

No. 718,975.

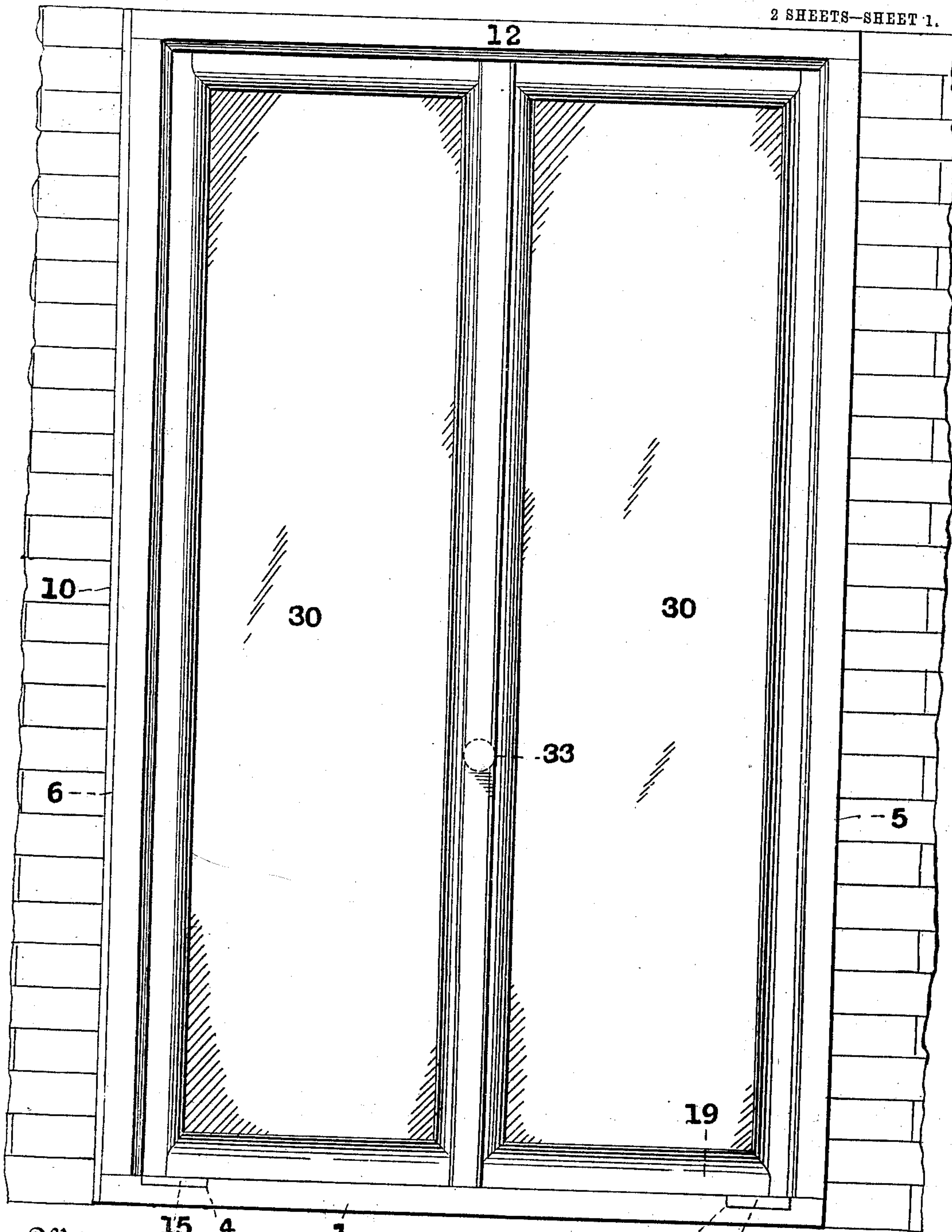
PATENTED JAN, 27, 1903.

R. B. BROWNE.
WINDOW FRAME AND SASH.

APPLICATION FILED MAR. 26, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
Chas H. Davies.
E. E. Carrick.

FIG. 1.

Inventor
Richard B. Browne
by *Frederick B. Brock*
Attorney

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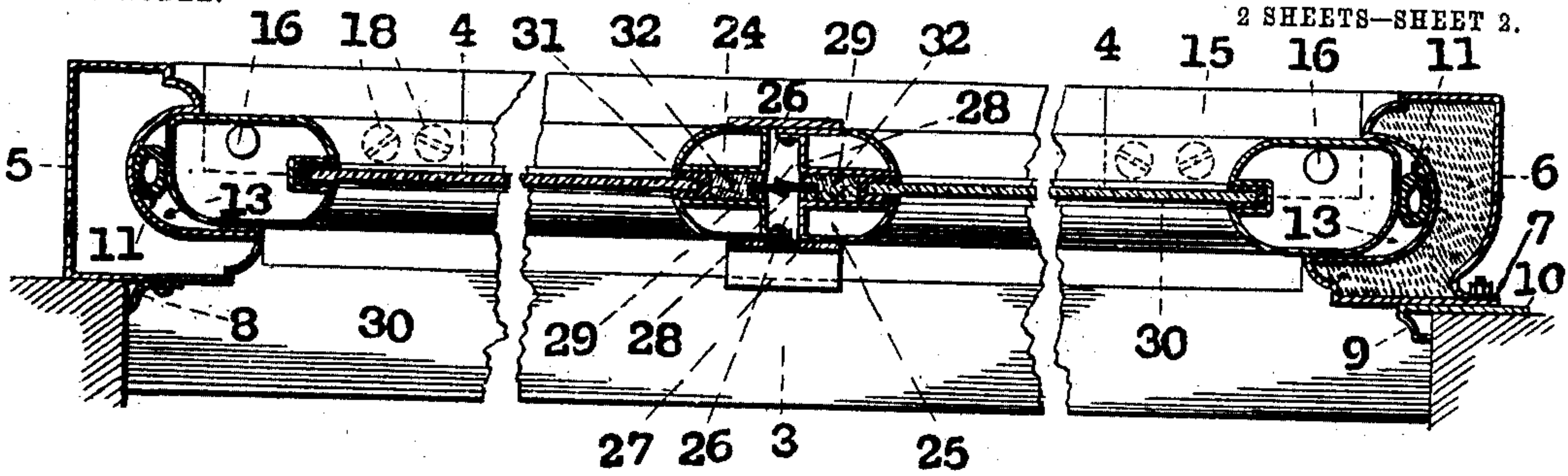


FIG. 2.

