

H. F. RAU & H. M. OLSEN.
ADJUSTABLE WINDOW SCREEN.
APPLICATION FILED AUG. 7, 1908.

1,053,644.

Patented Feb. 18, 1913.

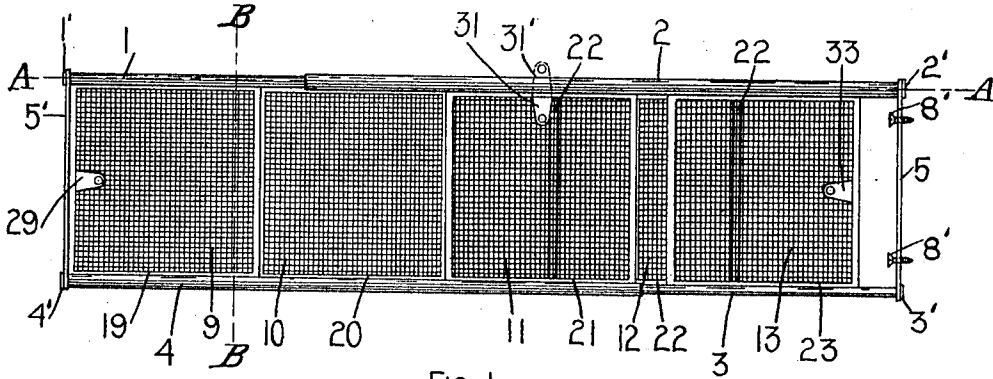


FIG. 1.

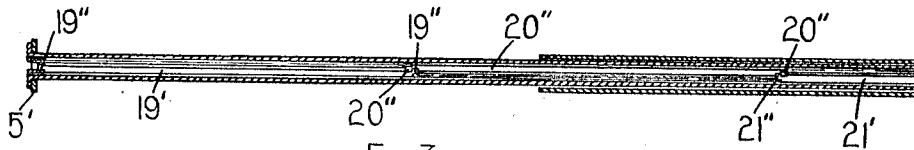


FIG. 3.

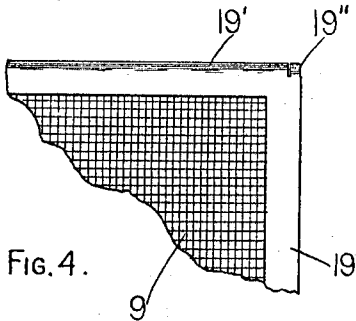


FIG. 4.

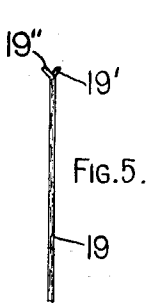


FIG. 5.

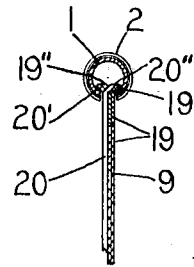


FIG. 6.

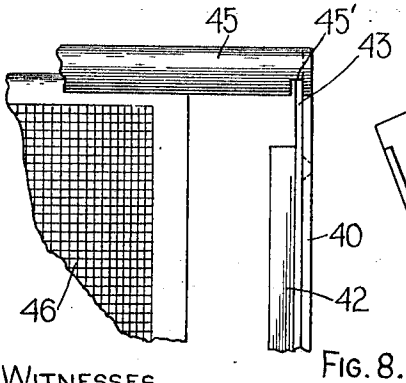


FIG. 8.

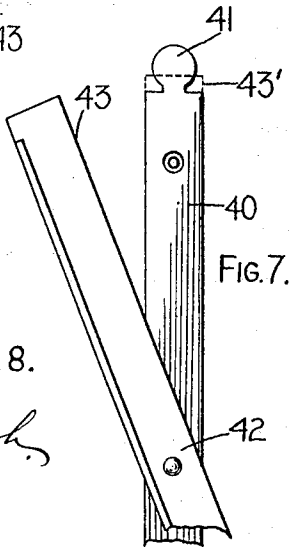


FIG. 7.

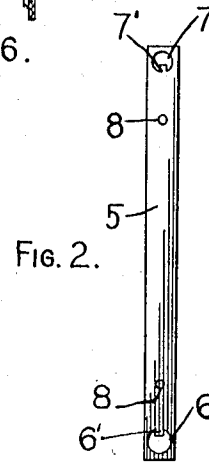


FIG. 2.

WITNESSES.

David S. Hulfish
Wm. Berg-hahn.

