

June 7, 1938.

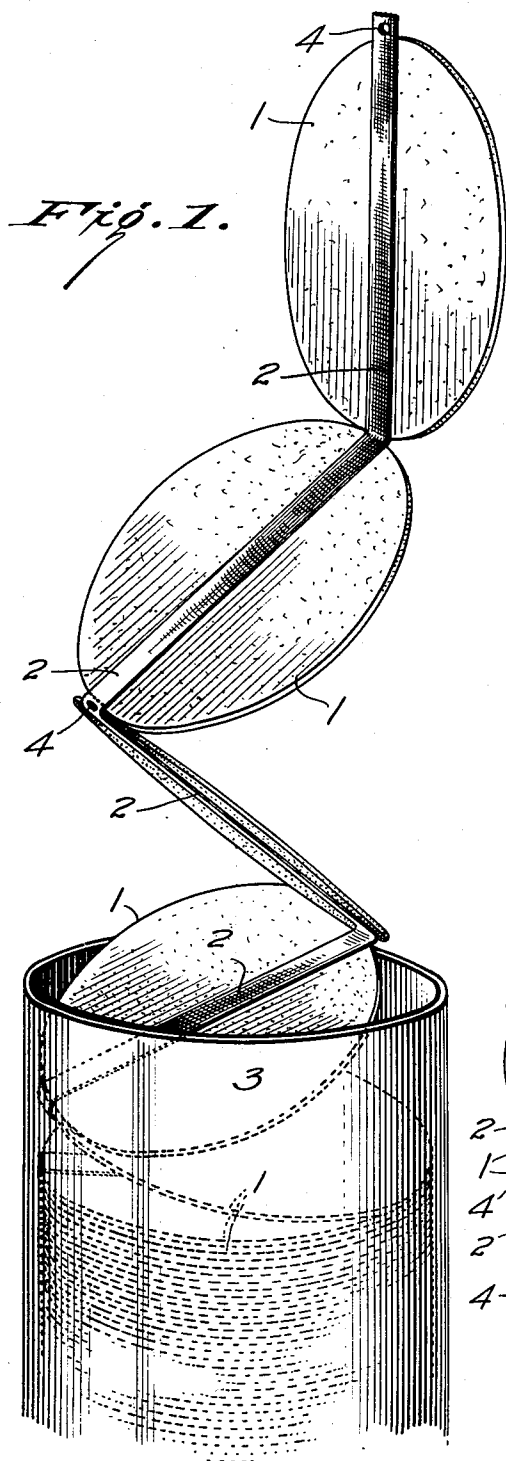
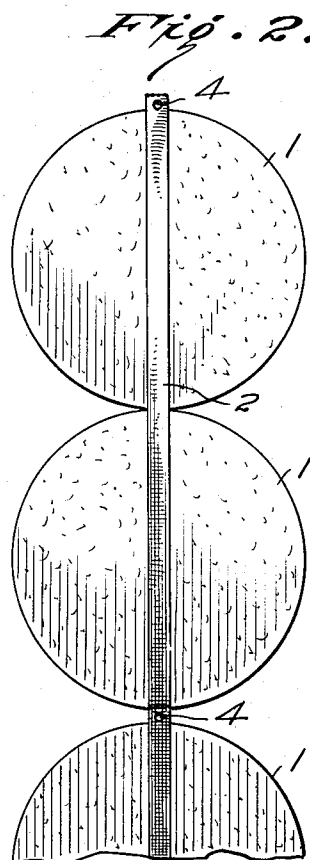
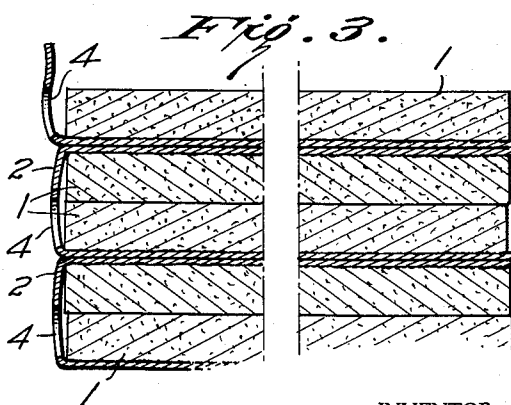
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2,120,204

FUMIGANT CARRIER COMBINATION

Filed April 27, 1936

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Fig. 4.

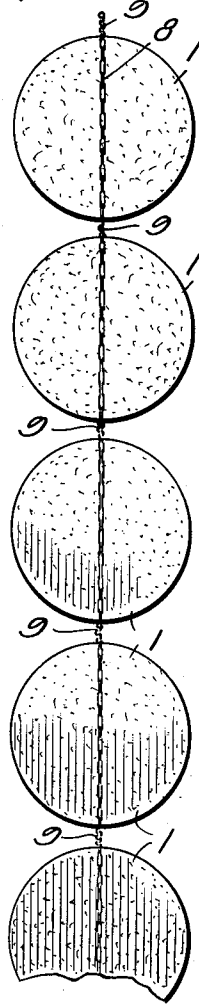


Fig. 5.



