

No. 835,863.

PATENTED NOV. 13, 1906.

O. M. OTTE.
WINDOW SASH.

APPLICATION FILED DEC. 3, 1904.

FIG. 1.

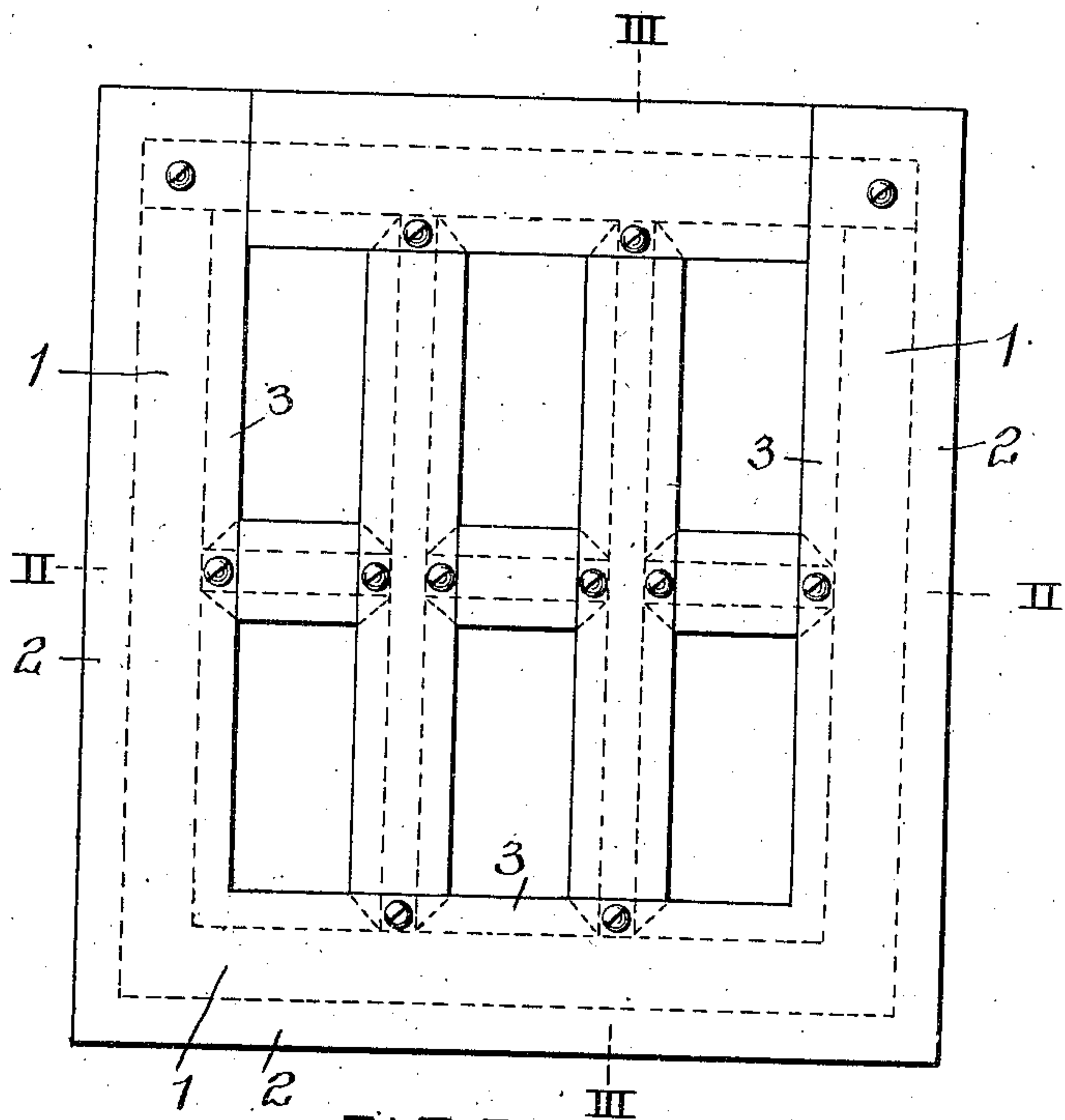


FIG. 3.