INVENTORS.
H.F. RAU
H.M. OLSEN

By *M. Meen & Miller*
ATTYS.

UNITED STATES PATENT OFFICE.

HERMAN FRED RAU, OF CHICAGO, AND HALVOR M. OLSEN, OF AUSTIN, ILLINOIS.

ADJUSTABLE WINDOW-SCREEN.

1,053,644.

Specification of Letters Patent.

Patented Feb. 18, 1913.

Application filed August 7, 1908. Serial No. 447,375.

To all whom it may concern:

Be it known that we, HERMAN FRED RAU and HALVOR M. OLSEN, citizens of the United States of America, and residents of Chicago and Austin, respectively, county of Cook, and State of Illinois, have invented a new and useful Improvement in Adjustable Window-Screens, of which the following is a specification.

Our invention pertains to fly screens adapted to fit in windows, and covers an extension frame adjustable to windows of different width and carrying screen panels adjustable to the length of the frame.

Proper ventilation of a room requires that ventilating openings be provided near the top of the room as well as lower down, the top ventilation being more desirable when it is inconvenient to have ventilating openings at both top and bottom. The warm air and foul gases of the room collect at the top of the room and may find exit through an opening at the top of a window more readily than through an opening at the bottom of a window. The usual forms of window screens are adapted for insertion only at the bottom of a window, and if the window sash be drawn down at the top to secure a proper and desirable ventilation, the opening is left unscreened.

We provide a screen of a form and dimension adapted to mount at the top of a window frame and not to interfere with the operation of either of the window sashes, so that the upper sash may be drawn down to provide a top opening properly screened, without having the screen interfere in any way with the full and free operation of the lower sash. At the same time, our improved screen fits so closely to the window frame and upper sash that no objectionable cracks are left around or within the screen frame to permit entrance of insects. Our screen also is compact and requires small space in storage and in shipment, and may be stored knocked down if desired.

We provide end pieces for attachment to the sides of the window casing, said end pieces carrying top and bottom rail members, which may be of telescopic construction and preferably of channel form, these members carrying interlocking sliding panels of screen wire. We provide a device which may be constructed to mount within the narrow space usually found between

the runways of the upper and lower sashes of a window. Thus the device may be mounted permanently, either at the top or the bottom of the window without interfering with the full and free movement of either of the two sashes.

In the drawings, Figure 1 shows view of our improved window screen in process of mounting upon the window. Fig. 2 shows view of end piece of Fig. 1. Fig. 3 shows sectional view of Fig. 1 on line A. Fig. 4 shows detail of corner of screen wire panel. Fig. 5 shows another view of the subject of Fig. 4. Fig. 6 shows sectional view on line B of Fig. 1. Fig. 7 shows alternative form of end piece. Fig. 8 shows detail of the end piece of Fig. 7 when assembled with the channels.

Telescopic tubular channels 1, 2, 3, 4 are upset at the ends 1', 2', 3', 4' and pass through two end pieces 5; each end piece has two holes of different sizes, the hole 7 being of proper size to take the smaller channel 1 or 3, and the hole 6 being of proper size to take the larger channel 2 or 4. In each hole a projecting tongue 6' 7' prevents the turning of the channel after its insertion through the end piece 5. End piece 5 has also holes 8 8' for screws 8' 8'.

The screen panels 9—10—11—12—13 are of wire cloth surrounded by a thin metal frame. The upper and lower edges of the metal frame are bent as shown in detail in Figs. 4 and 5, the edge of the frame 19 being turned at 19' to form an edge for engaging the inner surface of the tubular channels, and an ear 19'' being formed at each end of the upper and lower edges by bending the end through a similar angle but in the opposite direction. In assembling the screen panels in the tubular channels, the panels are placed alternately with reference to the edges 19' as shown in Fig. 3, the ear 20'' of the panel 10 overhanging the edge 19' of the panel 9, the ear 19'' of the panel 9 overhanging the edge 20' of the panel 10. Thus the two panels 9 and 10 may slide upon each other in the tubular channels 1 and 4, but the edges of the panels will not pass since ear 20'' will engage and lock with ear 19''. This condition exists at bottom and top of the two panels 9 and 10, and also exists between the adjacent edges of all the panels assembled, as clearly shown in Fig. 3. In Fig. 6 a section is taken at B in Fig.

1 showing an end view of the interlocking feature.

