

No. 753,579.

PATENTED MAR. 1, 1904.

G. KABURECK.
WINDOW.

APPLICATION FILED MAY 20, 1903.

NO MODEL.

4 SHEETS—SHEET 1.

Fig. 2

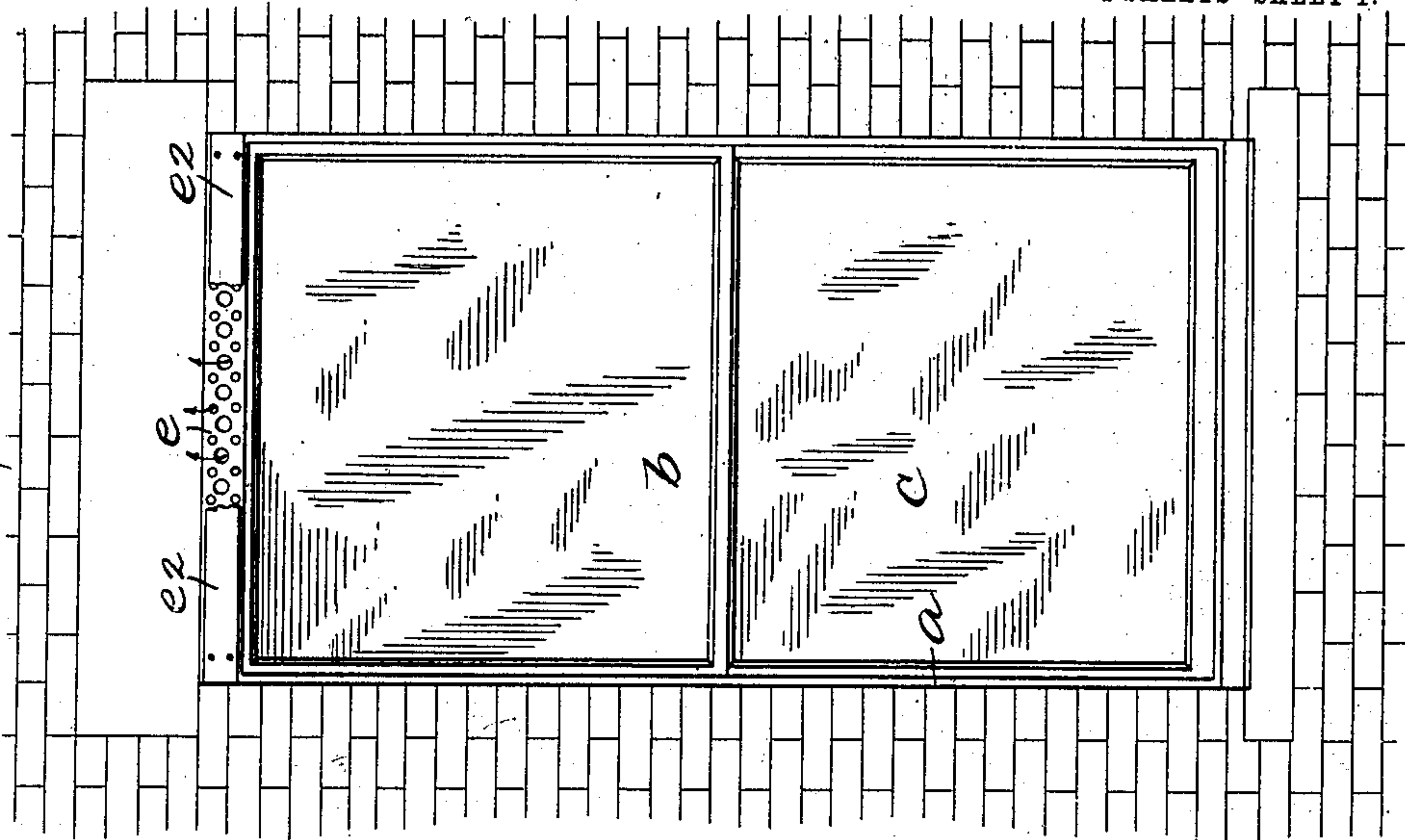


Fig. 3

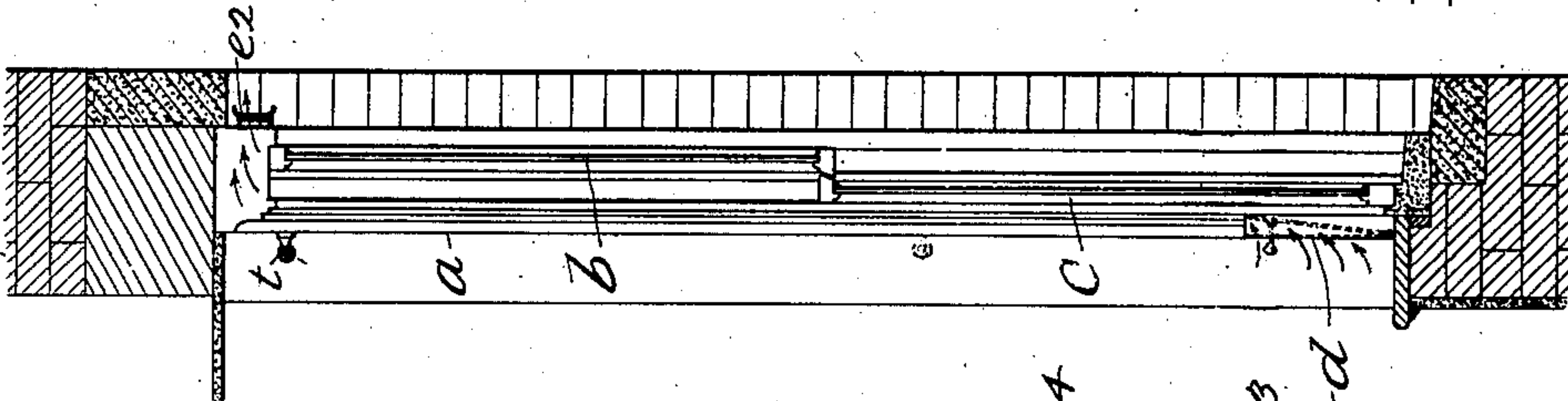
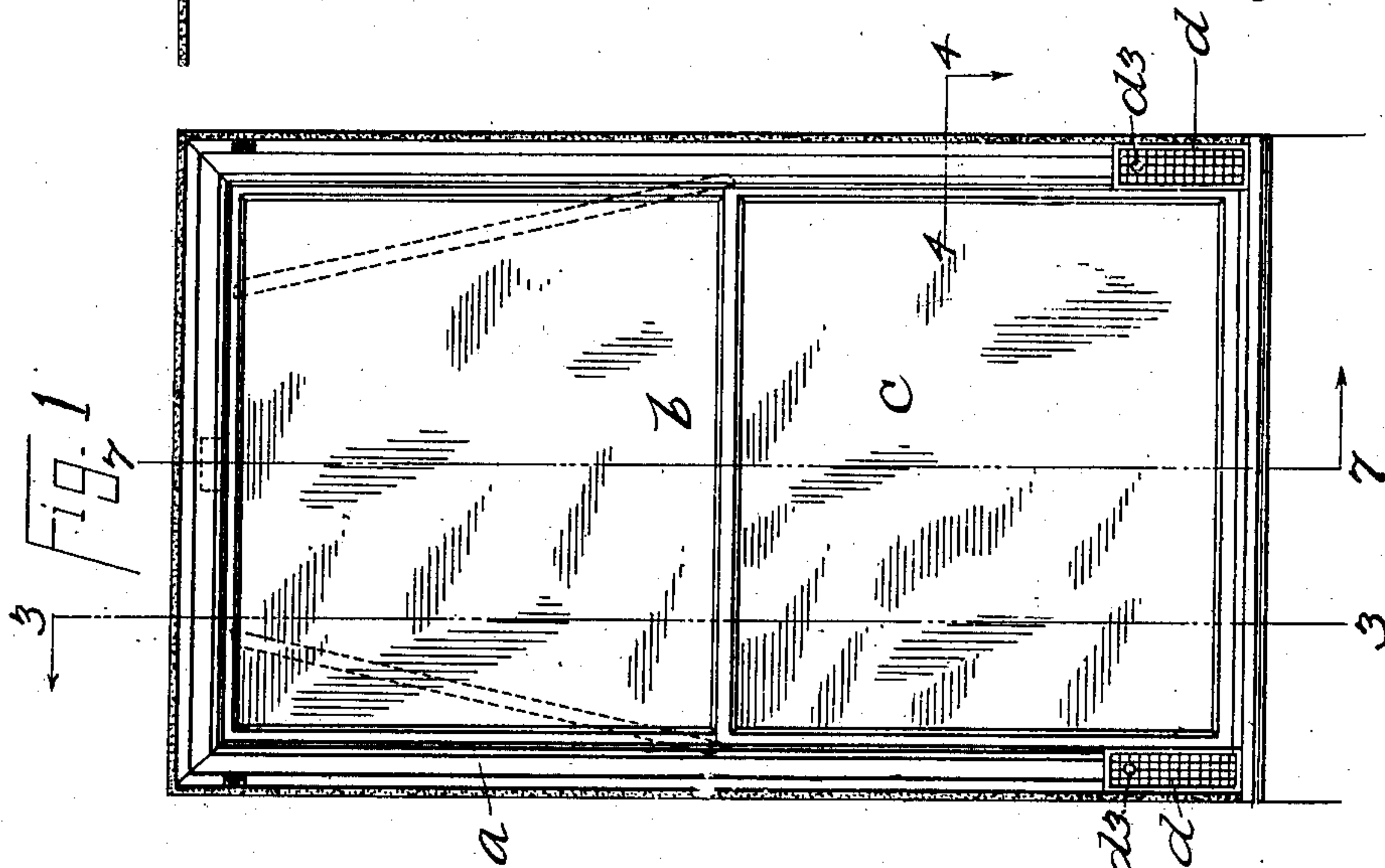


