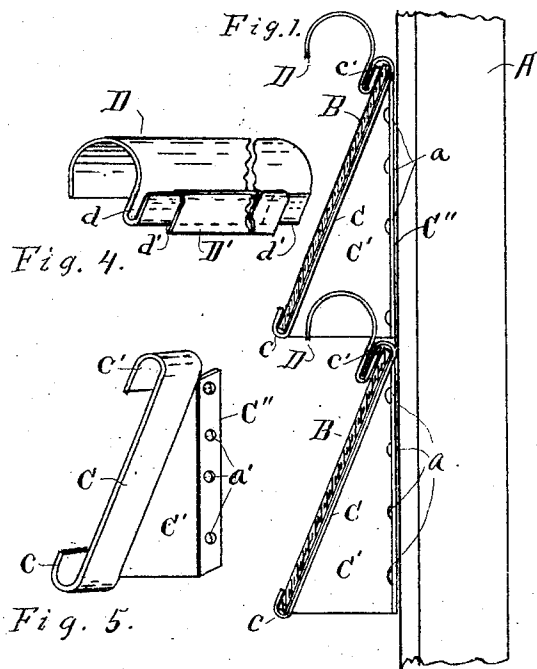
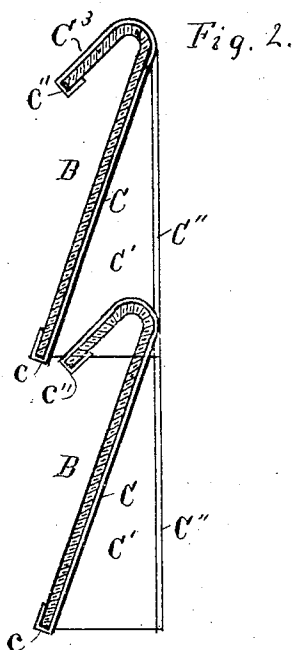
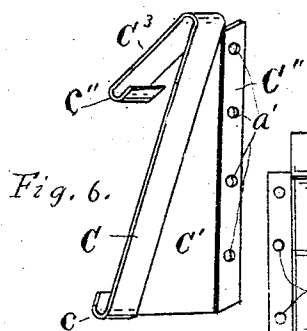
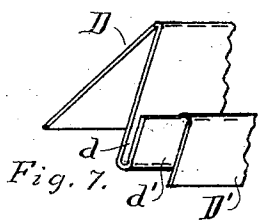
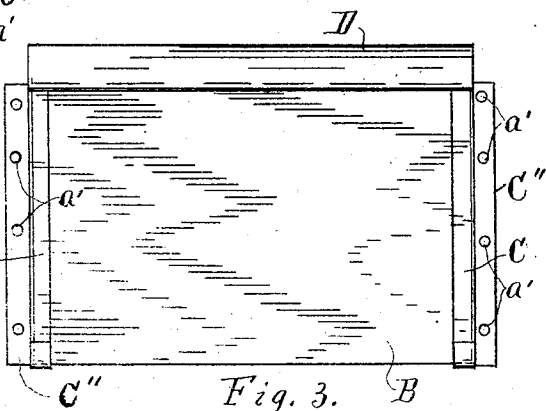
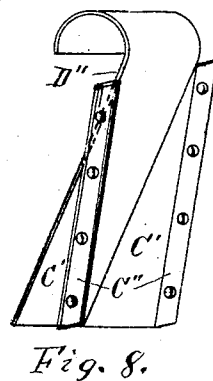


J. & E. TISCH,
WINDOW SCREEN AND VENTILATOR.

APPLICATION FILED MAY 23, 1904.



Witnesses

C. V. Gilley
A. Allgier

By

Inventors

Julius Tisch

Emil Tisch

Idris J. Gilley
Attorney

UNITED STATES PATENT OFFICE.

JULIUS TISCH AND EMIL TISCH, OF GRAND RAPIDS, MICHIGAN.

WINDOW SCREEN AND VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 786,391, dated April 4, 1905.

