

(12) PETTY PATENT
(19) AUSTRALIAN PATENT OFFICE

(11) Application No. AU 199940180 B3
(10) Patent No. 711994

(54) Title
A member to control odours and/or vermin in a refuse bin

(51)⁶ International Patent Classification(s)
B65F 001/14 B65D 053/08

(21) Application No: **199940180**

(22) Application Date: **1999.07.16**

(43) Publication Date : **1999.10.28**

(43) Publication Journal Date : **1999.10.28**

(45) Granted Journal Date : **1999.10.28**

(71) Applicant(s)
Kevin Joseph Marsh

(72) Inventor(s)
Kevin Joseph Marsh

(74) Agent/Attorney
CULLEN and CO,GPO Box 1074,BRISBANE QLD 4001

(56) Related Art
DE 29716734
GB 2198062
JP 07-315506

EXPLANATORY NOTE

The member is in the form of a loop which consists of a rubber or sponge ring which is impregnated with a desirable insecticide agent and a perfume agent. The member 15 has a flat bottom wall 16 which is coated with a press-stick adhesive and has a peel-off protective layer 17.

ABSTRACT

A refuse bin treatment member which is elongate and which is placed entirely about the mouth of the bin and is fixed in such a manner that it does not inadvertently fall off, for instance when the bin is emptied, the member having treatment means to treat undesirable properties such as vermin and/or odours.

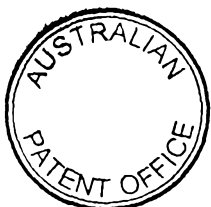
THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

