



PATENT SPECIFICATION

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(54) Title: A flyscreen

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"A Flyscreen"

This invention relates to a flyscreen of the type comprising a framework having top, bottom and side portions and a reticulated member mounted across the aperture
5 formed by the framework.

Flyscreens have been used for many years in locations where it is desired to provide ventilation yet prevent entry of insects and the like into the location. Typically, flyscreens are used in warm climates and in places where food is being prepared
10 where cooking appliances cause an increase in temperature in the room thereby necessitating ventilation. The flyscreens allow a window or door to be opened for ventilation while preventing entry of insects into the room. This is particularly important when food is being prepared in the room as the presence of insects would be unhygienic and could lead to the spread of disease.

15 Typically, these flyscreens comprise a framework of a plastics or other such materials with a reticulated member such as a fine wire mesh mounted across the aperture formed by the framework. The flyscreens are then hingedly mounted across an ope of the building. When it is desired to provide ventilation the flyscreen is momentarily pivoted apart from the ope, the window or other ope closure is opened and the
20 flyscreen is replaced across the ope. Although relatively simple to construct there is a major disadvantage with this type of flyscreen. In order to be completely effective, the flyscreen must form a tight seal with the ope framework. If the flyscreen does not form a tight seal with the ope framework insects and the like will be able to gain
25 access to the interior of the room through the gaps between the flyscreen and the ope framework. This requires the provision of other insect termination measures such as charged UV lamps.

30 Furthermore, different windows may have different locking mechanisms to secure the window in position which may protrude outwardly from the ope framework. In order to provide a tight seal around these ope frameworks the flyscreen framework will have to be either cut to incorporate the locking mechanism or made in such a way so that the locking mechanism does not contact the flyscreen framework. This requires a significant amount of additional work to be carried out in fitting the flyscreens

resulting in increased expense and reduced profit to the flyscreen fitter.

It is therefore an object of the present invention to provide a flyscreen that overcomes at least some of these disadvantages that is both simple and cost effective to manufacture and install.

Statements of Invention

According to the invention there is provided a flyscreen comprising a framework having top, bottom and side portions and a reticulated member mounted across the aperture formed by the framework, characterised in that each of the portions further comprises an elongate body member having a pair of seal retaining grooves for reception of a seal member formed substantially along its length. By having seal retaining grooves each portion of the framework will have a seal member substantially along their length, these seals may be used to close any gap between a flyscreen framework and the ope framework. In this way, a more efficient flyscreen that does not have excessive fitting requirements is produced. Furthermore, the flyscreen will be easier to fit and additional work will not have to be carried out to take into account locking mechanisms and other protuberances on ope frameworks.

In another embodiment there is further provided a flyscreen in which the pair of seal retaining grooves are oriented substantially orthogonally with respect to each other. By having the seal retaining grooves oriented substantially orthogonal to each other the choice may be made of the direction in which the seal member is oriented with respect to the framework when fitting the flyscreen. In some instances it may be useful to have the seal inwardly facing against an ope framework whereas in other instances it may be useful to have the seal laterally facing with respect to the flyscreen framework whereby the seal would rest against a ledge to form a tight seal between the flyscreen and the ope framework. Additionally, the laterally facing seals could form a tight seal between the framework and the uprights of an ope framework. This gives great flexibility to the individual fitting the flyscreen.

In a further embodiment of the invention there is provided a flyscreen in which the seal retaining grooves are substantially u-shaped in cross-section, the free ends of

the u-shaped section terminating in inwardly depending flanges for retention of the seal members. This is seen as a particularly useful configuration of the seal retaining grooves which allows for the body member to be constructed with the minimum of difficulty at the minimum cost.

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In one embodiment of the invention there is further provided a flyscreen in which each of the portions is formed from a moulded plastics material, the seal retaining grooves being formed integrally with the body member. This is seen as a particularly useful and inexpensive material to use and is both simple to construct and manufacture. Preferably, the moulded plastics material is PVC. Alternatively, each of the portions could be formed from a metal material. This is further seen as useful material to use in the production of a flyscreen.

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In a further embodiment of the invention there is further a flyscreen in which the seal members are brush seals. Preferably, the brush seals are constructed from polypropylene. These seals have been found to be particularly useful as they form a very flexible seal that will mould itself around any protuberances or other imperfections on the open framework thereby allowing a flexible seal to be made round the entire periphery of the flyscreen framework.

