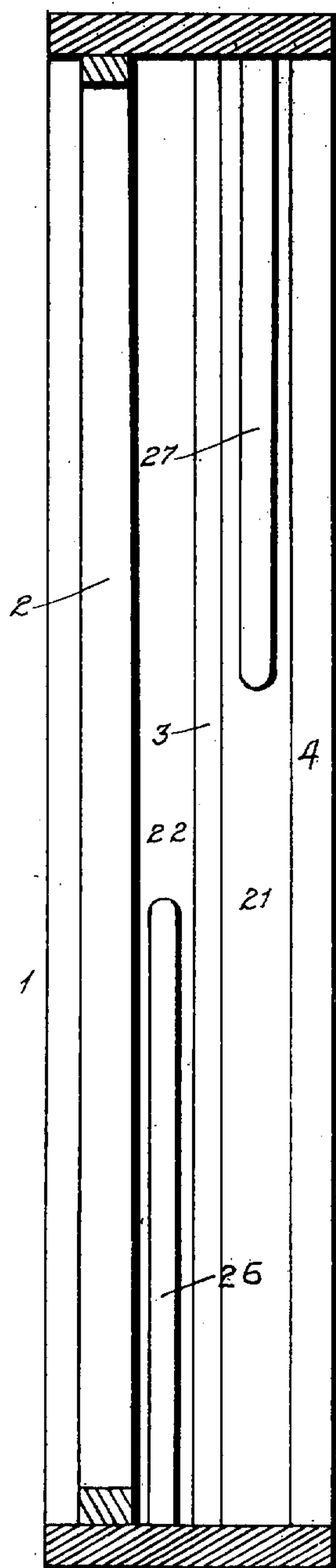


903,268.

D. BEEBE.
WINDOW.

APPLICATION FILED SEPT. 28, 1907.

Patented Nov. 10, 1908.
3 SHEETS—SHEET 1.



WITNESSES

Fredrick Germania Jr.
John W. Kasper.

