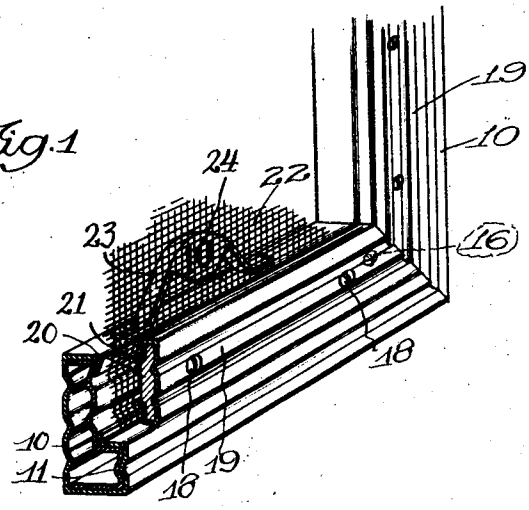
Dec. 4, 1928. 1,693,822

C. A. SHOGREN

SCREEN

Filed Jan. 18, 1926 2 Sheets-Sheet 1

Fig. 1



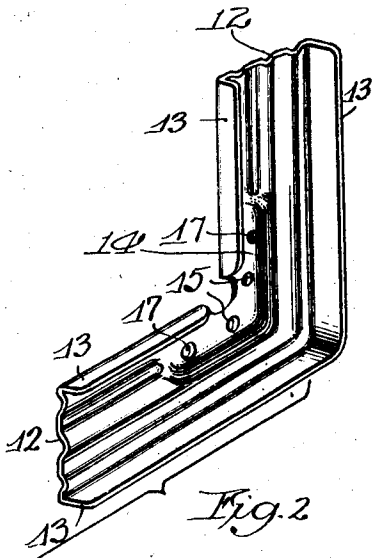


Fig. 2

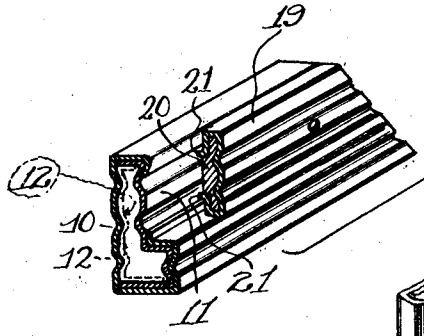


Fig. 3

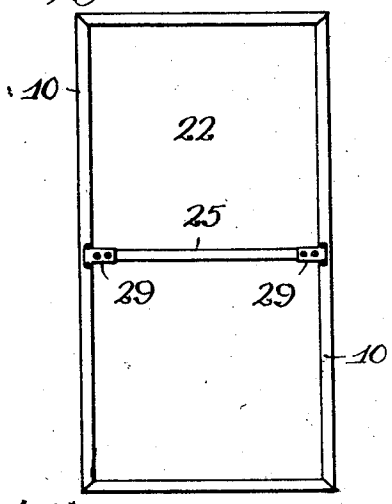
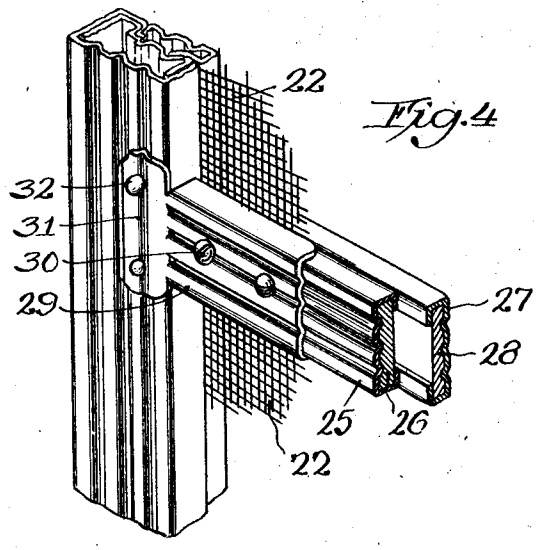


Fig. 4



Witness:

Inventor,

Charles A. Shogren

George Bayard Jones, Atty.

Dec. 4, 1928. 1,693,822

C. A. SHOGREN

SCREEN

Filed Jan. 18, 1926 2 Sheets-Sheet 2

Fig. 5

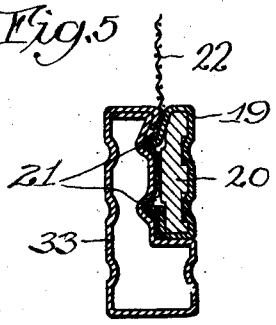


Fig. 7

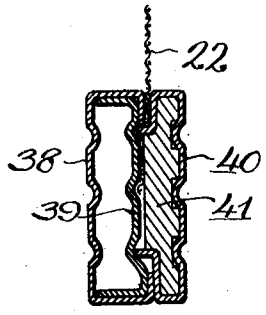


Fig. 6

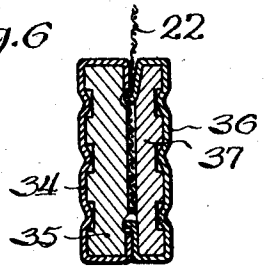
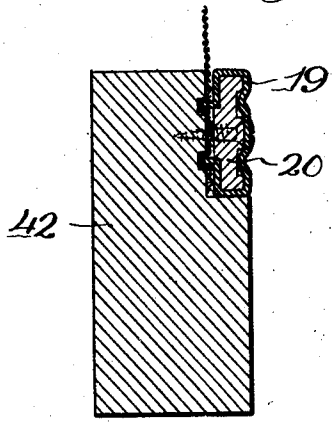


