July 2, 1929. A. LOWY 1,719,186

GARBAGE CAN AND PROCESS OF PREVENTING DEVELOPMENT OF MAGGOTS THEREIN

Filed Sept. 22, 1926

Fig. 1

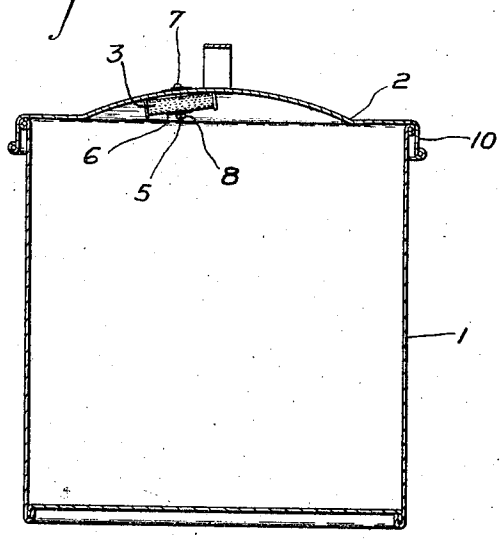



Fig. 2

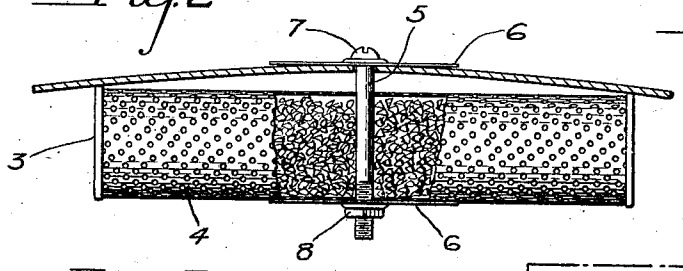



Fig. 4

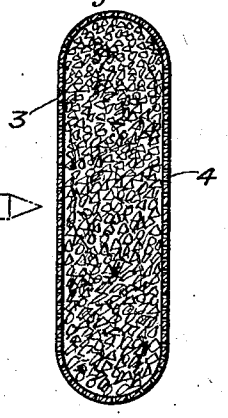
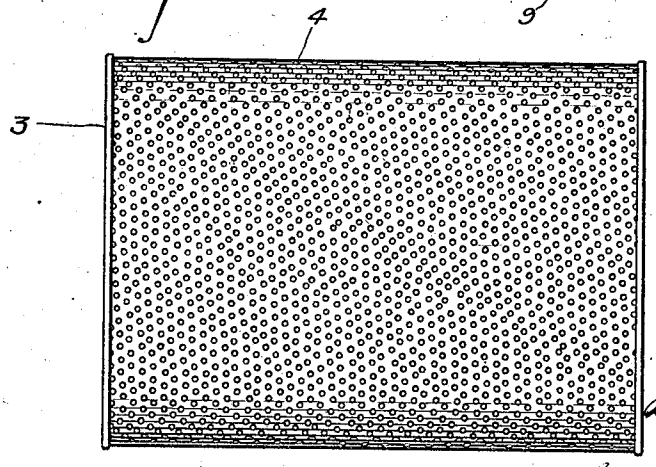



Fig. 3

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# UNITED STATES PATENT OFFICE.

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## GARBAGE CAN AND PROCESS OF PREVENTING DEVELOPMENT OF MAGGOTS THEREIN.

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This invention relates to garbage cans and to a process of preventing the development of maggots in garbage cans.

It is well known fly maggots, particularly in warm weather, will develop in garbage cans within a very short time, so that unless the garbage is emptied very frequently and the garbage cans scalded out, they become not only very offensive but breed flies.

I have developed an attachment which may be readily secured to the inside of the garbage can cover which will effectively prevent the development of maggots in the garbage. The container is preferably a foraminous or open-work container holding a charge of paradichlorbenzene, and of a form which can be readily bolted within the flanged cover in a position so as not to be displaced or damaged when the cover is removed or laid on the ground beside the can.

In the drawings, Fig. 1 is a sectional view of a garbage can embodying my invention.

Fig. 2 is a side elevation partly in section, showing an enlarged view of the charge-holding container.

Fig. 3 is a plan view of the charge holding container; and,

Fig. 4 is a diagrammatic view showing how the bolt hole is punctured through the container.

Referring to the drawings, the garbage can 1 is of any usual form having the usual flanged cover 2 which preferably makes a reasonably snug fit over the top of the can. A container 3 containing some volatile poison which will prevent the development of the maggots is secured to the inside of the cover. The container 3 is preferably of the form shown in Figs. 2, 3, and 4. As shown, it consists of a flat metal can similar in shape to a tobacco can, but being formed of a foraminous sheet, of metal 4, preferably of lacquered tin plate to resist corrosion. The container 3 is preferably secured to the inside of the can cover by a bolt 5 which passes through the can cover and the container 3. Washers 6 are preferably provided for the bearing of the bolt head 7 and the bolt nut 8 respectively.