Fig. 1



WITNESSES

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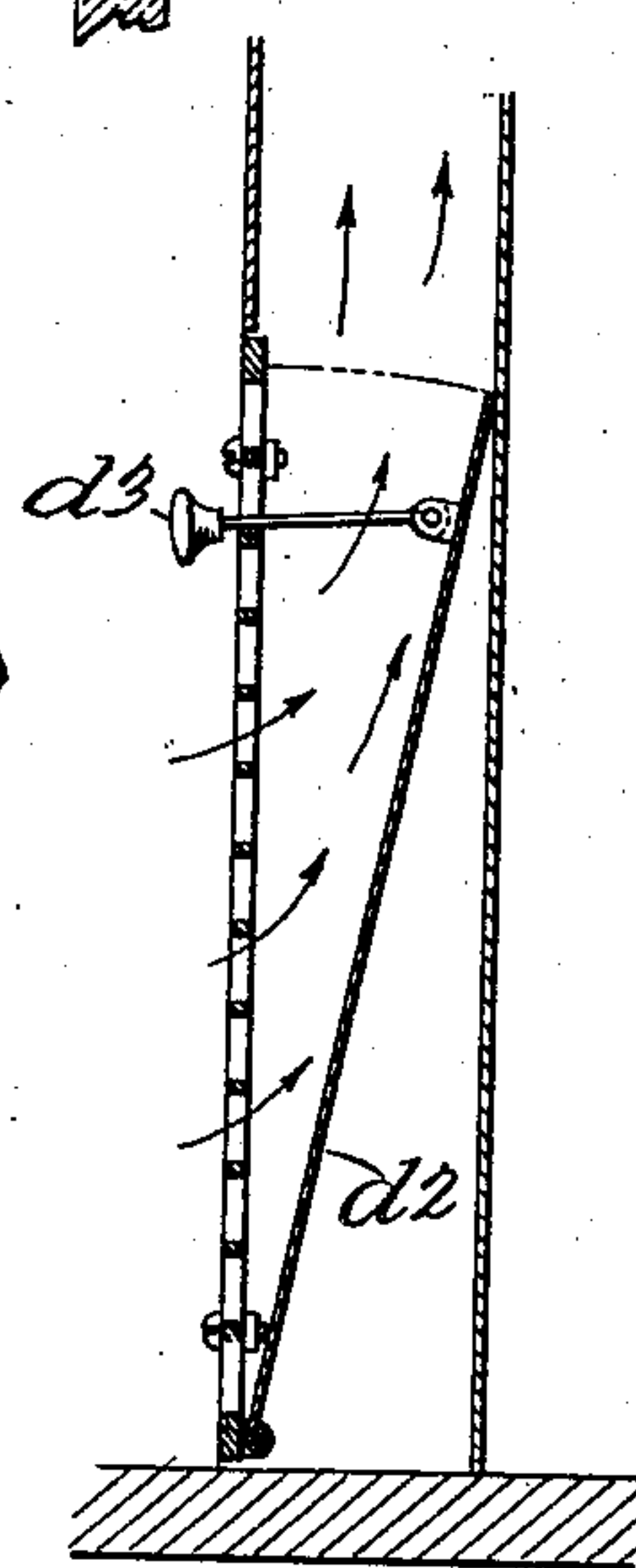
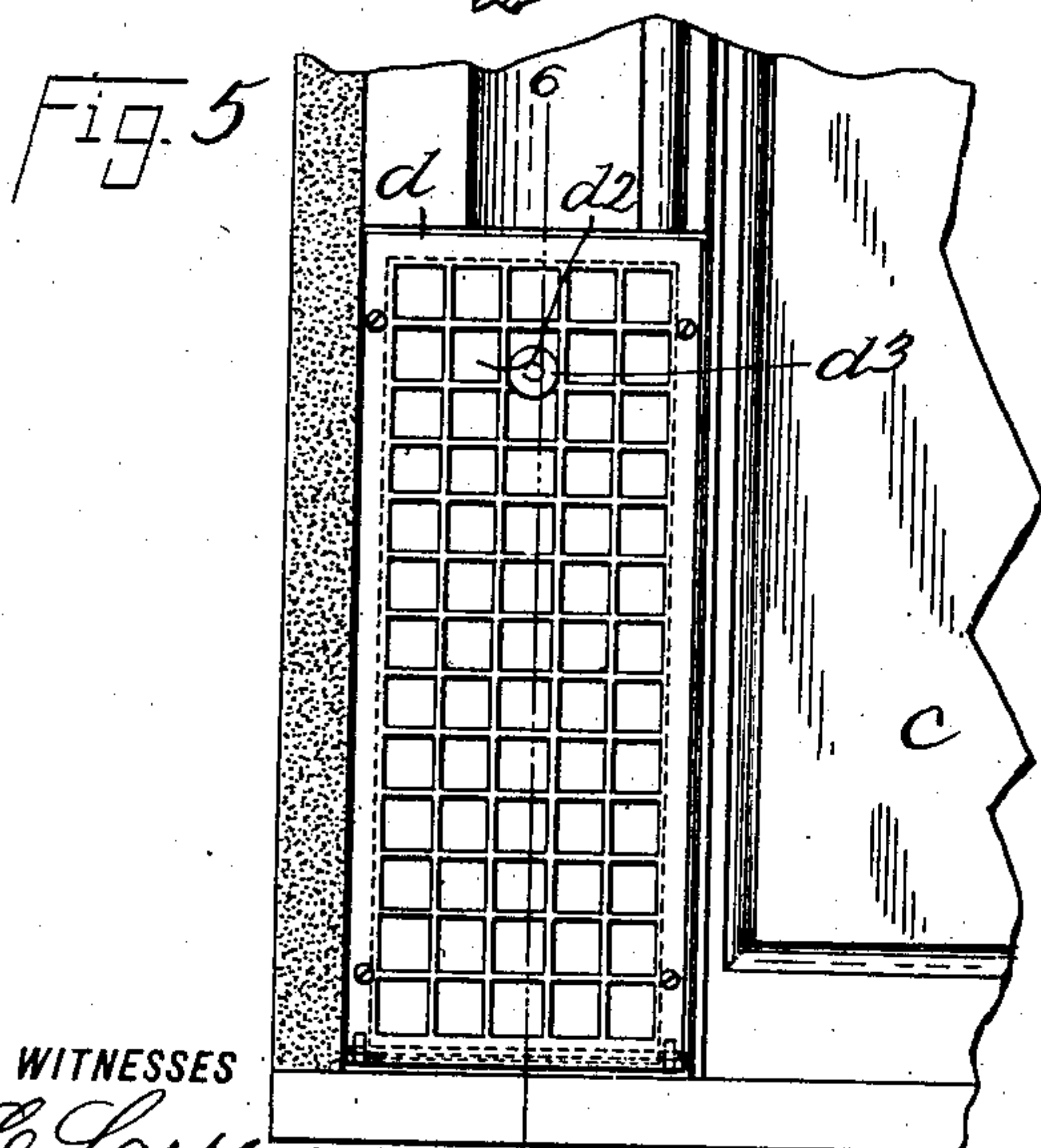