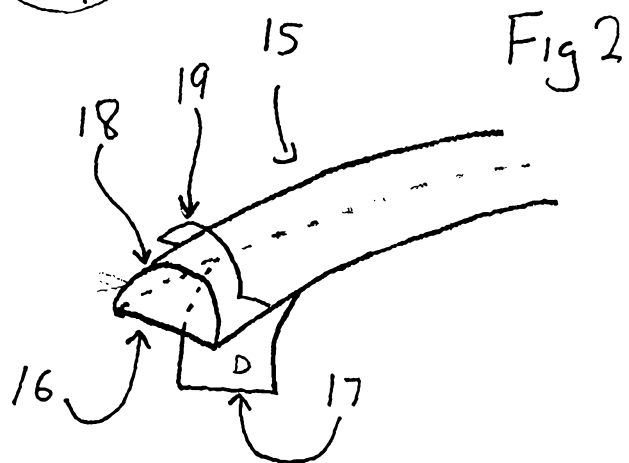
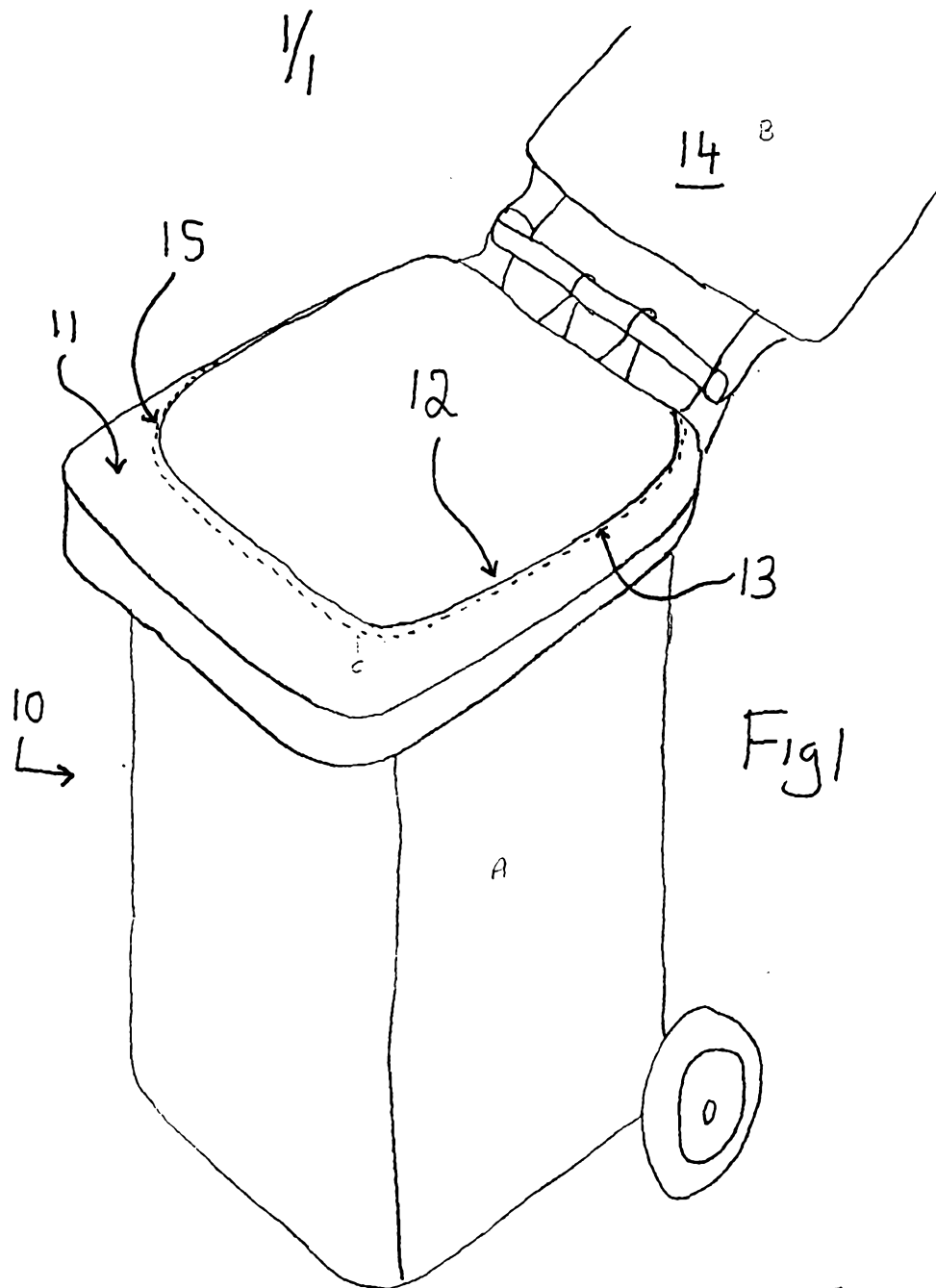
1. A refuse bin treatment member substantially as hereinbefore described with reference to the drawings.

DATED this 26th day of August 1999

5

Kevin Joseph MARSH
By his Patent Attorneys
CULLEN & CO.





AUSTRALIA
Patents Act 1990

COMPLETE SPECIFICATION
FOR A PETTY PATENT

Name of Applicant:	Kevin Joseph MARSH
Actual Inventor:	As above
Address for Service:	CULLEN & CO., Patent & Trade Mark Attorneys, 240 Queen Street, Brisbane, Qld. 4000, Australia.
Invention Title:	A MEMBER TO CONTROL ODOURS AND/OR VERMIN IN A REFUSE BIN

The following statement is a full description of this invention including the best method of performing it known to me:

A MEMBER TO CONTROL ODOURS AND/OR VERMIN IN A REFUSE BIN

This invention relates to a member which is attachable about the mouth of a refuse bin and which is impregnated or otherwise contains treatment means to treat undesirable properties such as vermin, odours and the like. The member is particularly suitable for large refuse bins, also known as wheelie bins. The invention will be described with reference to such bins but it should be appreciated that it need not be limited thereto.

Wheelie bins are widely used in Australia and many overseas countries as refuse bins for domestic use. The bins are made of strong plastic material, and the bottom of the bin is provided with an axle and a pair of wheels. The upper end of the bin has a handle which allows the entire bin to be tipped and wheeled around. The top of the bin has an open mouth about which is a rather large horizontal rim. A large plastic lid is pivotally attached to the bin and overlies the open mouth.

