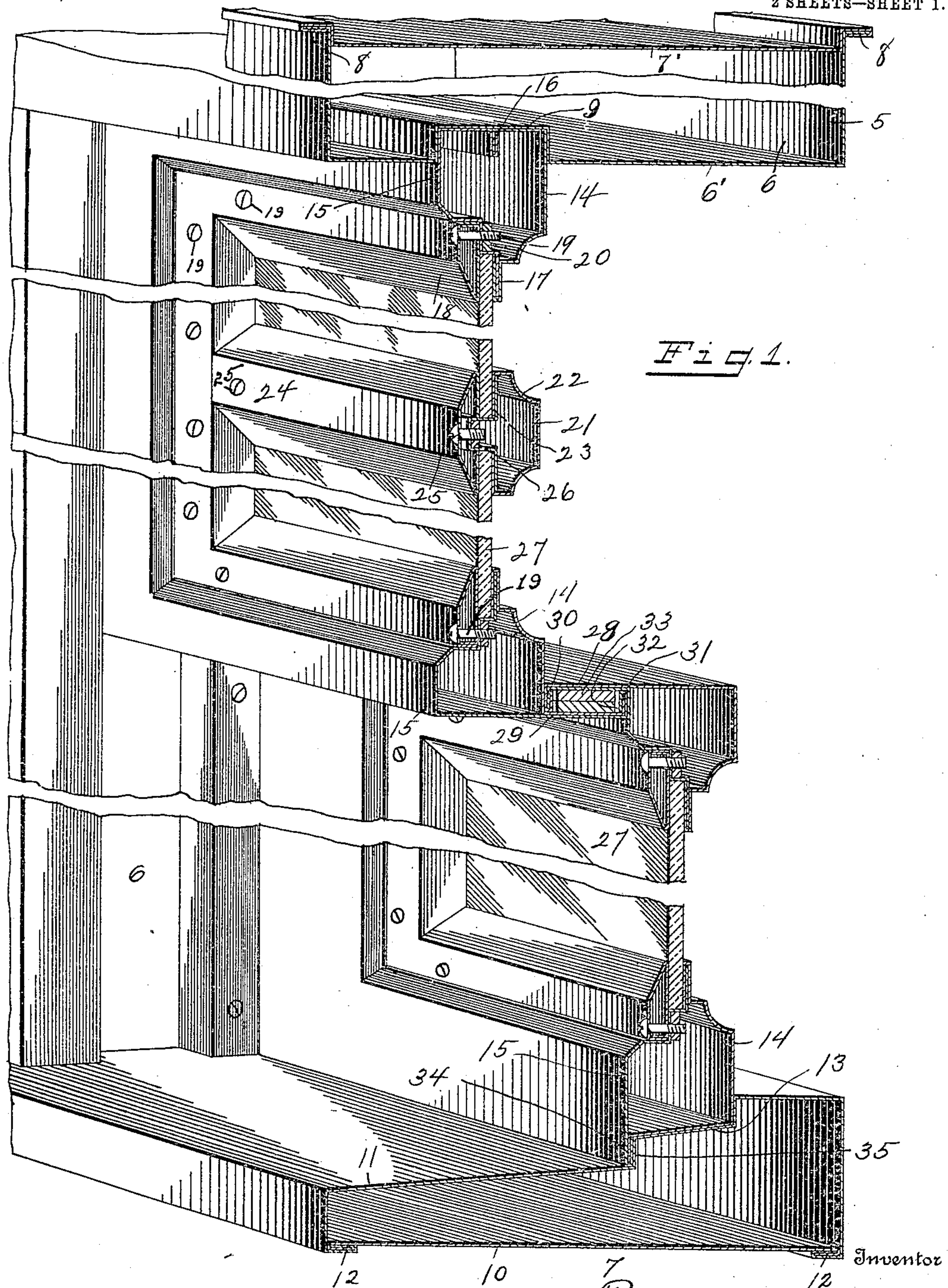


R. W. E. BUTTLAR.
WINDOW AND WINDOW FRAME.
APPLICATION FILED JAN. 8, 1909.

951,362.

