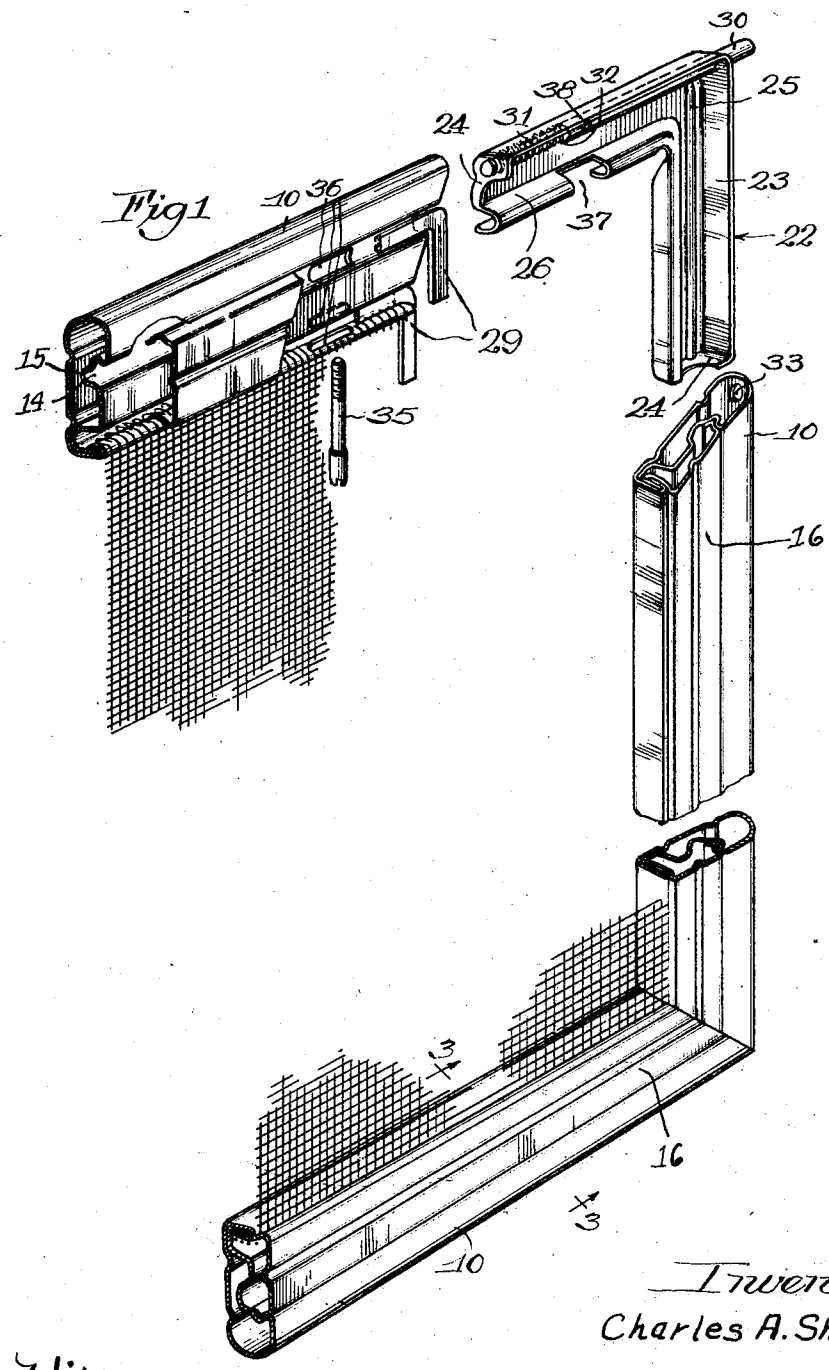
June 24, 1930. C. A. SHOGREN 1,767,487

METAL FRAME FOR SCREENS

Filed Aug. 3, 1928 2 Sheets-Sheet 1



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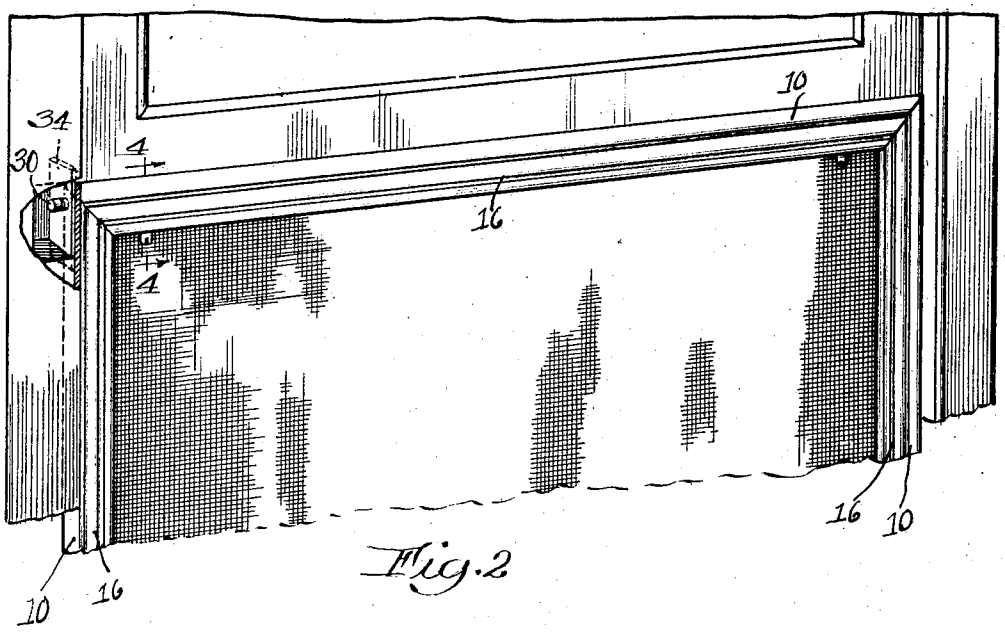


Fig. 2

Fig. 4

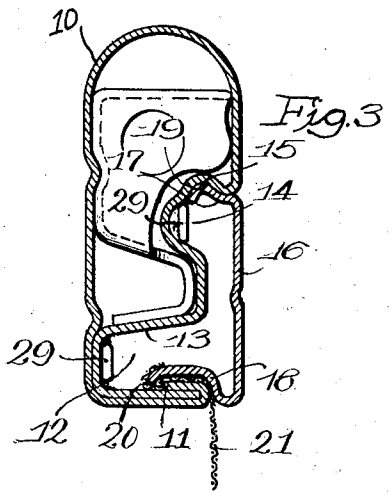
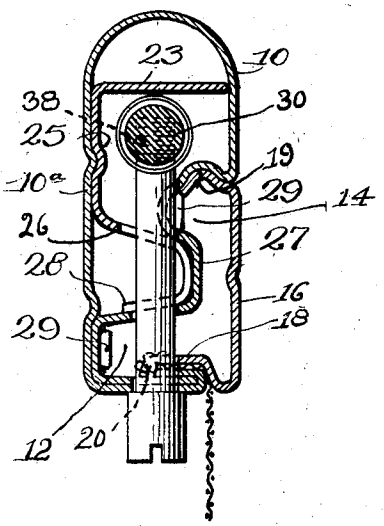


Fig. 3



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UNITED STATES PATENT OFFICE

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METAL FRAME FOR SCREENS

Application filed August 3, 1928. Serial No. 297,144.

This invention relates to improvements in in metal frames for screens.

The principal object of the invention is to provide a frame having screen securing members which removably interlock with the main frame members without the use of screws or other supplementary fastening means.

Another object of the invention is to provide a screen frame of sheet metal having releasable means for locking a screen in position in a window frame, said frame enabling the screen to be moved pivotally when desired.

Other objects relate to various features of construction and arrangement of parts which will be apparent from a consideration of the following specification and accompanying drawings, wherein:

Fig. 1 is a broken perspective view of a screen frame, portions of which are illustrated in detached relation;

Fig. 2 is a broken perspective view of a screen mounted in position in a window sash;

Fig. 3 is an enlarged transverse section of the upper rail of a screen frame taken on line 3—3 of Fig. 1;

Fig. 4 is a transverse section taken on line 4—4 of Fig. 2.