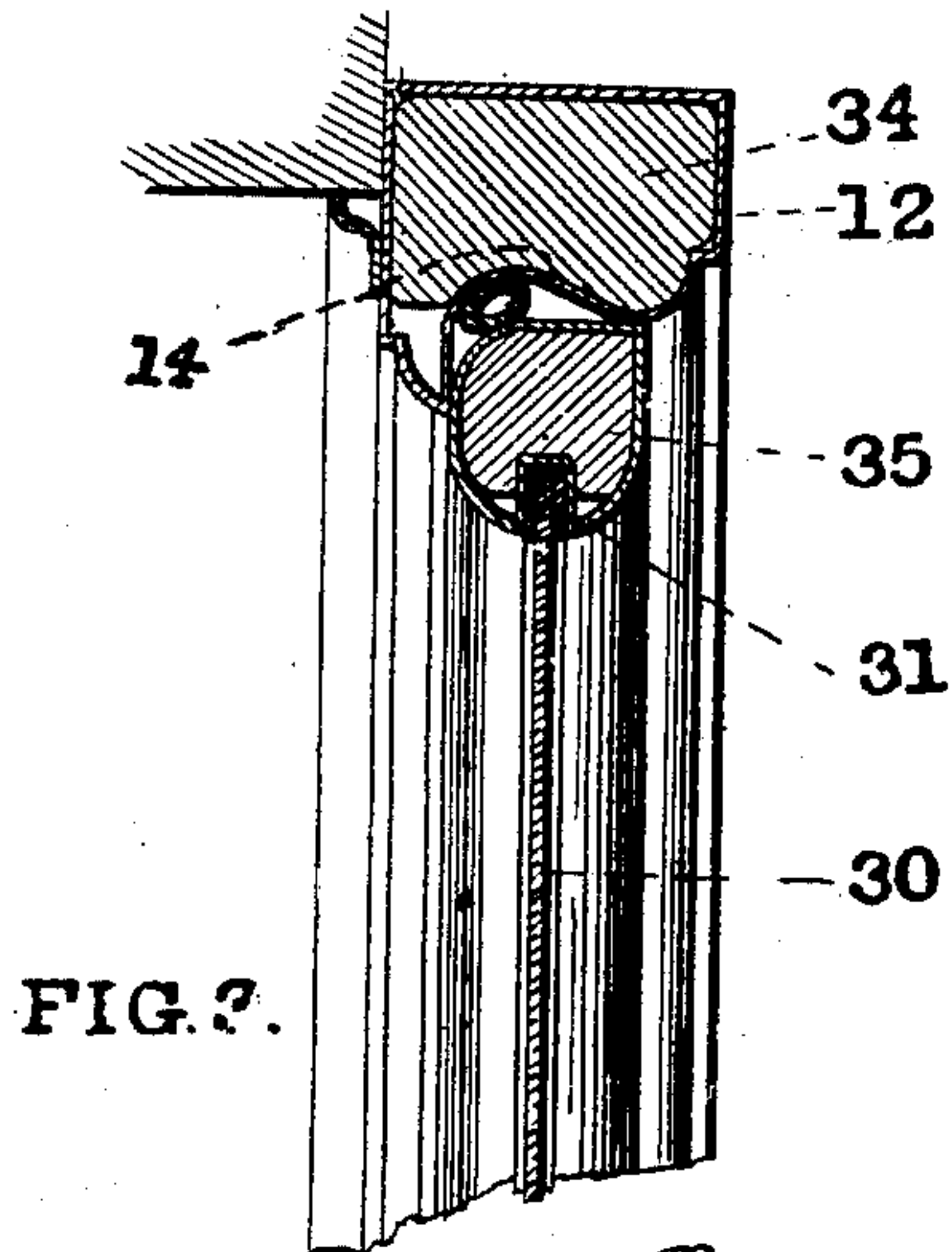


FIG. 3.

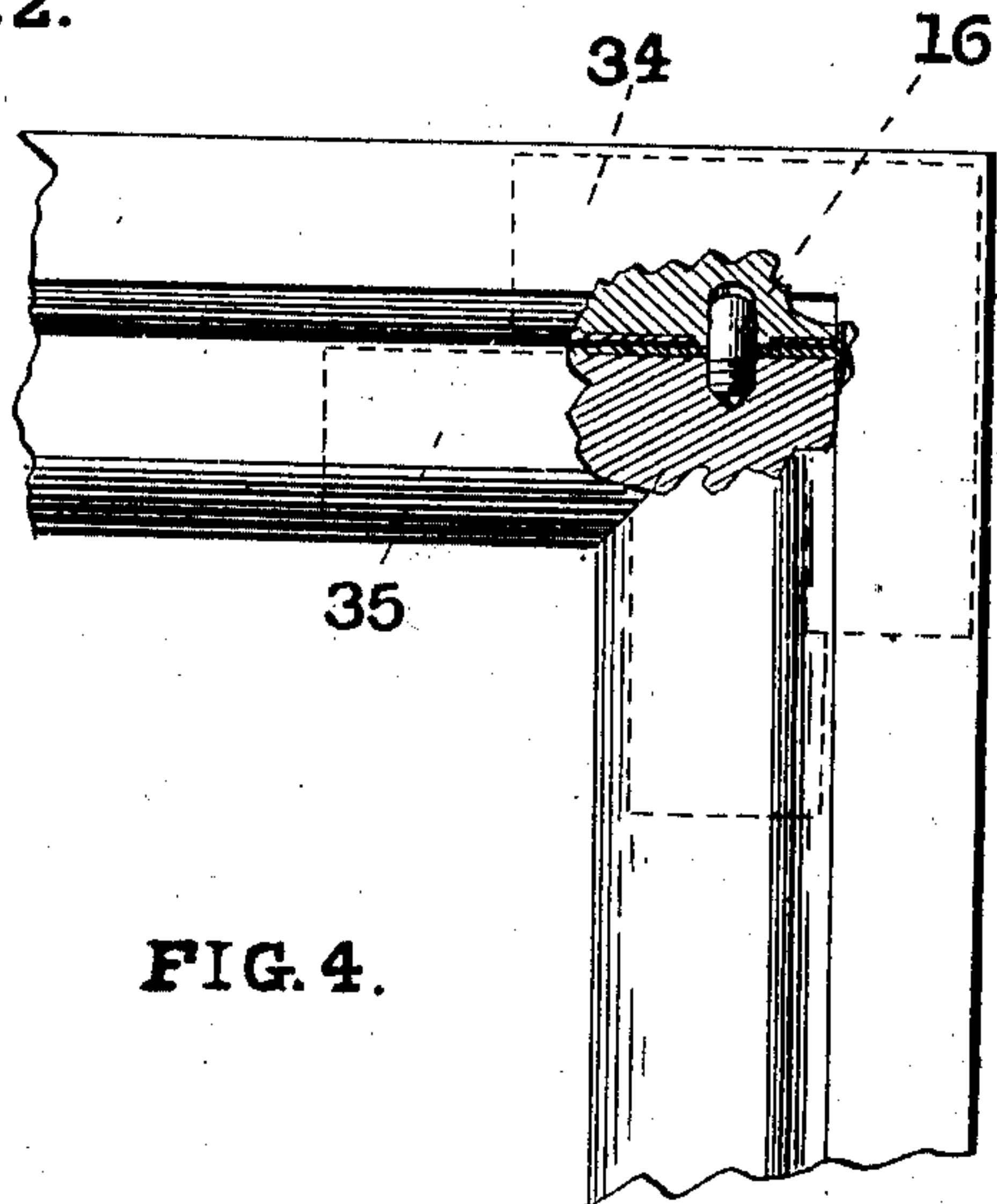


FIG. 4.

