

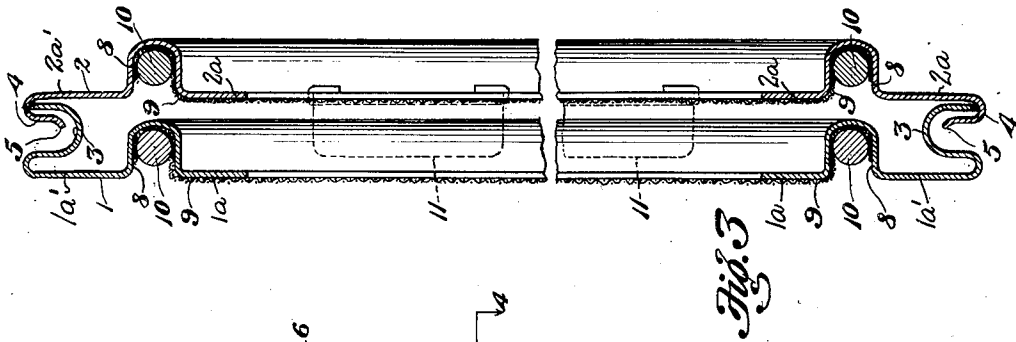
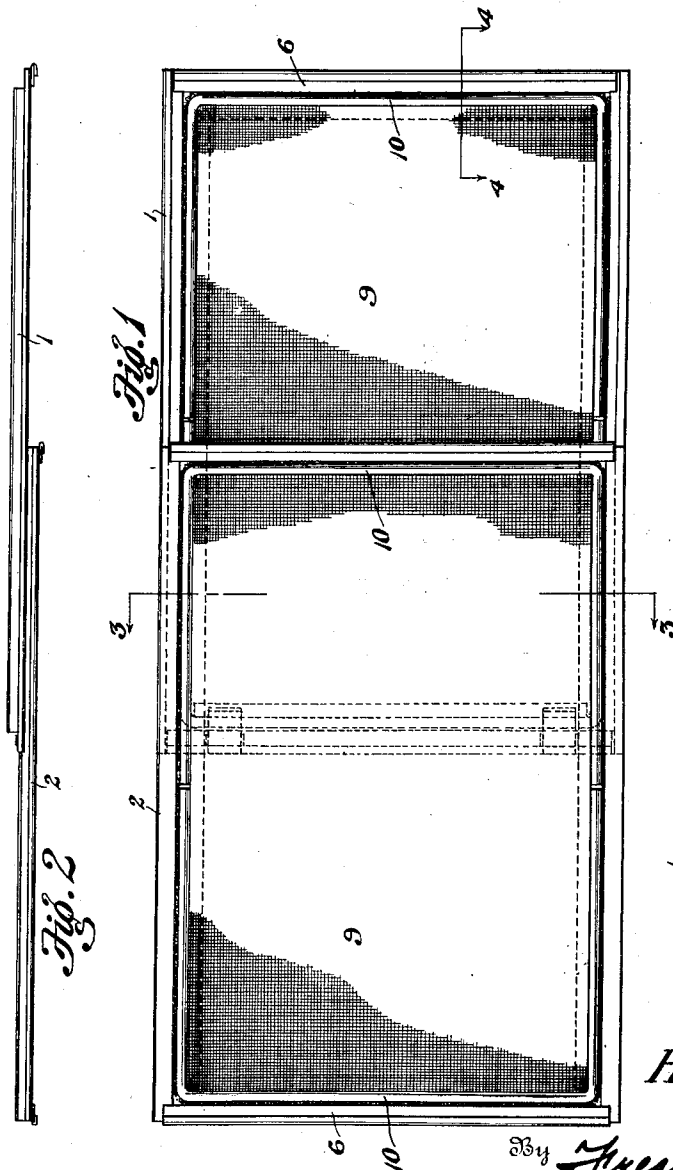
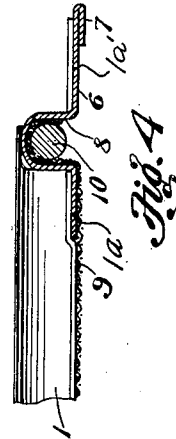
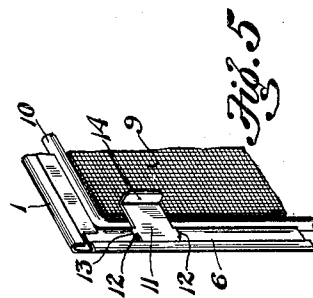
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VENTILATING SCREEN

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UNITED STATES PATENT OFFICE.