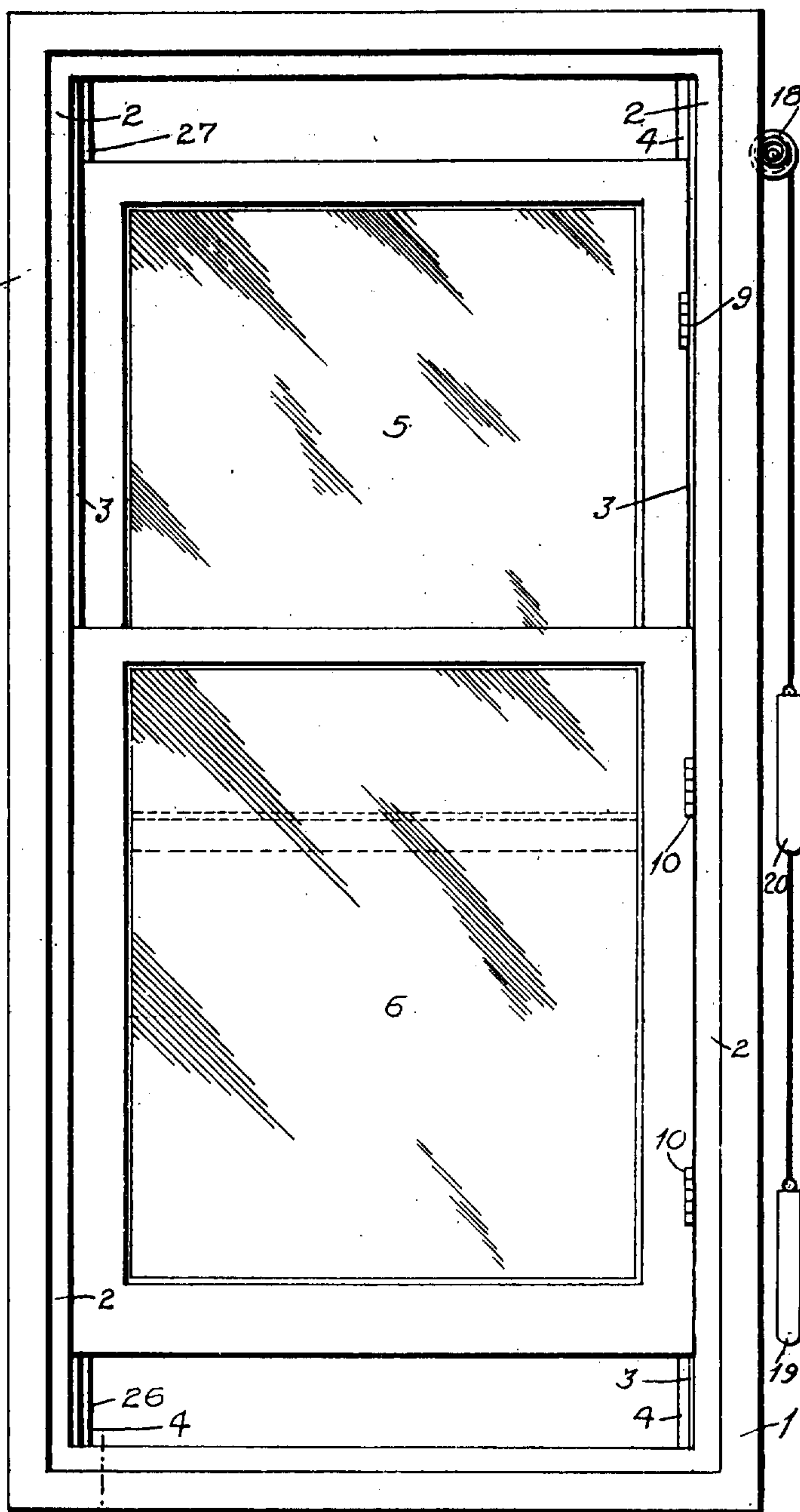


FIG. 1

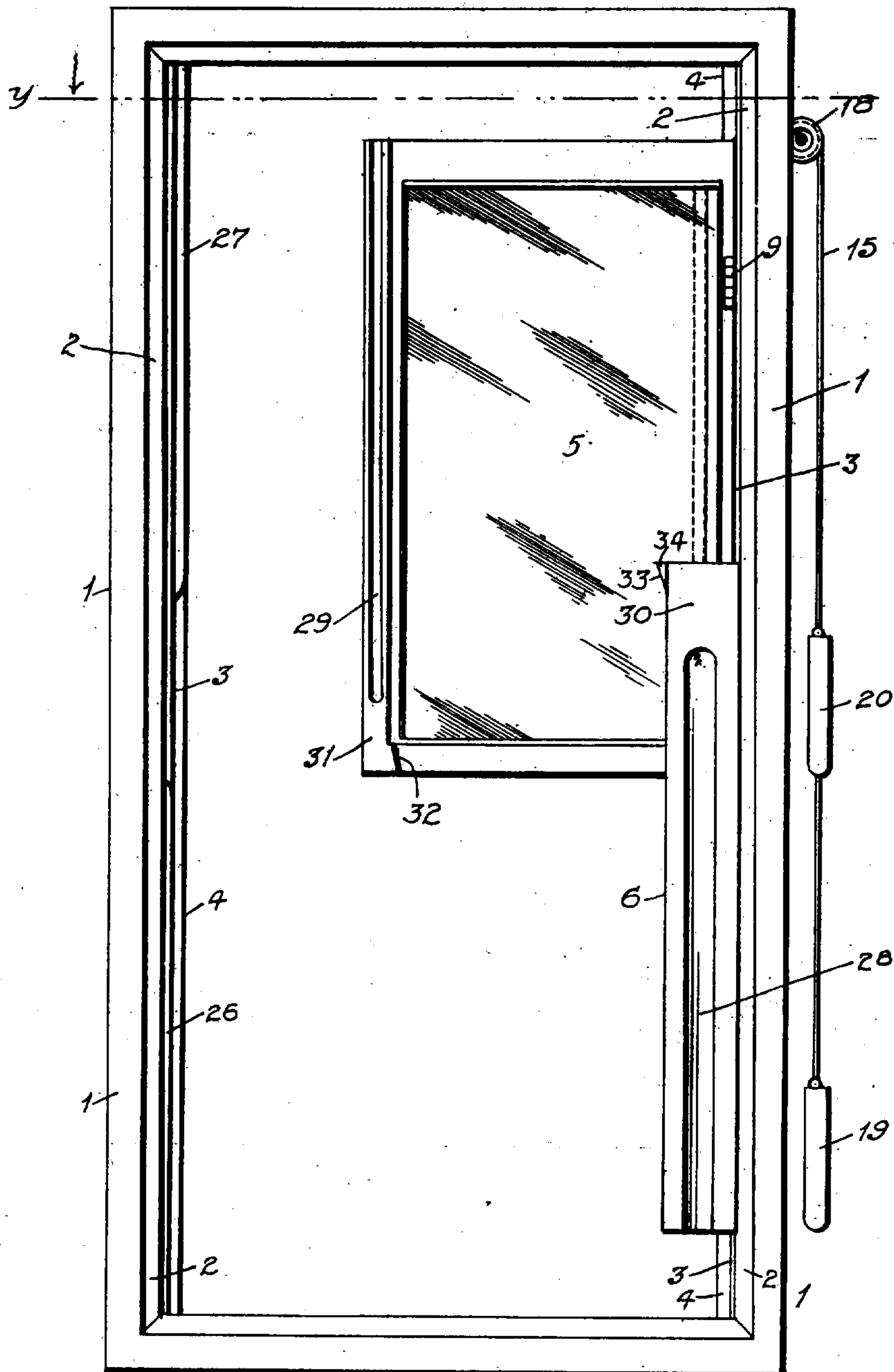
INVENTOR
Dillon Beebe,
BY
Russell M. Everett,
ATTORNEY.