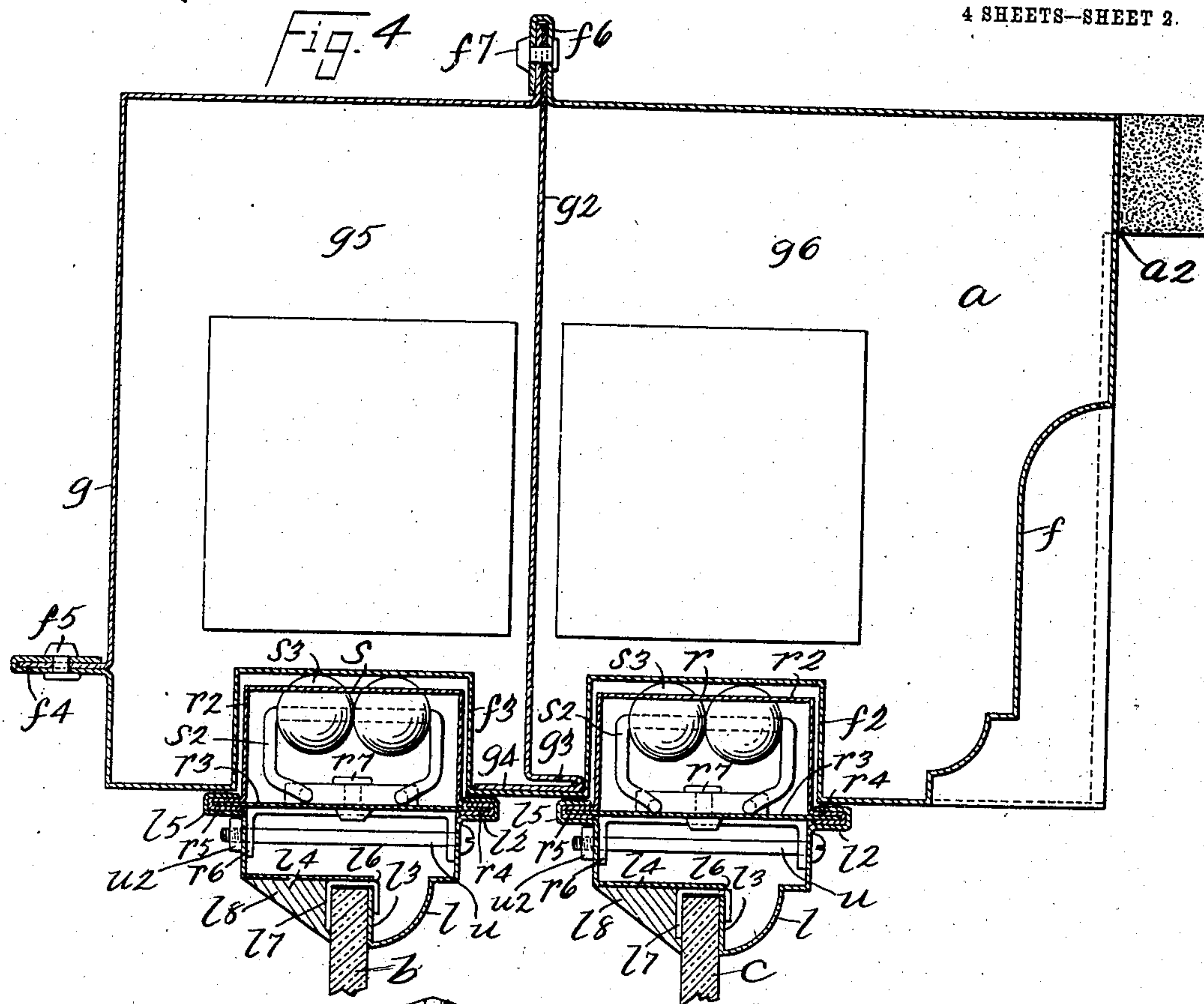
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4 SHEETS—SHEET 2.