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VENTILATING SCREEN.

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This invention relates to ventilator screens and more particularly to an adjustable screen arranged to be located in an open window or the like, and has for its objects to provide
5 a screen of this character comprising a pair of sheet metal frames slidably connected together, one frame having a U-shaped channel which slidably engages the edge portion only of the other frame, each of the frame
10 members being provided with a rigid non-yielding groove having straight, parallel walls, and co-planar flanges extending each way therefrom, the screen fabric being pressed into said grooves by means of rods
15 or wires preferably round in cross section, and preferably of U-shape to allow for compression of the fabric as the wires or rods are forced into the grooves, the compressed fabric wedging the wires or rods in place
20 in the grooves and holding them against displacement.

The above and other objects may be attained by constructing the device in the manner illustrated in the accompanying
25 drawing, in which—

Figure 1 is a front elevation of a ventilator screen embodying the invention;

Fig. 2, a top plan view of the same;

Fig. 3, an enlarged section on the line
30 3—3, Fig. 1;

Fig. 4, an enlarged section on the line
4—4, Fig. 1; and

Fig. 5, a detail perspective view of a portion of one of the frames showing one of the
35 stops for limiting the closing movement of the frames.

Similar numerals refer to similar parts throughout the drawing.

The screen consists essentially of two
40 frames 1 and 2, which are slidably connected together, whereby the screen as a whole may expand or contract to accommodate window frames of various sizes. Each of these frames is preferably formed of sheet metal,
45 the frame 1 having the upper and lower edges bent inward and terminating in the substantially wide U-shaped channels 3, while the frame 2 has oppositely disposed U-shaped channels 4 formed at its upper and
50 lower edges, said channels terminating at a point spaced from the channels 3, as indicated at 5, the free flange edges of the upper and lower channels 3 engaging in the bottom of the channels 4, this being the only point
55 of contact between the frames 1 and 2.

When the screen frames are made of sheet

steel or other corrosive metal, the narrow edge sliding contact of the frames limits to a minimum the resistance which may be caused by a corrosion of the metal; and if
60 the metal is coated with paint or enamel, the width of the groove, which is cut in the enamel to expose the metal, is limited to a narrow line, as distinguished from a wide band, which may be cut by a greater width
65 of contact.

When a wide contact is made between such sliding frames, a corresponding wide band of metal is exposed by the sliding and abrading action of the frames and the same corrodes or rusts by exposure to the weather
70 and renders it difficult to slide one frame upon the other.

The narrow edge sliding contact of the frame guides of the present improvement
75 limits the abrasion of paint or enamel to a narrow line, which generally remains bright or free from corrosion, and at any event the resistance of rust is readily overcome.

The end members 6 of each of the frames 1
80 and 2 are preferably provided with the back turned edge portions 7 for the purpose of strengthening the frame. A straight groove 8 is provided entirely around each frame member 1 and 2 in one side thereof, the side
85 walls of the groove being straight and parallel as shown, and being extended in opposite directions from the mouth of the groove to form substantially co-planar flanges 1^a, 1^{a'} and 2^a, 2^{a'} in the face of the frame member. The sheet metal from which the frames
90 are made, is of sufficient thickness to provide rigid, unyielding walls in these grooves.

The fabric 9 which forms the screen is preferably a textile fabric and in assembling
95 the same upon the screen, the fabric is stretched tightly across each frame and a wire or rod 10, preferably round in cross section, is forced down into each of the
100 grooves 8, upon the fabric as best shown in Figs. 3 and 4, the diameter of the wire or rod being so proportioned as to wedge and compress the fabric between the rod and the walls of the grooves, throughout the length
105 of the rod, thus holding the rod tightly in place within each groove. The rods or wires 10 are preferably U-shape, as best shown in Fig. 1, in order to allow slight movement between the two rods in each
110 frame, as the same are wedge pressed directly into the grooves.