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Detailed Description of the Invention

The invention will now be more clearly understood from the following description of some embodiments thereof given by way of example only in which:-

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Fig. 1 is a front view of a flyscreen mounted adjacent an open closure with the open closure in a closed configuration;

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Fig. 2 is a cross sectional view of the bottom portion of Fig. 1 along the lines A - A;

Fig. 3 is a cross sectional view similar to Fig. 2 with a brush seal inserted in one of the seal retaining grooves;

Fig. 4 is a cross sectional view similar to Fig. 2 with a brush seal inserted in the other of the seal retaining grooves;

Fig. 5 is a perspective view of the flyscreen of Fig. 1

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Fig. 6 is a perspective view of the flyscreen of Figs. 1 and 5 with the ope closure in an open configuration; and

Fig. 7 is a perspective view from below of the flyscreen of Fig. 6.

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Referring to the drawings and initially to Fig. 1 thereof there is shown a flyscreen, indicated generally by the reference numeral 1 comprising a framework 3 having top 5, bottom 7 and side 9a, 9b portions and a reticulated member 11 mounted across the aperture formed by the framework. The framework 3 is hingedly mounted about hinges 13a, 13b, on an ope framework 15. An ope closure (not shown) is in turn mounted on the ope framework 15 and is secured in position by way of handle 17 and raised abutting portion 19 mounted on the ope framework in the known manner.

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Referring to Fig. 2 of the drawings there is shown a cross sectional view of the framework bottom portion 7 taken along the lines A - A. The framework comprises an elongate body member 21 having a pair of seal retaining grooves 23, 25 formed substantially along its length. The seal retaining grooves 23, 25 are arranged substantially orthogonal to each other.

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Referring to Figs. 3 and 4 there is shown cross sectional views of the elongate body member similar to that shown in Fig. 2 with the brush seals 27 located in the seal retaining grooves 23, 25 respectively. Each of the seal retaining grooves (23, 25) is substantially u-shaped in cross section, the free ends of the u-shaped section terminating in inwardly depending flanges (29a-d) for retention of the seal members in the u-shaped section of the seal retaining grooves. Referring in particular to Fig. 3, the seal member 27 is retained in the seal retaining groove by inwardly depending flanges 29(c) and 29(d). Similarly, referring in particular to Fig. 4, the seal member 27 is retained in seal retaining groove 25 by inwardly depending flanges 29(a) and 29(b).

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Referring to Figs. 5 to 7 inclusive there are shown various perspective views of the flyscreen 1 mounted on an ope framework 15. Referring in particular to Fig. 6 of the drawings the ope closure 32 may be held ajar to allow ventilation through the flyscreen into the location requiring ventilation. A seal is formed between the brush seal 27 and the ope framework 15 rather than the flyscreen framework 3 and the ope framework 15. In this way, a degree of fitting and manufacturing tolerance is introduced as the seal will remain tight between the flyscreen and the ope framework regardless of whether there are raised abutting portions and the like on the ope framework. The brush seal 27 will allow an overlap between the flyscreen and a protuberance 19 measuring 5.3mm high and 6.3mm deep to be accommodated without breaking the seal between the brush seal 27 and the ope framework 15. There will be no gaps to allow through passage of insects between the seal and the ope framework. Furthermore, the seal may be positioned so that it is inwardly or laterally facing with respect to the ope framework which allows for different and varied sizes of ope framework to be catered for.

In use, when ventilation is required, the flyscreen 1 is pivoted about hinges 13a, 13b clear of the handle 17. The handle is operated to pivot the ope closure 32 away from the ope framework 15 to create a gap through which air can pass. The flyscreen is then pivoted back into position covering the aperture formed by the ope framework thereby forming the seal between the brush seal 27 and the ope framework 15. A clip (not shown) may be provided on either the ope framework or the flyscreen framework 3 to hold the flyscreen in position adjacent the ope framework.

