

Patented Nov. 16, 1909.

940,485.

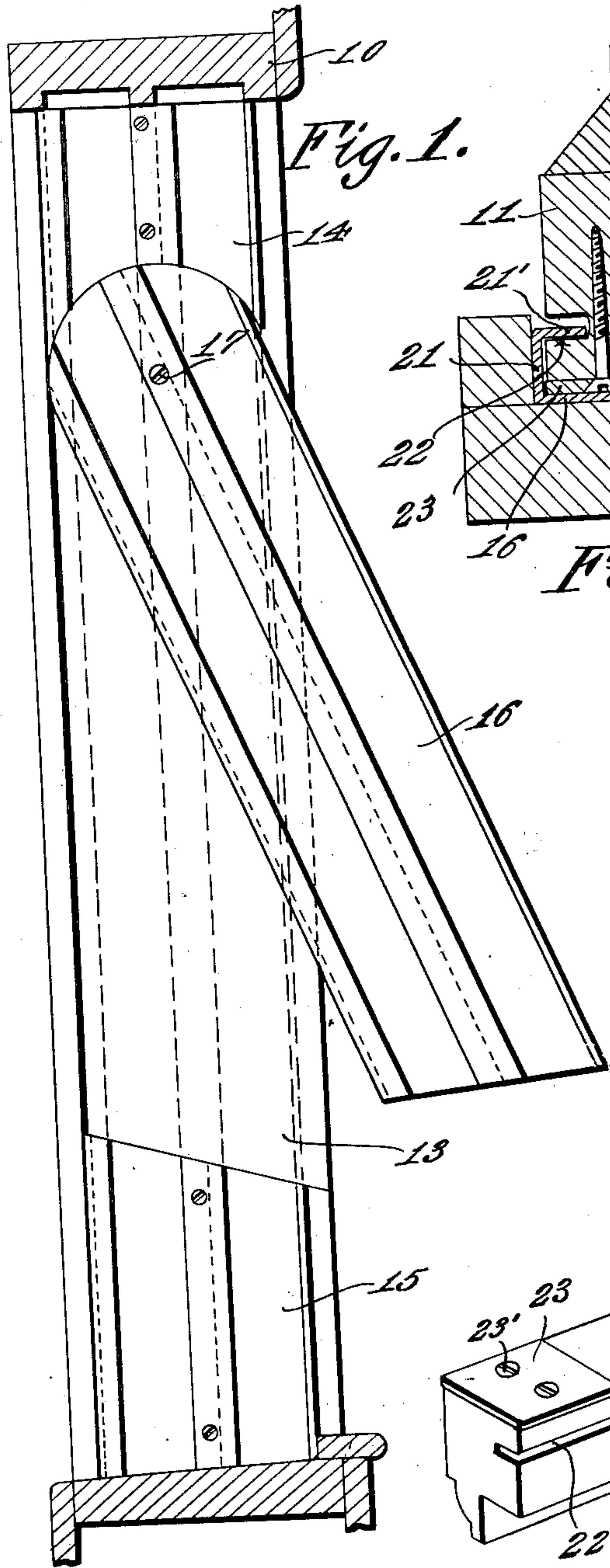


Fig. 1.