The bin lid and the bin do not properly seal. There are many reasons for this including manufacturing tolerances, and deformation or denting of the bin lid over time. The gaps or spaces between the bin and the bin lid provide an entry point for flies and other vermin.

As these bins are fairly large, and are usually emptied only once a week, it is common for waste material in the bin to rot or to decay. This becomes an ideal breeding ground for flies with the resultant infestation of the bin with maggots. Foul odours also emanate from the bin over time.

The present invention is directed to a member, for instance a rubber or foam ring, which can be positioned about the mouth of the bin. The member can be impregnated with treatment materials, for instance insecticides and fragrances. The member can function to kill any flies, cockroaches and other vermin attempting to enter the bin. The member may contain fragrances to neutralise or mask any foul odours from the bin. The member can be made resilient and be sized such that the bin lid can at least partially seal against the member thereby reducing or eliminating any gaps between the bin and the bin lid. When the efficacy of the member has been exhausted or reduced, it can be simply removed and dropped into the bin and

a fresh member can be purchased and placed around the bin mouth.

It is an object to provide a member which may overcome the abovementioned disadvantages or provide the public with a useful or commercial choice.

5 Throughout the specification and claims, unless the context requires otherwise, the term "comprise" or variations such as "comprises" or "comprising" will be understood to imply the inclusion of a stated integer or group of integers but not the exclusion of any other integer or group of integers.

10 In one form, the invention resides in a refuse bin treatment member which is elongate and which is placed entirely about the mouth of the bin and is fixed in such a manner that it does not inadvertently fall off, for instance when the bin is emptied, the member having treatment means to treat undesirable properties such as vermin and/or odours.

15 In another form, the invention resides in the member as described above wherein the member is formed of a resilient material which is impregnated or otherwise contains the treatment means, the member having a flat bottom wall which can stick onto the bin and which has a peel off protective layer, and a rounded upper wall which is sized such that the bin lid
20 can at least partially seal against the upper wall when the lid is closed, the upper wall having a peel off protective layer.

 In another form, the invention resides in a bin treatment member which is placeable about the mouth of a bin and is fixed thereto such that it does not inadvertently fall off, the member having treatment means to treat
25 undesirable properties, for instance vermin and/or odours.

 The member is elongate and preferably has a length to allow it to extend entirely about the mouth of the bin. In one form, the member may be purchased in a roll and can be cut to length and placed about the bin mouth. In another form, the member may be purchased having a pre-
30 determined length such that it is simply placed about the bin mouth. The member may be pre-shaped to fit around the bin mouth. For instance, the mouth of a wheelie bin is typically substantially square and therefore the

member may also be a square loop.

In one form, the member has a cross-sectional size or thickness which is sufficient to allow the bin lid to rest on or against the member when the lid is closed. The member may be compressible or resilient to ensure that
5 the lid properly seals to the member to minimise or eliminate the formation of any gaps.

In a particular form of the invention, the member may sit about the bin mouth but within the confines of the lid when the lid is closed. In this form of the invention, the member can be protected against rain, sun and the
10 like. In this arrangement, it is preferred that the member is positioned such that it sits closely spaced from or against the inside periphery of the lid, again to minimise any gaps between the lid and the bin.

It is preferred that the member sits about the mouth of the bin and on the outside of the mouth such that when the bin is emptied, there is
15 little likelihood of the bin contents dislodging the member or contaminating the member.

The member could be attached to the inside of the bin lid and in such a manner that when the lid is closed, the member sits about the bin mouth.

20 The member may comprise an impregnated sponge-like material which can be impregnated by any desirable treatment means including insecticides, fragrances, odour control or reducing agents, vermicides, and the like. These treatment materials can be impregnated into the member, coated onto the member, or coated and impregnated. If
25 desired, the treatment member may itself consist of or substantially comprise a treatment means. The treatment member may be of a slow release type to allow the member to remain active for a fairly long period of time, e.g. 1 to 3 months.

