the pawl then occupying the position shown in full lines in Figs. 4 and 5. This operation raises the weight 34 and opens the valve 32, the weight being left without support from the star wheel, the tooth of which has passed out from under the weight. The weight 34 begins to descend slowly, its downward movement being retarded by the dash pot, and at length closes the valve and shuts off the flow of gas from the lower end of the pipe 30, the period during which the valve is kept open being, as already pointed out, substantially the period required for the air within the wardrobe to be wholly replaced by gas. As the pipe 29 has considerable length and surface area the cooling effect due to the expansion of the gas therein after the same has passed through the reducing valve 24 is considerable, and results in the temporary lowering of the temperature of the storage space. When at length the valve closes it remains closed and prevents any further flow of gas into the wardrobe until such time as the door of the same is opened for the putting in of articles which are to be stored in the wardrobe and again closed.

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

1. The combination of a wardrobe, a source of supply of irrespirable gas, and means automatically operating upon the closing of said wardrobe for substituting a definite quantity of the gas for the air of the wardrobe.

2. The combination of a wardrobe, a source of supply of irrespirable gas, and means automatically operating upon the closing of the wardrobe for displacing the air from the wardrobe and substituting therefor a quantity of the gas.

3. The combination of a wardrobe, a source of supply of irrespirable gas, and means automatically operating upon the closing of the wardrobe for admitting gas from said source of supply to the interior of said wardrobe.

4. The combination of a wardrobe, a source of supply of irrespirable gas, means automatically operating on the closing of the wardrobe for admitting to the wardrobe a sufficient quantity of the gas to fill the wardrobe, and means permitting the escape of air from said wardrobe.

5. The combination of a wardrobe, a source of supply of an irrespirable, a heavier-than-air, gas, means for delivering a quantity of the gas to the lower part of the interior of the wardrobe, and means permitting the air to escape at the upper part of the wardrobe.

6. The combination with a wardrobe, of means for supplying a non-life-supporting gas thereto, means for automatically shutting off the supply of said gas after the air in said wardrobe has been automatically displaced by said gas, and means for retaining said gas within said wardrobe.

7. The combination of a wardrobe, a tank adapted to contain carbonic acid gas located exterior to said wardrobe and arranged to deliver gas to the interior of said wardrobe, and means within said wardrobe for admit-

ting a measured quantity of said gas to said wardrobe, said means being arranged to be automatically operated upon the closing of the wardrobe.

8. The combination of a wardrobe, a tank adapted to contain a non-life-supporting gas under pressure located exterior to said wardrobe and arranged to deliver gas to the interior of said wardrobe, means operated by the closing of the door of the wardrobe for admitting gas from said tank to the space within the wardrobe, and means for shutting off the flow of gas into said wardrobe after a determinate time has elapsed.

9. The combination of a wardrobe, a tank adapted to contain a non-life-supporting gas under pressure, means automatically operating upon the closing of the wardrobe for admitting gas from said tank to said wardrobe, and means for automatically cutting off the flow of gas into said wardrobe at the expiration of a determinate length of time.

10. The combination of a wardrobe, a tank adapted to contain a compressed gas other than air, a valve adapted when open to permit the flow of gas from said tank into said wardrobe, means for automatically opening said valve upon the closing of the wardrobe, and means for closing said valve at the expiration of a determinate period of time.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

CLYDE J. COLEMAN.

Witnesses:

CHARLES G. COPE,  
CHARLES L. HOPKINS.