Patented Mar. 8, 1910.

2 SHEETS—SHEET 1.



Witnesses
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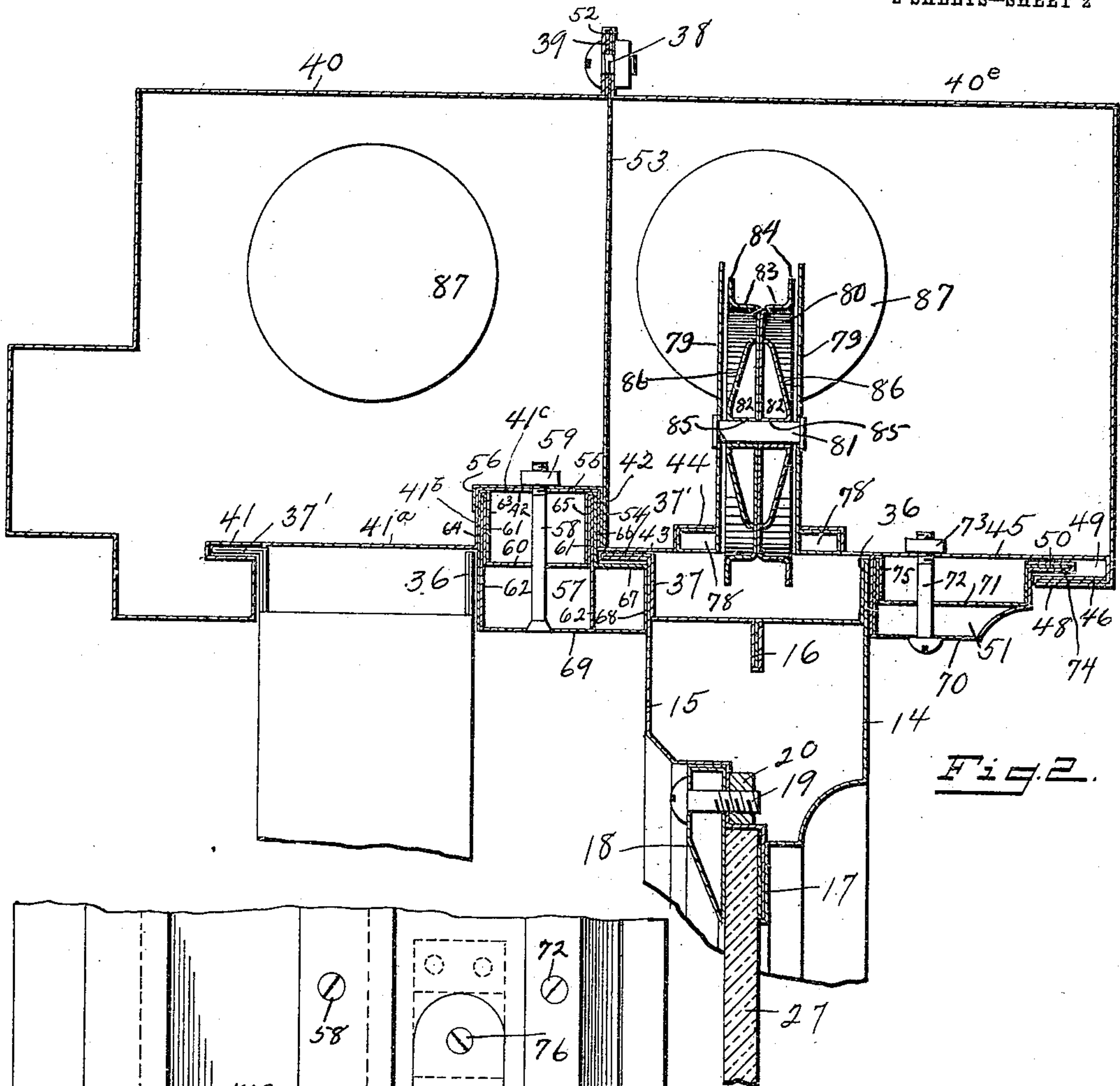


Fig. 2.

