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3,065,915

CONTAINER FOR VOLATILE SUBSTANCES

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Fig. 1.

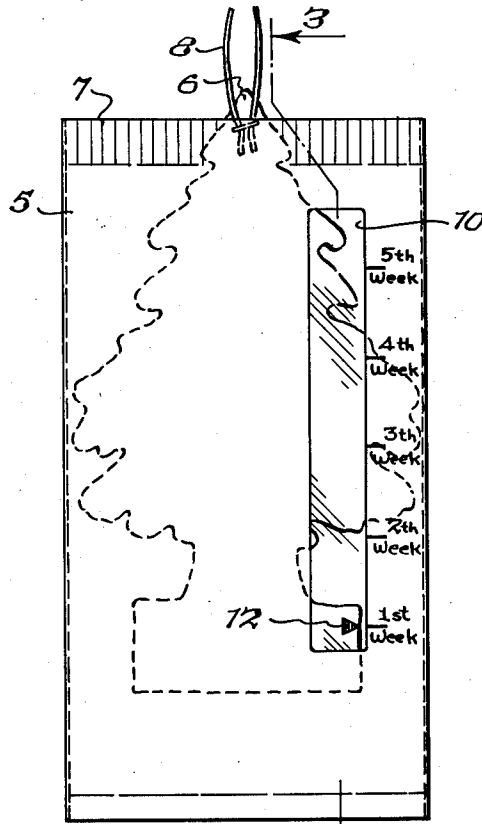
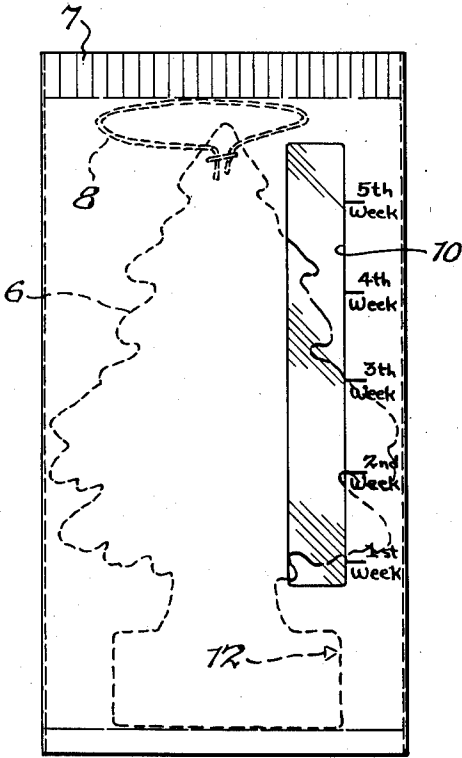


Fig. 2.

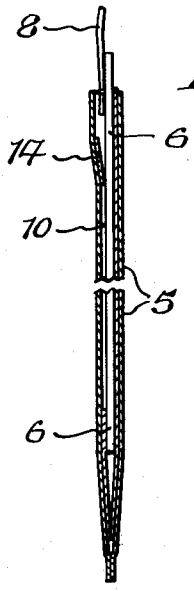


Fig. 3.

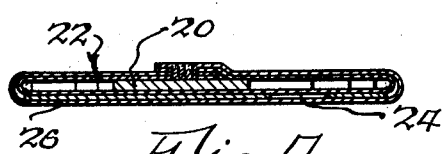


Fig. 4.

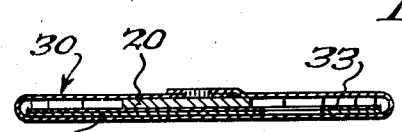


Fig. 5.

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3,065,915

## CONTAINER FOR VOLATILE SUBSTANCES

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1 Claim. (Cl. 239—35)

This invention relates to improvements in envelopes or pouches for porous members impregnated with volatile substances by means of which the volatilization of such substances can be retarded or controlled.