The member is attached to the bin in such a manner that it does
30 not inadvertently fall off, for instance when the bin is inverted and emptied by a refuse truck. It is also desirable that the member can be removed when its efficacy has been reduced or if the member is damaged or otherwise requires

replacement. In one form, the member may be provided with a press-stick adhesive such that the member can be stuck onto the bin and adjacent the mouth of the bin. The member can include a protective peel-off layer such that this layer is initially removed to expose the press-stick adhesive face and thereafter the member can be stuck onto the bin.

In one form of the invention, the member has a planar bottom wall containing the press-stick adhesive and the peel-off protective layer, and this bottom wall can make good contact with the bin surface.

The remainder of the member may be curved, domed, or otherwise shaped. The remaining portion of the member may also be provided with a peel-off protective layer which, when peeled off, will release the treatment means.

In use, a member can be purchased and may be provided with a bottom peel-off layer to expose a press-stick adhesive, and a top peel-off layer to release the treatment means. The bottom layer is initially peeled off and the member is positioned about the mouth of the bin and stuck thereto. The top layer can then be peeled off to allow the treatment means to be released over time. It is preferred that the member is sufficiently robust such that when exhausted, it can be pulled off the bin surface as a single piece and then dropped into the bin for disposal.

An embodiment of the invention will be described with reference to the following drawings in which

Figure 1 shows a known domestic refuse bin (wheelie bin) showing the positioning of a treatment member.

Figure 2 shows a portion of the treatment member in enlarged detail.

Referring to the drawings, there is illustrated a wheelie bin which is entirely conventional and which has a large horizontal planar rim extending about the bin mouth. The bin mouth has a small (5 to 10mm) vertical rim which extends vertically upwardly from horizontal rim. The bin lid can pivot to the closed position where it sits roughly against horizontal rim and entirely over the small vertical rim.

The bin treatment member 15 (better illustrated in Figure 2) is shown in dotted outline in Figure 1 and extends about the mouth 12 of the bin and sits against the outside of the small vertical rim 13 but on top of the large horizontal rim 11.

5 The member is in the form of a loop which consists of a rubber or sponge ring which is impregnated with a desirable insecticide agent and a perfume agent.

 Better illustrated in Figure 2, member 15 has a flat bottom wall 16 which is coated with a press-stick adhesive and has a peel-off protective layer 17. Member 15 is semi-circular in cross-section and has a rounded
10 upper wall 18 which is also protected by its own peel-off layer 19.

 In use, the member is purchased and protective layer 17 is peeled off. The member is then stuck to horizontal rim 11 and about the mouth 12 of the bin. The protective layer 17 is thrown into the bin.
15 Thereafter, the top protective layer 19 can be peeled off and dropped into the bin which now results in the insecticide and perfume agents becoming released over time. The shape and size of member 13 can be such that it more properly seals lid 14 relative to rim 11 to minimise or eliminate gaps which can cause ingress of flies and release of foul odours.

20 The member can effectively kill any flies or cockroaches attempting to crawl into the bin and will neutralise or at least partially reduce any foul odours exiting from the bin. Any flies that fly into the bin when the lid is opened, can be killed by the slow release of the insecticide agent into the bin.

25 When the member is exhausted, it is sufficiently strong such that it can be prised off rim 11 and simply dropped into the bin after which a fresh member can be purchased and stuck onto the bin.

 In the embodiment, the member can be provided with a replacement date tag to alert the owner when the member should be
30 replaced.

 The member can reduce vermin and smells from the bin. The member does not become released during inversion and vigorous shaking of

the bin during the emptying process. The member can provide a cushioning effect to the lid to stop the annoying slamming noise of the lid if it is dropped.

It should be appreciated that various other changes and modifications may be made to the embodiment described without departing
5 from the spirit and scope of the invention.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A refuse bin treatment member substantially as hereinbefore described with reference to the drawings.

DATED this 26th day of August 1999

5

Kevin Joseph MARSH

By his Patent Attorneys

CULLEN & CO.

