S. E. CIBULAS.

WINDOW.

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970,988.

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Fig. 2.

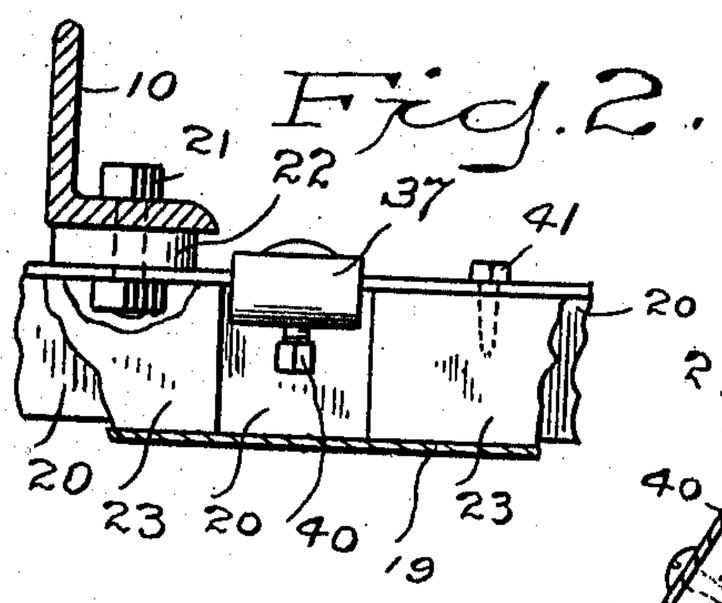



Fig. 1.




Fig. 3.




Fig. 4.

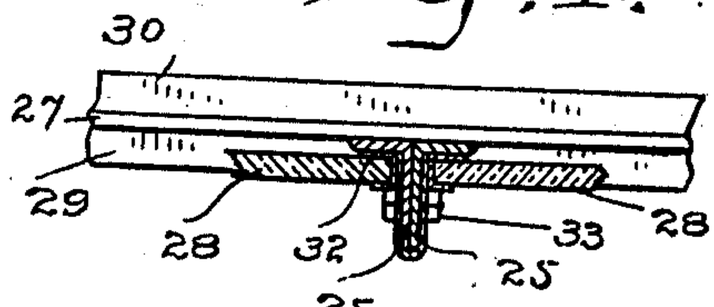
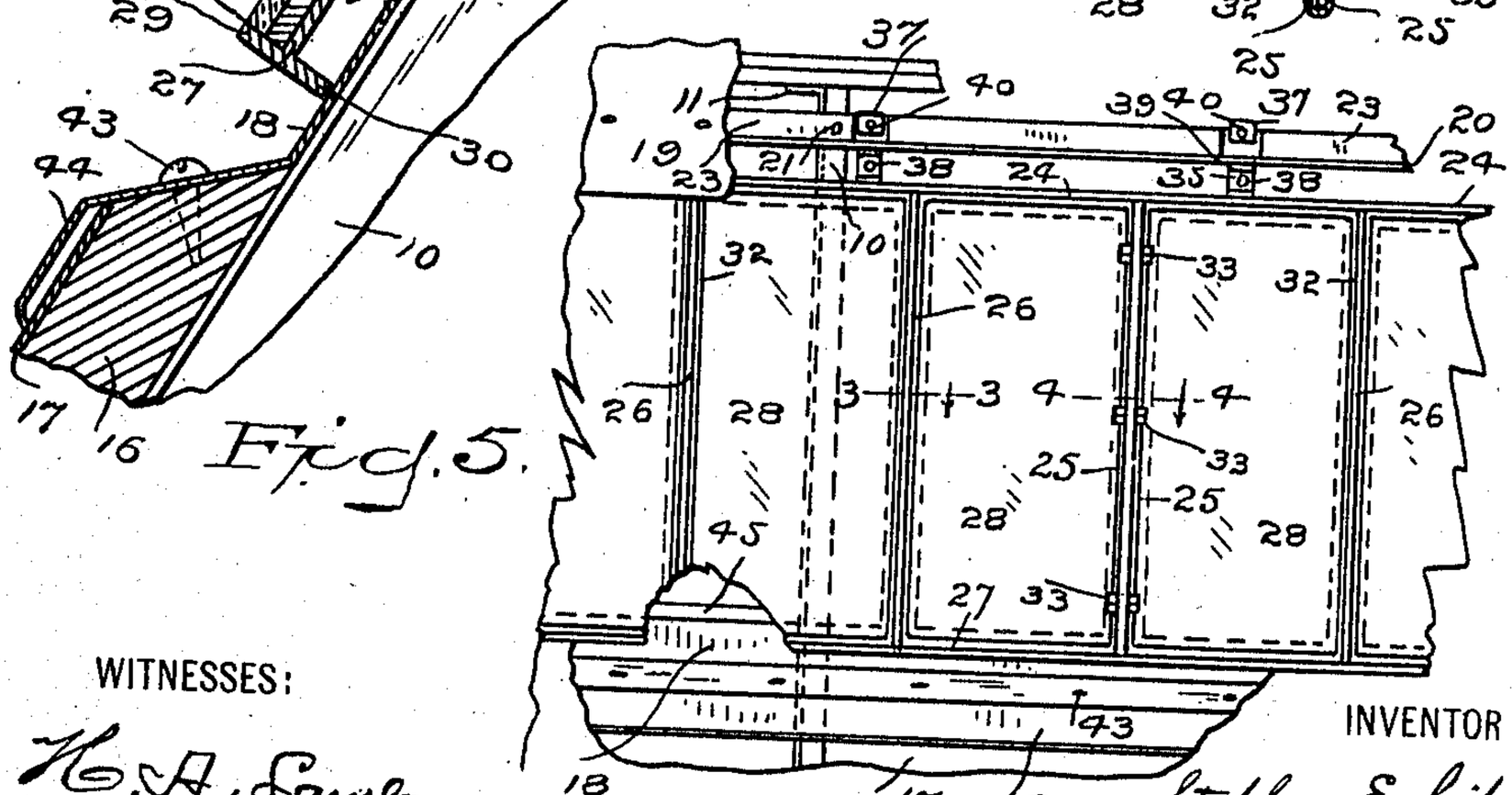