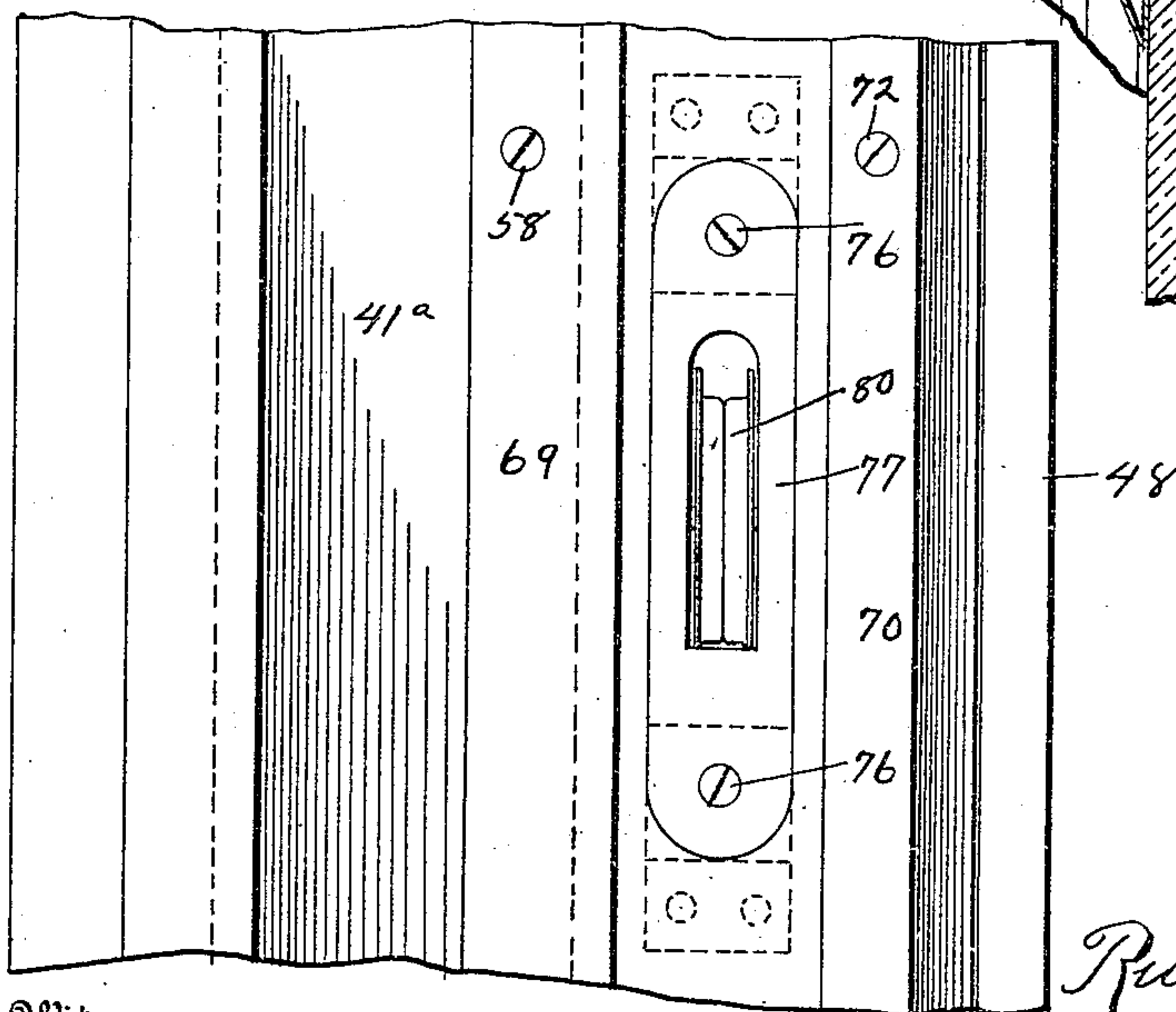


Fig. 3.

