Sept. 2, 1924. 1,507,434

G. SCHOLLMEYER

INSECTICIDE

Filed Jan. 17, 1921

FIG. 1.

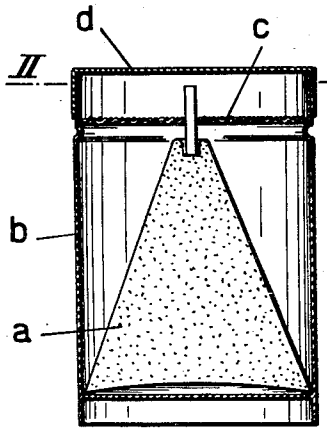
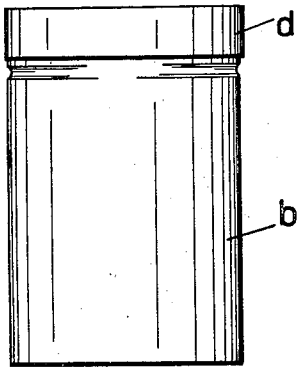


FIG. 3.



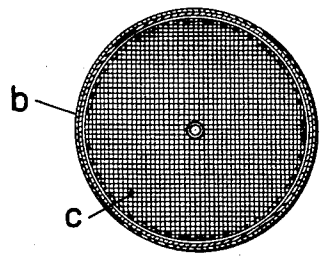


FIG. 2.

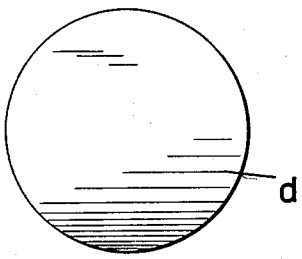


FIG. 4.

INVENTOR:

Gustav Schollmeyer

Patented Sept. 2, 1924. 1,507,434

UNITED STATES PATENT OFFICE.

GUSTAV SCHOLLMEYER, OF COTHEN, ANHALT, GERMANY, ASSIGNOR TO THE FIRM: CHEMISCHE FABRIK CÖTHEN, INHABER EMIL MUSCHE, OF COTHEN, ANHALT, GERMANY.

INSECTICIDE.

Application filed January 17, 1921. Serial No. 437,921.

To all whom it may concern:

Be it known that I, GUSTAV SCHOLLMEYER, a citizen of the German Empire, residing at Cothen, Anhalt, Germany, have invented certain new and useful Improvements in Insecticides, of which the following is a specification.

My invention relates to a method and means for the destruction of moths, more particularly of the clothes moth, its brood and larvæ, as also of all other insects and their brood injurious to furs and wearing apparel generally, and this in a perfectly simple and reliable manner, while at the same time enabling the articles treated in accordance with my method to be protected from a fresh intrusion of moths for the future. To this end, it has been hitherto customary to cause naphthalene and camphor in any of their forms to be evaporated. However, experience has shown that the object aimed at could either not be achieved at all or but to a very inadequate measure by the mere evaporation of the aforesaid substances.

The essential feature of the method according to the present invention consists in the vapours of naphthalene or naphthalene and camphor employed being developed by the gradual burning down of a solid body made of a mixture of naphthalene or camphor and naphthalene with pulverulent coal or wood meal and saltpetre or other substances suitable for promoting combustion, and with or without agglutinants. The naphthalene vapours or vapours containing naphthalene thereby developed produce a most excellent effect, as the hot vapours penetrate every part of the article treated, while at the same time, the finely divided naphthalene comes to settle upon the said articles and by subsequently evaporating prevents any fresh intrusions of moths or the like. My improved method is not confined in its practical realization to any special apparatus and may moreover be readily carried out in every household, which is not the case with the methods hitherto known in which naphthalene vapours are made use of, since these always require an extensive apparatus in order to enable them to be carried into effect. Preferably the solid bodies employed for the purpose specified have the shape of small cones and consist of a mixture of naphthalene or naphthalene and camphor with pulverized coal or wood meal and saltpetre or other substances likely to promote combustion, and are prepared with or without the aid of agglutinants. The apex of the burning cone is preferably provided with a cap of impregnated cellulose or spunk to facilitate the lighting.