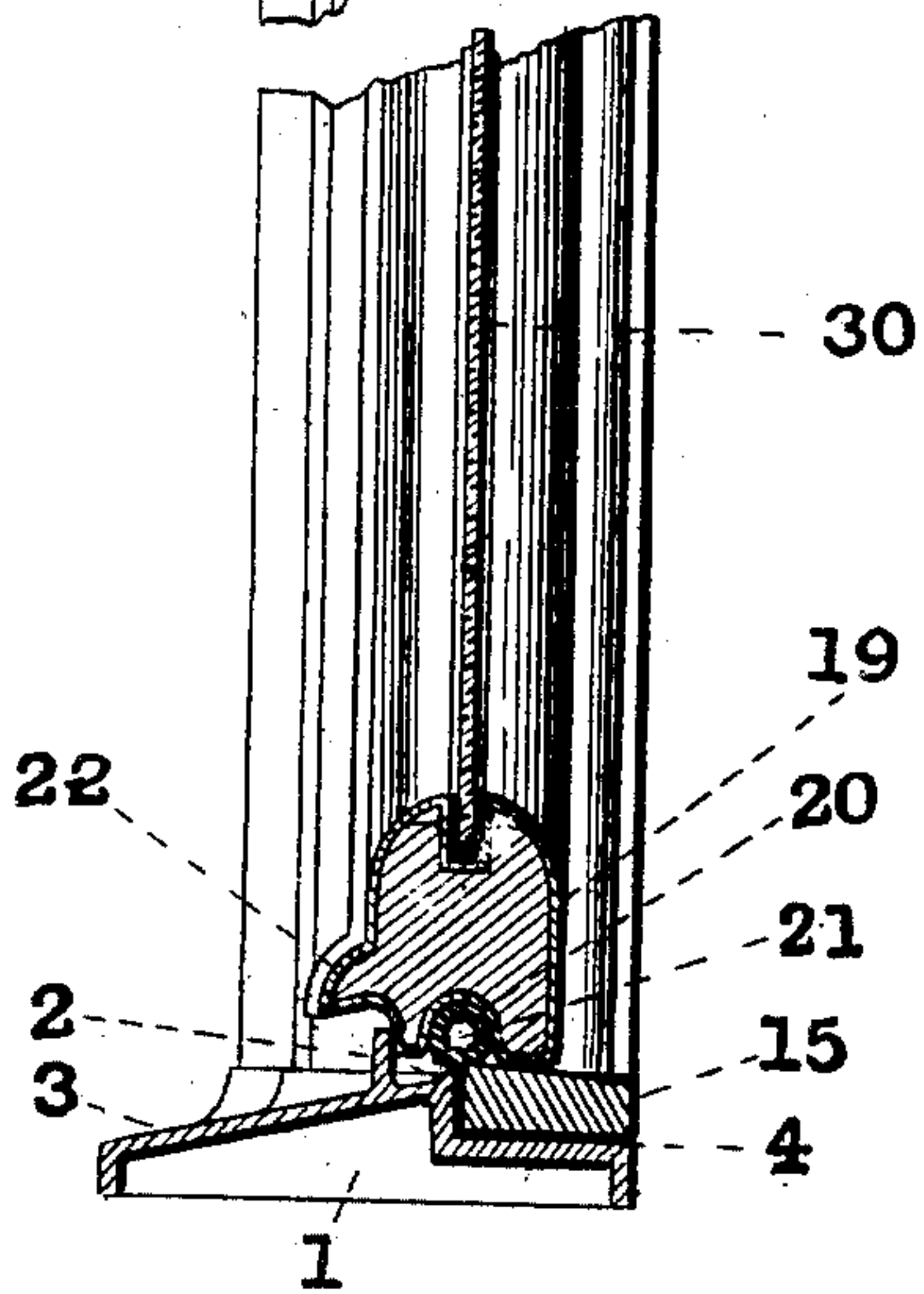


FIG. 5.

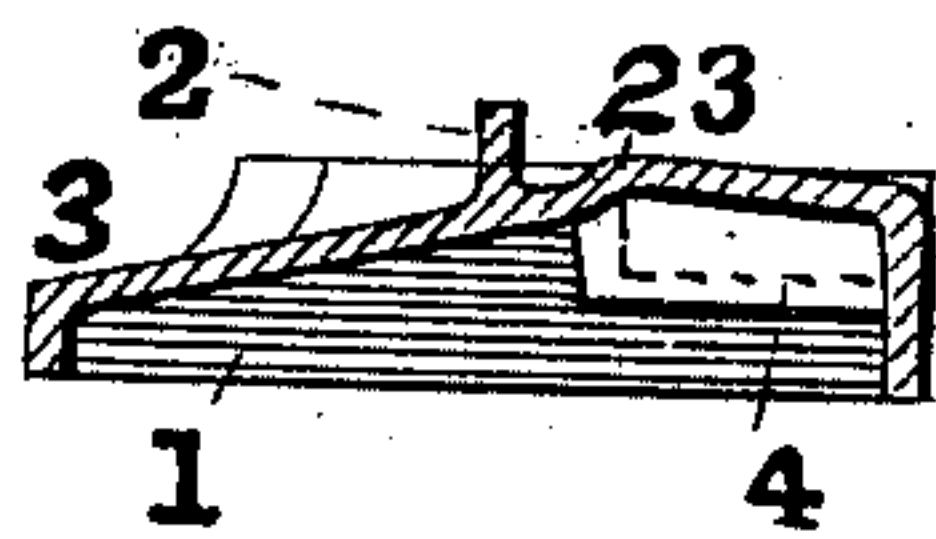


FIG. 5.

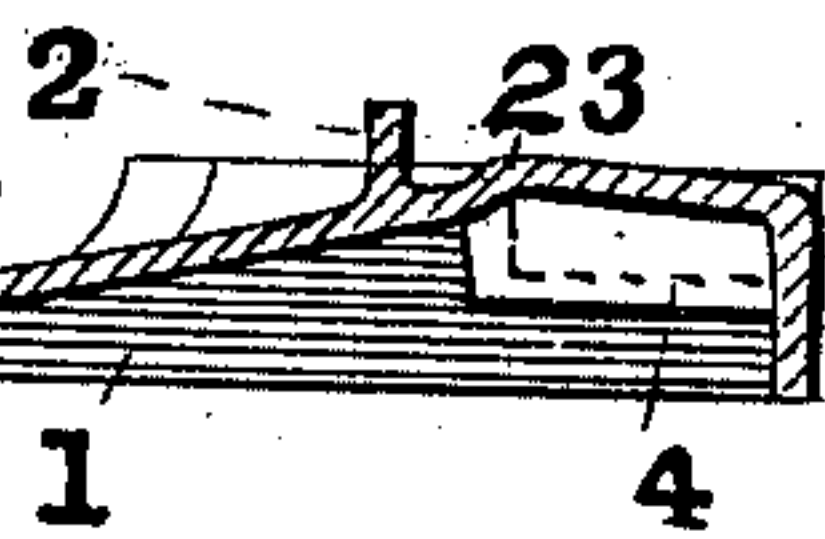


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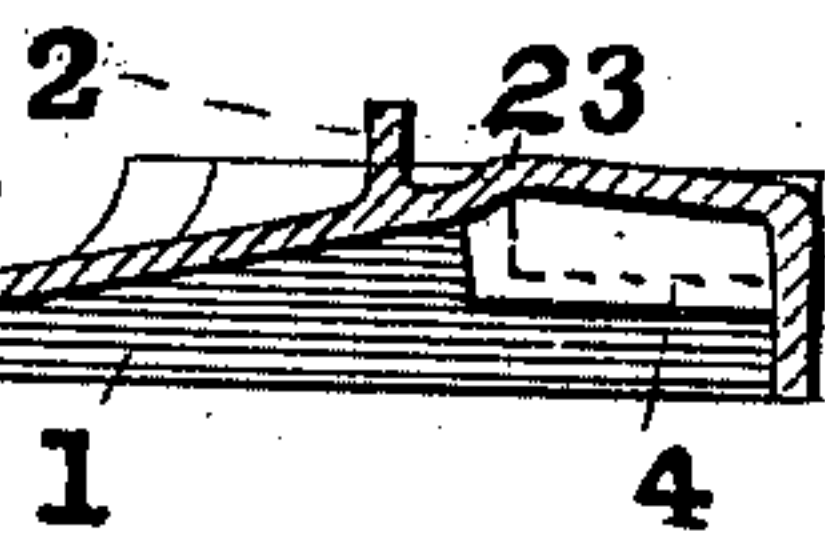


