This invention relates to windows. Its principal object is the provision of cheap, simple means for securing a pane of glass in the sash window. Although not restricted thereto in all aspects, the invention is especially applicable to the conversion of existing single-pane into double-pane windows for the purpose of heat and sound insulation, prevention of frosting on the inner side of the window in winter, and the like.

As both panes are in the same sash, and not in separate sashes, as in the case of the ordinary storm window, the window can be readily opened and closed in exactly the same way as an ordinary single-pane window. Further, the space between the panes being hermetically sealed, snow cannot drift in and moisture cannot enter.

In its broad aspect, my invention provides a resilient retaining gasket or frame which surrounds a secondary glass pane which is pushed home against the window frame and mullions. The gasket may be moulded as a single piece, but it is usually desirable and far cheaper to use a rubber strip, conveniently formed by extrusion, having a channel in one face to receive the margin of the window pane. The strip is cut into lengths corresponding to the lengths of the sides of the pane with the ends mitred so that the sections of strip fit the margin of the pane like the moulding of a picture frame. The pane and attached strip sections are then slipped into place in the window sash. The pane and strip sections may be held in position by a wooden or other beading, but I prefer to use the friction of the rubber and, if desired, a suitable cement or even paint which increases the adhesion.

Various forms of construction may be employed in carrying out the invention, two forms being shown, by way of example, in the accompanying drawings, wherein:

Fig. 1 is a perspective view of a rubber strip constructed in accordance with the present invention;

Fig. 2 is a perspective view of a window pane with four sections of the rubber strip attached to its margins, ready for insertion in the window sash;

Fig. 3 is an elevation of a complete sliding-sash window embodying the invention;

Fig. 4 is a section on the line 4—4 of Fig. 3;

Fig. 5 is a section on the line 5—5 of Fig. 3;

Fig. 6 is a cross section of a modified form of rubber strip; and

Fig. 7 is a cross section of a portion of a window using the rubber strip shown in Fig. 6.

The invention is illustrated as applied to the conversion of a single-pane sliding-sash type of window into a double-pane window.

The rubber strip 10 has a channel 11 formed in one face to receive the margin of a supplementary pane 12. The other face of the channel has a moulded section of substantially complementary form to that of the ordinary window 10 sash. Preferably, a lateral extension 13 is provided as shown for the purpose not only of increasing the frictional engagement, but also for contacting the original window pane and thereby ensuring uniform spacing between the original 15 and supplementary panes. In addition, the extension 13 is curved outwardly as shown (Fig. 1) to increase the degree of frictional engagement with the window frame or mullion.

The complete window comprises jambs 15, lintel 18, sill 17 and two sliding sashes 16. The original pane 20 (see Fig. 5) rests against a shoulder 21 of the sash and is secured in place by a putty filler 22.

It is standard construction to mould the inner 25 face of the sash in substantially the sectional form shown in Fig. 5, so that the standard form of rubber strip is given a moulded form complementary to that shown for the sash. If desired, the outer part of the strip may be somewhat 30 larger than is called for by a strict duplication (in complementary form) of the sash moulding, so that, while the inner parts 12 of the strip sections have external dimensions slightly less than the internal dimensions of the sash so that they can be readily slipped into the sash, the outer moulded parts have to be sprung inwardly to get them into the position shown in Fig. 5. With the strip so constructed the outer parts frictionally grip the inner face of the sash and tend to hold the strip sections in place independently of any cement that may be used.

Different forms of strip may be used to suit other forms of window sashes.

The first step in applying a supplemental pane 45 to an existing window is to cut the pane to the requisite size. The next step is to cut four sections of rubber strip with mitred ends so that, when they are applied to the pane, the latter is enclosed like the frame around a picture, as shown in Fig. 2. Usually, but not necessarily, some suitable cement is applied to the outer faces of the four strip sections and then the entire unit is pushed into the window sash until the margin of the strip extensions 13 contacts the...
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20. A coat of paint over the exposed parts of the strip sections completes the work.

Some of the cheaper grades of window are made with unmoulded sashes; and in Fig. 6 is shown a form of strip 26 suitable for a window sash 24 of that type. As in this case there is no moulded part or shoulder for the strip to rest against, it is advisable to make the strip with a lateral extension 26 which normally extends outwardly from the supplemental pane 27 at an obtuse angle. When the pane 27 and its strip sections are pressed into place, the extensions 26 are pressed inwardly so that they frictionally engage the inner face of the sash.

I have used the word “rubber” generically since it is the type substance of a resilient, easily mouldable body. Obviously other compositions possessing such characteristics are suitable and I include them as well in the term.

What is claimed is:

1. A double window comprising a sash, a pane seated against a shoulder on the inner face of the sash, a second pane on the shoulder side of the first pane, and rubber strip sections engaging the inner face of the sash and formed with channels to receive the margin of the second pane, said strip sections having laterally extending portions for contacting the first pane and thereby ensuring uniform spacing between the panes.

2. A window comprising a sash, a pane seated against a shoulder on the inner face of the sash, a second pane on the shoulder side of the first pane, and rubber strip sections engaging the inner face of the sash, the sections having a sectional configuration substantially complementary to that of the inner face of the window sash and being formed with channels to receive the margin of the second pane and with laterally extending portions for contacting the first pane and thereby ensuring uniform spacing between the panes.

3. A rubber strip for securing window panes in position, having a channel adapted to receive the margin of a pane and a lateral extension adapted to contact a second pane in the same window sash and thereby ensure uniform spacing between the panes.

4. A resilient gasket for securing window panes in position adapted to receive the margin of a pane having a lateral extension adapted to contact a second pane in the same window sash and thereby secure uniform spacing between the panes and normally disposed as to increase the frictional engagement between the sash of said window and the extension.

5. A rubber strip for securing window panes in position, having one face formed with a channel adapted to receive the margin of a pane and the other face formed with a moulded section substantially complementary to that of the inner face of a window sash when the strip is in position in the sash, the strip also having a lateral extension adapted to contact a second pane in the same window sash and thereby ensure uniform spacing between the panes.

6. In combination, a window sash having a pane opening provided with a shouldered recess on one side thereof, said shoulder being shaped with a moulding section sloping away from the inner face of said opening towards the other side of said sash, a pane seated in said recess against said shoulder, a rubber strip frame seated against the moulding side of said shoulder and having outer surfaces substantially conforming to the moulding section, said frame being channelled on the inner face thereof, and a second pane seated in said channel.

7. A rubber strip for securing window panes in position, said strip having an enlarged section along one edge with a channel formed in said enlarged section on one face of said strip, and a reduced section of substantially uniform thickness along the other edge, said reduced section being curved transversely away from the channelled face of the strip.

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