May 22, 1934. H. KITZELMAN 1,960,015

WINDOW GRILLE

Filed Aug. 24, 1933

Fig. 1

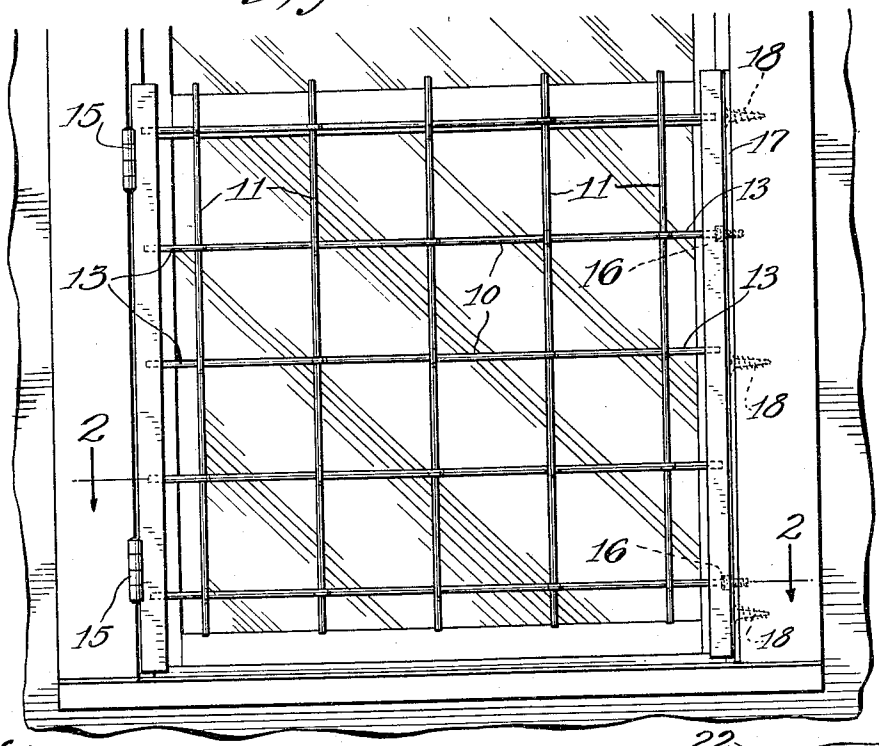
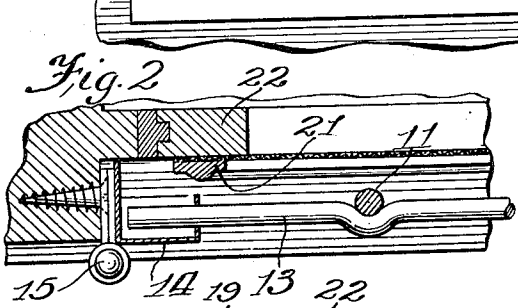
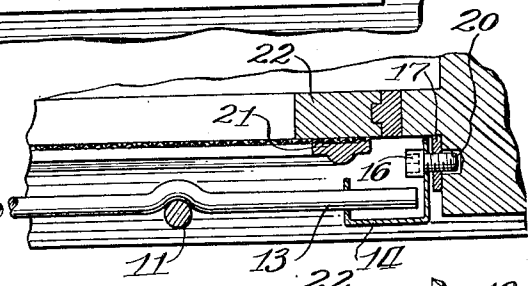
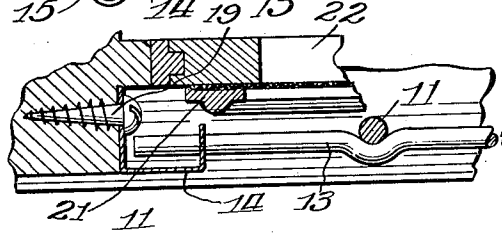


Fig. 2







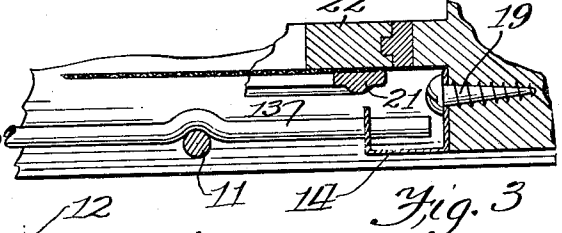


Fig. 3

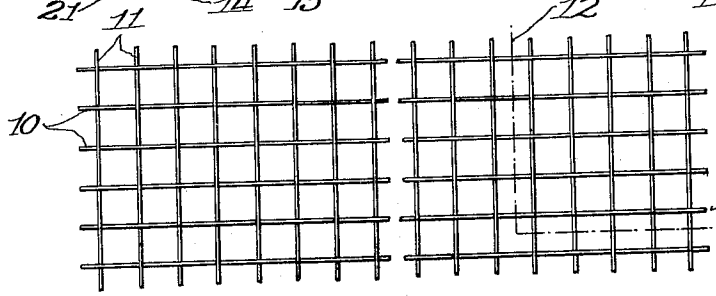


Fig. 4

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WINDOW GRILLE

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3 Claims. (Cl. 20—71)

This invention relates to window grilles, and its principal object is to provide a window grille which can be readily and cheaply manufactured and installed.

The invention will readily be understood from the following description of a preferred embodiment thereof, taken in conjunction with the accompanying drawing, in which

Fig. 1 is an elevational view of the lower part of a window provided with my improved grille;

Fig. 2 is a sectional detail view on a larger scale, the center portion being broken away, showing the manner in which the grille is installed;

Fig. 3 is a sectional detail view similar to Fig. 2, showing a further embodiment of the invention; and

Fig. 4 is a diagrammatic view showing the manner in which the grille material is fabricated in bulk and cut to suit a window opening of particular size.