WITNESSES

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4 SHEETS—SHEET 3.

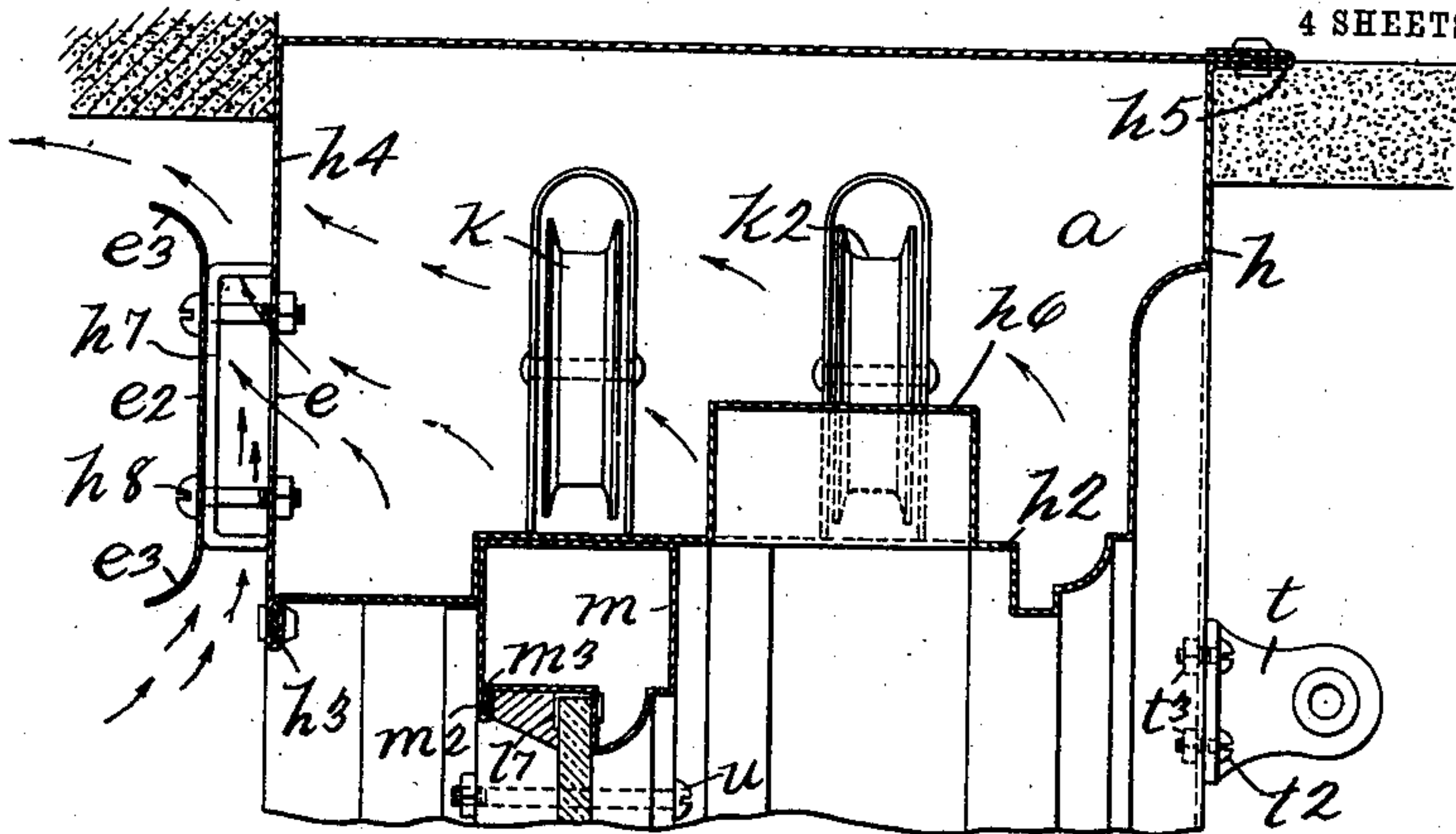