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UNITED STATES PATENT OFFICE.

RUDOLPH W. E. BUTTLAR, OF COLUMBUS, OHIO.

WINDOW AND WINDOW-FRAME.

951,362.

Specification of Letters Patent.

Patented Mar. 8, 1910.

Application filed January 8, 1909. Serial No. 471,244.

To all whom it may concern:

Be it known that I, RUDOLPH W. E. BUTTLAR, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Windows and Window-Frames, of which the following is a specification.

My invention relates to windows and more particularly to window frames formed of sheet metal, the object of the invention being to provide a structure of this character which will be thoroughly fire proof while at the same time, it will be neat and ornamental in appearance and will embody means for supporting the usual sash cord or chains employed in devices of this character.

Further objects and advantages of the invention will be set forth in the detailed description which now follows:

In the accompanying drawings, Figure 1 is a sectional perspective view of a window and window frame constructed in accordance with the invention, Fig. 2 is a horizontal section through one side of the window frame upon the line of the sash cord pulley, and, Fig. 3 is an elevation of a portion of the face of one side of the window frame.

Like numerals designate corresponding parts in all of the figures of the drawings.

Referring to the drawings, the numeral 5 designates the top, the numeral 6, the sides, and the numeral 7, the bottom of the window frame. As is clearly illustrated in Fig. 1 the top of the window frame is formed of sheet metal pieces 6' and 7', the edges of which are bent into engagement with each other at 8, the piece 6' being recessed at 9 to receive a top sash bar of a window hereinafter described.

The bottom of the window frame comprises sheet metal pieces 10 and 11, the edges of which are bent into engagement with each other at 12. The sheet metal piece 11 is recessed at 13 for the reception of a lower sash bar of a window hereinafter described.

The top bar of the upper sash is formed of two sheet metal pieces 14 and 15, the upper edges of which are bent into engagement with each other at 16 and the lower edges of which are bent into engagement with each other at 17 and form a glass holding lip. Glass holding members 18 of sheet metal are secured in position by screws 19, the inner

ends of said screws passing through the portion 15 of the upper sash bar and entering a metallic stiffening strip 20 which lies within said sash bar. If desired, a transom bar 21 may be employed which comprises the two pieces 22 and 23. When this transom bar is employed, a transom glass holding member 24 is likewise employed, said member being held in position by screws 25 which pass therethrough and enter a stiffening strip 26 which lies within the transom bar. It will therefore be seen that the glass 27 is securely held in position by these glass holding members. The lower bar of the upper sash and the upper bar of the lower sash are substantially like the bar previously described except that they are provided with inwardly extending portions 28 and 29, the portion 28 being provided with a downturned lip 30 and the portion 29 being provided with an upturned lip 31, these lips being provided at the points where the metal comprising the two portions of the sash bar are bent into engagement with each other. It will therefore be seen that between these lips, there is a space 32 and a filling strip or strips 33 are placed in this opening. The object of this structure is to provide a fire proof joint at the juncture of the upper and lower sashes. The lower bar of the lower sash is like the lower bar of the upper sash except that the two metal portions thereof which have been given the same reference numerals, are bent into engagement with each other to form a downturned lip 34 instead of the inwardly extending portion 29, this downturned lip overlying a shoulder 35 of the bottom 7 of the window frame. The arrangement for holding the glass in the lower sash is the same as that for holding the glass in the upper sash, and this arrangement for holding the glass is the same at the side bars of the window sash as at the upper and lower bars, and in fact the side bars of the window sash are constructed in the same manner as the upper and lower bars except that the metal is bent to form lips 36 and 37. The lip 37 has a portion 37' extending at right angles to the main portion thereof.