WINDOW.

Patented Nov. 10, 1908.

3 SHEETS—SHEET 2.

903,268.



John W. Kammer.

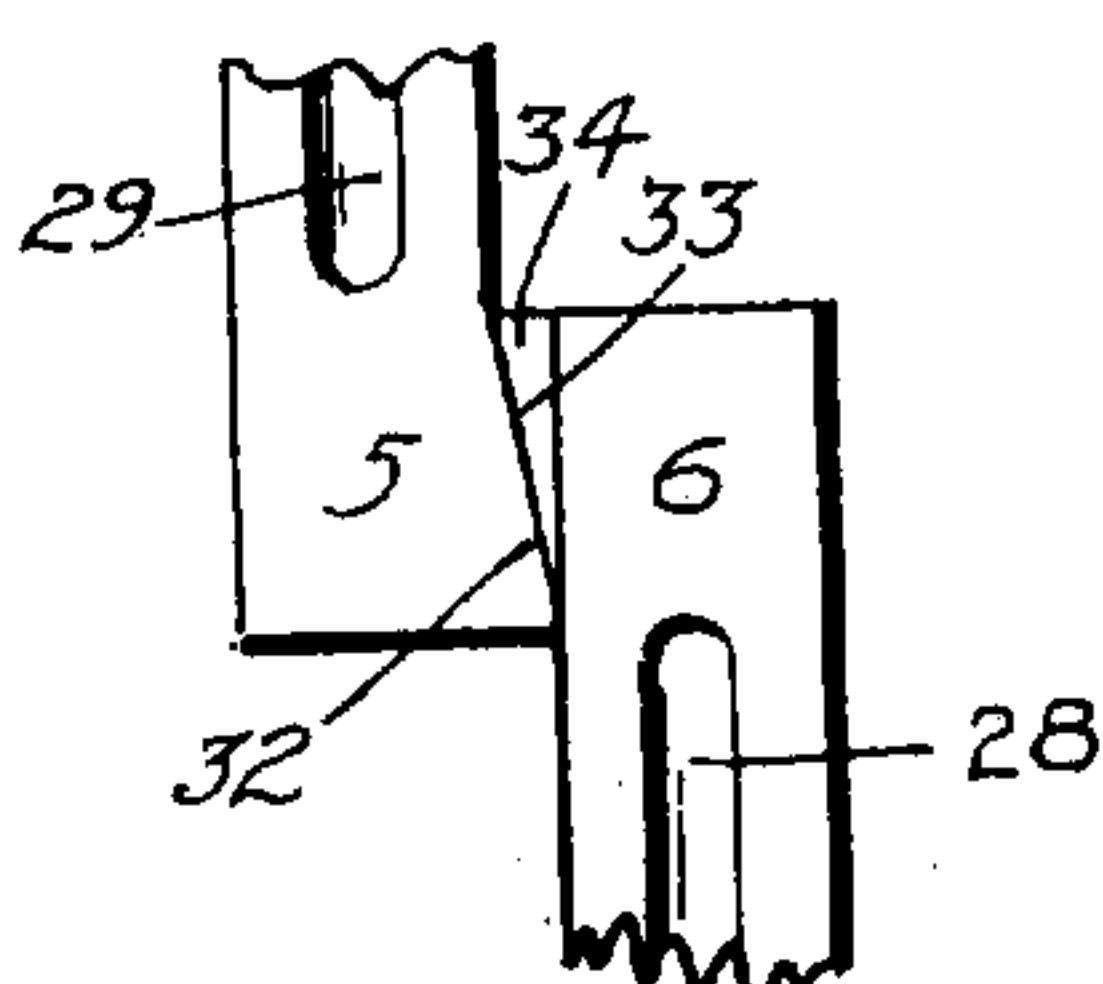