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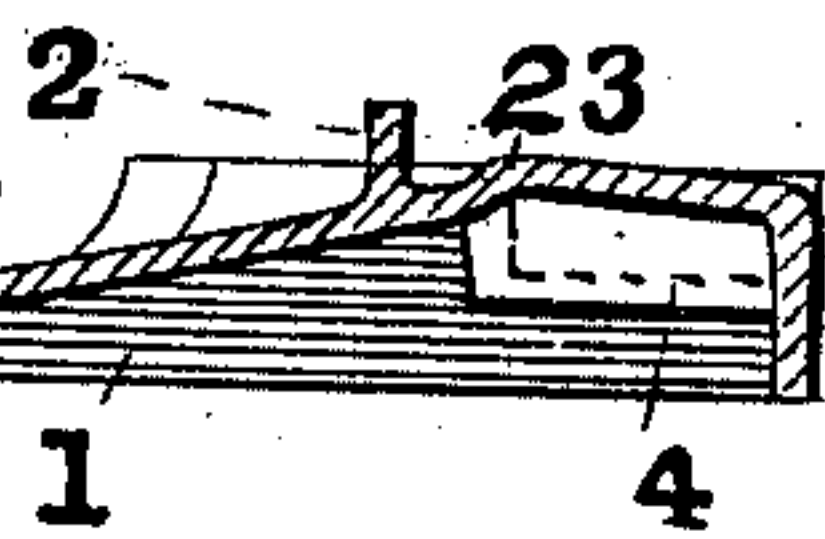


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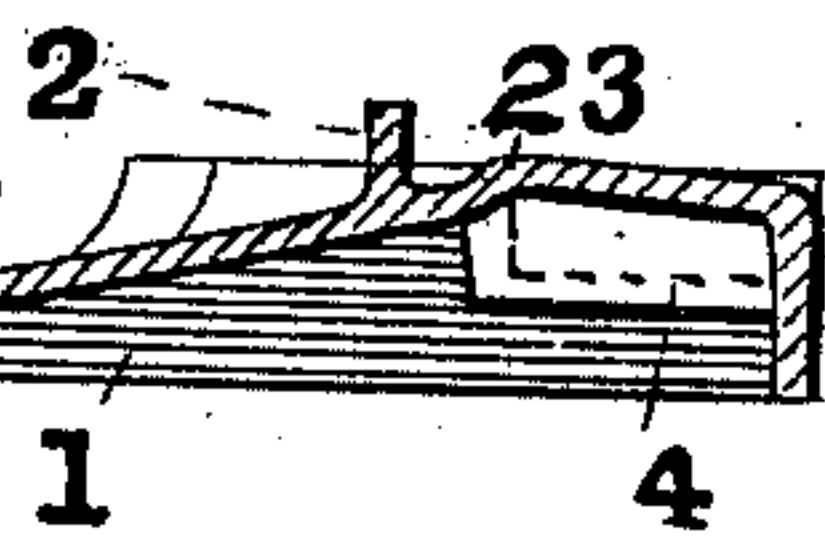


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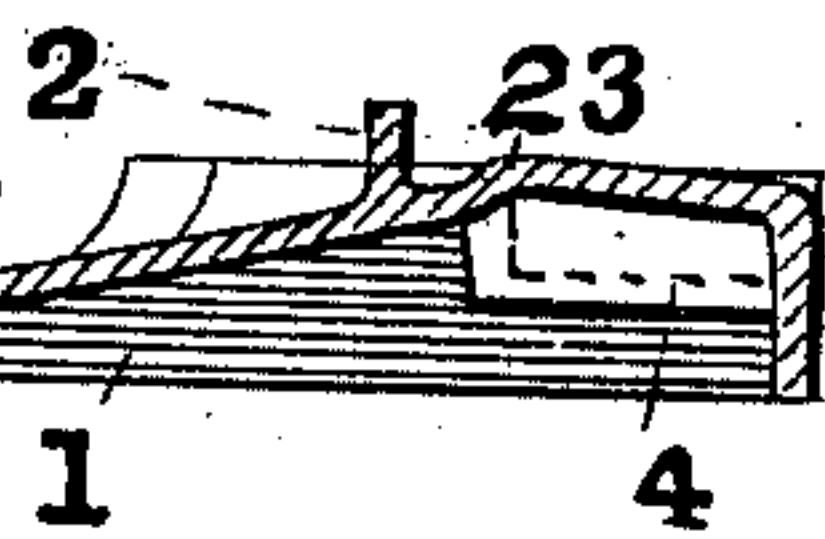


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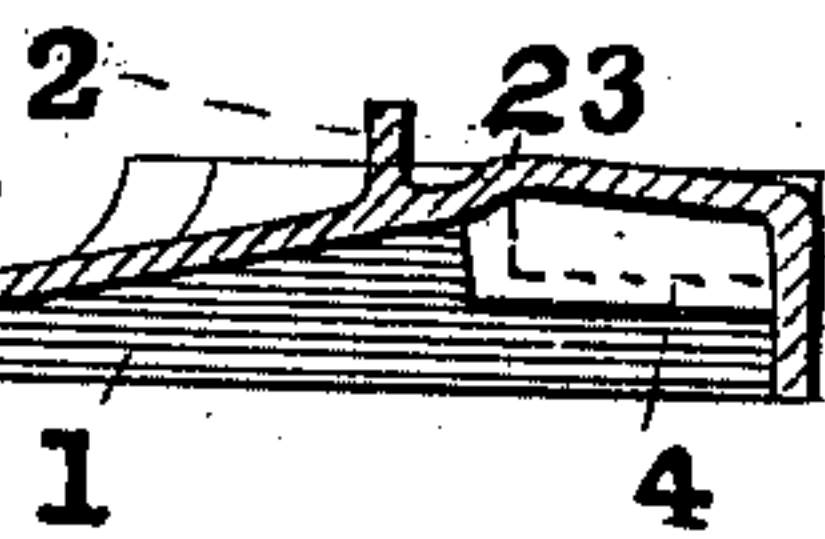


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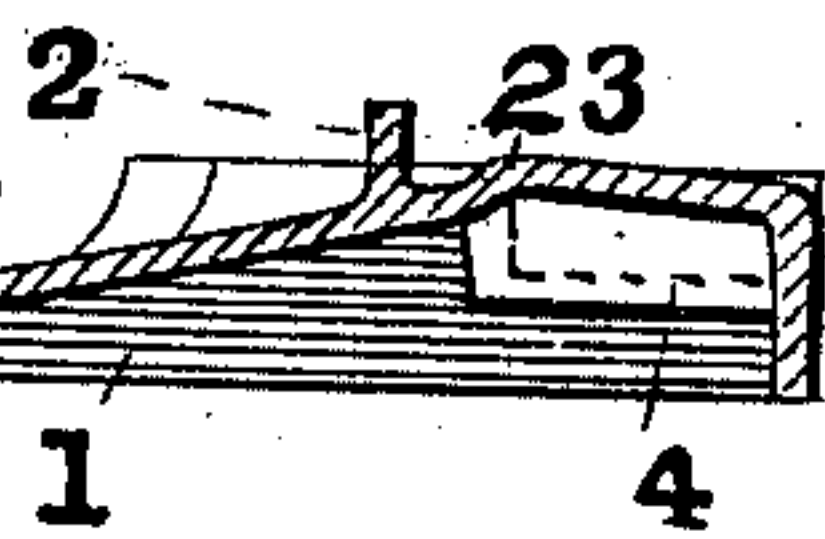