Throughout this specification the flyscreen has been used in terms of flyscreens for windows. It would be understood however that the flyscreen could indeed be for doors or any other opening in a building that requires ventilation. The materials used for the brush seals are preferably polypropylene as these provide a very flexible seal that will maintain a tight connection between the flyscreen framework and the ope framework. The polypropylene fibres will easily mould themselves around any raised abutting portion on the ope framework. Although the frame 3 is shown hingedly connected to the framework it will be understood that the frame could be fixed in position or indeed be slidably mounted on the framework.

5 The brush seals may in certain circumstances be placed in both of the seal retaining grooves 23, 25 so that the combined brush seals protrude both inwardly and laterally from the flyscreen frame at an angle of roughly 45° from the grooves. This is particularly useful in certain circumstances when a diagonally facing brush seal is required. This may be used adjacent the hinges of the flyscreen framework which is particularly useful as a tight seal around the hinges may be provided by a seal in this orientation.

10 Finally, the framework is preferably moulded from a plastics material such as PVC on the like which is both lightweight and relatively simple to use. Alternatively a lightweight metal, preferably aluminium, could be used which would also be relatively simple to mount on the open framework. The various sections of the framework may be interconnected by way of internal joint members disposed in the hollow portion of
15 the sections thereby forming mitre joints for the framework.

In this specification the terms "comprise, comprises, comprised and comprising" and the terms "include, includes, included and including" are all deemed to be interchangeable and should be afforded the widest possible interpretation.

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The invention is in no way limited to the embodiments hereinbefore described but may be varied in both construction and detail within the scope of the claims.

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Claims

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1. A flyscreen (1) comprising a framework (3) having top (5), bottom (7) and side (9a, 9b) portions defining an aperture, the flyscreen further comprising a reticulated member (11) mounted across the aperture formed by the framework (3), each of the top (5), bottom (7), and side portions (9a, 9b) further comprises an elongate body member (21) having a pair of seal retaining grooves (23, 25) formed substantially along it's length for reception of a seal member (27).
 2. A flyscreen (1) as claimed in claim 1 in which the seal retaining grooves (23, 25) are substantially u-shaped in cross-section, the free ends of the u-shaped section terminating in inwardly depending flanges (29(a)-(d)) for retention of the seal members (27).
 3. A flyscreen (1) as claimed in claim 1 or 2 in which the pair of seal retaining grooves (23, 25) are oriented substantially orthogonally with respect to each other, one of the seal retaining grooves being substantially coplanar with respect to the framework (3) and the other of the seal retaining grooves being substantially perpendicular with respect to the plane of the framework.
 4. A flyscreen (1) as claimed in any preceding claim in which the flyscreen further comprises a brush seal (27) mounted in one of the seal retaining grooves in each of the top (5), bottom (7) and side portions (9a, 9b).
 5. A flyscreen (1) substantially as hereinbefore described with reference to and as illustrated by the accompanying drawings.

