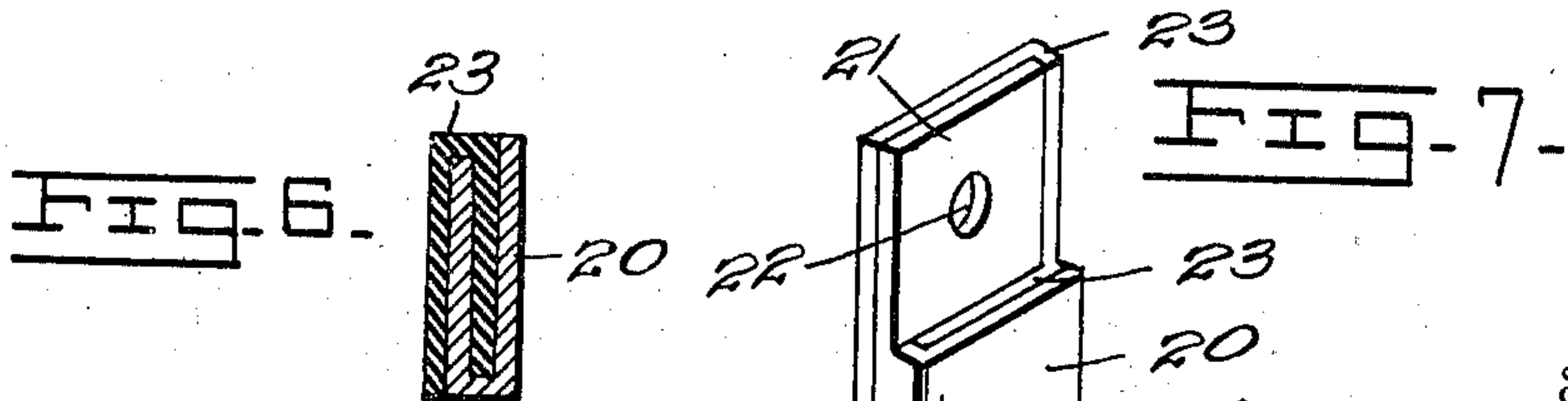
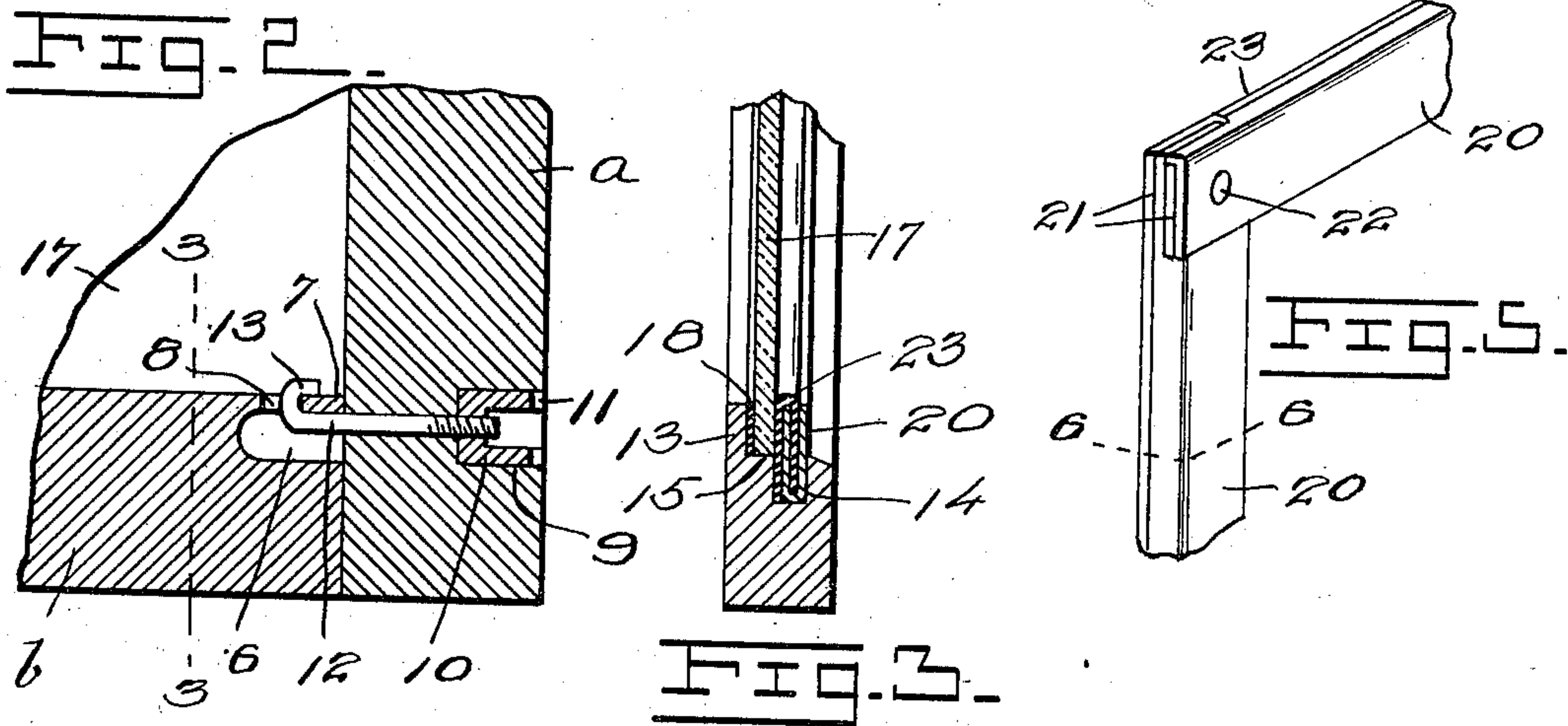