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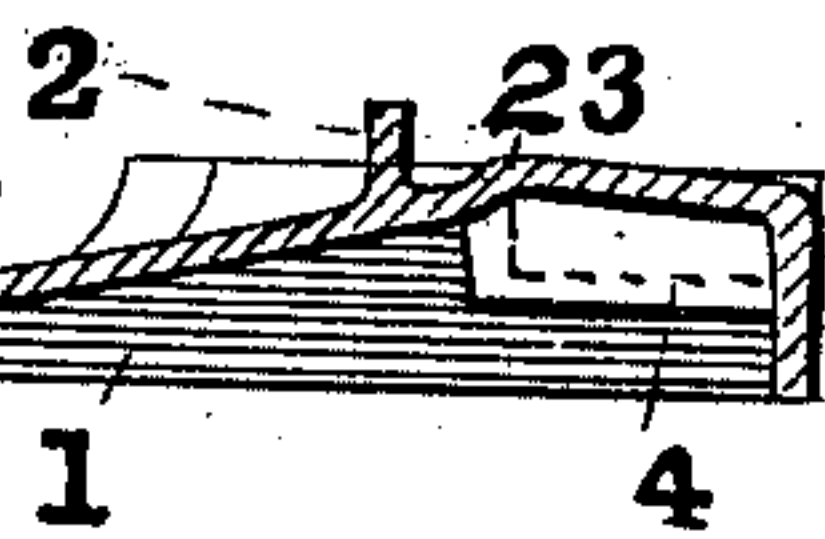


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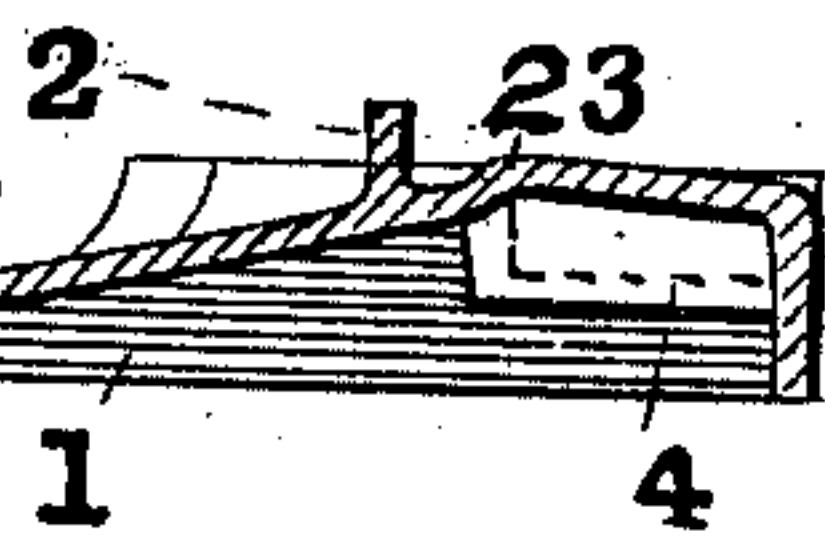


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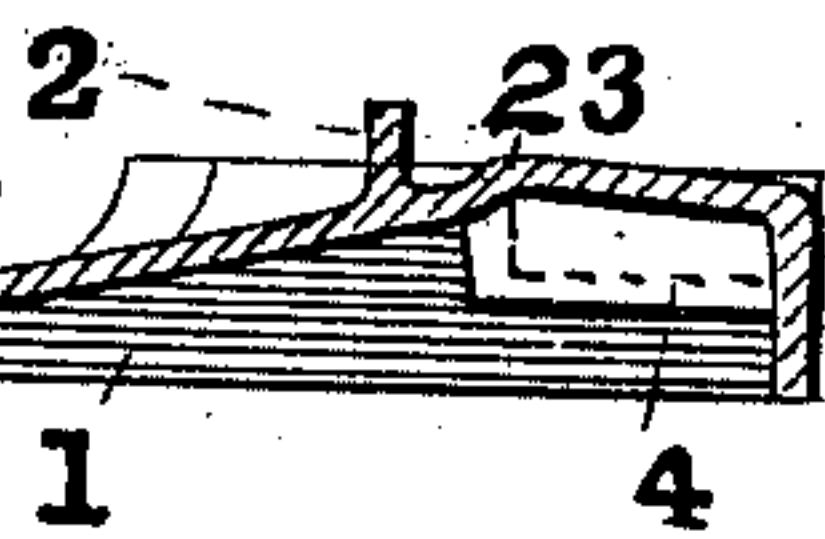


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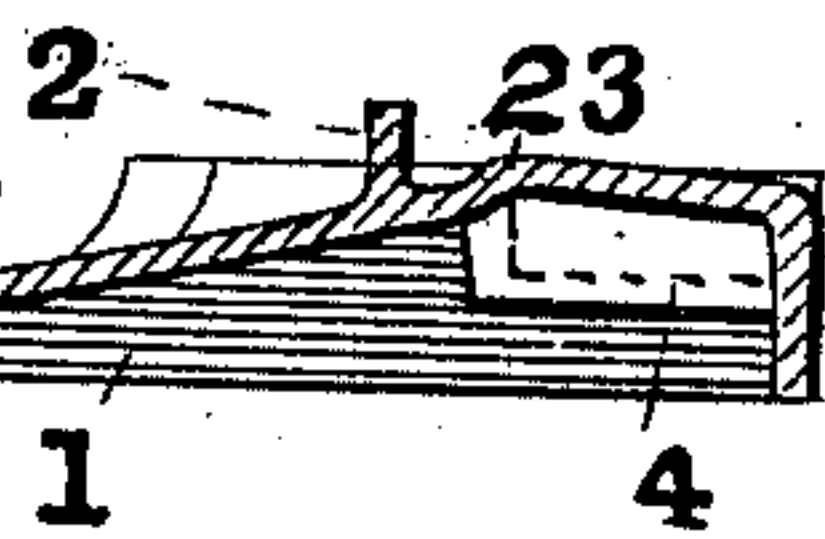


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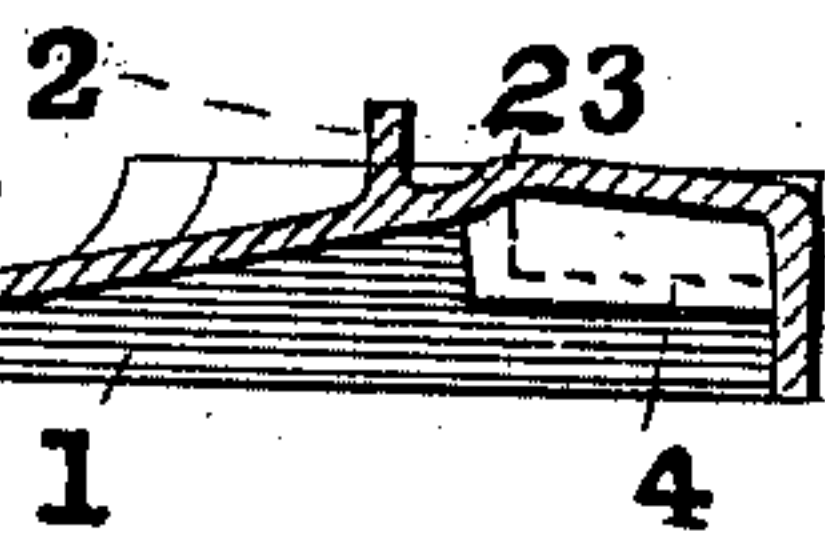


