April 28, 1931. W. J. DUFFICY 1,803,101

ATTACHING MEANS FOR ROLLED SCREENS

Filed Feb. 20, 1930

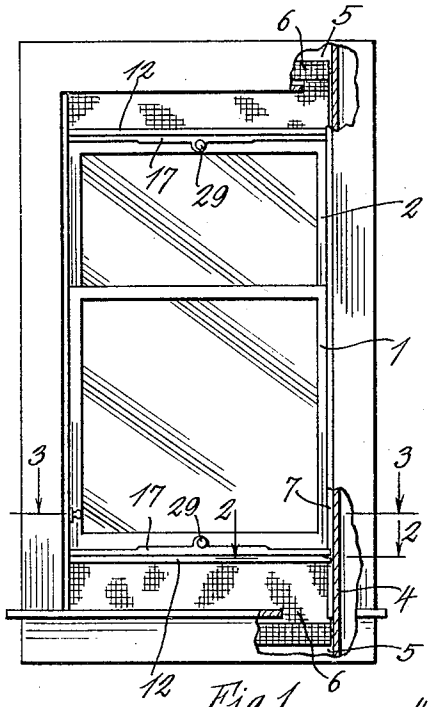


Fig. 1.

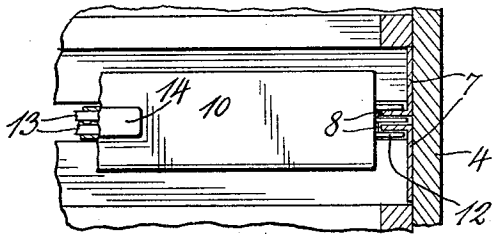


Fig. 2.

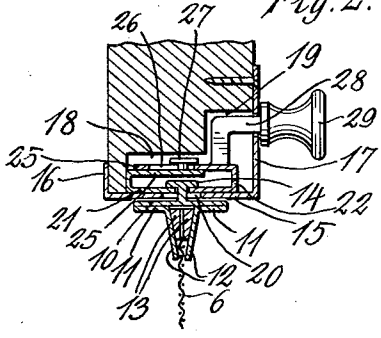


Fig. 4.

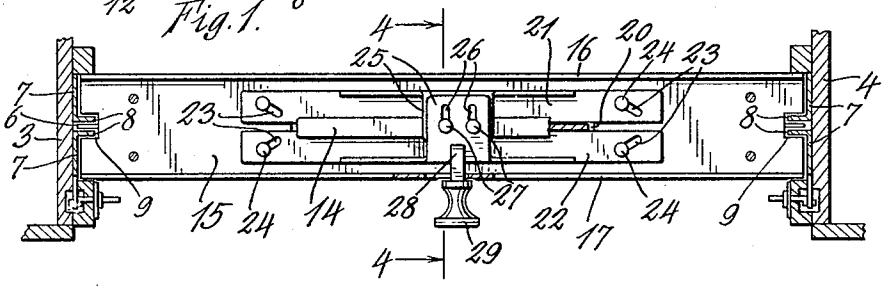


Fig. 3.

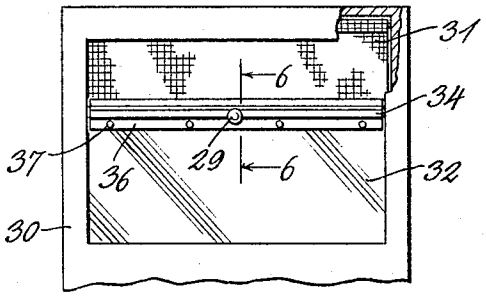


Fig. 5.

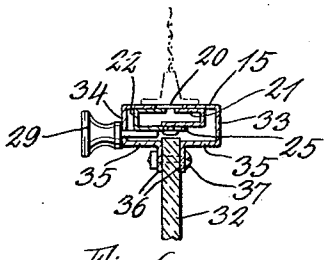


Fig. 6.

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UNITED STATES PATENT OFFICE

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ATTACHING MEANS FOR ROLLED SCREENS

Application filed February 20, 1930. Serial No. 429,915.

This invention relates to improvements in roll screens for windows and has reference more particularly to an improved device for attaching the end of the screen to the sash.

Where windows are provided with screens that are built into the window frame and secured to spring rollers it is customary to provide a latching device by means of which the end of the screen can be attached to the end of the sash in such a manner that when the window sash is moved to open position, the screen will be interposed in the opening thus formed. These attaching devices must be so constructed that they can be readily released when desired so that the window can be opened without interposing the screen.

It is the object of this invention to produce an improved device for making connection between the sash and the window screen and which shall be of simple construction and have several marked advantages over analogous devices.

This invention, briefly described, consists in a binding strip which is adapted to be applied to the free end of the screen and which is provided with a lug that extends in the direction of the width of the screen and that has grooves on opposite sides. This lug extends for a considerable distance and is adapted to be engaged by means of a clamping device secured to the window sash. This clamping device consists of a metal attachment having an opening that is adapted to receive the plug and which is also provided with two jaws that can be moved towards or away from each other by a parallel motion and which are adapted to engage the grooves in the sides of the lug so as to hold the same attached to the window sash.

Having thus briefly described the invention, the same will now be described in detail, and for this purpose reference will be had to the accompanying drawing in which the preferred embodiment of the invention has been illustrated, and in which:

Fig. 1 is a side elevation of a window showing my invention applied thereto, portions of the window frame being broken away to better disclose the construction;

Fig. 2 is a view taken on line 2—2, Fig. 1, and shows a portion of the upper surface of the binding strip and the lug;

Fig. 3 is a section taken on line 3—3, Fig. 1;

Fig. 4 is a section taken on line 4—4, Fig. 3;

Fig. 5 is a side elevation of the upper part of an automobile door showing my invention applied thereto; and

Fig. 6 is a section taken on line 6—6, Fig. 5.