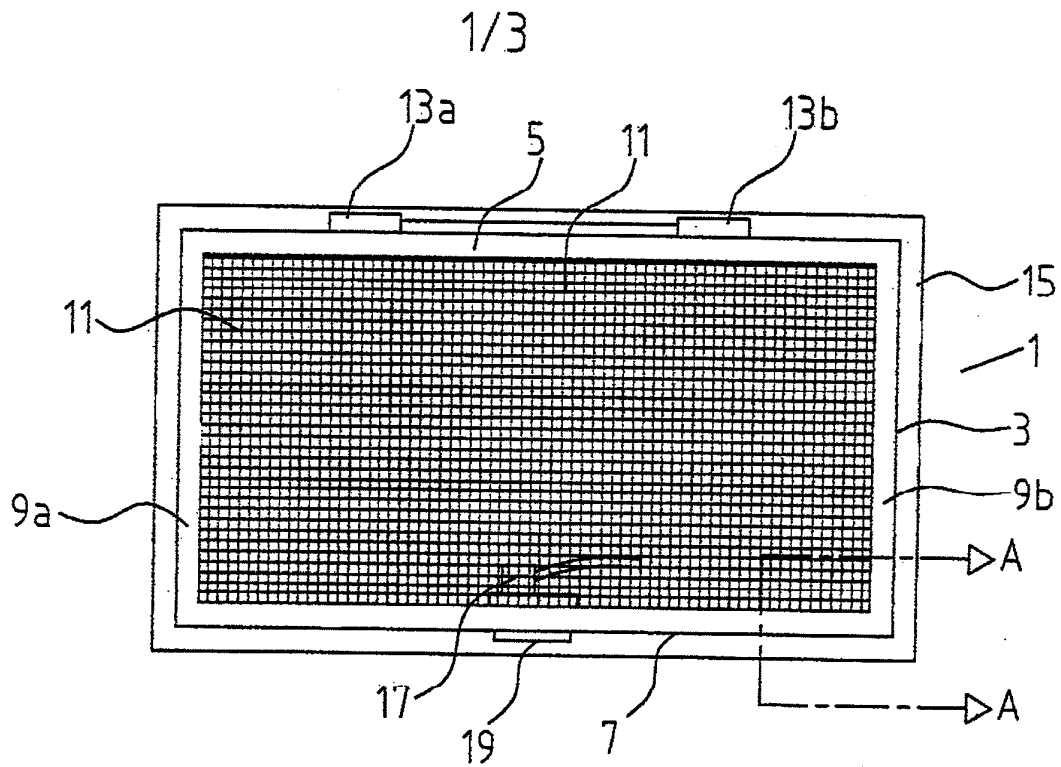


Fig. 1

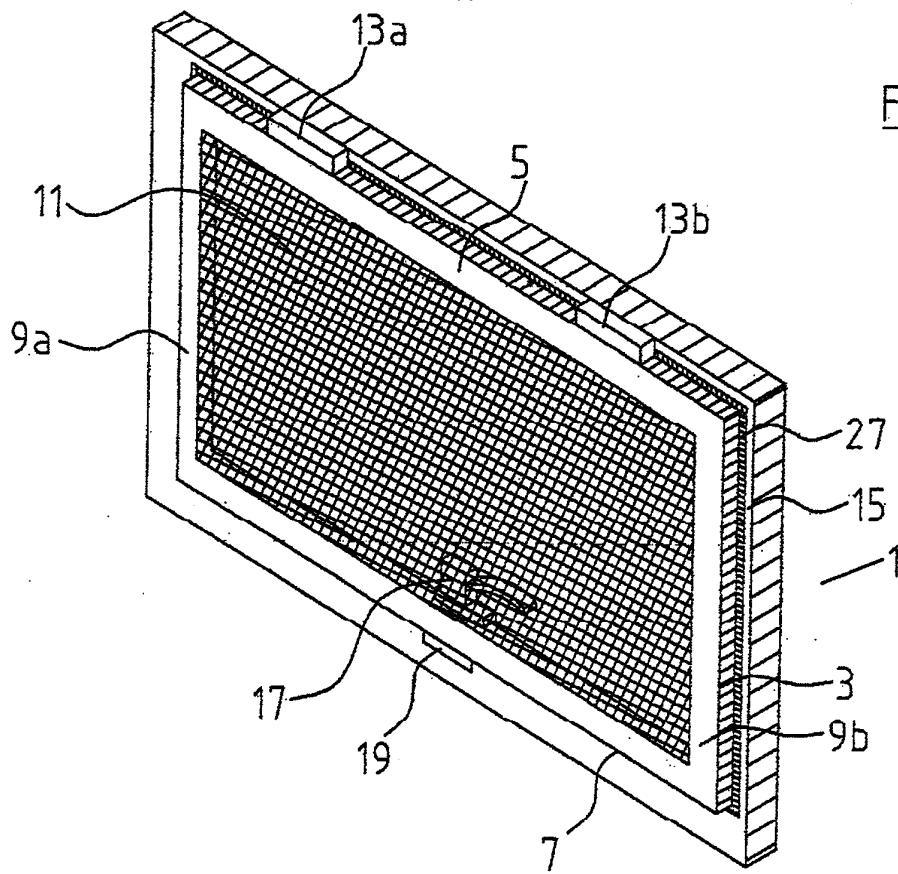