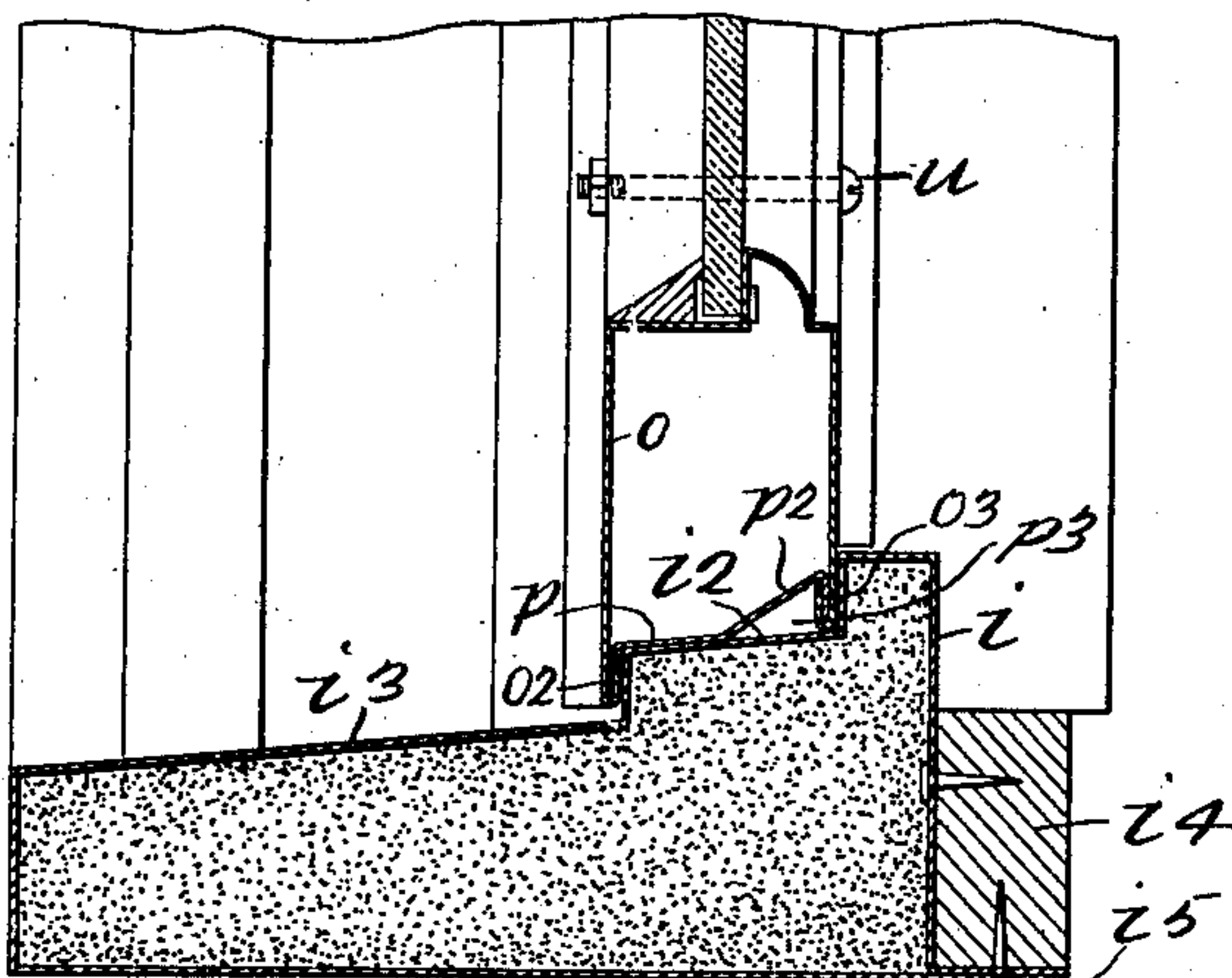
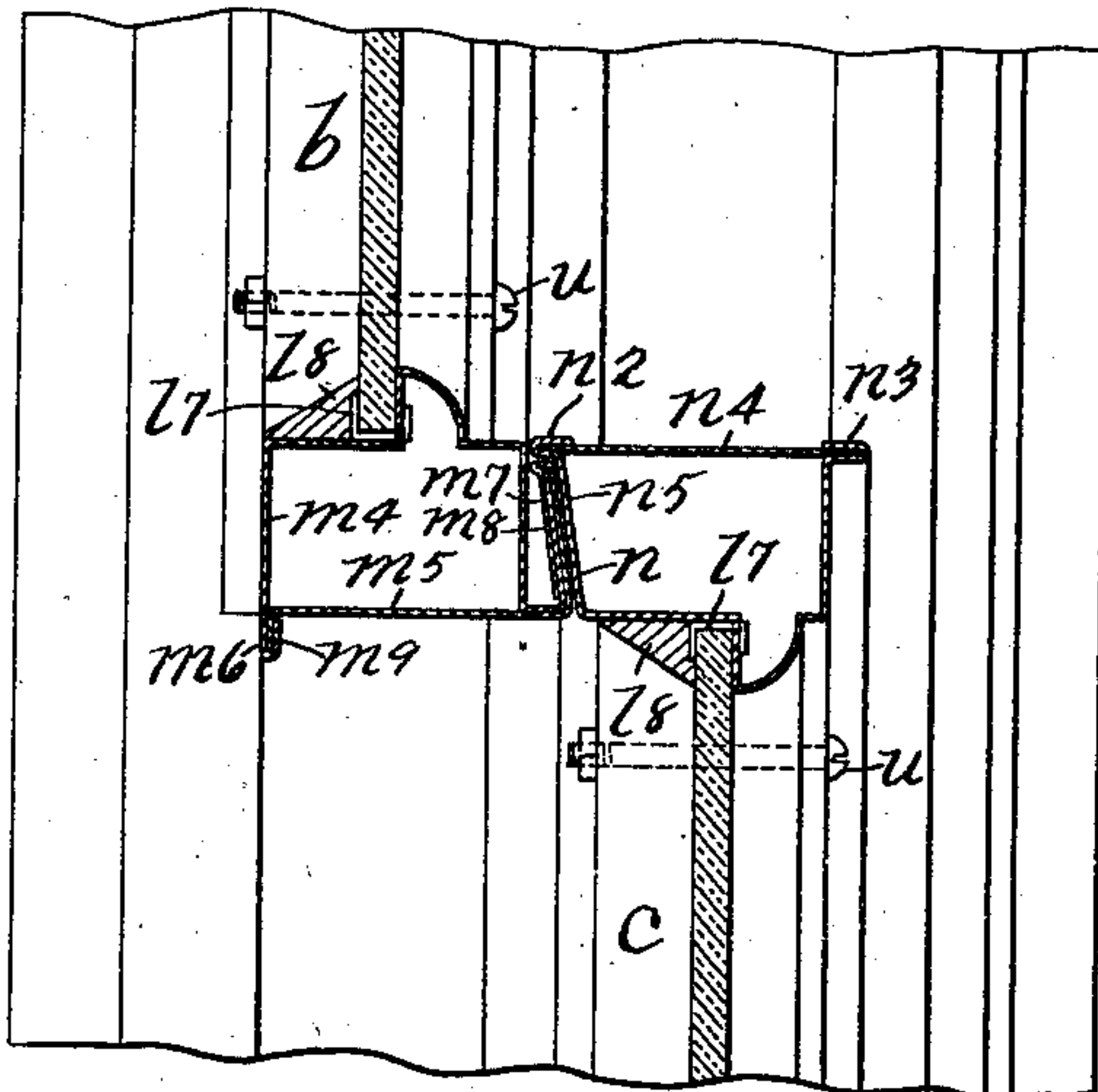