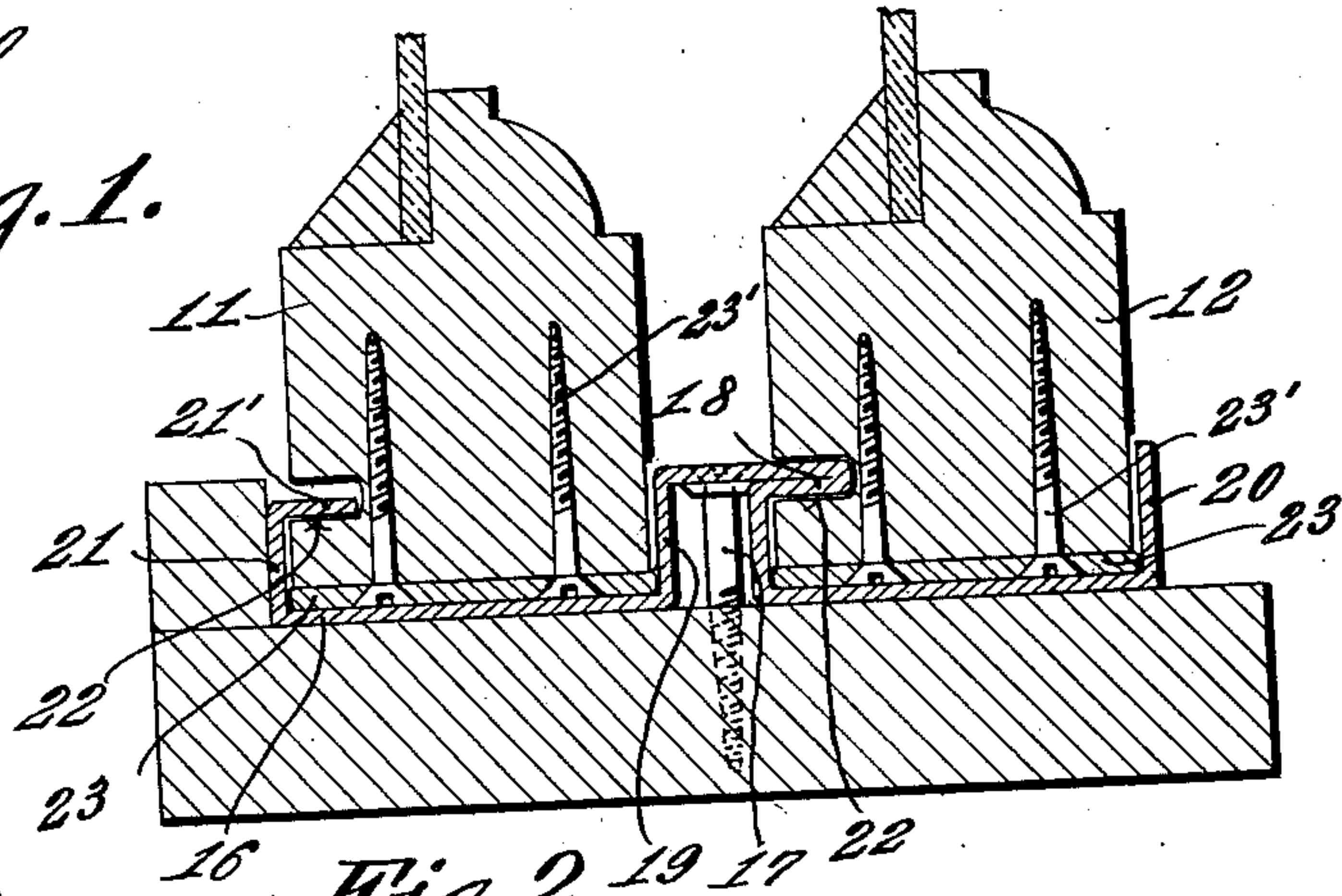


Fig. 2.