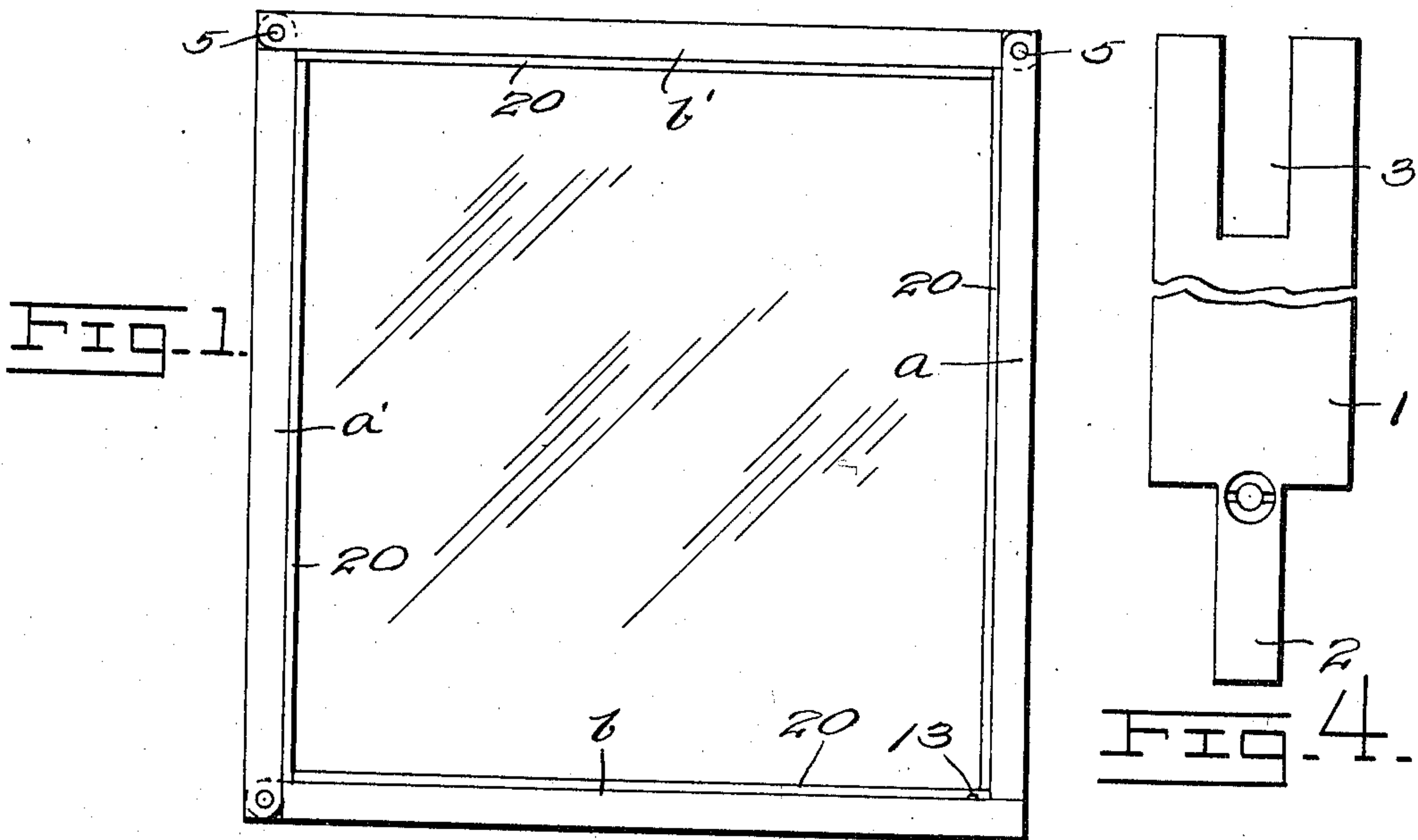