Fig. 7



WITNESSES

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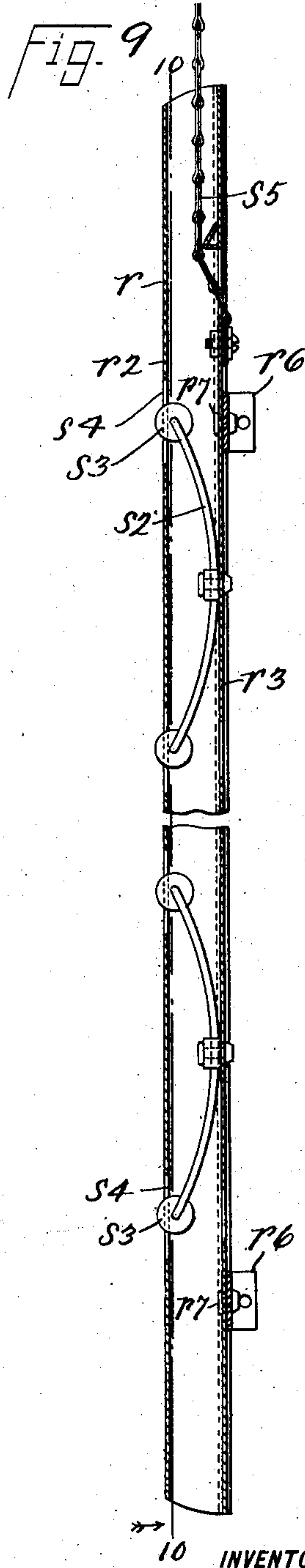
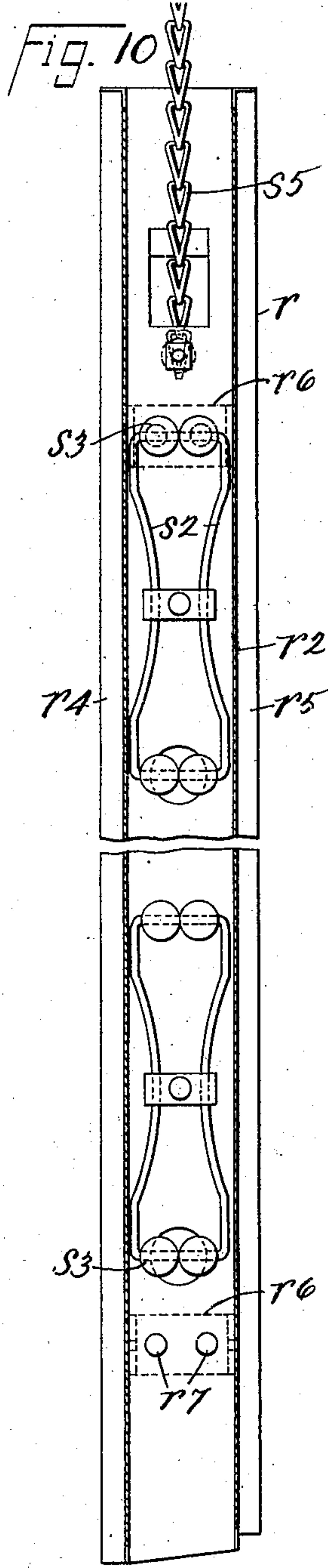
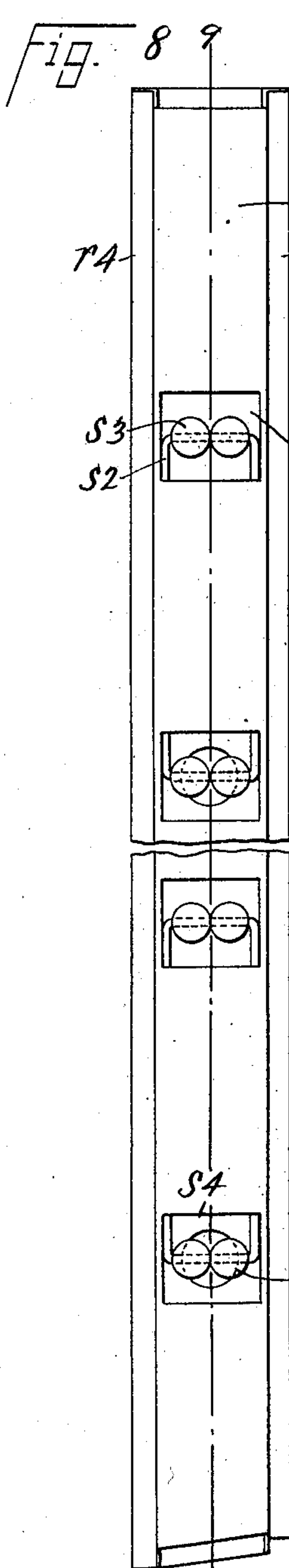
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4 SHEETS—SHEET 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE KABURECK, OF JERSEY CITY, NEW JERSEY.

WINDOW.

SPECIFICATION forming part of Letters Patent No. 753,579, dated March 1, 1904.

Application filed May 20, 1903; Serial No. 157,929. (No model.)

To all whom it may concern:

Be it known that I, GEORGE KABURECK, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Windows, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

The object of this invention is to provide improvements in metal windows whereby the construction thereof is simplified, for the reason that fewer parts thereof are employed, and said parts are more easily connected than in metal windows as at present employed, a further object being to provide a window of the vertically-movable-sash type wherein the sash may be readily mounted or removed at any time without interfering in any way with the window-frame; and with these and other objects in view the invention consists in a metal window and frame therefor of the vertically-movable-sash type constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which—

Figure 1 is an inside elevation of a window constructed according to my invention; Fig. 2, an outside elevation thereof; Fig. 3, a section on the line 3 3 of Fig. 1; Fig. 4, an enlarged section on the line 4 4 of Fig. 1 with the upper and lower sashes in the same position; Fig. 5, an enlarged detail of a part of the construction shown in Fig. 1; Fig. 6, a vertical section on the line 6 6 of Fig. 5; Fig. 7, an enlarged vertical section of the window-frame on the line 7 7 of Fig. 1; Fig. 8, a side elevation of one of the parts which I employ; Fig. 9, a section on the line 9 9 of Fig. 8, and Fig. 10 a section on the line 10 10 of Fig. 9.

In the practice of my invention I provide a window-frame *a*, provided with upper and lower sashes *b* and *c*, respectively, and the window-frame *a* is preferably composed of sheet metal and is provided on its inner side and at the bottom thereof with ventilators *d*,

which are provided with closure devices *d*², operated by means of a button *d*³, extending through the ventilator *d*, and the window-frame *a* is entirely hollow, as will be seen from the drawings, and the ventilators *d* communicate thereby with a perforated plate *e* on the upper and outer side of the window-frame *a*, and the perforated plate *e* in practice is provided with deflection-plate *e*² to prevent the wind from entering the perforated plate *e*, the upper and lower edges of the plate *e*² being curved, as shown at *e*³, and the wind, passing behind the plate *e*² and in the direction of the arrows, as shown in Fig. 7, draws the air through the ventilator *d*, the window-frame *a*, and the perforated plate *e*, and the room in which the window-frame *a* is placed is thereby well ventilated.

