B. F. AUFDERHEIDE.

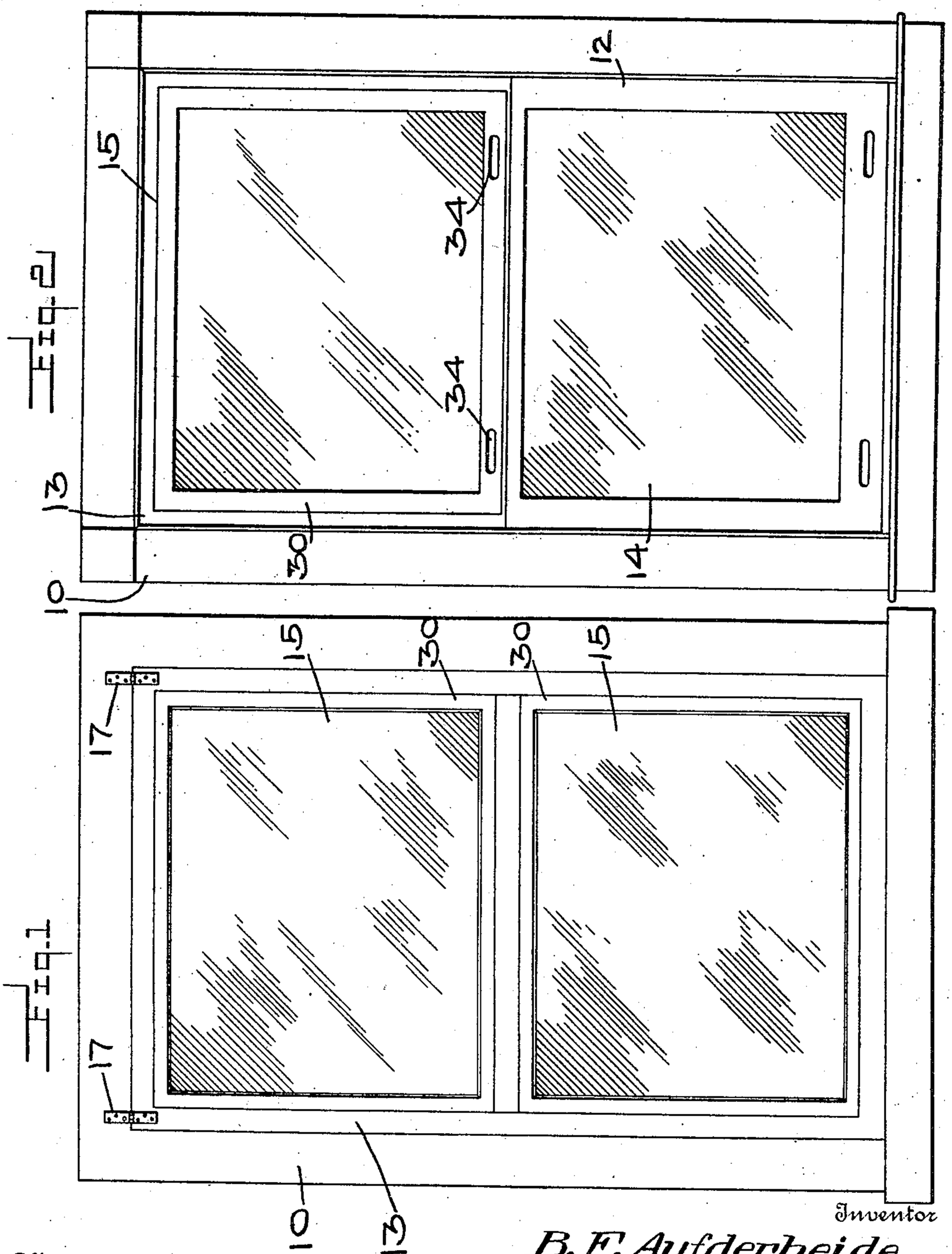
STORM AND SCREEN WINDOW.

APPLICATION FILED JAN. 28, 1910.

998,944.

Patented July 25, 1911.