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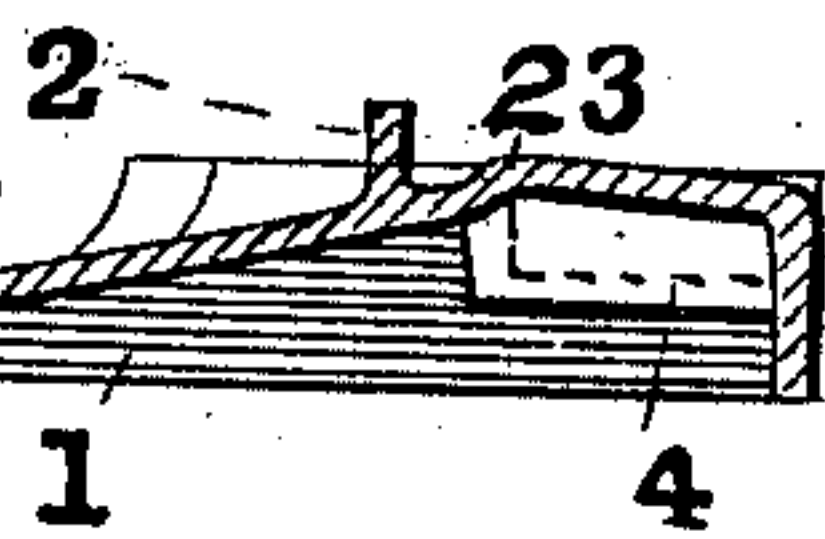


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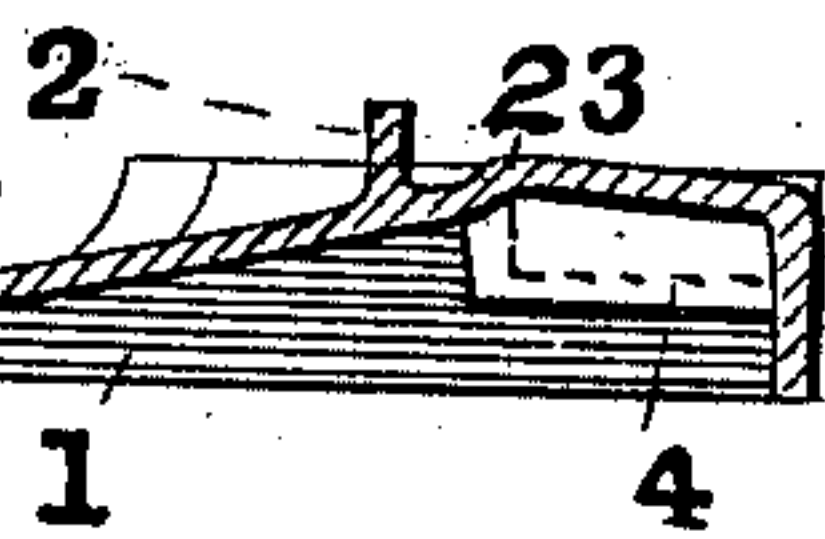


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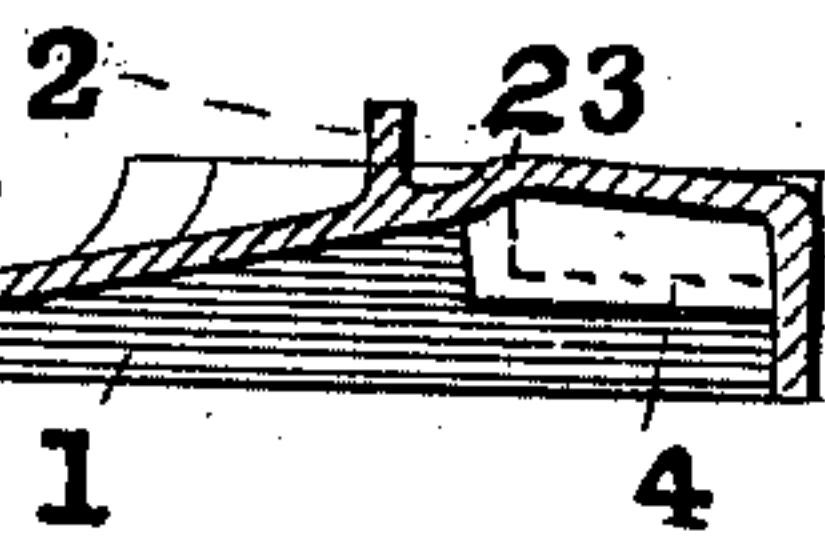


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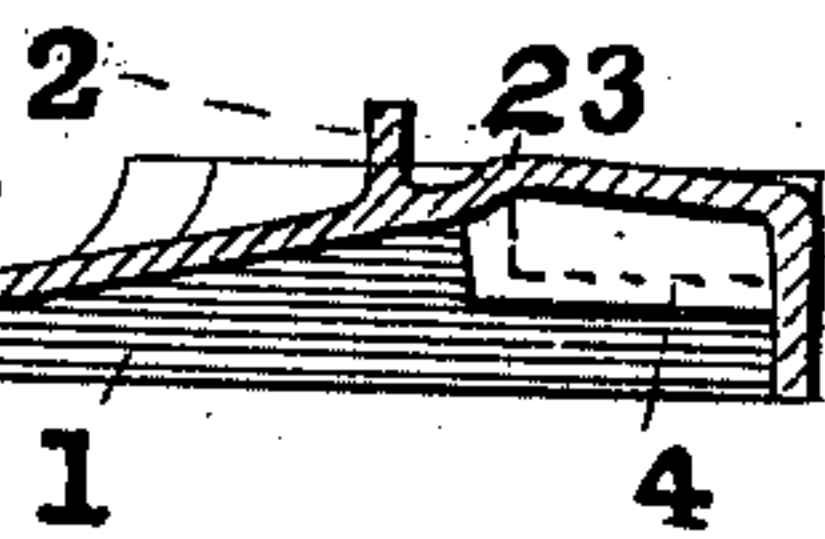


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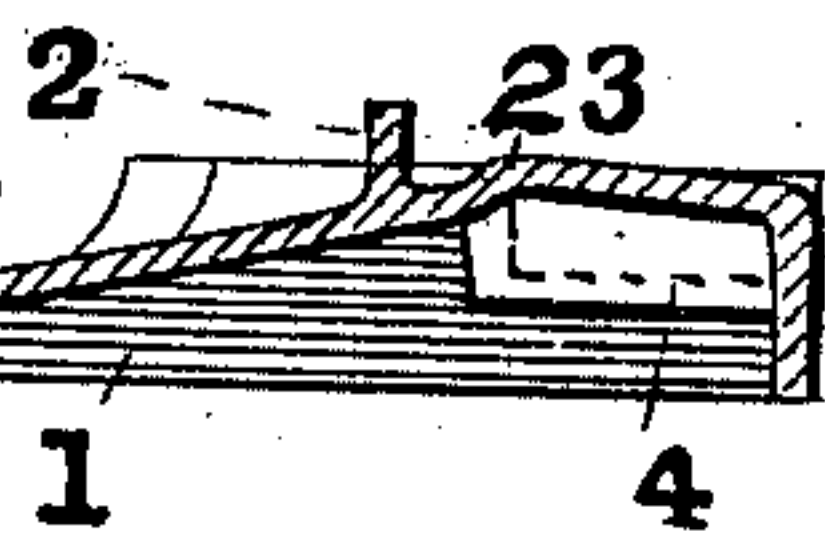