In Fig. 4 of the drawings is shown a horizontal section of one side of the window-frame, which consists of a front plate *f*, of sheet metal, which forms the profile or ornamentation of the inside of the window-frame *a*, and this plate is provided on the sides adjacent to the sashes *b* and *c* with runs *f*² and *f*³, formed by bending the metal of the plate *f* into this shape, and the plate *f* continues to a point *f*⁴ on the outer side of the window-frame, where it is formed into a loop or turned upon itself, and in this loop or turn is firmly held, by means of bolts *f*⁵ or otherwise, another plate, *g*, which passes around the back of the window-frame *a* and is held in a loop *f*⁶, formed on the opposite end of the plate *f*, and is held therein by bolts, rivets, or other securing devices *f*⁷. Also mounted in the loop *f*⁶ is a supplemental plate *g*², which passes across the side of the window-frame to a position between the runs *f*² and *f*³, and the plate *g*² is bent at right angles, as shown at *g*³, and is doubled upon itself to form a member *g*⁴, which fits between the runs *f*² and *f*³ and is held in position thereby, and the plate *g*² serves as a partition and divides the side member of the window-frame *a* into two compartments *g*⁵ and *g*⁶, said compartments being for the operation of the usual sash-weights, which are kept apart by means of the plate *g*².

The construction just described of one side member of the window-frame *a* is, as will be

readily understood, duplicated in the other side member of said frame and, as will be seen, is composed primarily of but two pieces of sheet metal, thereby simplifying its construction, and it also forms an air-tight or substantially air-tight passage between the ventilator d and the perforated plate e , and the top member of the window-frame is also composed of but two pieces of sheet metal, as will be readily seen in Fig. 7, one piece, h , of which forms the profile or ornamentation of the interior of the window and is bent into a recess h^2 large enough to receive both of the sashes b and c and passes to the outer side of the window-frame a and is bent downwardly, said downwardly-projecting member being held in a loop h^3 of another sheet-metal plate, h^4 , which passes across the outer side of the window-frame and across the top thereof and is held in a loop h^5 , formed in the opposite end of the plate h , and directly over the inner or lower sash c and centrally of the window-frame a is a recess or pocket h^6 , which is adapted to receive the ordinary sash-lock when the sash c is raised to its highest position, for if this recess h^6 were not provided the sash-lock would force a hole through the upper member of the window-frame a in a very short time, and mounted on angular bridges h^7 on the outer side of the plate h^4 is the deflection-plate e^2 , which is held firmly in position by means of bolts h^8 , and the plate h^4 is perforated, as previously described and shown at e .

At the bottom of the window-frame and resting on the stone sill of said window is a sheet-metal casing i , extending entirely across the window and consisting of but one piece, arranged, as shown in Fig. 7, in steps i^2 , and the upper faces of which are sloped outwardly, as shown at i^3 , and the ends of the sheet-metal plate forming the casing i are secured beneath furring-strip i^4 , as shown at i^5 , and in practice I prefer to completely fill the casing i with concrete, cement, or other material which will prevent the indentation of the sheet-metal plate forming said casing, and it will be apparent that the top, bottom, and side members of the window-frame a are secured together by means of soldering or any other suitable manner in order to prevent rain or wind entering thereinto.

In the construction of a building when the position of a window has been reached by the workmen the stone sill, in the case of a brick building, is placed in position, after which the window-frame a is placed thereon and held in position by means of wood strips or other suitable means, after which the laying of the brick continues against the outer sides of the window-frame, and in this operation the bricks are arranged closely against the loop member f^4 of the side members of the window-frame a , and when the interior of the building is finished the mortar, plaster, or other material

forming the inside walls projects slightly over the window-frame a , as shown at a^2 , and this serves to hold the window-frame firmly in position, and in the top member of the window-frame a are rollers k and k^2 , over which the sash cords or chains are adapted to pass.

The sashes b and c are also composed of sheet metal, a section of the side members of which is shown in Fig. 4, and these side members of the sashes b and c consist of a single piece l of sheet metal, forming the profile of the sash and bent into a loop, as shown at l^2 , and the plate l is bent longitudinally of the window, as shown at l^3 , for a predetermined distance and then bent at right angles, as shown at l^4 , to the outer edge of the sash-windows, again bent at right angles opposite to that last formed and formed into a loop l^5 , and the member l^3 of the plate l is provided at intervals with an opening l^6 , through which pass clips l^7 , which serve to hold the glass in position with reference to the plate l , these clips being bent up in the position shown in Fig. 4 after the glass has been placed in position, and the ordinary cement, putty, or similar material is then placed on the outer side of the glass, as shown at l^8 . The top member of the sash b is also composed of one piece m , as shown in Fig. 7, which is bent to form the profile and top and outer sides of the top member and is provided with a loop m^2 , which engages or holds a downwardly-projecting member m^3 of the bottom side of the plate m . The bottom member of the sash a consists of two pieces of sheet metal m^4 and m^5 , and the member m^4 is formed into a loop on one end thereof, as shown at m^6 , is carried upwardly and inwardly to serve as a support for the glass, and is then continued to form the profile of the sash and is again bent downwardly and upwardly, said upwardly-projecting member being indicated at m^7 , which is inclosed and held by a loop m^8 of the plate m^5 , and this plate m^5 is provided with a downwardly-projecting member m^9 , which is firmly held by the loop m^6 , and the clips l^7 , previously described, are employed on all sides of the sashes b and c , as will be readily understood.

The lower sash c is provided with side members of a construction similar to devices employed in the sash b and as plainly shown in Fig. 4, and this construction is observed in forming the top member of the sash c , this top member consisting of a plate n , formed into a support for the glass and also forming the contour of the sash and provided with a loop n^2 at one end thereof and a loop n^3 at the other end thereof, said loops being crimped and serving to hold a horizontally-arranged plate of sheet metal n^4 , and the outer side of the top member of the sash c and the inner side of the bottom member of the sash b are preferably somewhat inclined, as plainly shown at n^5 , Fig. 7, this inclination being usually in all windows to prevent drafts.