Certain substances, such as odor-destroying, air-perfuming, or insect-destroying substances, are generally quite volatile and porous members impregnated with the same have heretofore been enclosed in impervious envelopes or pouches from which such members may be partially withdrawn to avoid excessive volatilization, as shown in my Patent No. 2,757,957 of August 7, 1956. In such articles the extent to which the impregnated members should be withdrawn from the pouches was not indicated, and frequently purchasers of these articles did not realize that the rate of volatilization could be controlled by withdrawing the impregnated member only partially from the pouch, and such purchasers frequently removed the porous members entirely from the pouches with the result that the volatilization was too rapid and produced an excessively heavy and consequently unpleasant odor.

It is therefore one of the objects of this invention to provide an envelope or package for porous, impregnated members of this kind which may be opened at one end to permit withdrawal of said porous member, and which is provided with graduations on the package or envelope positioned to cooperate with an indicator on the porous member so that the user of the device may readily see to what extent the member should be withdrawn from the pouch.

In the accompanying drawings:

FIG. 1 is a face view of a container or pouch embodying this invention and having contained therein a porous member impregnated with a volatile substance;

FIG. 2 is a similar view thereof showing the porous member partly removed from the container;

FIG. 3 is a sectional elevation thereof on line 3—3, FIG. 2;

FIG. 4 is a sectional plan view of a pouch or container of modified construction;

FIG. 5 is a sectional elevation similar to FIG. 3 but showing a pouch of another modified construction.

The envelope or pouch 5 may be of any suitable impervious material in which a porous member or device 6 may be contained. This porous member which may, for example, be made of absorbent material such as employed in blotting or filter paper, and contains or is impregnated with a volatile substance, and when the pouch containing the member is sealed, none or very little of the volatile material will escape from the pouch. The pouch is formed to be opened at one side, for example, in the upper side or end 7 in the construction illustrated, and the porous member is preferably provided with a string or cord 8 by means of which it may be suspended. This member may be partly withdrawn so that the upper portion thereof projects through the top of the container or pouch to any desired extent. The pouch may initially be opened at its upper end only to a slight extent so that only a small portion of the porous member extends out of the pouch. In such cases the volatilization of the substances with which the member is impregnated will take place slowly, mainly from the portion of the member which extends beyond the open end of the pouch.

The front panel or face of the pouch may be provided with printing on either the inner or outer face thereof, or rendered at least partly opaque, but is provided with a

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clear, transparent portion or window 10 through which a part of the porous and impregnated member 6 is visible, and in order to guide the user to the extent to which the member 6 should be removed from the pouch, graduations are provided on the front face of the pouch adjacent to the window 10. These graduations, for example, may represent intervals of time during which different portions of the member may be exposed to the atmosphere. For example, for the first week a small part of the upper portion of the member can be withdrawn from the pouch, and then for the second week the member is further withdrawn, the graduations in that case being spaced apart to indicate weeks.

Cooperating with these graduations is an indicator on the porous member 6. This indicator may be of any desired type, such for example as a word of the printed matter on the porous member, a part of this member or an arrow 12 shown by way of example in FIG. 1, on the lower portion of the member, in position to be clearly seen through the window 10. When the indicator or arrow 12 is opposite the first graduation marked "1st week," the upper end of the porous member will extend only to a slight extent beyond the upper end of the pouch. These graduations are spaced apart in such a manner as to produce a substantially uniform amount of volatilization of the material with which the porous member is impregnated. For example, during the initial position of the member, only a small portion of the upper end of the same is exposed to the atmosphere. As the porous member 6 gradually loses its strength, relatively larger parts of this member may be exposed to the atmosphere by moving the porous member so that the indicator 12 is opposite the graduation marked "2nd week."

In the particular construction illustrated, the porous member is in the form of a tree and this generally conical shape serves two purposes. In the first place, when the volatile material is of the maximum strength, only a small part of the apex of the tree or conical member is exposed and gradually larger areas of the tree are exposed to the atmosphere while smaller portions of the volatile material are left in the pouch. Another purpose of the conical shape is that as the opening in the upper end 7 of the pouch is gradually increased in size, the conical shape limits the extent to which the member may be drawn out of the pouch and holds the pouch in place on the porous member. When the strength of the volatile material has greatly diminished, the pouch can be entirely removed from the porous member which may then be used without the pouch until it has lost its effectiveness.