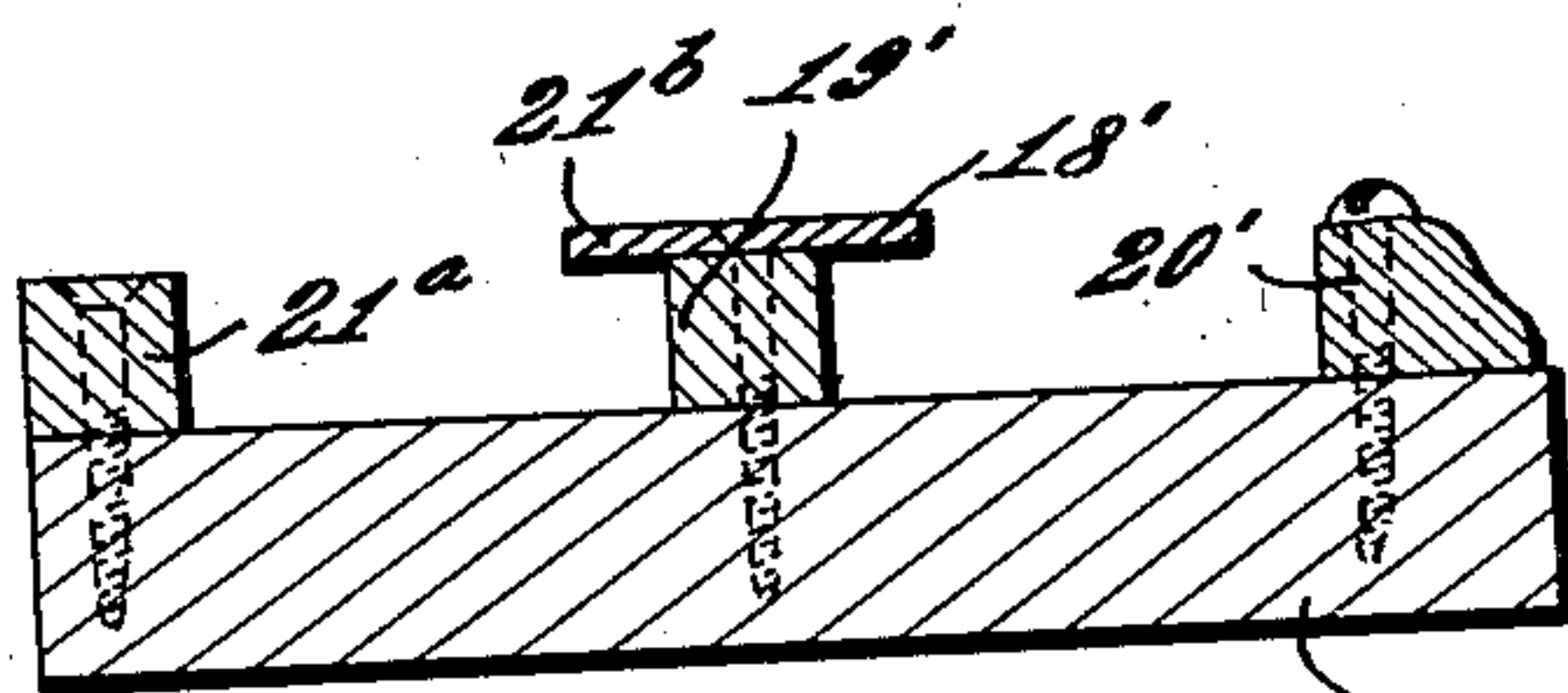


Fig. 4.