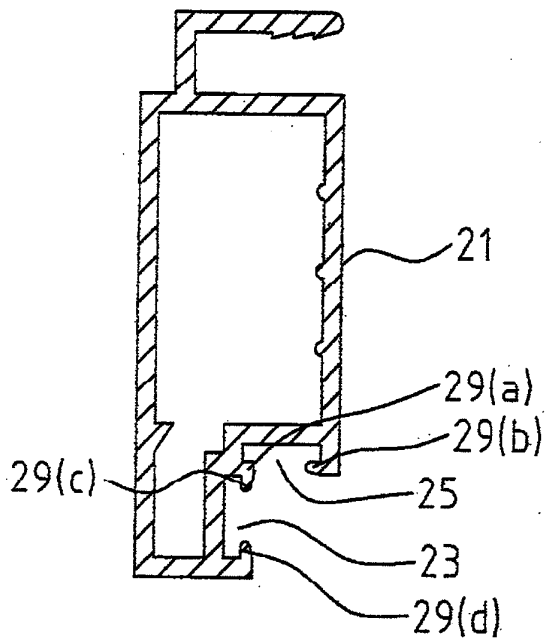
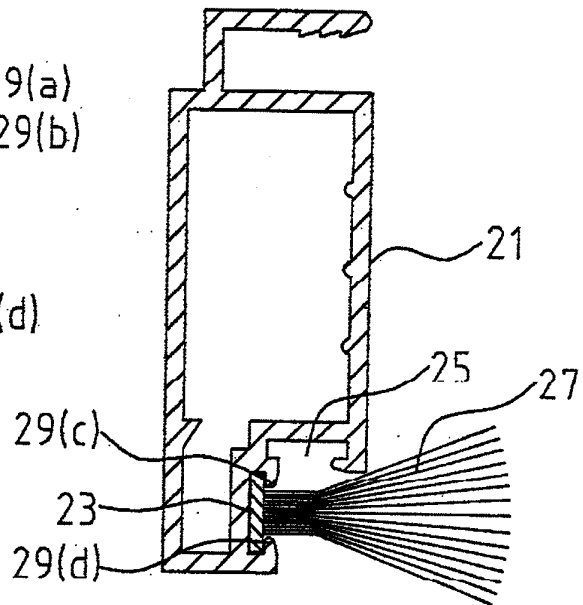
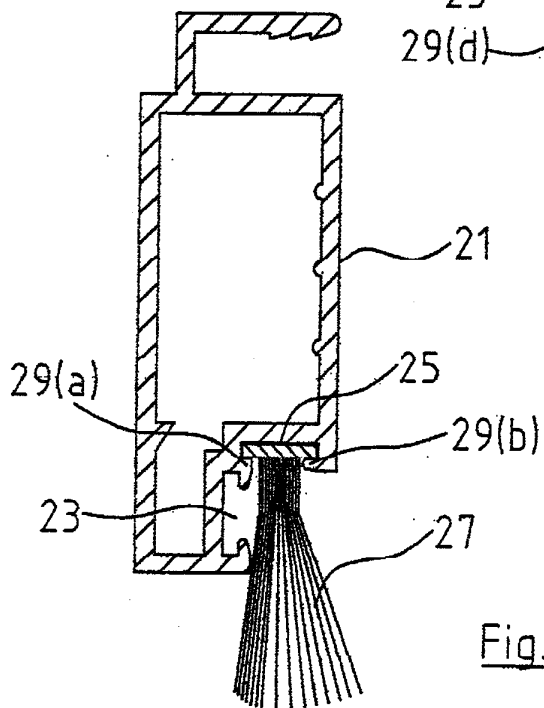