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METALLIC WINDOW SASH.
APPLICATION FILED AUG. 21, 1909.

976,198.

Patented Nov. 22, 1910.



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UNITED STATES PATENT OFFICE.

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METALLIC WINDOW-SASH.

976,198.

Specification of Letters Patent. Patented Nov. 22, 1910.

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To all whom it may concern:

Be it known that I, ALEXANDER WHITTEN MERRITT, a citizen of the United States, residing at Lynch Station, in the county of Campbell and State of Virginia, have invented certain new and useful Improvements in Metallic Window-Sashes, of which the following is a specification.

This invention has relation to certain new and useful improvements in metallic window sashes.

The object of my invention is to provide a metallic window sash to be used in connection with railroad cars, green-houses, show cases, fireproof buildings, and the like.

A further object is to provide a metallic window sash constructed so that the same may be opened to receive a glass securing member.

A still further object is to provide a window sash arranged to snugly hold a glass pane without the employment of putty or the like.

With these and other objects in view, the present invention consists in the combination and arrangement of parts as will be hereinafter more fully described and particularly pointed out in the appended claims, it being understood that changes in the specific structure shown and described may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings forming a part of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a front elevation of a window sash embodying my invention. Fig. 2 shows a fragmentary portion in sectional elevation of the sash securing member. Fig. 3 is a section on line 3—3 of Fig. 2. Fig. 4 is a fragmentary edge view of the window sash. Fig. 5 shows a detail of the glass securing frame. Fig. 6 is a section on line 6—6 of Fig. 5. Fig. 7 is a detached detail of one of the glass holding frame members.

The aim of my invention is to provide a metallic window sash in which the upper and lower as well as vertical stiles are pivotally connected at three corners or points, and detachably secured at a fourth point or corner, so that the frame may be readily assembled and quickly disassembled in packing and shipping the same.

My window sash is especially adapted to

be used in connection with metallic window frames, which do not give or take a length in response to atmospheric conditions, as do wooden frames for instance and my invention is designed to replace the ordinary wooden window sashes.

In carrying out the aim of my invention I use four similar window stiles each comprising a metallic member 1 having a tenon 2 at one end and a mortise 3 at the opposite end, the forked or mortised end of each stile being provided with a suitable stud aperture, these apertures being arranged to register with an aperture within the tenon 2 of the adjacent connected window stile.

In constructing a window sash according to my invention, I unite the vertical stiles *a* and *a'* to the top stile *b'*. The bottom stile *b* is secured to the vertical stile *a'*, as shown in Fig. 1. Three studs 5 are used to unite the four stiles at three points or corners, the ends of the stiles being rounded at these three corners to allow them to turn on their pivot points. The bottom stile *b* is provided at the unpivoted end with the socket 6 so arranged that the stile is provided with the upper ear-forming portion 7 having a suitable aperture 8, this aperture communicating with the socket 6, as clearly disclosed in Fig. 2. This socket 6 is held in alinement with the mortise opening 3. The vertical stile *a* at its unpivoted end is provided with a socket 9 arranged to loosely receive the nipple 10 having a kerf or slot 11 arranged to receive the end of a screw driver and carrying the swivel hook 12 the end or hook 13 of which is arranged to be held within the opening 8 of the ear 7. This hook 12 is adjustably held within the threaded nipple 10. As shown, the nipple 10 is carried within the tenon 2 of the vertical stile *a*. Each stile is provided with a weather bead 13 and an adjacent groove 14, a ledge 15 being positioned between the weather bead 13 and the groove 14 upon which ledge is held the glass plate forming the window, or transparent member. These stiles are of such a length that when connected they snugly fit within a suitable preferably metallic window frame. In shipping the window stiles the nipple 10 is released, permitting the withdrawal of the swivel hook from within the aperture, the connection or disconnection being easily made. The glass member 17 is held to the ledge 15 and against the weather bead 13 and rests against a pref-