By referring to Fig. 2, it will be seen that the window frame is formed in two sections, the portions of which are bound together by nuts and bolts 38, only one of which has been shown. One section comprises a flange 39 and a main body portion 40, this body

portion being bent at 41 to form a recess for the reception of the out-turned lip 37' of the lower sash, and extending across the edge of said sash 41^a, then inwardly at 41^b, then at right angles at 41^c, then outwardly again at 42, then transversely of the window as a whole at 43, then inwardly to form a recessed portion 44, then transversely of the window at 45 and terminating in an L-shaped tongue 46. Another section of the window frame indicated at 40 is bent into engagement with this L-shaped tongue at 48, these two portions that engage with each other forming a recess 49 for the reception of the tongue 50 of a weather strip 51. The other edge of the piece 46 is bent over the flange 39 at 52, the bolts 38 passing through both of these parts and through a third piece 53 which is bent upon itself at 54 and is then bent transversely of the window frame 55 and terminates in an out-turned edge 56. The parts 41, 42, 54 and 55 therefore form a recessed portion of the window frame which serves to receive a parting strip 37, said parting strip being held in position by bolts 58 and nuts 59. This parting strip comprises a U-shaped portion 60, the lugs 61 of which have been bent upon themselves to form members 62, and these portions that are bent upon themselves are inclosed by portions 63, 64, and 65, 66. The portion 66 is bent transversely of the window at 67, then outwardly at 68, then transversely of the window at 69 and is then continued inwardly to form portions 63 and 64. The lip 37' of the upper sash travels between the members 67 and 43 while the lip 36 of the lower sash lies against the portion 64. The weather strip 51 comprises the two portions 70 and 71, which are secured to the window frame by screws 72 and nuts 73 although other forms of fastening devices may be employed if desired. These two portions 70 and 71 are bent into engagement with each other at 74 and 75, and said weather strip fits closely against the tongue 36 of the upper sash. Secured within the recessed portion 44 of the window transom by screws 76, is a bearing plate 77, the edges of which are bent at 78 to strengthen the structure, said plate having inwardly directed arms 79 extending therefrom in which a pulley 80 is mounted upon a shaft 81. This pulley comprises two sheet metal portions 82 which are bent outwardly at their peripheries as indicated at 83, to form a rim. The portions 82 are bent at 84 to form cable retaining flanges. The members 82 are bent outwardly at 85 to

form a hub, and are continued at 86 to form a bracing flange for the web of the pulley. The sash weights have merely been indicated at 87 since these parts are well-known and form no part of the present invention.

From the foregoing description it will be seen that the present construction provides a window and a window frame constructed entirely of sheet metal, sufficient means being provided for holding the glass therein and the window sash being so overlapped and engaged by the window frame as to effectually prohibit the possibility of fire finding its way through the window.

While the elements shown and described are well adapted to serve the purposes for which they are intended, it is to be understood that the invention is not limited to the precise construction set forth but includes within its purview such changes as may be made within the scope of the appended claim.

Having described my invention, what I claim is:

In a window, the combination with a hollow sheet metal window frame, of upper and lower hollow sheet metal window sash, the material of both the upper and lower sash being bent upon itself to form at one of the vertical edges thereof, a straight lateral extension and at the other of the vertical edges thereof, an L-shaped lateral extension, a skeleton metallic parting strip between said sash, fastening devices passing through said parting strip and the window frame, said fastening devices being adapted to draw said parting strip toward said window frame, the material of the window frame being so bent as to form a transverse groove within which the L-shaped extension of the uppermost window sash lies, and skeleton metallic weather strip fastening devices passing through said weather strip and through the window frame, said fastening devices serving to draw said weather strip toward said window frame, the material of said weather strip being so bent as to form a transverse lip which lies within a transverse groove formed by bending the material of the window frame at the inner edge thereof, substantially as shown and described.

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

RUDOLPH W. E. BUTTLAR.

Witnesses:

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A. L. PHELPS.