U. SPRINCHORN.

FOLDABLE WINDOW SCREEN.

APPLICATION FILED FEB. 20, 1911.

1,007,499. Patented Oct. 31, 1911.

Fig. 1.

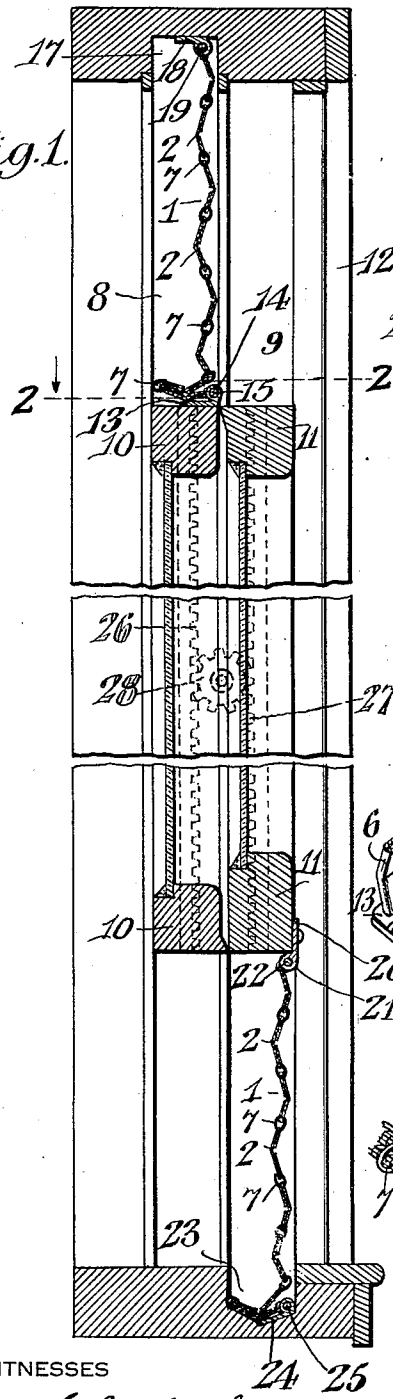

Fig. 2.

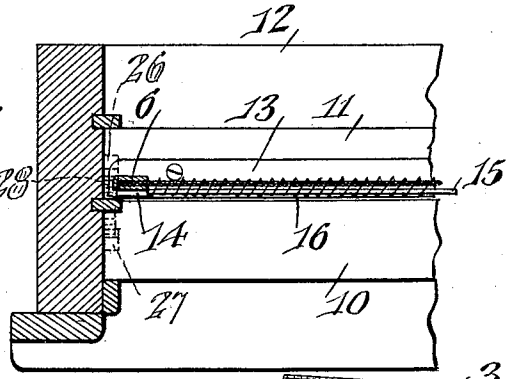

Fig. 4.

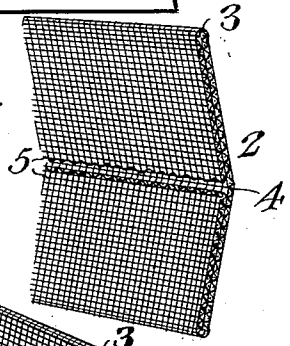

Fig. 5.

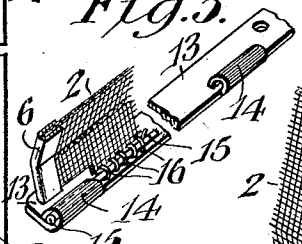

Fig. 3.

WITNESSES

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FOLDABLE WINDOW-SCREEN.

1,007,499. Specification of Letters Patent. Patented Oct. 31, 1911.

Application filed February 20. 1911. Serial No. 609,605.

To all whom it may concern:

Be it known that I, ULRICH SPRINCHORN, formerly a subject of the King of Sweden, having formally declared my intention to become a citizen of the United States, residing at Jamestown, in the county of Chautauqua and State of New York, have invented a new and useful Foldable Window-Screen, of which the following is a specification.

The invention relates to improvements in window screens.

The object of the present invention is to improve the construction of window screens, and to provide a simple, practical and serviceable window screen, adapted to be readily applied to a window, and capable, when the window is closed, of folding automatically in a compact condition at the top and bottom of the window frame or casing, whereby it will be out of the way and will also be protected from wind and weather.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:—Figure 1 is a vertical sectional view of a window frame, provided with automatically foldable screens, constructed in accordance with this invention. Fig. 2 is a horizontal sectional view on the line 2—2 of Fig. 1. Figs. 3 and 4 are detail perspective views, illustrating the construction of the folding sections of the window screen. Fig. 5 is a detail view, illustrating the construction for hinging the ends of the window screen.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