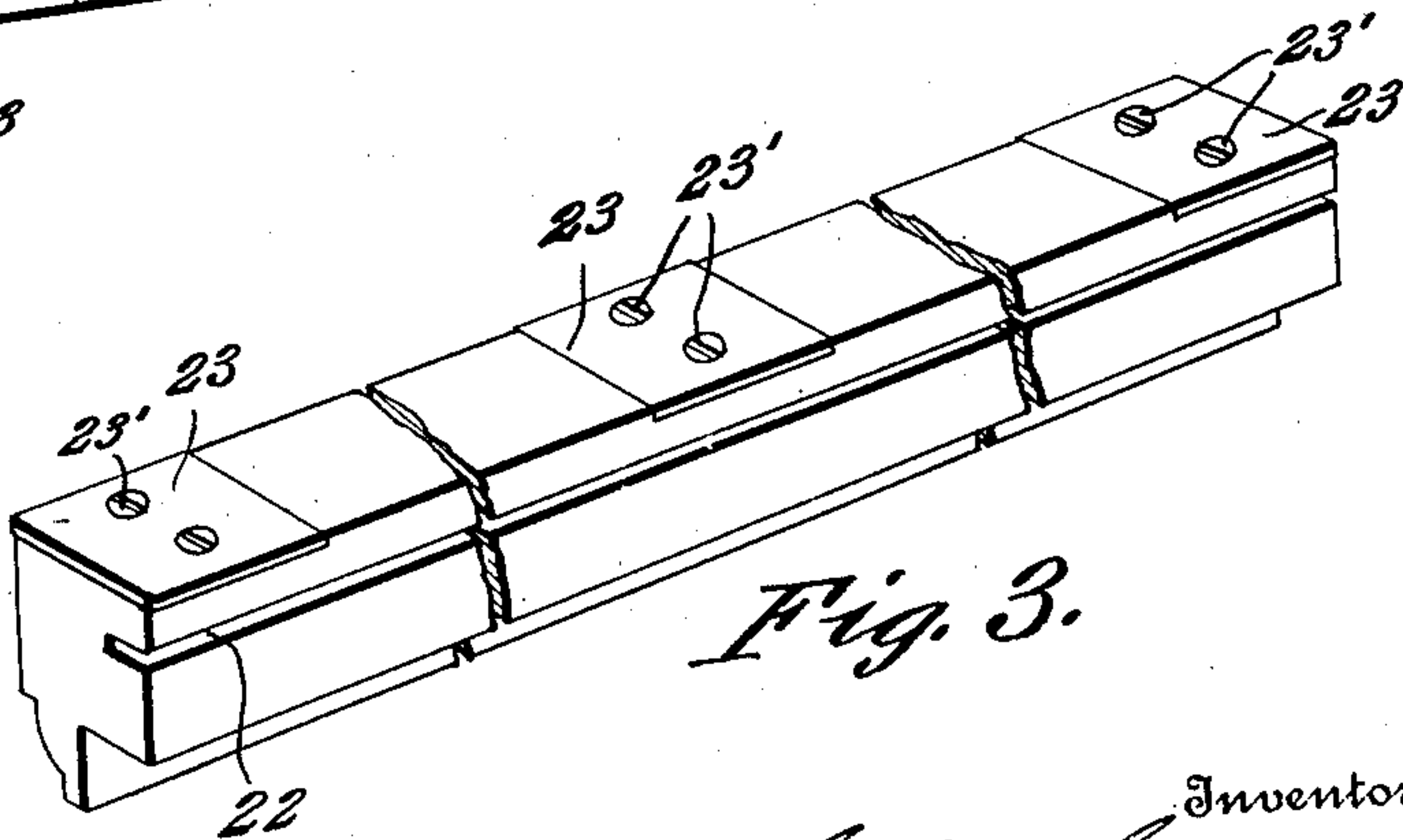


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES SINGER, OF WINFRED, SOUTH DAKOTA.

WINDOW-FRAME.

940,485.

Specification of Letters Patent.

Patented Nov. 16, 1909.

Application filed July 1, 1909. Serial No. 505,462.

To all whom it may concern:

Be it known that I, CHARLES SINGER, a citizen of the United States, residing at Winfred, in the county of Lake and State of South Dakota, have invented certain new and useful Improvements in Window-Frames, of which the following is a specification.

This invention relates to window frame and sash constructions, and has particular reference to a structure of the type mentioned which shall permit the ready removal of the window sashes for the purpose of cleaning the same and their replacement into the frame.

Another object of the invention is to provide an auxiliary window frame, made of a peculiar form, and easily attached to the main window frame.

A still further object of the invention is to provide means to prevent the binding of the window sashes in the frame, such binding being due to warping or swelling of the wood work.

The above and other objects of the invention are attained by the mechanism hereinafter fully described and claimed and illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of a window frame, showing one of the auxiliary frame sections in elevation, and with a part thereof swung inwardly as in the position which it occupies when the sashes are to be removed or replaced; Fig. 2 is a transverse sectional detail taken through the pivoted part of the auxiliary frame, just below the pivot, and also showing fragments of the upper and lower sashes coöperating therewith, the illustration being viewed from below; Fig. 3 is a detail perspective view of one of the side bars of a window sash, and Fig. 4 is a modified form of auxiliary frame.