The usual printed matter on the pouch may be on the inner surface of the front panel of the pouch, as shown at 14 in FIG. 3, or it may be on the exterior surface of the pouch. The printed matter preferably covers a large enough area of the front panel so that the clear space or window 10, which is free of printing, will be conspicuous and readily noticed by contrast.

In the event that the pouch is printed on the inner face and the volatile substance in the pouch has a detrimental effect on the printing on the inner face of the pouch or on a card, such difficulty can be overcome by providing a pouch or envelope with a double front wall as shown in FIG. 4. In this case the inner pouch 22 is transparent and would serve only to confine the volatile material, and the printed matter would be on the double front wall 26 having a window 24 through which the porous member 20 and the indicator thereon would be visible. In using this construction the porous member 20 would be withdrawn to the extent indicated by the graduations on the outer wall of the double-walled pouch. In this construction the transparent film extends also

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around the back face of the pouch and is overlapped to form a heat or adhesive seal.

In FIG. 5 I have shown a slightly modified form of my invention in which a pouch 30 is made entirely of transparent material and a layer or card 31 of paper or other material is arranged at the front face of the pouch, this layer or card being provided with a window and having the graduations printed thereon adjacent to the window, so that they could be seen through a transparent part of the pouch. This card is preferably of a size approximately equal to the interior of the pouch so that when the sealed portions of the upper end of the pouch are opened, the remaining unopened portions will keep the card within the pouch while the porous member is withdrawn. A card or paper of this kind may be used in place of printing in the construction shown in FIG. 4, by inserting the card between the inner and outer front panels of the double walled pouch.

The operation of the article shown in FIGS. 4 and 5 is of course identical with that shown in FIGS. 1-3. If the volatile substance is of a nature which would discolor or stain the card by contact, the back face of the card adjacent to the porous member can be covered with a layer of metal foil or the like 33, thus making it possible to insert the paper or card with printed matter thereon into the same pouch or container with the porous member.

By means of the construction described, the porous device and pouch can be readily adjusted relatively to each other so that a substantially uniform amount of volatilization of the material with which the porous member is impregnated will take place, thus making it possible to impregnate the porous member with a relatively large quantity of volatile material so that the article can remain effective for deodorizing and perfuming a room or other enclosure for a much longer period of time than would be the case if the porous member were impregnated with a smaller quantity of the volatile substance. If the extent of withdrawal of the porous device from the pouch were left entirely to the judgment of the user, he might waste much of the volatile substance by excessive withdrawal of the member from the pouch, and the resulting strong odor might be displeasing to him.

It will be understood that various changes in the details, materials and arrangements of parts which have been herein described and illustrated in order to explain

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the nature of the invention may be made by those skilled in the art within the principle and scope of the invention as expressed in the appended claim.

I claim:

5 A vapor dispensing package for releasing an incremental amount of a volatile substance to the atmosphere, comprising: a flat closed envelope of thin impervious material with a sealed top end adapted to permit progressive opening thereof; a flat absorbent body impregnated with the volatile substance and disposed within said envelope; the envelope having an opaque front face with a clear longitudinally extending window through which the absorbent body may be seen; a marking on said body aligned with the window so that it appears in the window and travels along the length thereof toward the top end of the envelope as the body is progressively moved out of the top of the envelope; indicia on said front face and longitudinally spaced along the length of said window, said indicia permitting incremental adjustment of the area of the absorbent body moved out of the envelope through its top end and exposed to the atmosphere; said absorbent body having a point at the top and an outline which flares outward toward the bottom, the outline and the indicia being correlated so that the desired area of the body is exposed; said body outline being sufficiently rigid to pierce the seal of the top end of the envelope and progressively widen the opening as the body is moved therethrough; the unbroken sealed portion of the envelope and the outline of the absorbent body cooperating to hold the body and the envelope in adjusted relation.

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