

"Insect Repellant Devices"

This invention relates to insect repellant devices of the kind usually known as mosquito coils.

Mosquito coils are made from a material which is combustible and which, when it burns, gives off insecticide and/or insect repellant fumes. Conventional mosquito coils are usually very brittle and therefore easily broken, being moulded from a mixture of materials to form a self-supporting coil construction.

It is an object of this invention to provide a novel form of insect repellant device which acts in use in the manner of a mosquito coil, but which is much easier and more convenient to handle than conventional mosquito coils.

According to the present invention there is provided an insect repellant device comprising a flexible backing sheet of incombustible or slowly combustible material on to which is printed an elongate band of combustible material comprising a mixture of a filler and active insect repellant and/or insecticide chemicals, the elongate band being in the form of two substantially concentric coiled tracks which are joined together at their inner ends so as to have interleaved convolutions and which have their outer ends positioned adjacent the edge of the backing sheet.

In one embodiment of the invention the coiled tracks are of generally square configuration having rounded corners.

In another embodiment of the invention the coiled tracks are of generally circular configuration.

The invention will now be described by way of example with reference to the accompanying drawings in
5 which:

Figure 1 is a plan view of a mosquito coil constructed in accordance with the invention;

Figure 2 is an edge view thereof; and

Figure 3 is a mosquito coil of alternative
10 form constructed in accordance with the invention.

Figure 1 shows a mosquito coil comprising a

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backing sheet 10 of thin flexible material such as relatively thick paper which, however, is impregnated to render it incombustible or slowly incombustible. The backing sheet is of generally rectangular form with two cut-outs adjacent opposite corners respectively.

Printed on the one surface of the backing sheet is a continuous coiled band 11 in the form of two coils having respective outer ends disposed near the two opposite corners of the backing sheet respectively and the two coils being joined at the centre. The coiled band 11 is of generally rectangular overall configuration as shown. The paper edge at either corner, and thus the end of the coil, can be lit and it will smoulder for a substantial period as the material is progressively consumed.

Figure 3 shows an alternative form of the coil also on a paper backing sheet 12, but in this case the coiled band 13 is of overall circular configuration having its two ends disposed near a pair of cut-outs in the two opposite side edges of the backing sheet 12.

The edge view shown in Figure 2 illustrates the depth of the material forming the coiled band 11 or 13 on the backing sheet 10.

The material from which the coil is formed in one example comprises the following mixture formulation, the ingredients being given in proportions by weight.

Fillers:

alpha starch	8%
gum wood powder	16%
wood powder	3%
Charcoal powder	72%

Chemicals:

pynamin forte	0.4%
inert ingredient	0.5%
perfume	0.1%

The use of the charcoal powder comprising the main proportion of the filler is an important feature of the mixture and gives the coil a black colour. This may be conveniently contrasted onto a backing sheet which may be green. The materials chosen afford a certain flexibility to the finished product which makes it easier and more convenient to handle than conventional mosquito coils. The material burns to give off insect repellent and/or insecticide fumes.

The process for the manufacturing of the coil comprises first mixing the filler ingredients in dry form in their correct percentages as given above. Next the active chemical ingredients are mixed with an emulsifier. The perfume may be used if desired.

The chemical ingredients are mixed with water and these are then mixed with filler materials until a paste is formed. The paste can be screen printed onto the paper backing sheet. The paper backing sheet may be in roll form. A drying process may be used before

or after packing into the required sizes.

The active chemical ingredients may be other than those described. Pyrethoid insecticides such as Pynamin Forte of Technical Grade or Esbiothrin or natural
5 Pyrethrin may be used.

Other equivalent filler materials or ingredients for filler materials may be substituted for those described.

CLAIMS

1. An insect repellant device comprising a flexible backing sheet of incombustible or slowly combustible material on to which is printed an elongate band of combustible material comprising a mixture of a filler and active insect repellant and/or insecticide chemicals, the elongate band being in the form of two substantially concentric coiled tracks which are joined together at their inner ends so as to have interleaved convolutions and which have their outer ends positioned adjacent the edge of the backing sheet.
2. A device according to claim 1, wherein the coiled tracks are of generally square configuration having rounded corners.
3. A device according to claim 1, wherein the coiled tracks are of generally circular configuration.
4. A device according to claim 1, 2 or 3, wherein the backing sheet is substantially square.
5. A device according to any one of the preceding claims, wherein the filler of the material of the band is prepared by mixing the following ingredients, in proportion by weight of the combustible material:

alpha starch	8%
gum wood powder	16%
wood powder	3%
charcoal powder	72%
6. A device according to any one of the preceding claims, wherein the active chemicals of the band, an



insecticide and an inert ingredient, are prepared by mixing the following ingredients, in proportion by weight of the combustible material:

Pynamin forte	0.4%
inert ingredient	0.5%

7. A device according to claim 6, wherein a perfume is added as part of the active chemicals.

8. A device according to claim 7, wherein the proportion by weight of perfume in the combustible material is 0.1%.

9. An insect repellent device substantially as hereinbefore described with reference to and as shown in Figures 1 and 2 of the accompanying drawings.

10. An insect repellent device substantially as hereinbefore described with reference to and as shown in Figure 3 of the accompanying drawings.