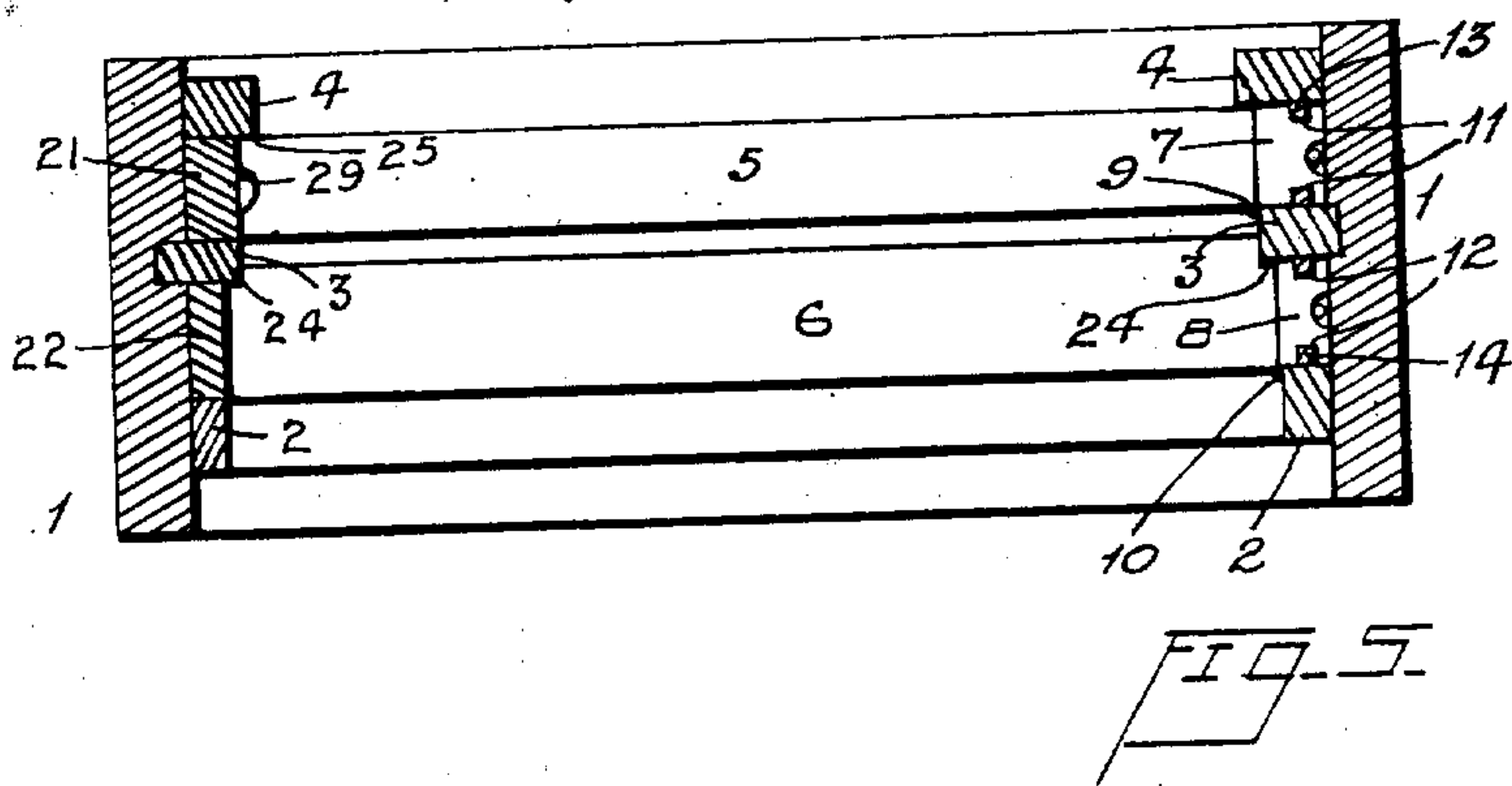
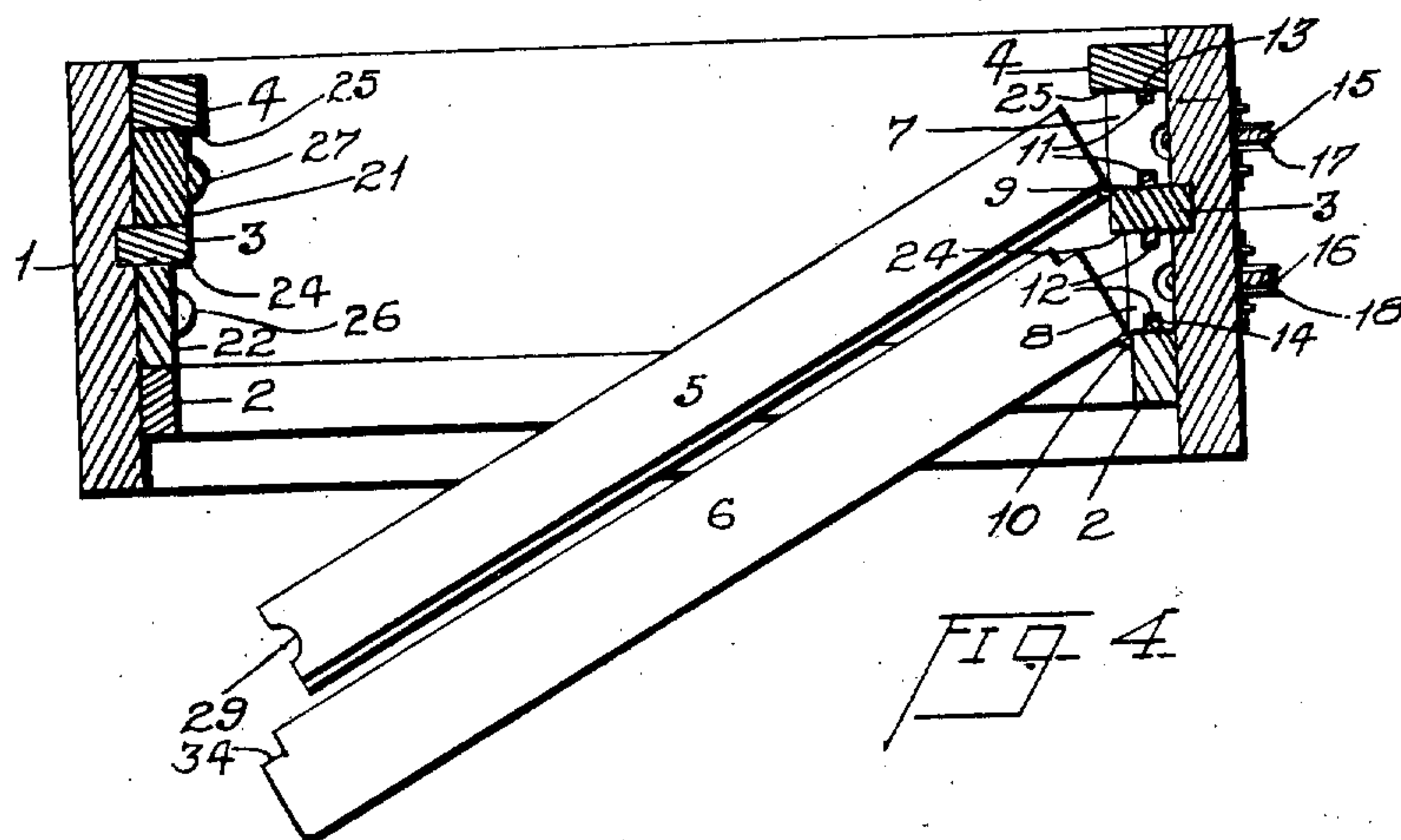
Russell M. Everett,
ATTORNEY.