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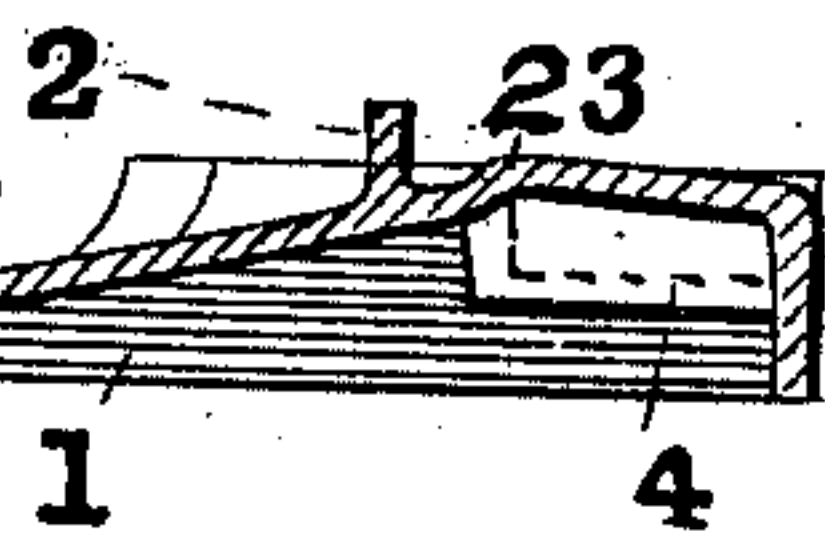


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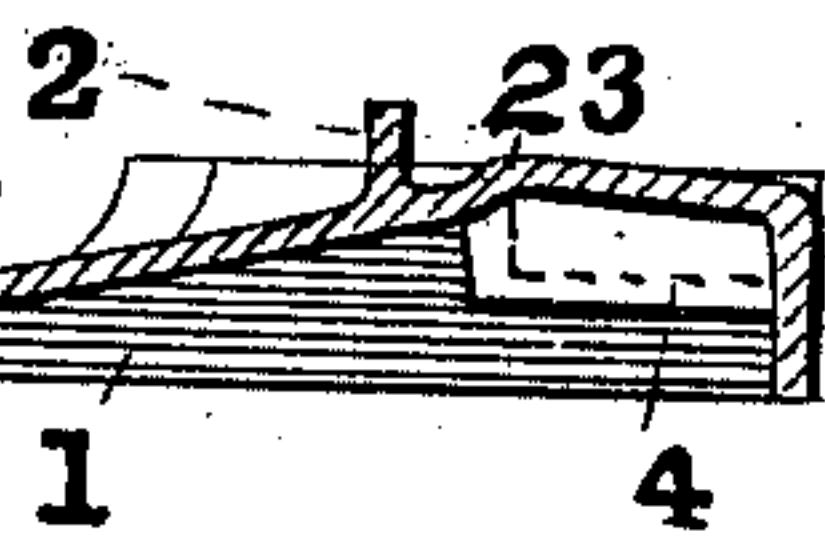
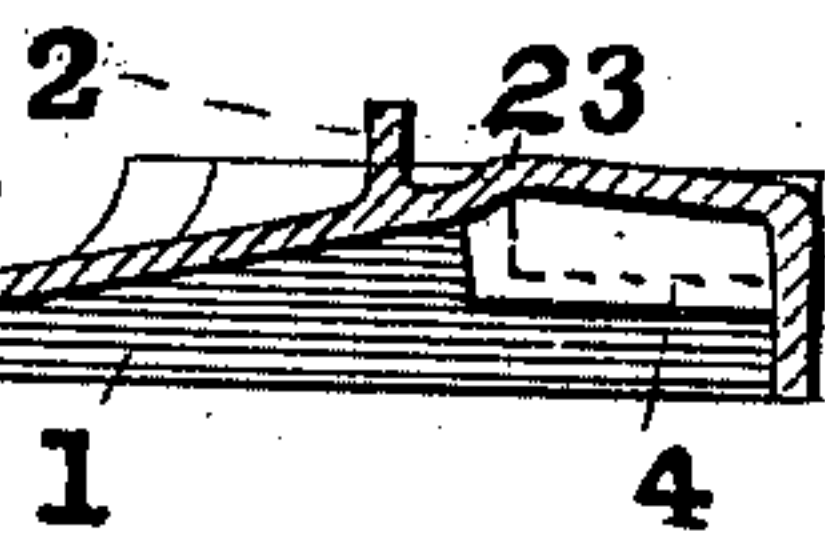


FIG. 5.



UNITED STATES PATENT OFFICE.

RICHARD BEASLEY BROWNE, OF BROOKLYN, NEW YORK, ASSIGNOR TO
RICHEY, BROWNE & DONALD, OF LONG ISLAND CITY, NEW YORK.

WINDOW FRAME AND SASH.

SPECIFICATION forming part of Letters Patent No. 718,975, dated January 27, 1903.

Application filed March 26, 1902. Serial No. 100,056. (No model.)

To all whom it may concern:

Be it known that I, RICHARD BEASLEY BROWNE, of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Window Frames and Sashes; and I do hereby declare the following to be a full and clear description thereof.

My invention relates to windows and window-sashes.

The object of my improvements is to provide a fireproof window and sash of metal or of a combination of metal and composition, which admit of easy operation and which effectually exclude rain, snow, or dust.

For these purposes my invention consists in the following construction and combination of parts, the details of which will first be fully set forth and the patentable features hereinafter clearly pointed out in the claims.

Figure 1 is a front elevation of a window and sash to which I have applied my improvements. Fig. 2 is a horizontal section thereof. Fig. 3 is a vertical section through Fig. 1. Fig. 4 is a detail elevation and partial section of an upper and lower corner of the sash and frame. Fig. 5 is a transverse section through the sill.

1 represents the window-sill, preferably of cast or wrought metal. It is provided with a weather-rib 2, an outwardly-slanting ledge 3, and a pivot-plate pocket or recess 4.

The window-frame, with the exception of the sill, is made of struck-up sheet metal preferably filled with a fireproof composition composed of any known material suitable for the purpose. The window-sash itself is constructed in the same general way. The upright parts of the window-frame 5 and 6 are constructed as shown in cross-section in Fig. 2. The upright 5 differs from the upright 6 slightly in design, the latter being curved along its outer edge in such manner as to provide a flange-plate 7, bolted or otherwise secured to the wall of the building. The metallic beadwork 8 and 9 differ mainly in that the bead 8 is secured to the upright 5 solely, while the bead 9 is secured both to the upright and to the wall of the building. Bead 9 has a flanged extension-plate 10, and the

fastening for the same is common to the fastening for the upright, by which the upright is secured in place. Thus the uprights 5 and 6 and the beads 8 and 9 are modifications of each other, any one or all of which I may employ. The uprights 5 and 6 are distinguished, preferably, by a curved recess for the reception of the window-sash, which the latter does not closely fit, and within which recess is placed a resilient packing or weather-strip 11, preferably of rubber tubing, secured to the uprights of the frame, and which acts to make the vertical joints weatherproof. The top or horizontal part 12 of the frame is preferably provided with a curved ample recess 14, corresponding to the recess 13 in the uprights 5 and 6, within which is similarly secured a weather-strip 11.