The insertion of the U-shaped rods in the

frame groove along one end and part of each side thereof, not only serves to stretch the fabric tightly across the frame, but when the rod is pressed and wedged into the groove, it cooperates with the frame to strengthen the same and stiffens the corners thereof.

When a wedging rod is formed with one angle so as to extend along two sides of the frame there is a substantial stiffening of the angle thereof; and when a wedge rod is formed with two angles so as to extend in the groove across one end of the frame, and part way along the grooves in two sides thereof, the frame is strengthened and stiffened at the corners to a much greater extent, because of the U-shape of the bar.

Moreover, the co-planar face flanges stay and strengthen the side walls of the groove, and render them rigid against lateral deflection, in the median portion as well as in the corner portions of each side of the frame member; and this strength and rigidity is especially important on the inner sides of the groove, to withstand the pull of the tensioned screen fabric throughout the entire length of each side of each screen member.

For the purpose of limiting the opening movement of the screens, the screen 1 is provided at its inner end with one or more stop members 11 attached to the adjacent end member 6 of the frame, as by tangs 12 which enter slots 13 in the end member, an out-turned flange 14 being provided for engaging the adjacent end wall of the frame member 2 to limit the opening movement of the screen.

It will be evident from the above that an extensible ventilating screen is provided in which the fabric is tightly stretched across each frame of the screen and held in position by means of the round rods or wires, which are pressed into the straight rigid grooves upon the fabric.

It will also be seen that the two frames may be easily adjusted with reference to each other as the only contact between the two frames is the sheet metal edge of the one frame engaging the U-shaped channel of the other frame, thus providing a minimum of friction in the sliding movement of the frames.

It is obvious that a screen constructed in the manner above described, will have a neat and pleasing appearance, as the rods 10 in each frame are located upon the same side of the screen as best illustrated in Figs. 1 and 3, thus giving the entire screen a uniform appearance and permitting the finished side of each frame to be placed upon the inside of the window.

I claim:—

1. An extensible screen including a pair

of sheet metal frame members, rounded U-shaped channels at the upper and lower edges of one frame, and flanges on the upper and lower edges of the other frame having their edge portions only in sliding contact within the bottom of the U-shaped channels.

2. An extensible screen including a pair of sheet metal frame members, rounded U-shaped channels at the upper and lower edges of one frame, and oppositely disposed U-shaped channels at the upper and lower edges of the other frame, the free edge portions only of one set of channels being in sliding contact within the bottom of the other set of channels.

3. A screen frame made of sheet metal formed with a groove in one side extending around the frame and having a flange extending inward from the mouth of the groove in the face of the frame, a screen fabric on the same side of the frame extending across the groove, and rods upon the fabric wedge pressed directly into the grooves stretching the fabric on the frame and clamping it in the groove.

4. A screen frame made of sheet metal formed with a groove in one side extending around the frame and having flanges extending in opposite directions from the mouth of the groove in the face of the frame, a screen fabric on the same side of the frame extending across the groove, and rods upon the fabric wedge pressed directly into the grooves stretching the fabric on the frame and clamping it in the groove.

5. A screen frame made of sheet metal formed with a groove in one side extending around the frame and having a flange extending inward from the mouth of the groove in the face of the frame, a screen fabric on the same side of the frame extending across the groove, and rods upon the fabric wedge pressed directly into the grooves stretching the fabric on the frame and clamping it in the groove, each rod including an angle strengthening and staying the corresponding angle of the frame.

6. A screen frame made of sheet metal formed with a groove in one side extending around the frame and having a flange extending inward from the mouth of the groove in the face of the frame, a screen fabric on the same side of the frame extending across the groove, and rods upon the fabric wedge pressed directly into the grooves stretching the fabric on the frame and clamping it in the groove, each rod including two angles for strengthening and staying the corresponding angles of the frame.

HARRY H. EVERHARD.