903,268.

D. BEEBE.
WINDOW.

APPLICATION FILED SEPT. 28, 1907.

Patented Nov. 10, 1908.
3 SHEETS—SHEET 3.



WITNESSES

Frederick Gruenewald Jr.
John W. Kasper.

INVENTOR

Dillon Beebe
BY
Russell M. Everett,
ATTORNEY.

UNITED STATES PATENT OFFICE.

DILLON BEEBE, OF NEWARK, NEW JERSEY.

WINDOW.

No. 903,268.

Specification of Letters Patent.

Patented Nov. 10, 1908.

Application filed September 28, 1907. Serial No. 395,018.

To all whom it may concern:

Be it known that I, DILLON BEEBE, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Windows, of which the following is a specification.

This invention relates to that class of windows in which the sashes are hinged or pivoted so that their outer sides are accessible for cleaning or the like and so that the sashes can be opened to obtain the maximum ventilating capacity of the window.

The objects of the present improvements are to enable the sashes to be hinged at one vertical edge and still be slidable vertically; to avoid the use of loose, movable or removable locking parts for holding the sash closed; to secure a tight and impervious closure of the sashes, so that the window shall not leak to admit rain or cold; to effect this result by a construction which insures that the edges of both sashes are overlapped or covered at the outside; to further provide for an edge of each sash when closed a tongue and groove joint with the window frame; to do this without impeding the hinge action of the sashes; to provide a simple construction which can be easily operated and shall not be liable to get out of order; to secure a construction which can be applied to windows already in use, and to obtain other advantages and results as may be brought out in the following description.

Referring to the accompanying drawings, in which like numerals of reference indicate corresponding parts in each of the several figures, Figure 1 is a view of my improved window in elevation, from the inside of the room; Fig. 2 is a side view of a portion of the casing taken on line *x*, Fig. 1, looking in the direction indicated by the arrow; Fig. 3 is an interior elevation of my improved window illustrating both sashes swung inward; Fig. 4 is a horizontal section taken on line *y*, Fig. 3, showing the sashes open, and Fig. 5 is a similar section showing both sashes closed; Fig. 6 is a detail edge view of the overlapping ends of the two sashes when closed.

In said drawings, 1 indicates the window casing or frame having at its opposite facing pulley stiles inner stops 2, 2, parting beads 3, 3, and outer stops 4, 4, said parts forming be-

tween themselves parallel slideways for the upper and lower sashes 5 and 6 respectively. 55

At one side of the window, the right hand side as shown in the drawings, sliding carrier strips 7 and 8 are shown to which the sashes 5 and 6 are hinged respectively to swing upon vertical axes. The carrier strip 7 to which the upper sash is hinged lies of course between the parting bead 3 and outer stop 4, while the other strip 8 which carries the lower sash 6 lies between the parting bead and inner stop 2, each sash being hinged at the inner corner of its edge to the corresponding corner of its respective carrier strip, as at 9 for the upper sash and 10 for the lower sash. Each carrier strip is grooved at its outer and inner edges as at 11, 11, (or 12, 12,) and receives corresponding tongues 13, 13, (or 14, 14,) on the adjacent fixed parts of the window frame, whereby said carrier strips may slide vertically without any possibility of displacement. A sash cord 15, (or 16), is attached to each strip and extends over a pulley 17, (or 18), to a balancing weight 19, (or 20), as is usual. Each carrier strip, it will be understood, is of a length equal to its sash and as it slides up and down carries the sash with it or can be left stationary at any point to allow the sash to swing. 75

At the opposite edge of each sash from its hinged edge a filling piece 21, (or 22), is inserted between the inner stop 2 and parting bead 3, (or between the parting bead and outer stop 4), which filling pieces extend from top to bottom of the window frame and simply lie against the free edges of the sashes when the same are swung into normal position or into the plane of the window. 85

In order to secure tight joints at the opposite margins of the sashes, which shall be impervious to rain and cold, particularly from the outside of the window, the parting beads 3, 3, are made to project from the window frame further than the carrier strip 8 for the lower sash and the opposite filling piece 22, which carrier strip and filling piece are preferably flush with the inner stops 2, 2. Positive shoulders 24, 24 are thus provided for the outer margins of the lower sash 6 to close against. In the same way, in order to provide a tight joint for the upper sash, the outer stops 4, 4, project from the window frame further than the carrier strip 5 for the 100 105

upper sash and the filling piece 21 opposite it and which carrier strip and filling piece are flush with the parting beads 3, 3, of the window. A positive stop 25 is thus provided for the margins of the upper sash to lie against at its outer side when closed, and which thus overlaps and covers the joints thereof.