Fig. 5.




WITNESSES:

H. A. Sauer.

S. W. Atherton.

INVENTOR

Stephen E. Cibulas

BY

A. M. Wooster

ATTORNEY

# UNITED STATES PATENT OFFICE.

STEPHEN E. CIBULAS, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE G. DROUVE COMPANY, OF BRIDGEPORT, CONNECTICUT, A CORPORATION OF CONNECTICUT.

## WINDOW.

970,988. Specification of Letters Patent. Patented Sept. 20, 1910.

Application filed February 23, 1910. Serial No. 545,317.

*To all whom it may concern:*

Be it known that I, STEPHEN E. CIBULAS, a citizen of the United States, residing at Bridgeport, county of Fairfield, State of Connecticut, have invented an Improvement in Windows, of which the following is a specification.

This invention has for its object to provide simple and inexpensive metal windows which shall be constructed from ordinary stock angle and tee irons, shall be adapted for use in walls and saw tooth and other roofs and may be either fixed or movable, which shall be adapted for attachment to standard buildings as ordinarily constructed without the punching of special holes in setting up, shall be so constructed that any number of sections may be conveniently united to form one continuous window or skylight, which shall be water and weather-proof and shall be so constructed that when used in swinging windows and skylights danger of freezing closed shall be eliminated, the point of contact in the closed position being so reduced that even should moisture collect and freeze the window may be readily detached by any ordinary operating device.

With these and other objects in view I have devised the novel window which I will now describe, referring to the accompanying drawing forming a part of this specification and using reference characters to indicate the several parts.

Figure 1 is a vertical section illustrating the application of my invention to an ordinary saw-tooth roof, so called; Fig. 2 a detail plan view, parts being in section; Fig. 3 a detail section on the line 3—3 in Fig. 5 looking in the direction of the arrows, showing the ordinary joint between the panes of glass in a section; Fig. 4 a detail section on the line 4—4 in Fig. 5 looking in the direction of the arrows showing the joint between two sections of my novel window sash; and Fig. 5 is an elevation partly broken away as seen from the left in Fig. 1.

For the purposes of this specification the illustration of a single application of the invention is deemed quite sufficient.

10 denotes trusses, 11 roof trusses, any required number of which may be used, 12 roof timbers, 13 roof planking, 14 roofing, 15 a peak flashing, 16 curbing, 17 a lower flashing, 18 a weather strip and 19 an upper flashing. The essential feature of the frame is a continuous angle iron indicated by 20 which is rigidly secured to trusses 10 by means of bolts 21, spacing plates 22 being interposed between the trusses and the angle iron.

23 denotes wooden strips secured to the angle iron and to which the upper flashing is secured.

My novel window is constructed in sections which may be of any desired size and any number of sections may be secured together to form one continuous window or skylight. Each section comprises an upper angle iron 24, end angle irons 25, intermediate tee irons 26, and a lower tee iron 27.