Fig. 5

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Fig. 2Fig. 3Fig. 4

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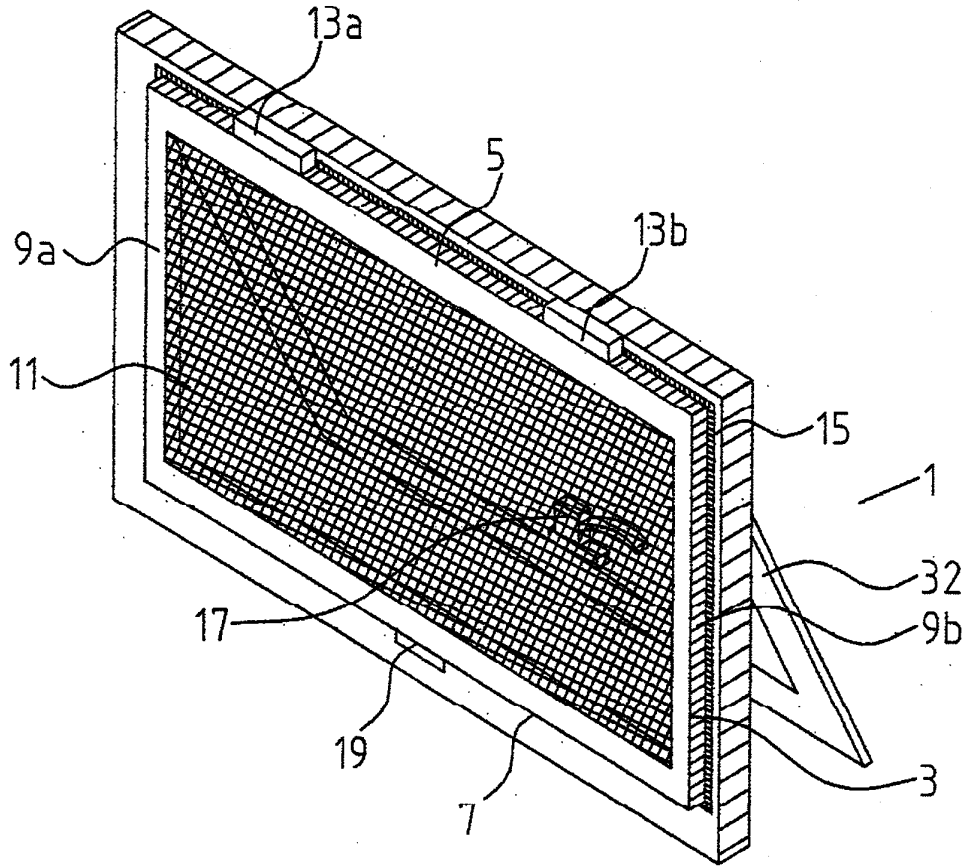


Fig. 6

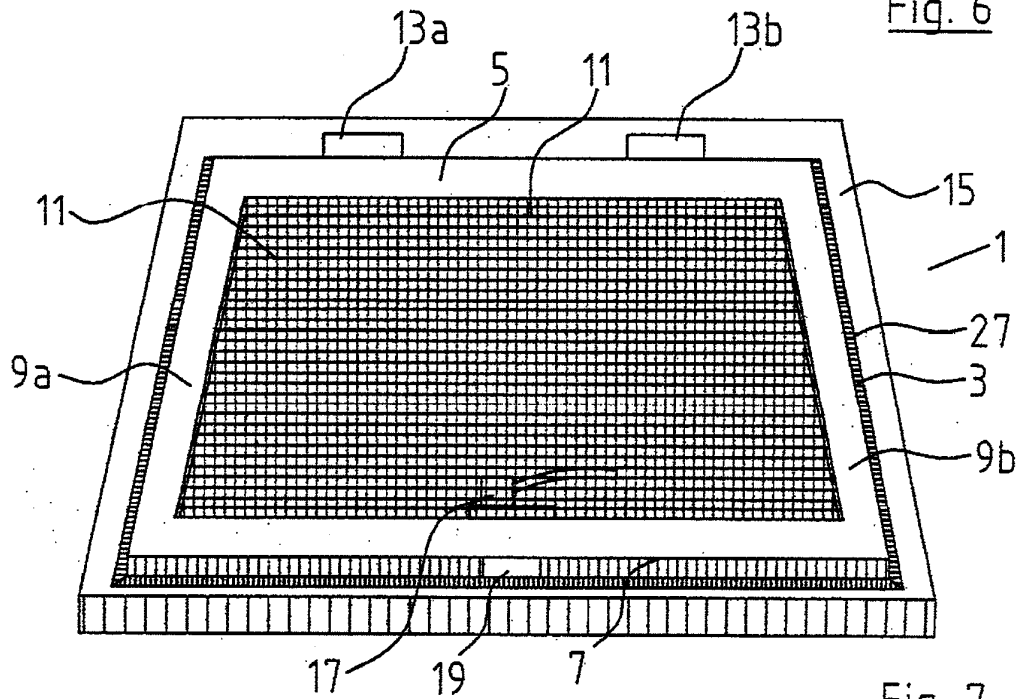


Fig. 7