By reason of the above construction, the upper sash is slightly narrower in its outside measurements than the lower sash, although the glass is of the same size in both. This difference, however, facilitates the hinging of the two sashes to the same side of the window frame and enables them to open to a wider extent.

It will be noted that the opposite inwardly facing sides of the window frame are parallel with the inner stop 2, parting beads 3 and outer stop 4 mounted thereon, as is commonly and ordinarily done. The carrier strips and filling pieces which I have described, can be inserted between the said parting beads and inner and outer stops, and thus I provide a construction which can be applied to ordinary windows of the old style, with the least possible expense of labor and new parts. This is an important part of my invention, since it enables me to place my windows where others have been before, which would not be possible for business reasons if it was necessary to tear out the whole window frame. Furthermore the usual sashes can by cutting down be utilized for hinging as I have described herein.

The filling pieces, carrier strips, inner and outer stops, and parting beads are all separate pieces from the inner sides or pulley stiles of the window frame and are removable or detachable therefrom. This enables a window frame to be not only changed from ordinary construction to my improved construction, but to be changed back again, if desired, to the original construction, without damaging the pulley stiles, or removing or disturbing them in anyway.

In order to firmly hold the sashes in their normal planes or in the plane of the window, I provide upon the filling pieces 21 and 22 described centrally and longitudinally disposed tongues 26, 27 and which tongues enter corresponding grooves 28, 29 in the edges of the sashes. The tongue 26 for the lower sash preferably starts from the bottom of the filling piece 22, or at the sill of the window, and extends upward a distance a little less than the distance to which the sash can be raised and which as shown is a little less than the height of the sash. Obviously, therefore, until the lower sash is slid clear up it cannot be swung upon its vertical hinging at all and will operate simply as an ordinary sash. When raised, however, to a point where it clears the tongue 26, its edge opposite the hinged one can be pulled inwardly out of the

window frame and the sash swung into any desired position. Furthermore, when thus swinging, it can be pushed up and down into any desired position but must always be returned to its highest position in order to close it. Correspondingly, the tongue 27 for the upper sash extends from the top of the window frame downward a distance somewhat less than the distance the upper sash can be lowered and shown in the drawings as less than the length of the sash, so that by sliding said sash vertically downward to the proper point it will come free from the said tongue 27 and be allowed to swing inwardly out of the plane of the window, as illustrated in Figs. 3 and 4. Obviously the lower sash must have been swung inward before the upper sash can be so swung, but when so released both sashes will move freely to open up the entire area of the window and to provide ready access to the inner and outer surfaces of both sashes. The tongues and grooves thus described serve as locking or holding means to retain the sashes against swinging upon their hinges, and for this purpose they possess distinct advantages. First, locking means are provided without any loose, movable or removable parts, so that there is nothing to get out of order or to be lost or which requires manipulation in opening and closing the window. Another advantage is, that when the tongues and grooves extend for nearly the entire length of the sashes, as they preferably do, the sash is held with great firmness and stability against any displacement from its closed position; particularly is this true when the sash or window is entirely closed, as in case of a storm, and which is exactly the time when it is desirable to hold the sash against inward displacement or yielding. The tongues and grooves do this effectively, so that the absence of a stop at the inner edges of the sashes makes no essential difference in this respect.

The tongues 26, 27 beside their function as guides or holders for their respective sashes, also add to the tightness or closeness of the joint formed between the edge of the sash and the window frame, and especially is this so because the grooves to receive them do not extend the entire length of the sashes but the edges of the sashes at their meeting ends are left entire, as at 30, 31. This is especially important on the upper sash, where obviously if the groove in the edge of the sash were open at the lower end of the sash, wind and cold could enter and readily work from the groove into the room. Similarly, if the groove in the edge of the lower sash were open at its top, any cold air that passed the joint between the sash and the parting bead would simply follow the groove and cause a draft in the room. Furthermore, this making the tongues and grooves

shorter than the sashes, and having the meeting ends of the sashes entire at their edges, as at 30, 31, causes the tongues and grooves when the sashes are closed to be entirely concealed. This adds greatly to appearance, especially on the lower sash as seen from the inside, as will be understood, and is an important feature of my invention.