Throughout the following description and on the several figures of the drawings similar parts are referred to by corresponding reference characters.

The window frame 10 is or may be of any usual construction and is adapted to receive upper and lower sashes 11 and 12 for vertical slidable movement therein. In place of the usual stationary guides coöperating with the side members 13 of the window frame, I provide an auxiliary frame or stile comprising an upper stationary section 14, a lower stationary section 15, and an inter-

mediate section 16, pivoted at 17 in such a manner as to permit the free end thereof to swing inwardly from the main plane of the window frame. The meeting ends of the sections 14 and 16 are preferably formed on complementary curves, the center of which is said pivot 17.

As indicated in Figs. 1 and 2 the auxiliary frame is made of sheet metal, stamped and pressed into a peculiar form in cross section indicated in Fig. 2, whereby peculiar guiding means are provided. Any suitable kind of metal may be employed, but as a suggestion No. 22 gage sheet steel has been found to be quite advantageous, it being strong enough for all practical purposes, and is not prohibitive as to weight and cost. The said sheet metal is doubled upon itself between its lateral edges forming a tongue 18. The metal of the tongue is therefore double for a short distance, the parts of the metal thereafter being single and separate from each other. Said separated parts form at 19 a vertical rib which extends between the two sashes 11 and 12, and the tongue 18 extends inwardly from said rib substantially parallel with the side wall of the frame 10.

The two parts of the auxiliary frame extend from the rib 19 in opposite directions but in the same plane, and their outer margins are bent upwardly from said plane forming guide members 20 and 21, the extreme edge of the latter, however being again bent inwardly substantially in the same plane and same direction and forming a tongue 21', substantially similar in effect to the tongue 18 above mentioned. The two sashes are adapted to slide between said rib 19 and the guide flanges or members 20 and 21, respectively. Each of the sash frames is grooved at 22 to receive the tongues in the manner indicated in Fig. 2, whereby the window is rendered practically air tight or dust proof when closed. In order to provide an all metal bearing contact between the sashes and the frame, each of said sash bars is preferably provided with a plurality of metallic plates 23, each of said plates being a trifle longer than the width of said bar. This construction insures against the binding of the window sash in the frame due to ordinary swelling of the wood work. The plates 23 are secured permanently to the window sash, as by screws 23', and in addition to constituting guiding plates coöperating with the auxiliary frame they serve to

strengthen the window sash construction and prevent thereby the breaking of the part thereof between the groove 22 and the frame.

5 The modification shown in Fig. 4 comprises an auxiliary frame 16' adapted to be secured to the usual frame and to possess the principal characteristics of the auxiliary frame above described. The modified auxiliary frame also includes a set of metallic ribs 10 19', 20' and 21^a, secured to the main part of the frame in any suitable manner. The rib 19' is provided with a pair of tongues 18' and 21^b, said tongues just mentioned being adapted to cooperate in grooves in the 15 respective window sashes in a manner similar to the operation above described in connection with Figs. 1 and 2. It is to be noted however that in this instance the groove 22 would be made on the inner face of the 20 upper sash.

Having thus described the invention in its preferred embodiment, what I claim as new and desire to secure by Letters Patent of 25 the United States is:

In combination, a window frame stile

comprising a plurality of members, one of which is pivoted to swing in relation to the other, and each member constructed of a single sheet of metal and being provided 30 with a substantially central rib, the metal adjacent to said rib forming a tongue extending at right angles to the rib, the lateral edges of the structure being bent upwardly at right angles to the main portions thereof 35 forming guide flanges, and one of said flanges being further bent at its extreme edge to form a tongue lying in substantially the same plane and extending in the same direction as the aforesaid tongue, and 40 a pair of sashes slidable in said frame, each of said sashes being grooved to receive one of said tongues and being provided also with metal plates cooperating with aforesaid metallic frame, substantially as and for the 45 purpose set forth.

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

CHARLES SINGER.

Witnesses:

GEO. L. BEELER,

ARTHUR L. BRYANT.