In the accompanying drawing in which is illustrated the preferred embodiment of the invention, the automatic foldable window screen 1 comprises a plurality of transverse angle sections 2, each composed of two sides or wings, arranged at an obtuse angle to each other and presenting a concave face to one side and a convex face at the opposite side, as clearly illustrated in Figs. 3 and 4 of the drawing. Each section is preferably constructed of a single piece or sheet of woven wire, or other suitable foraminous material, and when constructed of woven wire, the material after being bent to form the two sides or wings, is bent back on itself at 3 and extended to points adjacent to the angle 4 of the section to form inner reinforcing plies or thicknesses 5. The angular form of the sections stiffens them and renders the wire gauze less pliable, and also produces a positive folding of the section in the proper direction, as hereinafter fully explained. The angular sections may be reinforced at their end edges by substantially U-shaped metallic binding strips 6, constructed of sheet metal and bent to form two engaging sides or flanges and a connecting bend, as clearly illustrated in Fig. 3 of the drawing. These metallic binding strips may, however, be omitted when desired.

The sections of the automatically foldable window screen are hinged together at their adjacent edges by a spirally coiled wire 7, or other suitable means, and they are arranged to fold or nest together in the manner illustrated in Fig. 3 of the drawing. Any other suitable means, however, may be employed for hinging the adjacent edges of the sections together. The spiral wire 7 is passed through the meshes of the sections and forms an efficient means for hinging them to one another. The sections 2 are of a width to extend across the space between the walls of the guides or ways 8 and 9 for the upper and lower sashes 10 and 11 of the window frame or casing 12, and the guides for the sashes also serve to guide the sections of the window screen. The window screen, which is connected with the upper edge of the upper sash 10, is hinged at its lower edge to the same by means of a metallic strip 13, provided with spaced eyes 14, preferably located at the ends and at the center of the strip and receiving a pintle rod 15 to which the lower edge of the foldable window screen is connected by a spirally coiled wire 16. The upper edge of the window screen of the upper sash is hinged to the window frame or casing in a recess 17 thereof by a metallic strip 18 and a pintle rod 19. The metallic strip 18 is constructed similar to the metallic strip 13, being provided with spaced eyes arranged at intervals to receive the pintle rod 19, which is connected with

the window screen by a spiral wire or other suitable means. When the upper sash is raised, the angular sections of the window screen will fold compactly upon the upper edge of the said sash, and when the latter is closed or raised to the limit of its upward movement, the window screen is completely folded and concealed in the recess 17, and is protected by the window casing from wind and the weather.

The window screen of the lower sash is reversely arranged, its upper edge being connected to a metallic strip 20, secured to the outer face of the lower sash and provided with spaced eyes 21, receiving a pintle rod 22 to which the upper edge of the window screen of the sash is secured by a spiral wire, or other suitable means in the manner before described. The metallic strips may be secured either to the side faces or the end faces of the sashes. The lower edge of the foldable window screen of the lower sash is hinged within a lower recess 23 of the window frame or casing by a metallic strip 24, having spaced eyes receiving a pintle rod 25, which is connected with the lower edge of the window screen by a spiral wire in the manner heretofore explained. When the window screen of the lower sash is folded within the bottom recess, it is also concealed from view and is protected from the wind and weather. When the upper sash is raised, or the lower sash is lowered, the slackening of the window screen causes the sections to fold back and forth in zig-zag relation, and the angular shape of the sections with their alternate reverse arrangement causes the sections to fold and nest properly. The screen is readily extended or unfolded when either the upper sash is lowered or the lower sash is raised.

In the accompanying drawing, the sashes 10 and 11 are counter-balanced by means of opposite racks 26 and 27 and a centrally arranged pinion 28, meshing with the racks, as clearly indicated in Fig. 1 of the drawing, but any other suitable means for balancing the sashes may be employed, as the window screen is applicable to all kinds of sashes, whether balanced or unbalanced and may be used on a window with a single sliding sash as well as on windows having upper and lower sashes.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A foldable window screen including a plurality of similar angle sections hinged together at their adjacent edges, said sections having angularly related sides or wings and being alternately reversely arranged to enable them to fold and nest compactly.

2. A foldable window screen including a plurality of sections hinged together, each section being constructed of a single piece of wire gauze bent to form two sides or wings, the material being folded inwardly on the sides or wings to form reinforcing plies or thicknesses.

3. A foldable window screen including a plurality of transverse angle sections hinged together at their adjacent edges and consisting of two sides or wings, the material being folded inwardly on the sides or wings to form reinforcing plies or thicknesses, and approximately U-shaped metallic binding strips embracing the end edges of the sections and engaging the plies or thicknesses and retaining the same in position.

4. The combination with a window frame having a guide-way, and a sash movable in the same, of a foldable window screen composed of a plurality of angle sections hinged together and alternately arranged in reverse relation so as to fold and nest compactly, said sections operating in the guide-way of the window frame, means for hinging the screen to the sash and to the window frame, said means including a metallic strip provided with spaced eyes, a pintle mounted in the eyes, and a spiral wire connecting the screen with the pintle rod and embracing the latter.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ULRICH SPRINCHORN.

Witnesses:
OSCAR A. ERICSON,
OLOF A. OLSON.