It will be noted that the two tongues 26 and 27 lie in different planes, since the outer filling piece 21 is as much thicker than the inner one 22 as is the parting bead 23. This is a necessary point, for otherwise the upper sash obviously could not swing open when in lower position past the lower tongue 26. This lower tongue 26, however, is by my invention made to project no further from the filling piece on which it is mounted than does the parting bead 3, and thus the upper sash will when lowered swing past it without any difficulty.

The stop rail of the lower sash and bottom rail of the upper sash are at their adjacent faces beveled as it is usual in windows and is shown in detail at 32, 33 in Fig. 6, to secure a more perfect joint when closed. Furthermore the corners of this edge of the bottom sash are notched as at 34, 34 to receive the parting beads 3, 3, inclosing into the plane of the window frame. A compact and practical construction is thus afforded, involving no removable or loose parts of the window frame, but permitting the sashes to be slid up and down or swing freely open as desired.

Having thus described the invention, what I claim as new is:

1. The combination with a window frame having opposite slide-ways for the edges of a sash, a sash in said slide-ways hinged at one edge and having its opposite edge longitudinally grooved from its end which engages the window frame when the sash is closed for a distance less than its length, and a projection upon the slide way at the free edge of the sash adapted to lie in the said groove thereof when the sash is closed.

2. The combination with a window frame having opposite slide-ways for the edges of a sash, a sash in said slide-ways hinged at one edge and having its opposite edge longitudinally grooved from its end which engages the window frame when the sash is closed for a distance less than its length, and a tongue upon the slideway at the free edge of the sash of a length less than the length of the sash and adapted to lie in the said groove thereof when the sash is closed.

3. The combination with a window frame having opposite slideways for the edges of a sash, a sash in said slideways hinged at one edge and having its opposite edge longitudinally grooved from its end which engages the window frame when the sash is closed for a distance less than its length, and a tongue

upon the slideway at the free edge of the sash extending from that end of the window frame which the sash engages when closed a distance equal to the length of the said groove in the sash and adapted to fill said groove when the sash is closed.

4. The combination with a window frame providing outer and inner slideways, of outer and inner carrier strips arranged on said slideways, longitudinally disposed tongues arranged on said slideways opposite the said carrier strips, one extending upward from the bottom of the frame a distance less than the length of the lower sash and the one for the upper sash extending downward from the top of the frame for a distance less than the length of the sash, and said upper and lower sashes hinged to the said carrier strips and in their other edges having grooves opening outwardly at the opposite ends of the sashes or ends away from each other and terminating short of the meeting ends of the sashes and adapted to receive the said tongues.

5. The combination with a window frame providing outer and inner slideways, of outer and inner carrier strips arranged in said slideways at one side of the window, means for holding said carrier strips slidably, upper and lower sashes hinged to and carried by said carrier strips, outer and inner longitudinally disposed tongues fixed to the window frame at its side opposite to the carrier strips, the outer tongue commencing at the top of the frame and extending downward a distance less than the length of the upper sash and the inner tongue commencing at the lower end of the frame and extending upward a distance less than the length of the lower sash, the edges of said upper and lower sashes having grooves adapted to receive and fit said outer and inner tongues, the grooves in said upper and lower sash opening outwardly at the opposite ends of the sashes or ends away from each other and terminating short of the central meeting ends of the sashes.

6. The combination with a window frame having opposite parallel pulley stiles, of a slidable carrier strip on one of said pulley stiles, a sash hinged at one edge to said carrier strip and grooved at its opposite edge, and a stationary vertical tongue on the opposite pulley stile from that having the said carrier strip, said tongue being shorter in length than the height of the sash and adapted to enter the said groove of the sash.

7. The combination of a window frame providing outer and inner slideways for sashes, the faces of said slideways at one pulley stile of the window frame being stepped with respect to each other, carrier strips one in each slideway at the pulley stile of the window frame opposite the said stepped faces, sashes hinged one to each of said carrier

strips and having their opposite free edges grooved, and stationary tongues longitudinally disposed on said stepped slideway faces and adapted to enter said sash grooves, said
5 tongues each being shorter in length than the height of its sash and the projection of the tongue upon the depressed step surface being less than the distance from said depressed surface to the path of the sash which seats at the other stepped surface.

DILLON BEEBE.

In the presence of—
BERTHA S. FULTON,
ETHEL B. REED.