2 SHEETS—SHEET 1.



Witnesses

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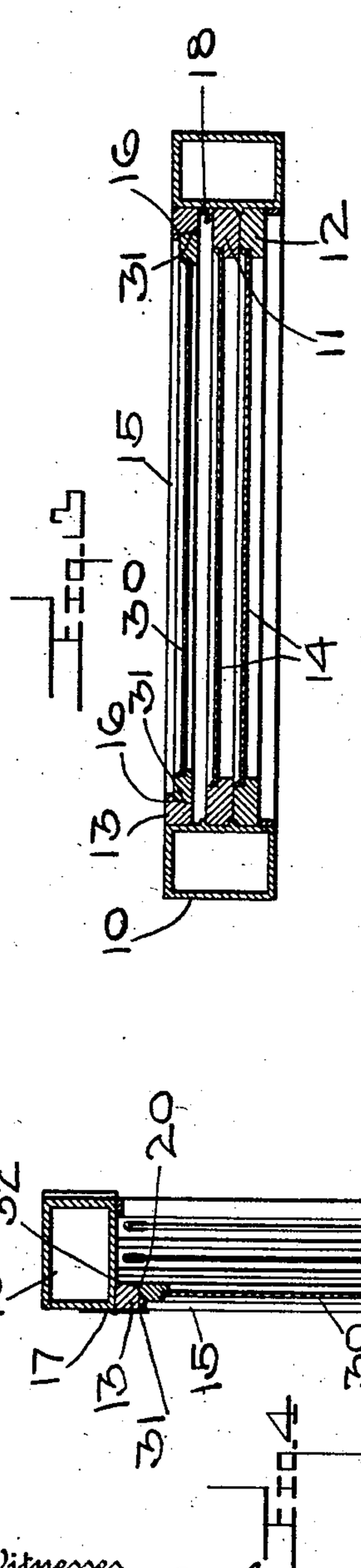

Fig. 7.

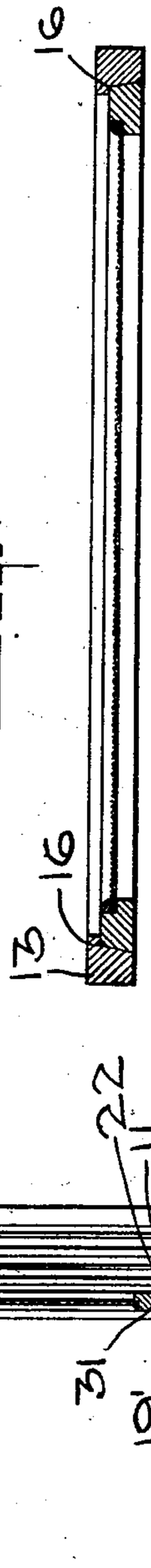

Fig. 7.

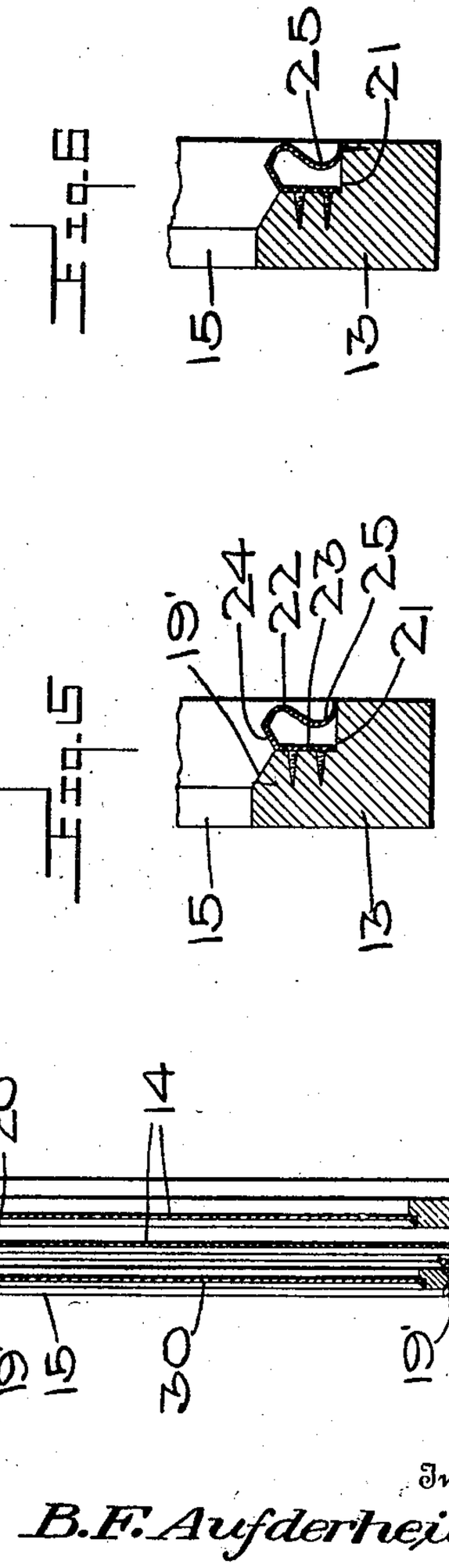

Fig. 6.

Fig. 5.