Small ears or anchor wings of thin sheet metal are mounted within the frames of some or all of the screen panels as shown at 29, 31 and 33. In placing the device in position upon a window the ear 31 may be turned up as indicated in dotted lines at 31', and tacked to the window frame either at the top or bottom of the window as the case may be. This will hold the device in approximately the desired position; the end panels 9 and 13 now may be slid back as is shown at the panel 13, and screws 8' 8' may be passed through the end pieces 5 5' and screwed into the window casing anchoring the end pieces and thus the entire device firmly. The ears 29 and 33 now may be turned outward, the end panels drawn to their proper positions as shown at the panel 9, and by tacks through the ears 29 and 33 the panels are permanently fixed in their final positions.

An alternative form of end piece is shown in Figs. 7 and 8. A flat metal piece 40 is cut at the ends 41, 47, to fit within the ends of the large and small tubular channels. An angle bar 42 is pivoted centrally upon the piece 40 so that it may swing into registry with the piece 40, so that its ends 43, 44, may occupy the positions shown dotted at 43' 44'. The tubular channels 45 are notched at 45'. Installation is made by screwing the end pieces upon the window frame, then placing the tubular channels 45 in position upon the end pieces 40, and then swinging the locking bar 42 into registry with the end pieces 40 so that the end 43 passes into the notch 45' and locks the channel upon the end piece. When the screen panel 46 is drawn to the end and tacked in position, it will in turn lock the locking bar 42 and the device will be permanently in position.

Having thus described our invention, what we claim as new and desire to secure by United States Letters Patent is:

1. In a screen for windows, two end pieces for clamping to the window frame, telescopic channels connecting said end pieces, screen panels slidable within said telescopic channels and overlapping each other, the upper and lower edges of said screen panels being offset to allow said panels to overlap, and locking ears to limit the slidable movement of said panels with respect to each other.

2. In a screen for windows, two end pieces for clamping to the window frame, telescopic channels connecting said end pieces, screen panels slidable within said telescopic channels and overlapping each other, the upper and lower edges of said screen panels being offset to allow said panels to overlap, locking ears to limit the slidable movement of said panels with respect to each other, and anchor wings upon said

screen panels for holding said channels stationary with respect to the window frame.

3. In a screen for windows, an end bar adapted to be attached rigidly to a window frame; tubular channels, the ends of said end bar being adapted to engage the inner surface of said tubular channels and said channels having transverse notches near said end piece when said two parts are in engagement; and a locking bar upon said end piece and engaging said channels within the notch and locking said channels against withdrawal from said end pieces.

4. In a screen for windows, an end bar adapted to be attached rigidly to a window frame; tubular channels, the ends of said bar being adapted to engage the inner surface of said tubular channels and said channels having transverse notches near said end piece when said two parts are in engagement; a locking bar upon said end piece and engaging said channels within the notch and locking said channels against withdrawal from said end pieces; a projecting member upon said locking bar; and a screen panel sliding in said channels and positioned in the path of said projecting member when said bar is in its locking position.

5. In a screen for windows, an end bar adapted to be attached rigidly to a window frame; tubular channels, the ends of said bar being adapted to engage the inner surface of said tubular channels and said channels having transverse notches near said end piece when said two parts are in engagement; a locking bar upon said end piece and engaging said channels within the notch and locking said channels against withdrawal from said end pieces; a projecting member upon said locking bar; a screen panel sliding in said channels and positioned in the path of said projecting member when said bar is in its locking position; and an anchor wing upon said screen panel.

6. In a screen for windows, an end bar adapted to be attached rigidly to a window frame; tubular channels, the ends of said end bar being adapted to engage the inner surface of said tubular channels and said channels having transverse notches near said end piece when said two parts are in engagement; a locking bar upon said end piece and engaging said channels within the notch and locking said channels against withdrawal from said end pieces; a screen panel sliding in and upon said channels and engaging and locking said locking bar when said locking bar is in locking position.

7. In a screen for windows, an end bar adapted to be attached rigidly to a window frame; tubular channels, the ends of said end bar being adapted to engage the inner surface of said tubular channels and said channels having transverse notches near said end piece when said two parts are in

engagement; a locking bar upon said end
piece and engaging said channels within the
notch and locking said channels against
withdrawal from said end pieces; a screen
5 panel sliding in and upon said channels and
engaging and locking said locking bar when
said locking bar is in locking position; and
an anchor wing upon said screen panel.

Signed by us at Chicago, county of Cook
and State of Illinois in the presence of two 10
witnesses.

HERMAN FRED RAU.
HALVOR M. OLSEN.

Witnesses:

DAVID S. HULFISH,
CHARLES I. COBB.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."