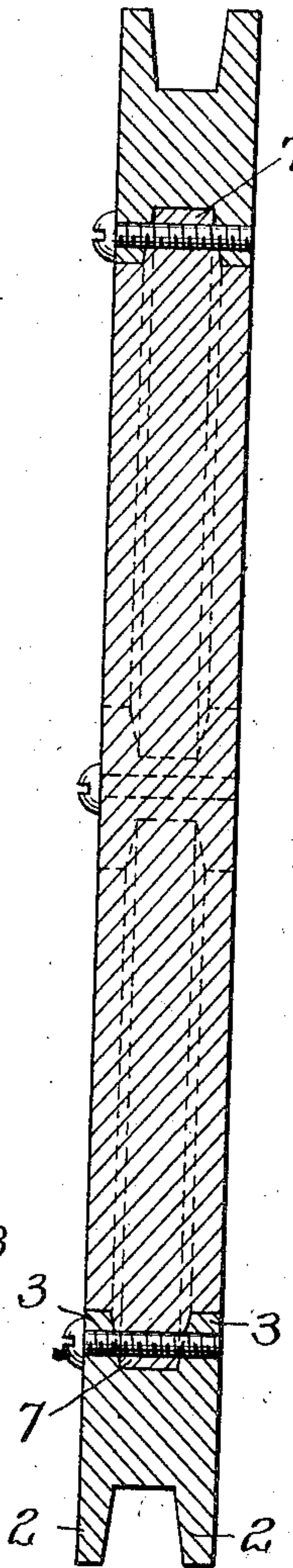


FIG. 6.

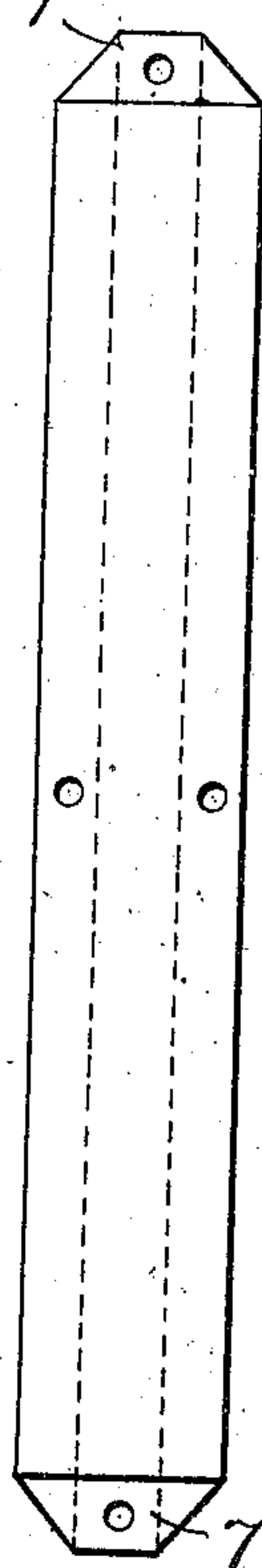


FIG. 5.