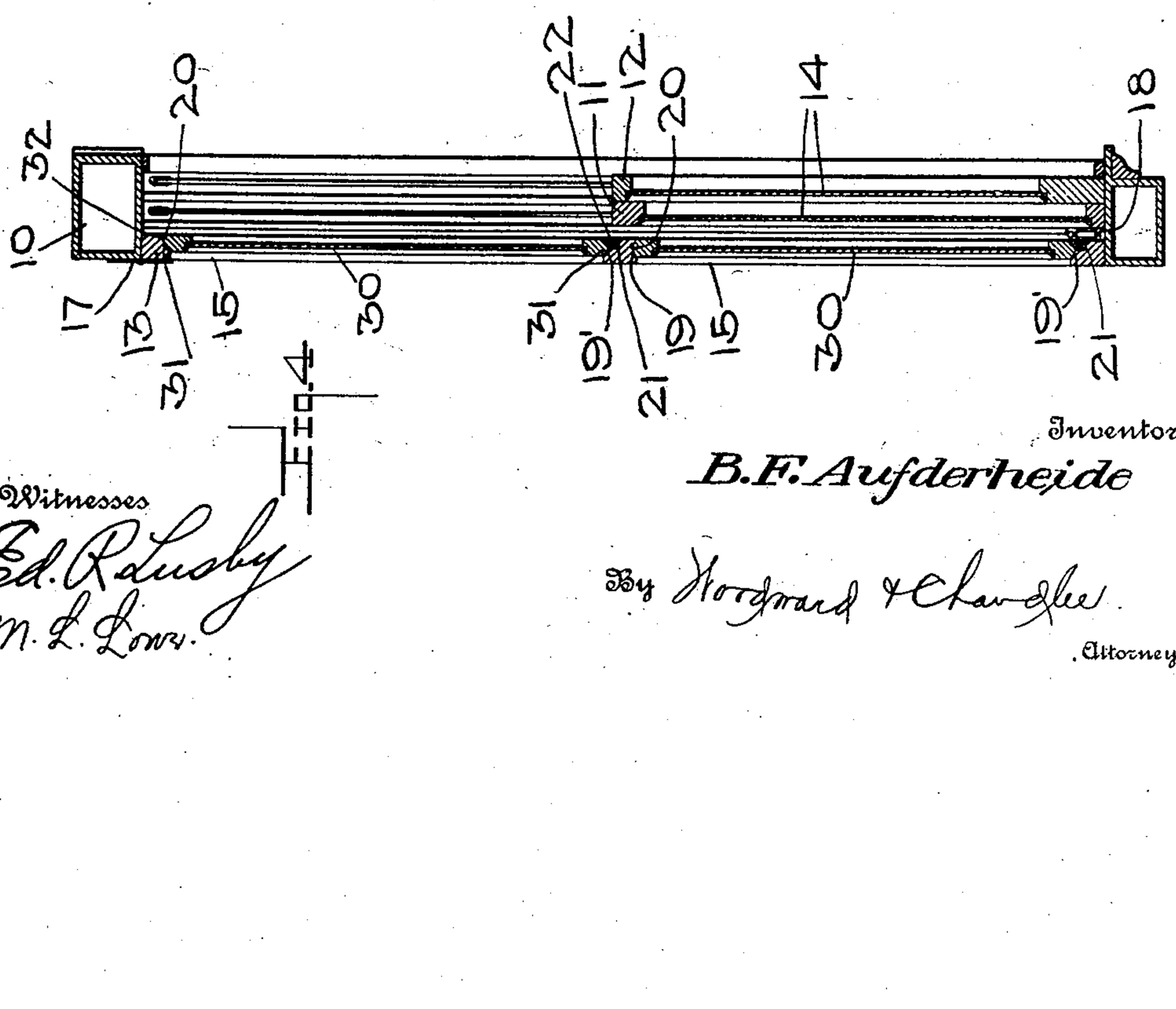

Fig. 4.

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UNITED STATES PATENT OFFICE.

BENJAMIN F. AUFDERHEIDE, OF DAVENPORT, IOWA.

STORM AND SCREEN WINDOW.

998,944. Specification of Letters Patent. Patented July 25, 1911.

Application filed January 28, 1910. Serial No. 540,535.

To all whom it may concern:

Be it known that I, BENJAMIN F. AUFDERHEIDE, a citizen of the United States, residing at Davenport, in the county of Scott and State of Iowa, have invented certain new and useful Improvements in Storm and Screen Windows, of which the following is a specification.

This invention relates to improved window construction, and has for its object to provide a storm window which will be interchangeable with a fly screen, so that either of the two may be used at appropriate seasons.

An important object of the invention is to provide such a window construction of simple character adapting it to be made at a low cost, and installed on windows of the usual type already built.

Another important object is to provide such a device, the removable elements of which may be manipulated from the interior of a building without the removal of the permanent window sash.

Other objects and advantages will be apparent from the following description, and it will be understood that changes in the specific structure shown and described may be made within the scope of the claim without departing from the spirit of the invention.