28 denotes panes of glass each of which rests upon the upper angle iron 24, upon two intermediate tee irons 26 or upon one intermediate tee iron and one end angle iron 25 and upon the lower tee iron 27. The outer wing of the lower tee iron, indicated specifically by 29, serves as the lower rest and support of the panes of glass, the inner wing of the lower tee iron, indicated specifically by 30, resting against trusses 10 and serving as a support for the window in the closed position. The panes of glass are secured in place by cross pins 31 and by putty 32 placed at the back, front and edges of each pane, as clearly shown in Fig. 3. As already stated, any number of panes of glass may be placed in each section and any number of sections may be joined together to form a continuous window or skylight by means of bolts 33 passing through the outer wings of two end angle irons 25 as clearly shown in Fig. 4. The sections of the window swing upon hinge members denoted respectively by 34 and 35. Hinge members 34 are rigidly bolted to the upper angle irons 24 of the sections as at 36, and upper hinge members 35 are rigidly bolted to the shanks of hooks 37 as at 38. The upper ends of hinge members 35 are preferably provided with angle pieces 39 which abut against the under side of continuous angle iron 20 and prevent the possibility of upward movement of the window when attached. Hooks 37 engage continuous angle iron 20 and are shown as locked thereto by means of set screws 40. The shanks of the hooks lie between wooden strips 23 and between spacing plates 22.

My novel window is made water and weather-proof by means of upper flashing

19 and weather strip 18. The lower end of the upper flashing extends downward past upper angle irons 24 and has its edge bent inward to meet angle irons 25 and tee irons 26 and is preferably bent upward and over upon itself to give rigidity and strength as at 42. The lower end of weather strip 18 extends downward over the top of the curbing to which it is secured by screws 43 and over the upper edge of the lower flashing as at 44. The upper edge of the weather strip lies in contact with trusses 10 and extends upward past the inner wings 30 of lower tee irons 27, the upper edge thereof being curved over and downward and outward as at 45 to form a water-shed for any moisture that may condense upon the inner side of the glass and drop down. It will be noted that the only point of contact of the window in the closed position is between the inner wings 30 of lower tee irons 27 and the weather strip which overlies trusses 10. This point or line of contact is so reduced that even should moisture accumulate there and freeze the window may be readily detached by means of an operating device indicated as a whole by 46. As the special style of operating device used is wholly immaterial so far as the present invention is concerned, no description of an operating device is thought to be necessary.

In putting up my novel window, continuous angle iron 20 is first rigidly secured to trusses 10, being properly spaced therefrom as already explained. The hooks 37 are then placed over the continuous angle iron and the hinge members, connected together, are rigidly secured to the upper angle irons of the window. Members 35 of the hinges are then bolted to the hooks and the hooks are locked to the continuous angle iron by means of the set screws. It will be noted that this mode of construction enables me to provide standard parts which may be used in any building and do not require special fittings to adapt them to different buildings.

Having thus described my invention, I claim:

1. The combination with a window section having an upper angle iron, of a continuous angle iron, hooks detachably secured to said continuous angle iron, and hinged members secured respectively to said hooks and to the upper angle iron of the window section, said window section being provided with a projection to support the same when closed.

2. The combination with a window section having an upper angle iron, of a continuous angle iron, hooks detachably secured to said continuous angle iron, and hinge members secured respectively to said hooks and to the upper angle iron of the window section, said window section being provided with a lower tee-iron one wing of which supports the lower end of the window when the latter is closed.

3. The combination with a window formed of a plurality of sections, an upper angle iron, and a lower angle iron, of a continuous angle iron, hooks detachably secured to said continuous angle iron, and hinge members secured respectively to said hooks and to the upper angle iron of the window section, one wing of said lower angle iron serving to support the lower end of the window when the latter is closed.

4. The combination with a window having an upper angle iron, and a continuous angle iron, of hooks detachably secured to the continuous angle iron and hinge members secured respectively to the hooks and to the upper angle iron of the window.

5. The combination with a window having an upper angle iron, a continuous angle iron and hooks detachably secured thereto, of hinge members secured to the upper angle iron of the window and other hinge members connected thereto and to the hooks and having angle pieces engaging the continuous angle iron.

6. The combination with a window having an upper angle iron, a continuous angle iron, hooks engaging the continuous angle iron, and set screws in the hooks whereby they are locked in place, of hinge members secured to the upper angle iron of the window and other hinge members connected thereto and to the hooks and having angle pieces engaging the continuous angle iron.

7. The combination with window supporting trusses, a continuous angle iron secured thereto, and spacing plates between the trusses and the angle irons, of window supporting means detachably secured to said angle iron, and a window suspended from said supporting means.

8. The combination with window supporting trusses, a continuous angle iron secured thereto and wooden strips secured to the angle irons, a window supporting means detachably engaging said angle iron, a window supported by said supporting means, and a flashing secured to the window strips and having its lower edge bent inward toward said window.

In testimony whereof I affix my signature in presence of two witnesses.

STEPHEN E. CIBULAS.

Witnesses:

A. M. WOOSTER,

S. W. ATHERTON.