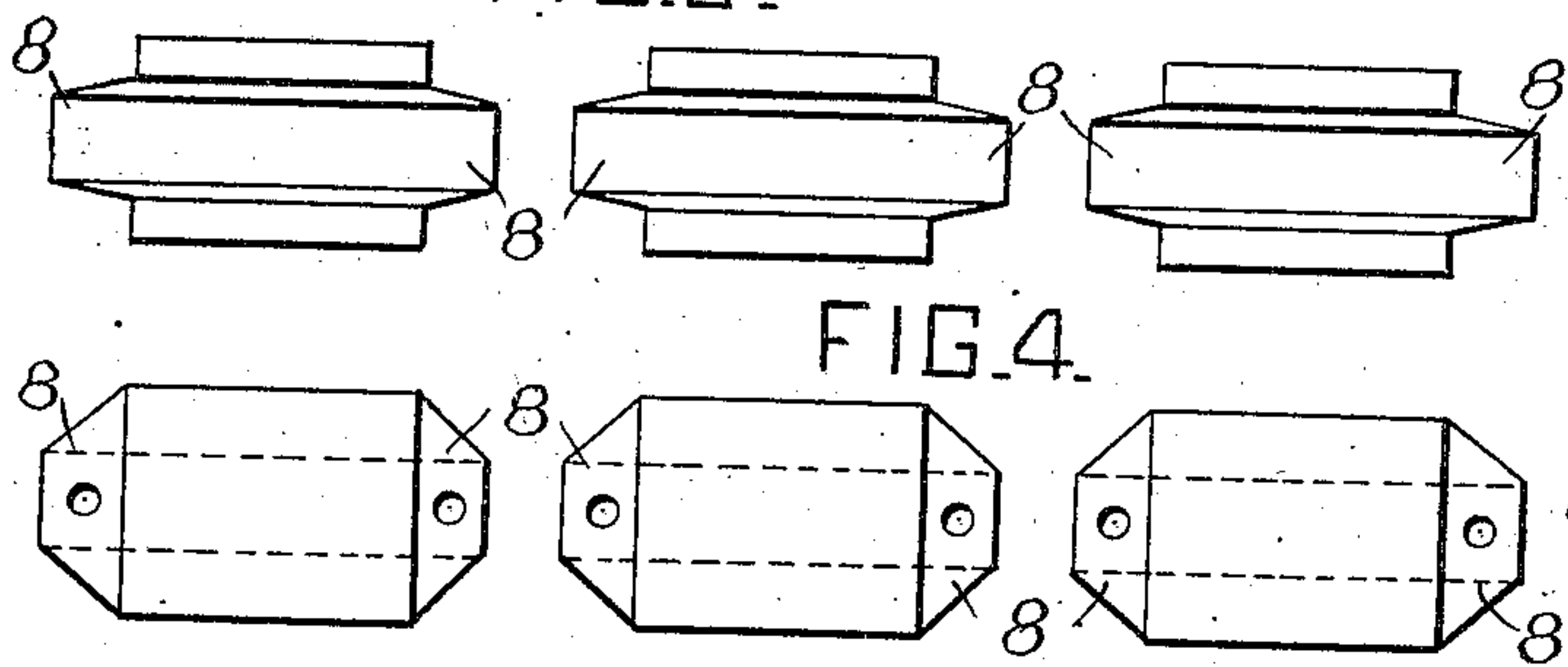


FIG. 4.

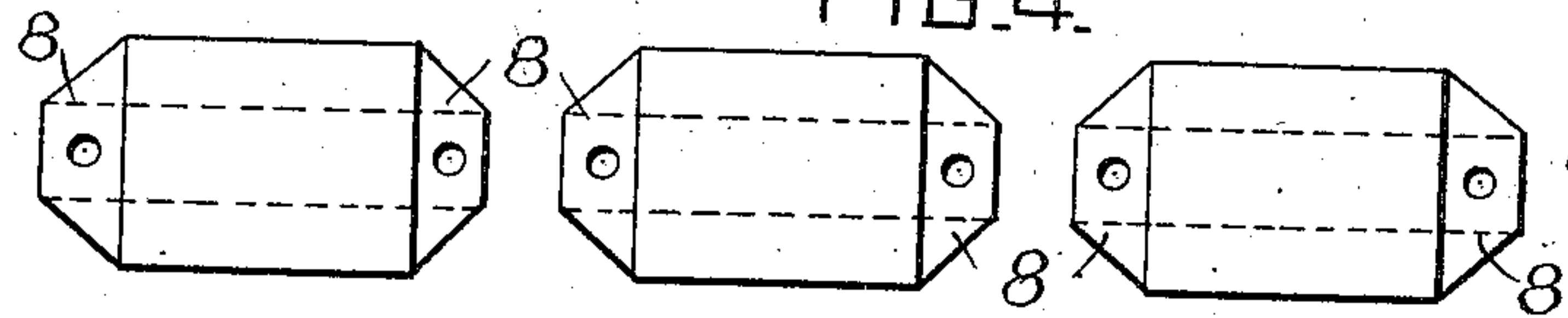
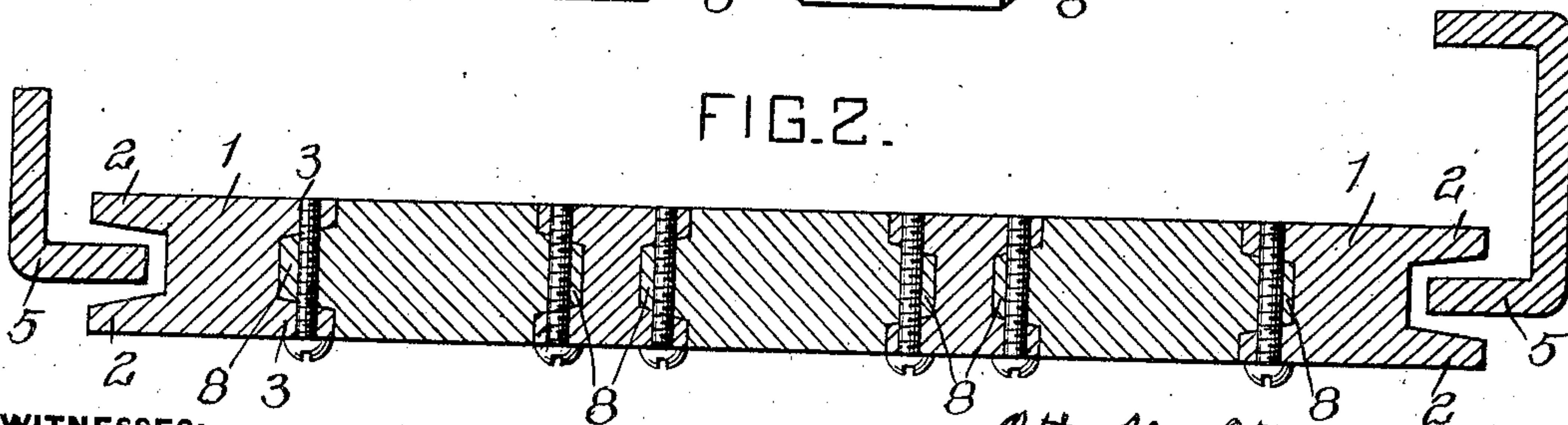