Fig. 8



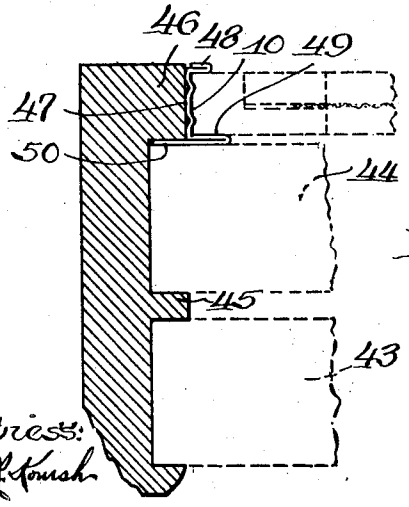


Fig. 9

Witness:
Chas. L. Kousch

Inventor,
Charles A. Shogren
George Dayre Jones Atty.

Patented Dec. 4, 1928. 1,693,822

UNITED STATES PATENT OFFICE.

CHARLES A. SHOGREN, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO ART METAL SCREEN AND WEATHER STRIP COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

SCREEN.

Application filed January 18, 1926. Serial No. 81,893.

My invention relates to improvements in screens, more particularly to those having a frame made almost wholly of metal.

The object of the invention is to provide an improved screen frame consisting of rolled metal sections, which may be shipped "knocked down" and readily assembled, and which is unusually well reinforced at the corners without soldering and which permits ready installation or renewal of the wire screen cloth.

In the accompanying drawings, I have illustrated several embodiments of the invention.

Figure 1 is a perspective view of a corner of a screen.

Fig. 2 is a similar view showing some of the parts separated to illustrate the manner of assembly.

Fig. 3 is an elevation of a screen long enough to cover the entire window.

Fig. 4 is an enlarged perspective view of the central part of the frame thereof.

Fig. 5 is a cross-section of a modified form of frame.

Figs. 6, 7 and 8 are sections of further modified forms, and

Fig. 9 is an enlarged section of a window frame showing the relation of the screen, sashes, and a metal channel in which the screen slides.

The main part of the frame is generally rectangular in cross-section with a rabbet on one side. The section is made up preferably of two strips of sheet metal, one of which 10 is rolled to form a channel member with flanges of unequal length, the longer flange being bent parallel to the base and also inwardly with a short edge lying parallel to said base. The shorter flange is preferably bent inwardly to form an acute angle. The other strip 11 of sheet metal is bent, as shown in Figs. 1 and 2, to fit within the partial enclosure formed by the first strip and closing the opening. Both strips of metal are preferably provided with longitudinal grooves, the inner strip 10 being grooved or corrugated to stiffen it, and the outer strip 11 being grooved for a similar purpose and to aid in securing the wire screen in place, as hereinafter described.

The hollow frame structures, formed by the strips 10 and 11, are not fastened directly to each other at the mitered ends, but are held very rigidly in desired relation by a plate or filler member 12 having two parts extending at right angles to each other with opposite edges 13 turned up to form a channel. These flanges 13 are of such a length as to fit snugly within the enclosure formed by the metal strips 10, 11, as indicated in dotted lines at the left hand end of Fig. 2. Each corner plate is provided preferably with a struck up ridge 14 having a pair of small openings 15 therein to receive screws 16 or other suitable fastening means. Each screw passes through an opening located to receive it in the strip 11. A pair of additional openings 17 is also provided to receive screws 18, hereinafter referred to.

In order to hold the wire screen to the frame, the metal fastening strip 19 is provided, having the general form of a channel with the flanges bent toward each other parallel to the base and then bent at right angles to form projecting edges, as shown in Figs. 1 and 2. When the parts are assembled, said edges are received within corresponding grooves in the metal strip 11. A wooden filler strip 20 is located within the channel formed by the strip 19. The screws 18 pass through suitably spaced openings in the base of said channel and in the wooden filler, and also pass through the meshes in the screen and through suitable openings in the metal strip 11. With this arrangement, it will be seen that the projecting edges 21 press the screen 22 into the corresponding grooves and clamp the screen tightly in place. The general shape of the completed cross-section is rectangular with ornamental grooves on their inner and outer faces, although this rectangular section is not essential.

In order to raise the screen, one or more handles 23 are secured to the upper part of the horizontal member of the frame, each handle being formed preferably from a single sheet of metal having downwardly bent ends secured to the frame and having the middle portion bent over, forming a guard 24 to protect the screen from damage caused by thrusting the fingers too far under the handle. Said portion also may be stamped with a designating number.