In the drawings: Figure 1 is an outside elevation of a window equipped with my device, Fig. 2 is a similar interior elevation of the window showing one of the permanent sashes in open position, Fig. 3 is a horizontal section through such a window, Fig. 4 is a vertical section therethrough, Fig. 5 is a detail section of a means for securing the storm sash in place, Fig. 6 is a modification and Fig. 7 is a horizontal section of the outer frame.

Referring to the drawings, there is shown a window frame 10 of the usual construction in which are mounted the vertically reciprocable sashes 11 and 12, and upon the outer portion of which is secured the stationary frame 13 forming a part of the present device. The sashes 11 and 12 are provided with light openings 14, and the frame 13 is provided with vertically spaced openings 15 of a size somewhat larger than the openings 14, which are provided with an inner rabbet 16, entirely circumscribing the openings. The frame 13 is hinged to the upper portion of the frame 10, as shown at 17, whereby its lower end may be swung outwardly at times if desired, for ventilation, as will be subsequently described. Suitable fastening means 18 may be employed upon the lower portion of the frame 13 to retain it securely in closed position.

The inner sides of the rabbet 16 on the vertical portion of the frame 13 are beveled outwardly, and corresponding horizontal portions of the rabbet are similarly extended to a spaced distance from the inner face of the frame 13, as shown at 19. At the upper sides of the openings 15 an overhang 20 is provided inclined slightly downward, as shown in Fig. 4. A second rabbet 21 is formed at the lower side of the openings 15, inwardly of the inclined portion 19′, in which there is secured the spring 22, which comprises a strip of resilient sheet metal having a vertical portion 23 secured against the inner sides of the rabbet 20, from which extends upwardly an inclined portion 24 corresponding to the overhang 20 at the upper edge of the opening 15. From this upwardly inclined portion the spring is inclined downwardly again for a short distance, after which it is turned inwardly and recurved as at 25, its lower end resting upon the lower side of the rabbet 21 and bearing resiliently thereagainst for support of the upper portion of the spring. This lower portion may be secured to the lower end of the rabbet or left slidably disposed thereon as shown in the modification illustrated in Fig. 6.

Set snugly in the openings 15, there are storm sashes 30 comprising rectangular frames of suitable material having rabbeted openings therein provided with glass secured in any suitable manner. The edges of the sash are all beveled inwardly toward their outer faces, as shown at 31, and on their upper and lower edges are beveled inwardly toward their inner faces as shown at 32, the upper inwardly beveled portions resting snugly against the overhang 20 and the lower inwardly beveled portion arranged to be engaged snugly by the inclined portion 24 of the spring 22, which forces the sash inward, and holds it snugly in the frame 13.

In use, two sets of sashes are provided, one having glass in as illustrated in the already described figures, and the other having suitable screens therein, as shown in Fig. 7, the first being intended for use in winter, and the second to be applied in sum-

mer, as will of course be understood. In applying the frame 13, it must of course be secured from the outside, the hinges 17 being so disposed as to fold outwardly, allowing the lower end of the frame to be swung outwardly as before mentioned. The upper storm sash 30 is inserted by lowering the upper permanent sash of the window, which leaves the upper opening 15 fully exposed, the sash 30 being of a size small enough to pass through the space left by the lower sash. The upper edge of the sash 30 is then presented beneath the overhang 20, and the lower edge swung outwardly, the sash being meanwhile pressed firmly against the upper edge of the opening 15. The lower beveled edge 31 of the sash will thus engage upon the outer inclined portion of the spring 22, forcing it downwardly, and allowing the sash to be snapped into place in the frame 13, after which the spring 24 will be pressed upwardly by the resiliency of the portion 25, bearing upward and inward against the sash 30 and holding it snugly in place. The removal of the sash is accomplished by simply drawing inward upon the sash, the spring 22 yielding to a certain amount of force properly applied. In order to facilitate this finger notches 34 may be provided, or any other suitable means for drawing the sash inward. The application of the lower sash 30 is accomplished in a similar manner.

When in winter a short spell of warm weather is experienced, the lower end of the frame may be swung outwardly and propped by any suitable means, or if an extended period of warm weather should occur the sashes 30 may be removed for as long a period as may be desired. In summer the sashes 30 are simply removed as described, and the screen sashes substituted.

What is claimed is:

A storm sash having openings therethrough and detachable sections adapted to be secured therein, a fastening device comprising a strip of metal having a vertical attaching flange adapted to be secured to said sash, an angular wall, a forward compound curved wall having its lower edge free, said removable sections having grooves for engagement with said angular wall to hold said sections in position.

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

BENJAMIN F. AUFDERHEIDE.

Witnesses:
OTTO HAMANN,
JNO. BROCKMANN.