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UNITED STATES PATENT OFFICE

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FUMIGANT CARRIER COMBINATION

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2 Claims. (Cl. 299-24)

The present invention relates to an improved fumigant combination, that is, an absorbent carrier having absorbed therein a volatile fumigant.

There is on the market today, a product known as "Zyklon Discoids". These articles are comparatively thin cellulosic discs having absorbed therein liquid hydrocyanic acid. They are normally packed in tins which contain a definite number of these discs and a definite quantity of liquid hydrocyanic acid so that each disc is known to contain substantially the same predetermined quantity of liquid fumigant. It, therefore, becomes a matter of simple calculation to determine the number of discs necessary for a space to be fumigated, based upon the cubic contents of the space and the quantity of hydrocyanic acid required to fumigate that space.

The present invention is an improvement upon the fumigant combination above described and has for its object the arrangement of such discs or other absorbent carrier in such form that they or it may be collapsed upon itself during shipment and storage but which in use, may be expanded to expose substantially the entire area thereof to permit the liquid fumigant to volatilize.

To this end, the invention contemplates any absorbent carrier which may be collapsed upon itself either in the form of discs or other areas separately made and subsequently attached together, this arrangement making possible the collapsing of the carrier upon itself so that the thus collapsed carrier may be placed in the container during shipment and storage. Upon use, the carrier may be expanded, that is, unfolded, the desired area of carrier separated from the remainder and placed within the space to be fumigated, preferably in an expanded condition so as to facilitate vaporization of the fumigant.

Any liquid fumigant which is readily volatile may be used, although liquid hydrocyanic acid is preferred either with or without a warning material such as cyanogen chloride, chloropicrin, or other warning materials. In some cases, a lachrymatory warning agent may be used.

The invention further consists in the novel arrangement, combination and construction of parts more fully hereinafter described and shown in the accompanying drawings.

In the drawings:

Fig. 1 is a fragmentary perspective view showing the manner of removal of the absorbent material from a container;

Fig. 2 is a partial front elevation;

Fig. 3 is a fragmentary sectional view showing

the manner of collapsing one modification of the invention;

Fig. 4 is a view similar to Fig. 2 showing a modified form of the invention;

Fig. 5 is an edge view of Fig. 4.

Referring now with particularity to the embodiments illustrated in Figs. 1, 2 and 3, absorbent areas are shown at 1 of some suitable material capable of absorbing or holding within its pores a volatile fumigant. Cellulosic material has been found to be admirably adapted for this purpose and specifically wood pulp. As the absorbed fumigant, liquid hydrocyanic acid is preferred, either with or without warning agents due to the fact that this material is readily and completely volatile. Any other type of absorbent and fumigant may be used which will permit requisite quantities to be absorbed and subsequently released upon exposure to the atmosphere within the space being fumigated.

The areas 1 are preferably tied together by means of a strip 2 which, in this case, extends between the areas and throughout a diameter thereof. This strip may be of paper, cloth or the like adhered to the areas 1 by means of any suitable adhesive which is not soluble in the liquid fumigant.

A container is shown at 3 adapted to contain a plurality of these absorbent areas in a collapsed condition as shown in Fig. 3. When a predetermined number of these absorbent areas are placed in the container and a predetermined quantity of liquid fumigant added to the can, each of the areas will absorb its proportionate share of the fumigant. Consequently, a uniform and known quantity of fumigant will be contained within each area.

When fumigating with these areas, it only becomes necessary to decide the number of discs desired to be placed in the space to be fumigated and to tear off the necessary number and place them in that space.

In order to assist in the volatilization of the liquid fumigant, perforations 4 are provided so that such discs may be hung or suspended within the space to be fumigated to expose both sides thereof.

Where more than one area is placed within a space to be fumigated, such number being tied together, the operator is always sure that the number of areas placed in the space are removed after the fumigating period.

In Figs. 4 and 5 another form of tying the areas together is shown to consist of a sewed element 5 with a section 6 in between discs from

which the discs may be suspended where desired.

It will be apparent that the combination herein shown serves the desired purpose of (1) assuring that the number of areas placed in the space to be fumigated are subsequently removed; (2) facilitates removal of the areas from the container; (3) permits ready exposure of both sides of the absorbent when suspended in the space to be fumigated and thus facilitates volatilization of the fumigant; and (4) the tie acts as a support for a suspended string of areas otherwise being perhaps not strong enough to sustain their weight plus that of the liquid fumigant.

While the invention has been shown and described with particular reference to specific embodiments, it is to be understood that it is not to be limited thereto but is to be construed broadly and restricted only by the scope of the claims.

I claim:

1. An expandible and collapsible fumigating article comprising, a plurality of absorbent carriers each having a large surface area relative to its thickness and having a volatile liquid fumigant absorbed therein, in an amount in excess of that occurring by nature in said absorbent carriers, and flexible, elongated, and easily severable suspending means affixed to and connecting said carriers with each other in series and extending throughout and beyond the length of the series of carriers when in the expanded position, whereby a series of said carriers may be placed in suspended position to enable the volatilization of the fumigant, said carriers being capable of being collapsed upon each other in surface to surface contact for shipping and storage purposes.

2. An article for fumigating purposes as claimed in claim 1, in which the carriers are absorbent discs.

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