Referring to the drawing, the grille material may suitably be composed of wire or rod of substantial strength. The grille material may suitably comprise longitudinal elements 10 and transverse elements 11, which are arranged in superimposed relation so as to form squares of sufficient size to prevent children from falling out of the window, and of course preventing the entry of sneak thieves or prowlers.

It is preferred to arrange the transverse elements 11 and the longitudinal elements 10 after the manner of weaving, each longitudinal element passing on one side of an element 11, on the other side of the next element 11, and so forth; and each element 11 passing on one side of the element 10 and on the opposite side of the next adjacent element 10, and so forth.

The elements 10 and 11 are secured together rigidly in any suitable manner, but preferably by being spot-welded to each other so as to produce a rigid unitary piece of grille material which may be of quite considerable size.

In Fig. 4 I have shown diagrammatically a piece of grille material sufficiently large to be cut up into the grilles for a plurality of windows. It will be noted that there is practically no limit to the size in which this material may be made.

When installing a grille, a piece of grille material is cut from the main stock, as indicated, for example, by the dash and dot line 12 in Fig. 4. The grille thus cut out should be approximately equal in height to one of the window sashes, or to the whole window frame, if it is desired to provide a complete grille. The lateral edges of the grille should provide free portions 13 of the grille elements 10; that is, the end grille elements 11 should be sufficiently spaced from the lateral edges that free ends 13 are provided for the purpose of mounting the grille in position. These free ends are adapted to project through openings in the inner flanges of channel members 14, which channel members are inwardly directed and have their outer vertical flanges arranged along the window frame immediately outside the sash positions.

The channel members 14 are fabricated with the openings for the reception of the ends 13, this being rendered possible by the uniform spacing of the elements 10 during the manufacture of the grille material.

In the embodiment of the invention shown in Figs. 1 and 2, the left hand channel member 14 is secured by hinges 15 to the window frame. As best seen in Figs. 2 and 3, the outer vertical flanges of the channel members 14, which are arranged along the window frame, are longer than the opposite or inner flanges which receive the ends 13 of the grille elements 10.

In this embodiment the right hand channel 14 is secured by screws 16 to a metal strip 17 rigidly mounted on the window frame by means of screws 18. The strip 17, of course, is provided with tapped openings adapted to receive the screws 16. This embodiment of the invention is particularly adapted for use with windows which must be cleaned from the inside.

In the embodiment illustrated in Fig. 3, the channels 14 are mounted directly on the window frame by means of screws 19 which pass through openings on the inner flanges of the channel members 14 through openings provided therein during fabrication.

The installation of the first embodiment of the invention will now be described. The window is first measured and the channel members 14 and strip 17 are cut to the requisite size. The grille is then cut to appropriate size from the grille material, leaving the lateral edges provided with the free ends 13, as described above. The hinges may be spot welded to the left hand channel member 14, or they may be secured thereto in any suitable manner. The hinges 15 are secured to the left hand side of the window frame, and the strip 17 is secured to the right hand side of the window frame.

Before securing the strip 17 in position, it is preferred to make recesses 20 in the wood work to receive the inner ends of the screws 16. The

left hand ends 13 are passed into the openings of the left hand channel 14, the right hand channel 14 is applied to the right hand ends 13, and the grille is then swung into closed position about the hinges 15. The screws 16 are then secured in place, and the installation is complete.

In the case of the embodiment of the invention shown in Fig. 3, one of the channels 14 is mounted in position, the ends 13 on the appropriate side of the grille are inserted within its openings, the other channel 14 is applied to the opposite ends 13, of the grille, the grille and this channel are swung into place, and the channel is secured in position by means of the screws 19.

As shown in Figs. 2 and 3, the improved grille is adapted to be used with screens 22 of usual design. The inner flanges of the channels 14, in which the ends 13 are received, are shorter than the outer flanges which are located adjacent the window frame. This feature facilitates the insertion of the screws 16 and 19, and also provides clearance between this flange and the usual finishing strips 21 carried by the screens 22.

While I have described the invention as applied to a grille occupying approximately half of the window opening, it will readily be understood that the grille may be applied to the whole window opening, or any other portion of it.

It will thus be seen that I have provided a grille construction which can be expeditiously and economically made, which can be very readily installed, and which can readily be removed, while providing a complete measure of safety for children and a considerable measure of protection against sneak thieves and prowlers.

Although the invention has been described in connection with the specific details of a preferred embodiment thereof, it must be understood that such details are not intended to be limitative of the invention except in so far as set forth in the accompanying claims.

Having thus described my invention, what I claim is new and desire to secure by Letters Patent of the United States, is:

1. In combination, a grille member consisting essentially of stout wires or rods secured together in the form of a wide mesh, said grille member having free rod ends at opposite sides, a channel member at each of said sides provided with a side flange adapted to receive said free ends, and hinges secured to the other side flange of one of said channel members whereby the same may be mounted on a window frame, the other side flange of the other channel member being provided with openings whereby it may be secured to the opposite side of the frame.

2. In combination, a grille member composed of rods and having free ends at opposite sides, and channel members at opposite sides each having openings in one flange adapted to receive said ends, the opposite flanges being adapted to be secured to opposite sides of a window frame, the first said flanges being shorter than the second said flanges in order to clear the screen.

3. In combination, a window, a screen mounted on the outer side of the window, and a grille mounted on the outer side of said screen, said grille comprising a pair of channels mounted on opposite sides of the window frame and directed inwardly and grille material supported therebetween, the inner flanges of the channels being shorter than the outer flanges in order to clear the screen.

HERMAN KITZELMAN.