In the drawing reference numerals 1 and 2 designate respectively the upper and the lower sash of the window. The sash are slidably mounted in the window frame whose sides have been indicated by reference numerals 3 and 4. As both of the sash are provided with the same attaching means, this description will be limited to the lower sash and the parts that are associated therewith and it will be understood that the parts associated with the upper sash are of the same construction. The window frame is provided at the top and at the bottom with compartments 5 in which are located rollers of the type employed in connection with window shades and to which a flexible screen 6 is attached. This screen is preferably a woven wire screen of the usual construction and may be made of iron or copper as may be found most desirable. The sides of the window frame are provided with metal strips 7 that have inwardly extending flanges 8 spaced a short distance apart in the manner shown in Figs. 2 and 3. The screen 6 is adapted to move between the flanges 8 which therefore serve as guides for the edges of the screen and since the window sash is provided with grooves 9 for the reception of these flanges, they form a satisfactory weather stripping which prevents the entry of dust and cold air. Secured to the free ends of the screens are binding strips which are formed from sheet metal and which have a cross section like that shown in Fig. 4. The binding strips have an upper flat surface 10 and are reversely bent and have parallel inwardly extending portions 11 whose inner edges are downwardly and inwardly inclined as indicated by numeral 12. The ends of the screens are placed between the inclined sides 12 and are held in place by means of wedges 13. Projecting upwardly from the upper surface 10

is a lug 14. This lug is of considerable length and lies in the plane of the screen. Lug 14 is provided on each side with a groove in the manner shown in Fig. 4. When the screen is not in use, the binding strip will rest on the lower portion of the frame with sides 12 extending into the slot through which the screen passes.

Attached to the window sash is a clamping device consisting of a channel shaped metal member having a web 15 and upwardly extending flanges 16 and 17. The width of this member is equal to the thickness of the window sash and is applied to the latter in the manner shown in Fig. 4, from which it will be seen that the lower end of the window sash is cut away to form a groove 18 for the reception of the movable parts of the device, and which is also provided with a notch 19 in which the operating handle is located. The flange or web 15 is provided with an elongated slot 20 of such length and width that the lug 14 can readily pass through it. Secured to the inner surface of web 15 are two jaws 21 and 22. These jaws are provided at their ends with inclined slots 23 and are secured to part 15 by means of rivets 24 that pass through the inclined slots. Slots 23 are reversely arranged in the two members in the manner shown in Fig. 3 and therefore when jaws 21 and 22 are moved to the left, they will spread apart, while, if they are moved to the right, they will move together with a parallel motion. For the purpose of moving the two jaw members, each of them have been provided with a lateral extension 25 that is reversely bent and arranged to overlie each other in the manner shown in Figs. 3 and 4. One of these projections is provided with two slots 26 and the other has two rivets 27 that project through these slots. A handle 28 is secured to the upper member 25 and extends through an opening in the flange 17 in the manner shown in Fig. 4. The handle terminates in a knob 29 that is accessible from the outside and by means of which the jaw members 21 and 22 can be moved longitudinally so as to cause them to approach and recede from each other for the purpose of engaging or releasing the lug 14. The jaw members 21 and 22 can be moved apart a sufficient distance to admit the plug 14 and they can then be moved together so as to extend into the grooves on the opposite sides of this plug.

When the window sash are in closed position, the jaw members 21 and 22 must be spread apart so that the lug 14 can pass between them and if it is not desired to use the screen the window sash can be opened and closed independently of the screen. If it is desired to interpose the screen in the opening, the jaw members are moved to operative position so as to engage the lug in the manner shown in Fig. 4, and therefore, when the sash is opened, it will carry the screen along with it in the manner indicated in the drawing.

By employing a single lug of considerable length and engaging the same by two jaws that move parallel to each other, the screen can be very rigidly attached to the window sash. If the screen should be destroyed for any reason, it can be readily removed by removing the wedges 13 and a new screen substituted.

In Figs. 5 and 6 I have shown my improved attached device secured to the glass of an automobile door, in these figures numeral 30 designates the door and numeral 31 the roll screen, while numeral 32 indicates the movable glass. Secured to the upper edge of the glass is an attaching device that is similar in all respect to the one that is secured to the window sash with this exception, that the flanges 33 and 34 that correspond to the flanges 16 and 17 have inwardly extending portions 35 that terminate in downwardly extending flanges 36 that are spaced apart a sufficient distance to permit the glass to be inserted between them and the attaching device is then secured to the glass by means of bolts 37. When the screen is not in use and the window is open, the attaching device forms an arm rest and also serves to close the opening into the door so as to prevent dirt and dust from passing into the interior of the door.

From the above description it will be apparent that I have produced a simple and substantial attaching device for use with roll screens and by means of which the screen can be quickly attached to or disconnected from the window sash.

Having described the invention what is claimed as new is:

A clamping device for use with roll screens comprising a member adapted to be secured to a window sash, said member having an elongated opening adapted to receive a long narrow plug, a jaw member located on each side of the opening, each of the jaw members having a plurality of inclined slots adapted to receive pins for securing them in place, the slots in the two jaw members being inclined in opposite directions whereby when the jaw members are moved in one direction they approach each other and when they are moved in the opposite direction they recede from each other, and means for simultaneously moving the jaws in the direction of their length.

In testimony whereof I affix my signature.

WILLIAM J. DUFFICY.