May 19, 1953 R. E. McINTYRE 2,639,004

WINDOW AIR FILTER

Filed May 7, 1951

Fig 1

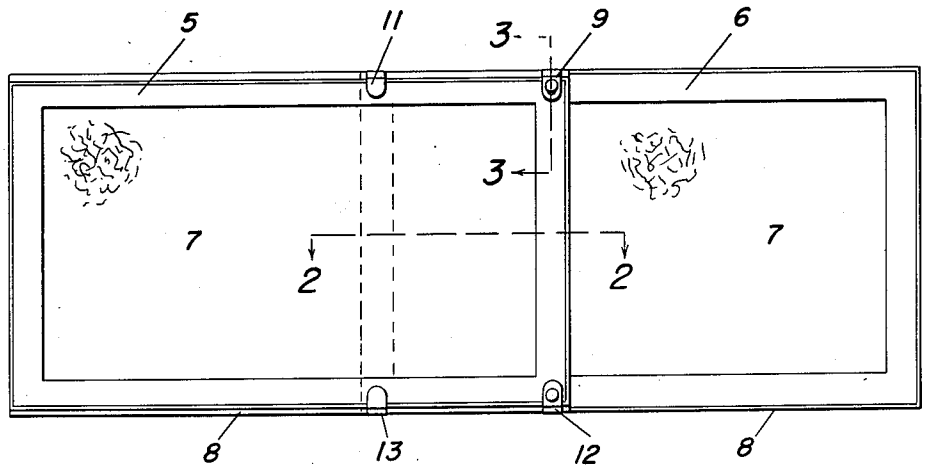
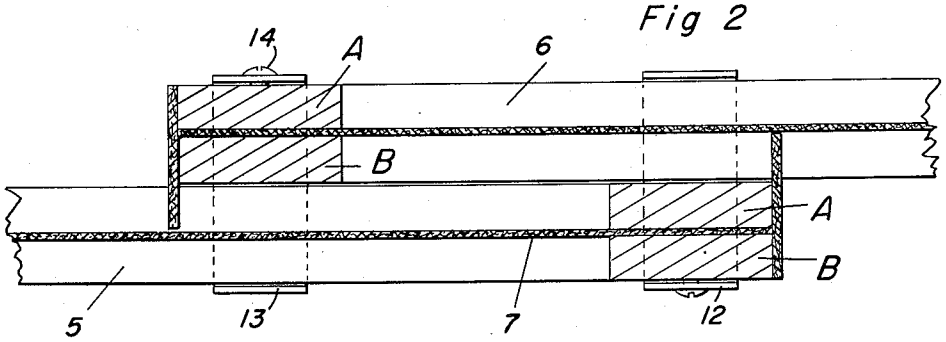


Fig 2



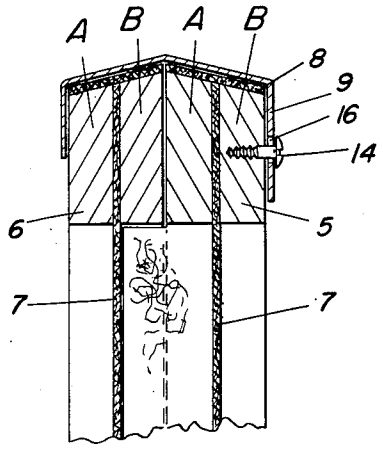


Fig 3

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WINDOW AIR FILTER

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1 Claim. (Cl. 183—51)

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This invention relates to improvements in window screens and air filters and has particular reference to an expansible or so-called sliding screen.

The principal object of this invention is to provide a screen which will tightly engage the window opening, thus preventing the ingress or egress of drafts or bugs around the edges of the screen, and at the same time to filter the air which is passing through the screen, instead of permitting dust and dirt to blow therethrough, as happens when ordinary wire screens are employed.

A further object is to provide fastening elements which are resiliently connected to the frames in such a manner that they become buried in the edging when the window or sill is moved thereagainst.

A further object is to produce a device which is easy to handle, neat in appearance and economical to manufacture.

Other objects and advantages will be apparent during the course of the following description. In the accompanying drawings forming a part of this specification and in which like numbers are employed to designate like parts throughout the same,

Fig. 1 is a side elevation of my improved screen and air filter;

Fig. 2 is a cross-sectional view taken on the line 2—2 of Fig. 1 and on an enlarged scale; and

Fig. 3 is a fragmentary detailed cross sectional view taken on the line 3—3 of Fig. 1.

The ordinary sliding screen merely consists of two sliding frames, each of which carries screen wire, which frame may be expanded so as to fit a window of different width, and, when resting upon a sill, the sash may be moved downwardly thereagainst, thus screening the opening against large insects passing therethrough.

This type of screen, however, does not prevent small insects or dust from passing therethrough and also permits very objectionable drafts.

Applicant has therefore devised a screen which is not only a screen, but also a window air filter, which screens out dust, small insects, and at the same time allows a circulation of air therethrough without undue drafts.

In order to form a tight seal for the sliding sections of my filter, I bind the edges of both sections with a soft felt-like material, so that the same will act as a seal against any portions of the windows or frames which it contacts.

In order to permit sliding of the sections, I employ retainers which are loosely mounted so that they will imbed themselves into the felt-like material when contacted by the window frame or window.

In the accompanying drawings, wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numerals 5 and 6 designate two frame-like structures, each one of which is made up of a plurality of frames as

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shown at A and B, between which is mounted a filtering material as shown at 7.

This filtering material is a cellulose fibre material, having a considerable porosity, which will permit air to pass therethrough, but will screen out dust and dirt, so that the air passing therethrough is properly filtered.

Surrounding the margins of each frame is a felt-like strip 8, having an appreciable thickness so as to form a seal between the edges of the frame and any portion of the window or window frame which it contacts.

In order to slidably secure the frames together, I provide retainers 9 and 11 and 12 and 13. The retainers 11 and 13 are secured to the frame 6, as by a screw 14 (see Fig. 3), passing through a slot 16, which permits the retainers to have a sliding movement toward or away from each other.

The retainers 9 and 13 are attached to the frame 5 and function in the same manner.

The result of this construction is that the two frames may be moved toward or away from each other and when fitted into a window opening, the side margins will contact and seal against the sides of the window frame, while the bottom margins will contact the window sill and the upper margins will contact the lower portion of the window frame.

Due to the fact that the retainers are loosely mounted, they will become imbedded in the felt-like edging so that they will not interfere with the seal between the margins of the frames and the contacting surfaces.

As soon as the window is lifted to remove the screen, these retainers will be free to slide along their opposite frames and to retain the same in proper alignment.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that various changes relative to the material, size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claim.

Having thus described my invention, I claim:

A window air filter, comprising a pair of frames, each having filtering material stretched between the inner edges of said frames, each of said frames having a resilient edging for engaging the window and frame in which said filter is placed and retainers carried by each of said frames and slidably engaging the other of said frames, said retainers each being slidably secured to its respective frame, whereby said retainers will be imbedded in said resilient edging when contacted.

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