In the drawings, the main member of each rail and style of the frame is indicated at 10 and is formed of a strip of sheet metal, the one longitudinal edge of which is folded over the other as shown in Figs. 1, 3 and 4. The folded over edge 11 extends downwardly into a channel 12 which is defined by the inner side of the frame member and the wall portion 13. Another channel 14, parallel to channel 12 is formed in the main frame member 10, one wall of which channel is provided with a longitudinal groove 15. The screen retaining member 16 is provided with flanges 17 and 18, the former having a longitudinal bead 19 adapted to snap into the groove 15 when the two members are in operative position. The other flange 18 is shaped substantially as shown in Fig. 3 and has its free edge 20 disposed for engagement beneath the edge of the inturned portion 11 of the main frame member. The edge 20, together with other portions of the flange 18, are adapted to bear against a metal or other screen 21 which extends into the channel 12, as shown in Fig. 3.

When the screen 21 has been placed in position with one edge thereof overlying the inturned edge 11, the flange 18 of retaining member 16 is inserted into position and the other flange 17 pressed downwardly to cause the bead 19 to snap into position in the groove 15, the metal being sufficiently resilient to permit this action. The retaining member 16 can be removed readily by any suitable tool by simply prying up on the same when it is desired to either tighten a screen or place a new one in the frame. The horizontal and vertical frame members preferably have mitred corners and are reinforced at the corners by means of corner members indicated generally by the numeral 22. The corner members 22 preferably are stamped from a single piece of metal and have a continuous outer flange 23 and end flanges 24.