erably rubber strip 18, as disclosed. The glass plate 17 is held to its seat by means of a rectangular metallic securing frame comprising four similar members 20 preferably made of sheet metal and recurved, each member at its opposite ends having one-half of its body removed to form a tenon, as shown at 21, these tenons having the apertures 22 to receive a suitable pin so that when connected these four similar frame members present two smooth outer surfaces permitting the frame to be readily inserted within the grooves 14 within the stiles. Held between these recurved metallic securing frame members 20 is a rubber strip 23 which is arranged to be held adjacent to the glass plate, as disclosed. This metallic securing frame must be secured within the groove and against the window pane before the window stiles are finally secured. This metallic securing frame forms an air-tight union with the stiles as well as with the window pane. By this construction method I provide a neat, inexpensive and readily assembled window sash which cannot shrink and so become bound within the window frame. The window sash is further durable and efficient, and the adjustments may be made with ease, accuracy and despatch.

And having thus described my said invention what I claim as new and desire to secure by United States Letters Patent is:

1. A metallic window sash comprising four similar members to form a frame pivotally connected at three corners, one of the ends which meet to form the fourth corner being provided with a socket, provided with an aperture in said socket, the other corner forming end carrying a swivel hook adapted to engage in said aperture in said socket.

2. A metallic window sash comprising the combination with two similar top and bottom stiles, of two similar vertical stiles, each stile having a mortise at one end and a tenon at the other, said two vertical stiles being pivotally connected to said top stile, said bottom stile being pivoted at one end to said vertical stile, said bottom stile at its unpivoted end having a socket and an aperture within said stile communicating with said socket, said vertical stile having its unpivoted end provided with a threaded socket from which extends a channel communicating with the socket within said bottom stile, a nipple threading into said threaded socket, and a swivel hook carried by said nipple to engage within said aperture to unite said stiles at a fourth corner.

3. A metallic window sash comprising the combination with two similar top and bottom stiles, of two similar vertical stiles, each stile having a mortise at one end and a tenon at the other, said two vertical stiles being pivotally connected to said top stile, said bottom stile being pivoted at one end to one of said vertical stiles, said bottom stile at its unpivoted end having a socket and an aperture in said stile entering said socket, said vertical stile having its unpivoted end provided with a threaded socket from which extends a channel communicating with the socket within said bottom stile, a nipple threading into said threaded socket, a swivel hook carried by said nipple to engage within said aperture, each of said stiles having registering weather beads and adjacent grooves, and a metallic frame within said grooves.

4. A metallic window sash comprising the combination with two similar top and bottom stiles, of two similar vertical stiles, each stile having a mortise at one end and a tenon at the other, said two vertical stiles being pivotally connected to said top stile, said bottom stile being pivoted at one end to one of said vertical stiles, said bottom stile at its unpivoted end having a socket and an aperture communicating with said socket, said vertical stile having its unpivoted end provided with a threaded socket from which extends a channel communicating with the socket within said bottom stile, a nipple threaded into said threaded socket, a swivel hook carried by said nipple to engage with said aperture to unite said stiles, each of said stiles having registering weather beads and adjacent grooves, and a metallic frame comprising four recurved sheet metal members pivotally connected and removably held within said grooves.

5. In combination, a window sash, comprising a top stile, a bottom stile, a vertical stile secured at its ends to said top and bottom stiles, a second vertical stile pivoted at its upper end to said top stile, a nipple adjustably carried within the unpivoted end of said last mentioned stile, a swivel hook carried by said nipple, and a perforated ear carried by said bottom stile for engagement with said swivel hook.

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

ALEXANDER WHITTEN MERRITT.

Witnesses:

J. SINKLER IRVINE,
J. C. PHILLIPS.