FIG. 2.



WITNESSES:

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WINDOW-SASH.

No. 835,863.

Specification of Letters Patent.

Patented Nov. 13, 1906.

Application filed December 3, 1904. Serial No. 235,398.

To all whom it may concern:

Be it known that I, OTHO M. OTTE, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Window-Sashes, of which improvements the following is a specification.

In applications filed of even date herewith I have described and claimed certain improvements in metal sashes, the improvements in one of said cases consisting of a sash formed in what for convenience is termed a "three-piece" sash, consisting of three parts or members. In the other case the sash consists of two parts or members—to wit, a frame with cross-bars and muntins and one of the glazing-strips, the second member being formed by a removable glazing-strip.

The invention described herein consists of a sash which for convenience is termed a "one-piece" sash, the glazing-strips being formed integral with the frame, muntins, and cross-bars.

The invention is hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a front elevation of my improved sash. Figs. 2 and 3 are sectional views on planes indicated, respectively, by the lines II II and III III, Fig. 1. Figs. 4 and 5 are side and edge views of a cross-bar, and Fig. 6 is a side view of one of the muntins.

In the practice of my invention I employ a structural shape which is approximately that of an I-beam, consisting of a core or central portion 1 and flanges or plate portions 2 and 3. To form the frame or skeleton of the sash, such a structural shape is bent to the form of a U, or, if desired, may be bent to form a square or oblong shape. When thus bent, the flanges 2 project outwardly from the sides of the frame, forming a guide-groove for the reception of the guiding-plate 5, secured to or embedded in the side wall of the window-opening. The inwardly-projecting flanges 3 of the frame form glazing-strips for retaining the glass in position. To form the

muntins, a structural shape similar to that employed for forming the frame has its flanges cut away at its ends, so as to form tongues 7, which will project between the inner flanges of the upper cross-bar or upper rail of the sash and the flanges on the lower rail of the sash. These tongues are secured in position by suitable rivets or screws. The cross-bars are formed of sections, as shown in Figs. 4 and 5, the flanges at the end of the sections being cut away so that the projecting core will form tongues 8, which will project in between the flanges of the muntins and side bars of the frame. The cross-bars are secured in position by means of screws or rivets passing through the flanges and tongues. In placing the glass in a sash of this construction the lower panes are slid down between the muntins and side bars into position, the cross-bars also slid down, the tongue sliding between the flanges of the vertical parts or members and when in position are secured by screws. The next row of panes of glass are next inserted in the same manner, and the next cross-bar or end rail, as the case may be, is placed in position. The end rail has the flanges cut away at its ends to form tongues which project into recesses formed in the side bars of the frame by cutting away the cores, as clearly indicated in Fig. 1.

It is characteristic of this construction that all portions are formed from the same structural shape and that the flanges form the glazing-strips and also the grooves for the guiding-plates 5.

I claim herein as my invention—

1. A window-sash having its frame, muntin and cross-bar formed of a rolled structural shape, the shape being such that the outer faces of the frames have guiding-grooves, said parts being similar in cross-sectional shape and dimensions, substantially as set forth.

2. A window-sash having in combination a frame, muntin and cross-bar formed of I-bars, substantially as set forth.

3. A window-sash having in combination a frame, muntin and cross-bar formed of a

rolled shape and glazing-strips for said parts and formed integral therewith, substantially as set forth.

4. A window-sash having in combination a
5 frame, formed of an I-bar, cross-bar and muntin formed of I-bars and having the core projecting beyond the flanges at the ends thereof, the tongue so formed extending be-

tween the flanges of the other parts or members, substantially as set forth. 10

In testimony whereof I have hereunto set my hand.

OTHO M. OTTE.

Witnesses:

CHARLES BARNETT,
FRED H. KIRCHNER.