When once lighted, the cones gradually glow down and in so doing develop naphthalene vapours. The ratio of combination of the ingredients employed in the making of the vapour developing bodies must be such that the glowing temperature will not attain the flashing-point of naphthalene. I have moreover found that the destruction of moths and similar insects and their brood will be rendered still more effective and rapid on formaldehyde being mixed with the naphthalene vapours in a certain definite proportion. This may preferably be achieved by adding to the mixture of which the glow cones are to be made, paraformaldehyde in a pulverulent state or polymerized paraformaldehyde and this in a quantity corresponding to about one-half of the weight of the naphthalene employed. In the latter case, the mixture is dephlegmated before compressing by subjecting it to a careful evaporation at temperatures up to about 40° C., at which neither a sublimation nor a decomposition of the paraformaldehyde are liable to occur. However, the paraformaldehyde may also be added to the mixture in any other proportions deemed expedient.

As a result of the high temperature created by the glowing or burning down of the solid body, the formaldehyde liberated therefrom comes to combine itself with the naphthalene vapours, at the same time developed, to a gaseous mixture in which, as tests have shown, larvæ cannot exist which are even more difficult to destroy than the larvæ of the clothes moth.

In the drawings affixed to this specification and forming part thereof, a device suitable for carrying my improved method into effect is illustrated by way of example. In the drawings—

Fig. 1 is a longitudinal section,

Fig. 2 is a cross section on line II—II in Fig. 1,

Fig. 3 is a side elevation and

Fig. 4 is a plan.

Referring to the drawings, *a* is the conical

body made of the afore-indicated ingredients, and which may be provided with a small cap of spunk or the like. The said cone is housed in a tin box *b*, the opening of which is covered by a wire netting *c*. When not in use, the box is adapted to be tightly closed by a cover *d*, thereby preventing an evaporation of the naphthalene and ensuring an almost unlimited durability of the means as such.

Previous to being put in use, the cover is removed, the point of the glow cone lighted and the box together with the body placed in the room, wardrobe or trunk, musical instrument (such as piano or harmonium) or below the upholstered ware to be treated, whereupon as the cone *a* burns down, vapours are developed which serve to effectively destroy the moths or other insects, their brood and larvæ.

I claim:

1. The method of protecting clothes and the like against the attack of insects, consisting in promoting flameless low temperature combustion of a comburent intermixed with naphthalene in such manner as to cause the sublimation of naphthalene and its deposition on the articles to be protected.

2. As a new product, a solid mixture of naphthalene and a substance adapted to promote combustion, the proportion being such that the mixture on being ignited will burn down slowly without a flame and develop naphthalene vapors.

3. As a new product, a solid mixture of naphthalene and a substance adapted to promote combustion, the proportion being such that the mixture on being ignited will merely glow at a temperature below the flashing point of naphthalene.

4. As a new product, a solid mixture of naphthalene, a further substance adapted on being heated to develop insect destroying vapors and a substance adapted to promote combustion, the proportion being such that the mixture on being ignited will merely glow at a temperature below the flashing point of naphthalene.

5. As a new product, a solid mixture of naphthalene a substance adapted, on being heated, to develop formaldehyde vapors, and a substance adapted to promote combustion, the proportion being such that the mixture on being ignited will merely glow at a temperature below the flashing point of naphthalene.

6. As a new product, a solid mixture of naphthalene and a substance adapted to promote combustion, the proportion being such that the mixture on being ignited will burn down slowly without a flame and develop naphthalene vapors and a primer of easily ignited material attached thereto.

7. As a new article of manufacture, the combination of a conical candle containing naphthalene and a substance adapted to promote combustion, a primer on top of said candle, a metal box surrounding said candle and a grid closing said box and extending between said candle and said primer.

In testimony whereof I affix my signature.

GUSTAV SCHOLLMEYER.