The container 3 is preferably attached so as to leave a small air space between it and the inside of the cover to permit free evaporation of the contents from the top of the container. This space will be provided as shown, in the usual curved garbage can covers by the curvature of the cover, but in case the surface is flat, the nut 8 need not be screwed up tight. This leaves an evaporating space over the protected top face of the container to allow evaporation to always take place, even if the lower exposed face should become clogged with dirt.

The container 4 is filled with a charge of some volatile substance which will give off vapors which are poisonous to the fly maggots and prevent their development. I prefer to use for this purpose, paradichlorbenzene. Paradichlorbenzene is a solid obtainable in crystalline granular form. It vaporizes rather slowly so that under normal conditions, a charge will last for several months in a garbage can. The paradichlorbenzene vapor is considerably heavier than air so that it gravitates from the charge at the top of the can down onto the garbage at the bottom of the can. The moist air of the garbage can apparently serves as a good vehicle to transport the vaporized paradichlorbenzene from the container 3 to the garbage in the bottom of the can. The paradichlorbenzene is a solid which goes directly into the vapor state according to the well known phenomenon of sublimation. As is well known, a gas tends to be adsorbed on particles, such as moisture particles. The atmosphere which is moisture laden from contact with the garbage, therefore, furnishes nuclei to transport the vaporized paradichlorbenzene. The paradichlorbenzene is in itself, water insoluble, so that it is not wasted by going into solution in the moisture particles or into the moist contents of the interior of the pieces of garbage, but will be deposited upon the surface of the pieces of garbage which are exposed to the flies or other egg-laying insects.

The odor of paradichlorbenzene is not objectionable to human beings. It does not exert a corrosive action on the metal of the garbage can, as do various chlorine liberating compounds. It volatilizes in the moisture laden atmosphere of the garbage can at about the correct rapidity so that while it is volatilized sufficiently rapidly to prevent the development of maggots, it does not volatilize so fast as to be wasteful. Of course, in a fairly tightly closed garbage can, the paradichlorbenzene builds up its own vapor pressure after a time, which tends to prevent its being dissipated as rapidly as would be the case if it were exposed to a current of fresh air.

While I prefer to use paradichlorbenzene, other volatile poisons for the fly maggots may be used, such for example as various halogenated derivatives of aromatic hydrocarbons, such as ortho-dichlorbenzene. Ortho-dichlorbenzene is a liquid which may be adsorbed on an inert carrier such as saw dust, kieselguhr, pumice, etc., so that it can be conveniently handled.

The paradichlorbenzene is furnished to the customer in one of the containers 3 which has its ends permanently secured by suitable can making machinery. The container as sold is wrapped with metal foil or similar protection to prevent the evaporating and wasting of the paradichlorbenzene. The container of paradichlorbenzene is preferably sold in a carton containing the bolt 5 and washers 6 and a small pointed punch indicated at 9 in Fig. 4. To apply the container, the user takes the punch 9 as indicated in Fig. 4 and punches a hole through the container 4. The user then punches a hole through the top of the garbage can, lays the container 3 is position and fastens it on with the bolt. When the charge of paradichlorbenzene is exhausted, the container 3 may be readily removed and a new one substituted.

The container 3 is preferably of the flat form shown because it can be readily attached to the inside of the garbage can by means of the bolt passed through the container. The flat container takes up but little room and does not project beyond the flange 10 of the can cover so that it is protected thereby if the can cover is dropped on the ground or walk beside the garbage can.

The container is preferably rigidly secured to the garbage can cover so that by banging the cover into place on top of the garbage can, a few of the crystals may be jarred or sifted through the holes in the container 3. Ordinarily, however, the paradichlorbenzene, particularly in a tight garbage can, will vaporize sufficiently so that enough of it will be transported to the surfaces of the garbage to prevent the development of maggots from insect eggs laid thereon. The paradichlorbenzene not only prevents the development of maggots in the garbage upon which the flies may have lighted and laid eggs before being thrown into the garbage can, but also keeps the flies out of the garbage can and tends to reduce the garbage odor.

The container in the form shown can be made at a relatively low price and furnished to the customer who can readily attach one to the inside of the garbage can cover where it will serve as a complete guard against the development of maggots over a period of several months before renewal.

While I specifically describe the preferred embodiment of my invention, it is to be understood that the invention is not so limited, but may be otherwise embodied within the scope of the following claim.

I claim:

A garbage can having a curved cover, a flat foraminous container having end portions and side walls uniting to form well defined edges for holding a volatile maggot poison, and securing means for detachably securing the container inside of the cover with certain of the edges in engagement with the curved portions of the cover, whereby an air duct is formed between the flat surface of the container and the curved surface of the cover.

In testimony whereof I have hereunto set my hand.

ALEXANDER LOWY.