As shown in Fig. 4, the outer flange 23 extends from side to side of the outer frame member 10, while the portion 25 of the corner lies snugly against the back wall 10^a of the outer member. The wall 25 merges into the transversely extending portion 26 which extends against the longitudinal rib portion 27 of the main frame member and terminates in a flange 28 which bears against the wall 13 on the inner side of the latter. The contacting of the various portions of the corner member with the main frame member rigidly supports the latter and provides a very rigid screen frame structure. The end flanges 24 of the corner member are integral with the portions 25 and 23, and hence give rigidity to the corner member. The two arms of the corner member are slidable within the respective ends of adjacent main frame members the latter of which after being assembled are secured permanently in position by means of angle members 29 which may be soldered or welded in the channels 12 and 14 of the frame members.

Two corner members of each frame pref-

erably are provided each with a pin 30 which passes through openings in the flanges 23 and 24 as shown in Fig. 1. A spring 31 is disposed between the flange 24 and a shoulder 32 formed by reducing the inner end of the pin. The spring urges the pin outwardly to the position shown in Fig. 1. When the corner member 23 and the style member 10 shown in Fig. 1 are in assembled relation, the outer end of the pin 30 extends through an opening 33 in the stile.

It will be understood that the structure shown is adapted for a screen which is to be pivoted at the top to enable the same to be swung outwardly at the bottom when desired. The extending end of the pin 30 will seat in a suitable opening made in the side of the window casing in which the screen is positioned as illustrated in Fig. 2, in which a metal plate 34 is shown having an opening therein through which the pin 30 projects. When the screen frame members are in assembled position, the pins 30 can be retracted to enable the screen to be placed in position or to be removed when desired, the retracting means comprising a screw or stud 35 which passes through slots 36 in the main frame member 10 and through the slot 37 in the angle member 22. The stud 35 is screwed into a threaded opening 38 in the pin 30. By sliding the studs 35 toward the vertical center line of the screen, the pins 30 can be retracted and the screen readily removed or positioned as will be seen. The pins 30 can be arranged also for hinging the screen frame at either side if desired.

Although I have shown and described certain features of my improvements for the purpose of illustration, it will be apparent that various changes may be made therein without departing from the spirit of the invention as defined in the appended claims.

What I claim is:

1. A screen frame member formed of a strip of sheet metal having its longitudinal edges brought together and one folded over the other, one side of said member having a pair of longitudinal channels, said edges and folded over portion constituting one wall of one of said channels, said other channel having a groove along one side wall thereof, and a screen retaining member having a pair of flanges adapted to be positioned in said channels, one of said flanges having a laterally projecting portion coacting with said folded over edge for securing a screen therebetween and said other flange having a rib adapted to seat in said groove in the wall of said other channel for holding said retaining member in position.

2. A screen frame member comprising a main member and a screen retaining member, said main member being formed of a strip of sheet metal having one longitudinal edge bent over the other and forming a multiple ply flange constituting the inner edge of the frame member, the forward side of said member being shaped to provide a channel having a wall substantially parallel to said flange, said retaining member having a pair of longitudinal flanges one of which has its free edge disposed for engagement with said bent over edge of said multiple ply flange for securing a screen therebetween, said other flange of said pair and said channel wall having coacting formations for releasably securing said retaining member in screen holding position.

3. In combination, a pair of hollow metal frame members having channeled front walls, an angular corner brace adapted to telescope within said members, said brace comprising an outer angular flange bearing against the inner surfaces of the front and rear walls of said metal members, an inner angular flange adapted to bear against certain channel walls of said hollow frame members, an intermediate flange uniting said angular flanges, said intermediate flange being reversely bent in cross section for supporting contact with other channel walls of said frame members, and transverse end flanges integral with said outer and intermediate flanges.

4. A corner brace for adjacent ends of hollow frame members comprising two arms each having outer and inner flanges and an intermediate flange uniting said inner and outer flanges and defining with said outer flange a channel extending longitudinally of the respective arm, an end flange at the free end of one of said arms disposed transversely of the respective channel and a slidable pin in said channel carried by said end flange and by the outer flange of said other arm.

5. A corner brace for adjacent ends of hollow frame members comprising two arms each having outer and inner flanges and an intermediate flange uniting said inner and outer flanges and defining with said outer flange a channel extending longitudinally of the respective arm, an end flange at the free end of one of said arms disposed transversely of the respective channel, a slidable spring pressed pin in said channel carried by said end flange and by the outer flange of said other arm and a member projecting from said pin through slots in said intermediate and inner flanges of said arm to provide for manual retraction of said pin against said spring.

In testimony whereof, I have subscribed my name.

CHARLES A. SHOGREN.