Application filed May 23, 1904. Serial No. 209,371.

To all whom it may concern:

Be it known that we, JULIUS TISCH and EMIL TISCH, citizens of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Window Screens and Ventilators, of which the following is a specification.

Our invention relates to improvements in combined window screens and ventilators; and its objects are, first, to provide a window-screen that will perfectly ventilate the room without danger of rain being forced through into the room during a heavy wind-storm and rain-storm, and, second, to provide a combined window screen and ventilator that will not shut out the light. We attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a section of a window-frame with one form of our screen applied. Fig. 2 shows a modified form of the screen. Fig. 3 is a front elevation of the same. Fig. 4 is a perspective of one form of metal cap for use with our screen. Figs. 5 and 6 are perspectives of the metal straps that support the glass in our transparent screens. Fig. 7 is a modified form of the metal top, and Fig. 8 shows a full sheet-metal screen-slat.

Similar letters refer to similar parts throughout the several views.

In Fig. 1, A represents the side of a window-frame. B represents a glass slat. C represents metallic strips, one of which is placed at each end of the glass slat B and is provided with hooks *c* and *c'* to clamp and hold the glass, a backwardly-projecting web *C'*, and a right-angled base *C''*, that is secured to the window-frame by nails or screws *a*, and D is a metallic cap which serves the purpose, firstly, of clamping the upper end of the glass slat, and, second, of forming a dam or stop to prevent water that is blown forcibly against the glass B from spattering or flowing over the top of the glass slat into the room. When using this cap, we turn the back up, as at *d*, and back, forming the outer wall *D'*, and to apply it to and clamp the glass B we prefer to cut away the end of the wall *D'*, as at *d'* in Figs.

4 and 7, and place the ends *c'* in the opening *d* and pinch the metal of the cap together to clamp the ends *c'*, after which we preferably solder or otherwise firmly secure them together. When glass slats are used, they must be supported in the strips C or their equivalent at each end, and the metallic cap D or its equivalent is also necessary to support the glass, which rests in the U-shaped opening back of the wall *D'* and of the web *C'*; and the lower edge rests in the hooks *c* at the lower end of the metal strips C. The webs *C'* should be so formed that when secured to the window-frames the lower end of the slat B (glass or metal) will stand beyond the cap D (or *C'*, as the case may be) a sufficient distance to allow a free flow of air between them and should be low enough so that no water could be conducted through this opening.

In Fig. 2 we show a full glass slat with an integral cap, and for supporting these slats we form the metallic strips or supports C of practically the form shown in Fig. 6, where the hook *c'* receives and supports the edge of the cap *C'* and the hook *c* receives and supports the lower edge of the slat B.

In Fig. 8 we have shown a slat and cap *D''* and webs *C'* and bases *C''*, formed of an integral piece of sheet metal for use in barns, storehouses, dry-kilns, and other places where it is desirable to have a free circulation of air, but where the diffusion of light is not especially desirable. *a' a'* represent apertures for the reception of nails or screws.

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

1. In a window screen and ventilator, a slat, a triangular supporting-web and base, and a cap projecting down and outward from the top of the slat toward the back of the lower edge of the next slat above it, substantially as and for the purpose set forth.

2. In a window screen and ventilator, metal supporting-strips, triangular webs projecting back therefrom, a base thereon, a cap secured to the strips and projecting forward less than the width of the lower end of the web and inclined down, said cap being grooved at the

back, and a glass slat supported in said groove and the metal supporting-strips, substantially as and for the purpose set forth.

3. In a window screen and ventilator, metallic supporting-strips, triangular webs projecting back from said strips and terminating in perforated bases, and glass panels secured in said strips, with a cap projecting forward and downward less than the width of the lower

end of the web, substantially as and for the purpose set forth.

Signed at Grand Rapids, Michigan, May 16, 1904.

JULIUS TISCH.
EMIL TISCH.

In presence of—

JOHN HONNUTH,
ITHEL J. CILLEY.