The bottom member of the sash *c* is composed of two pieces *o* and *p*, and the plate *o* is formed into a loop *o*² on the bottom of the outer side of the sash *c* and continues upwardly and is bent inwardly and upwardly to form a support for the glass of said sash and is also bent to form the profile of said sash and is continued downwardly on the inner side of said sash and formed into a loop *o*³, and the loops *o*² and *o*³ serve to hold the ends of the plate *p*, which, as plainly shown in Fig. 7, is bent upwardly at an angle, as shown at *p*², in order to engage with the loop *o*³, thereby forming a recess *p*³, which operates to prevent rain from beating beneath the sash *c* and into the building, and the top, bottom, and side members of the sashes *b* and *c* are secured together by solder or in any other desired manner.

Adapted to operate in the runs *f*² and *f*³ and slightly smaller than said runs are weight-strips *r* and *s*, one strip *r* being employed on each side of the sash *c* and one of the strips *s* being employed on each side of the sash *b*, and these strips are composed of two pieces of metal *r*² and *r*³, the member or plate *r*³ of which passes across the opening of the runs *f*² and *f*³ and is firmly held by loops *r*⁴ and *r*⁵, formed in the ends of the plates *r*², and secured to the plates *r*³ and at intervals thereon are brackets *r*⁶, held in position by means of bolts or rivets *r*⁷, and also mounted in the casing formed by the plates *r*² and *r*³ are a plurality of curved spring members *s*², carrying spherical or otherwise-formed antifriction-rollers *s*³ on their outer ends, said antifriction-rollers being adapted to pass through openings *s*⁴ in the outer side of the weight-strips *r* and *s* and are adapted to bear against the inner sides of the runs *f*² and *f*³, thereby serving when in position for use as guides for said sash and said weight-strips, and connected with the weight-strips *r* and *s* and near the tops thereof are the usual sash cords or chains *s*⁵, which pass over the rollers *k* and are provided with sash-weights of any preferred form.

In Fig. 7 of the drawings I have indicated at *t* a shade-support of the usual shape, which is connected with the window-frame *a* by means of screws *t*², which pass into the sheet-metal plate forming the window-frame and into small blocks *t*³, soldered to the inner side of the sheet-metal plate forming the window-frame, and these blocks *t*³ may be employed in any position where it may be desired to secure supports, hooks, or other devices for shades, curtains, curtain-loops, or other articles which it may be desired to securely hold to the window-frame.

In practice a window-frame constructed according to my invention is placed in position without the sash being mounted therein, and when it is desired to mount the said sash I take two of the weight-strips *s*, connect the sash cord or chain *s*⁵ therewith, pass the chain

over the rollers *k* and down through the side members of the window-frame *a*, and draw down the chains or cords *s*⁵ to their lowermost position, having first removed the ventilating-plate *d*, which is detachably secured to the window-frame *a* for this purpose, and I then secure my sash-weights to the bottom part of the sash cords or chains, and in practice I prefer to use sash-weights of a sectional construction, whereby the exact weight necessary may be employed and which are easily attached to and detached from the said sash cords or chains. After the weights are in position, it being understood that the weight-strips *s* are at this time in the runs *f*³, I place the sash *b* at the bottom of the window-frame, but in the position of the runs *f*³, forcing the weight-strips *s* into the position indicated in dotted lines in Fig. 1, and gradually force the loops *l*² and *l*⁵ of the side members of the sash *b* into engagement with the loops *r*⁴ and *r*⁵ of the weight-strips *s*, and when this operation has been well started the weight-strips *s* can be easily and quickly forced into their position with reference to the sash *b*. The weight-strips are preferably slightly shorter than the sash with which they engage, and when they are driven home bolts *u* are passed through openings in the side members of the sash *b*, which have been provided for this purpose, said bolts also passing through corresponding openings in the angular members *r*⁶, secured to the weight-strips *s*, and when these bolts have been secured by means of nuts *u*² on both sides of the sash *b* it will be evident that the sash may be readily raised and lowered and may be disconnected from the weight-strips *s* at any time by removing the bolts *u* and sliding the weight-strips out of engagement with the sides of the sash, and the operation described with reference to the sash *b* is also true of the sash *c*, as will be readily understood.

By means of my improvement I provide a metal window the frame of which is composed of few parts, the sashes of which are likewise formed by metal plates of simple construction, and which are easily connected with and detached from said window-frame, said window-frame serving also as a means for ventilating the room in which it is placed, said ventilation being adapted to be regulated at will, and it will be apparent that various other changes in and modifications of the construction hereinafter shown and described may be made without departing from the spirit of my invention or sacrificing its advantages.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A window, the top, the bottom and side members of which are composed of sheet metal, perforated plates in the bottom of the inner sides of said side members, closure devices therefor, perforations in the outer side of said

top member, a curved deflection-plate mounted thereover, said side members serving as communications between said perforated plates in said side members and said perforations in said top member, substantially as shown and described.

2. In a window of the class described, a frame composed of sheet metal and the sash-runs of which are permanently formed, a weight-strip mounted in each of said runs, weights connected with each of said weight-strips, a sash connected with each pair of said weight-strips, means for detachably securing said sash to the corresponding weight-strips comprising a loop on the inner and outer edges of each side of each of said sash and a projection on the inner and outer edges of each of said weight-strips, said projections being adapted to enter said loops, brackets secured to said weight-strips and passing between said loops and bolts passing through said sash and said brackets, substantially as shown and described.

3. A window of the class described, comprising a sheet-metal frame and sash-runs formed therein, a weight-strip comprising a casing composed of two plates of sheet metal, a loop formed on each end of one of said sheet-metal plates the sides of the other of said sheet-metal plates passing into and being held by said loops, a plurality of brackets mounted on said last-named plate, a plurality of spring-operated antifriction-rollers mounted in said casing and adapted to bear against the side of the corresponding run, a sash cord or chain secured to the upper end of each of said weight-strips, rollers mounted in the top of said win-

dow-frame over which said cords and chains pass and means for connecting sash-weights with the lower ends of said sash-cords, substantially as shown and described.

4. A window of the class described, comprising a frame the top and two side members of which are each composed of two plates of sheet metal and the bottom member of which is composed of one plate of sheet metal forming a casing, said casing being filled with cement or similar material and a furring-strip secured in the opening for said window-frame, said bottom member being secured to said furring-strip, substantially as shown and described.

5. In a window of the class described, a frame comprising a top, a bottom and two side members, the top and two side members being composed of two plates of sheet metal and the bottom member being composed of one plate of sheet metal forming a casing, said casing being filled with cement, and a furring-strip secured in the opening of said window-frame, the bottom side portions of the frame being provided with ventilating devices which open inwardly and the top portion thereof with ventilating devices which open outwardly, said ventilating devices being in communication, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 18th day of May, 1903.

GEORGE KABURECK.

Witnesses:

F. A. STEWART,
C. E. MULREANY.