The sashes are preferably of the horizontal swinging variety, although I may use other means for operating the sash. In the present instance I have provided the sill and top with pivots, upon which the sash may be swung.

15 is a pivot-plate, provided with a pivot 16, carried in a pocket or recess 4, formed in the sill and secured thereto by suitable fastenings, such as screws 18. I may use a similar construction for the upper pivots, if desired.

The lower bars 19 of the sash are provided with a recess 20 to receive a flexible packing 21, and the outer faces of the bars 19 are provided with projecting lips 22, extending over the weather-rib 2 of the sill when the sash is closed for the purpose of excluding the elements. The sill 1 is preferably crowned at the point 23, whereby when the sash is closed the packing may move up along the inner incline of the sill and embrace the crown 23 in a weather-tight joint.

The inner meeting vertical bars 24 and 25 of the sash are flanged at 26, and overlapping weather-plates 27 are respectively secured thereto, whereby when the sash is closed the plates 27 overlap the joint upon both sides. The flanged portions 26 are received within the recess provided between the bars 24 and 25, and flexible overlapping weather-strips 28 project from each bar in such position that they lie in close contact with each other when

the sash is closed. The vertical sash-bars 24 and 25 have central vertical slots 29 extending through them, through which the glass 30 is inserted into the grooves of both the horizontal and vertical bars of the sash. The panes are secured therein weather-tight by flexible packing-strips 31.

32 represents follower-strips inserted into the slots 29 for the purpose of securing the glass 30 firmly in place by means of suitable fastenings for the follower-strips, and these strips 32 carry the overlapping weather-strips 28.

Any suitable latch, such as 33, serves to lock the sash in a closed position.

My invention is distinguished as a combination which acts to compress the packing or weather strips in closing. The whole construction is struck up from sheet metal and filled with a plastic hardening fireproofing composition, with the exception of the lower sill, and that may be similarly treated, if desired. A characteristic of the invention is a practically entire absence of angles or a close fitting of the operative parts between the window frame and sash, where they coact, and the substitution of ample recesses made weatherproof by compressible packing, thereby avoiding any tendency of the parts to jam or stick.

While I have shown my invention in connection with a horizontal-swinging sash, yet I do not confine myself thereto. I may adapt the invention to vertical-swinging sash or to sliding sash or to the combination of swinging and sliding sash. Neither do I confine myself to the details of construction herein set forth—such, for instance, as the fastenings or angles at the coacting points of the window frame and sash.

For the purpose of strengthening the frame at the angles I preferably insert at those points knees 34 and 35, which, besides strengthening the angles, provide suitable sockets and bearings for the pivot-pins 16. The knees are placed within the hollow metal frame. The lower pivot-pin 16, as has been stated, is carried by a pivot-plate 15.

In setting the sashes into the frame they are generally held at right angles thereto and the top pivot inserted first. The pivot 16 and its plate 15 are then inserted into the bottom of the sash and both are moved by a sliding movement into place, the pivot-plate going into the pivot pocket or recess 4, after which the pivot-plate is fastened by any suitable means, such as screws. The shape of the knees 34 and 35 in cross-section conform to the general outline of the section of the sash or frame in which they are placed. The pivots 16 are preferably screwed into corresponding screw-sockets formed in the knees.

The sill 1 is formed with projections 17 at either end, which project upwardly into the interior of the vertical frame 5 and 6 and constitute a firm point of union between the sill

and the frame, especially when the latter is filled with a plastic hardening material.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a window, the combination of a hollow metallic frame and knee-pieces inserted within the frame at the angles, said knee-pieces being provided with pivotal bearings.

2. In a window, the combination of a hollow metallic frame, knee-pieces loosely inserted within the frame at the angles, and a plastic composition within the walls of the frame filling the interstices between the knees and the frame.

3. In a window, the combination of a hollow metallic frame, a sash having an outer horizontal projection upon its lower rail, a sill at the bottom of the frame having a narrow weather-rib extending up under said horizontal projection, said horizontal projection being wholly above the upper edge of said rib.

4. In a horizontally-swinging window, the combination of a hollow metallic frame, a sill at the base thereof, a narrow weather-rib upon the sill extending above the bottom edge of the lower rail of the window-sash, and a plastic composition within the frame.

5. In a window, the combination of a sill having a vertical portion thereon and a bottom pivot-plate therein.

6. In a window-frame, the combination of a frame portion of struck-up metal, a separate bead portion in contact with the building, and a fastening means common to the building, the frame, and the bead portion.

7. In a window, the combination of a sill provided with a longitudinal rib and a sash portion having longitudinal projections upon both sides of the rib and parallel therewith, the inner projection being lower than the upper edge of the rib and the outer projection being higher than said edge.

8. In a window, the combination of a hollow metallic sash having a knee portion therein provided with a pivotal bearing.

9. In a window, the combination of adjacent frame and sash members, the frame member having a curved longitudinal recess and the sash member having a complementary curved projecting part corresponding thereto and a flexible packing interposed between the said projection and said recess.

10. In a window, the combination of a sill having an intermediate longitudinally-disposed crown and downwardly-slanting top faces upon both sides thereof, of a sash member having a longitudinal recess and a flexible packing therein adapted to rest over said crown when the sash is closed.

11. In a window, the combination of a sash, one side stile of which has a slot extending vertically through both sides of the same and a follower-plate adapted to be inserted in said slot and secured thereto.

12. In a window, a sash, one side stile of which is provided with a slot through the

same, in combination with a follower-plate having a resilient projecting strip adapted to be inserted within the said slot.

13. In a window, a sash, one side stile of which is provided with a slot through the same, in combination with a follower-plate having a resilient projecting strip adapted to be inserted within the said slot, and a weather-plate secured to the slotted frame and projecting beyond the outer face thereof.

14. In a window, a frame portion of struck-up metal having a slot projecting vertically through the same, and having contiguous flanged portions projecting beyond the outer face of the same, in combination with a weather-strip secured next to said flanges and means for uniting the weather-plate and said flanges.

15. In a window, the combination of a hollow metallic frame, a knee portion therein provided with a bearing for a pivot, a hollow metallic sash having a knee portion therein also provided with a bearing for a pivot.

16. In a window, the combination of a hollow metallic frame, and a knee portion having substantially the contour of said frame inserted therein at an angular portion of the frame, said knee portion being provided with a pivotal bearing.

17. In a window, the combination of a sill having a pocket therein, a pivot-plate carried in said pocket having a bearing thereon and fastening means connecting the sill with the pivot-plate.

18. In a window, the combination of swinging sashes having weather-plates secured to each sash upon opposite sides, a recess in said sashes adjacent to each other, follower-plates in said recess, and projecting flexible packing-strips secured to said follower-plates.

In testimony whereof I have affixed my signature in the presence of two witnesses.

RICHARD BEASLEY BROWNE.

Witnesses:

MAURICE A. CONNELL,
LEOPOLD BLOCH.