The complete frame is rectangular in outline and is usually of a size corresponding to the lower sash of the window. However, where, for special reasons a screen is desired as large as the entire opening in the window

frame, a cross-bar 25 may be provided, as shown in Fig. 3, said cross-bar comprising preferably a metal channel member having its edges bent over a wooden filler strip 26, as shown in Fig. 4, and having a removable part consisting of a similar channel 27 bent over a wooden filler 28, the screen 22 being clamped between these two horizontal members. Each end of the cross-bar 25 is provided with a fastening member 29 in the form of a short channel secured thereto by screws 30, or other suitable means, and having an extension 31 secured by rivets 32 or other fastening devices to the vertical members of the frame. The removable strip 27 is secured to the cross-bar 25, by screws, not shown.

In Fig. 5, I have shown a modification of the frame section which is similar to the form illustrated in Fig. 1, except that a single strip of sheet metal 33 forms the main frame section instead of two strips. The removable strip and wooden filler 20 may be the same as in the first form described. In this figure, which is drawn on a somewhat larger scale, it will be seen that the wooden filler is provided with a pair of longitudinal grooves on one side and a central projecting rib on the other side, conforming in general to the outline of the metal.

In Fig. 6, a further modified section is shown in which the main frame consists of a single metal channel member 34 partially enclosing a wooden filler member 35. The removable strip 36 is generally similar to that previously described except that it has a vertical height equal to the height of the main section 34. The removable part is held to the relatively fixed part by suitable screws, or other fastening means which pass also through the wire screen.

In Fig. 7, the main section of the frame is composed of a metal channel member 38 embracing a smaller channel member 39 with a removable channel member 40 enclosing a wooden filler 41, the main section being hollow as in the first form described.

In Fig. 8, the main frame 42 may be made of wood, with a rabbet in which may be fitted any one of the securing members previously described, for example, the metal channel 19 and wooden filler 20 of Fig. 1.

In Fig. 9, a section of a window frame is shown, including the inner and lower sash 43, the upper and outer sash 44, parting strip 45 and outer stop 46, on which latter is mounted a metal channel 47, one flange of which is doubled back on itself, at 48, to reinforce it, the other and longer flange 49 being doubled back in like manner and projecting beyond the base of the channel to provide an anchoring fin 50. This fin being of thin sheet metal, may be fitted within the clearance space usually formed between the sash 44 and the stop 46 without causing binding, or if the fit is initially too snug the clearance space may readily be enlarged. The metal screen slides in the channel member 47. It may be constructed, as in Fig. 1, or in any of the modified forms illustrated and described herein.

It will be seen that the structure is of such a character that the channel members, corner braces and associated parts may be shipped in very compact form and thereafter assembled by the dealers, the latter installing the wire screen in the assembled frame.

What I claim is:

1. A screen frame comprising metal strips bent to rectangular cross-section and having a grooved rabbet, removable strips of rectangular section fitting said rabbet, and each comprising a wooden filler having a metal casing bent to cover three sides of said wooden filler and part of the fourth side, leaving part of the wood uncovered on the side facing said rabbet, the edges of said casing being adapted to seat in the groove of said rabbet, a wire screen between said relatively fixed and removable parts, and fastening means passing through said removable strips and said screen into the relatively fixed frame.

2. A screen frame comprising metal strips bent to rectangular cross-section and having a rabbet with a longitudinal groove in the face thereof, removable strips of rectangular cross-section fitting said rabbet and each comprising a wooden filler having a metal casing bent to cover three sides of said wooden filler and part of the fourth side, one of the edges of said metal casing projecting into said longitudinal groove, and a wire screen between said relatively fixed and removable parts and clamped between said edge and the walls of said groove.

3. In a screen frame construction, a frame member formed of a metal strip having a base bent to form end flanges, one end flange being extended parallel to the base and terminating in a portion turned inwardly toward the base, a second strip telescoped within said first strip and having a grooved portion extending between the edges of said flanges and having portions conforming to and in contact with the flanges of said first strip, and a member having longitudinal edges adapted to seat within the grooves of said second strip for securing a screen therebetween.

4. A screen frame comprising frame members each formed of a pair of strips, one of said strips having its edges spaced apart and bent to form end and side flanges, the other strip being bent to form complementary flanges adapted to contact with the inner side of said other flanges and having a portion extending between the spaced apart edges thereof, and a member adapted to be secured to said portion for engaging a screen therebetween.

5. A screen frame comprising frame mem-

bers each formed of a pair of strips, one of said strips having its edges spaced apart and bent to form end and side flanges, the other strip being bent to form complementary flanges adapted to contact with the inner side of said other flanges and having a portion extending between the spaced apart edges thereof, and a member adapted to be secured to said portion for engaging a screen therebetween, the contacting flanges of said strips having complemental longitudinal grooves therein.

In testimony whereof, I have subscribed my name.

CHARLES A. SHOGREN.