

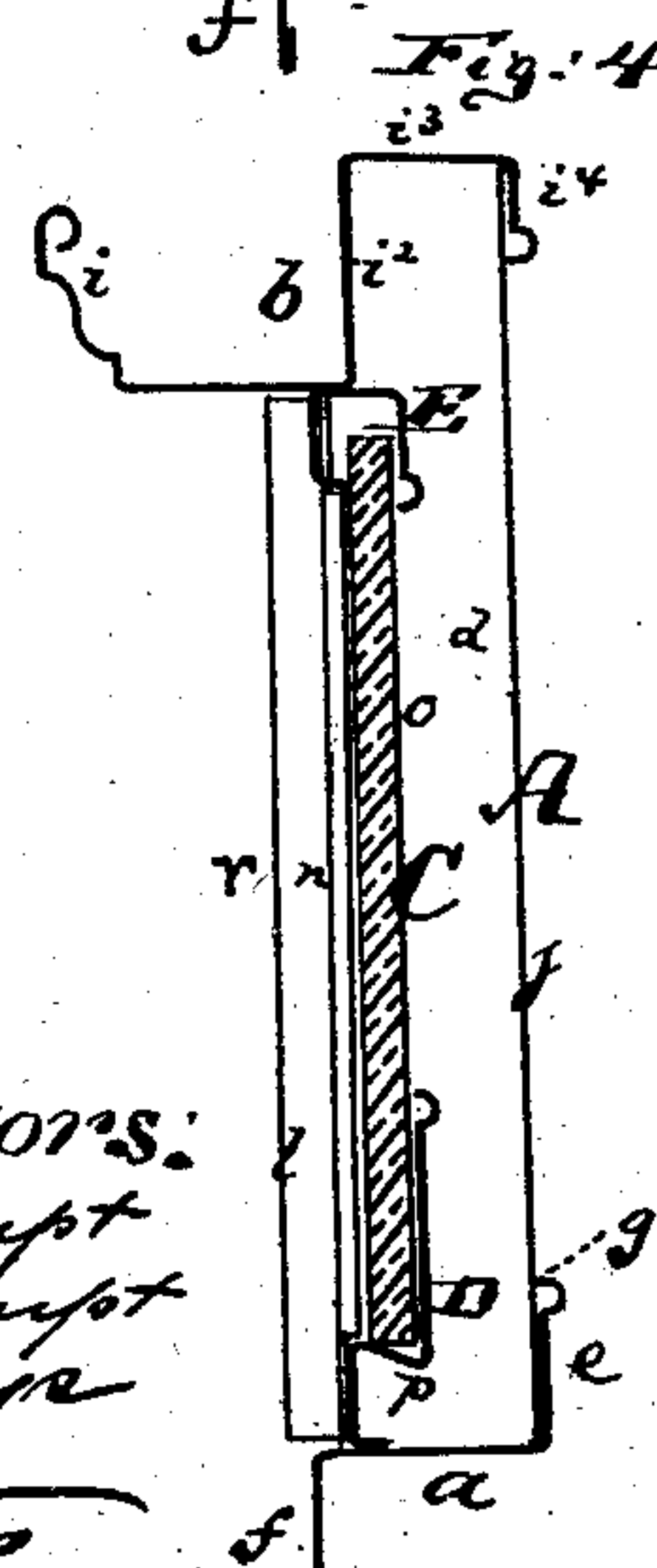
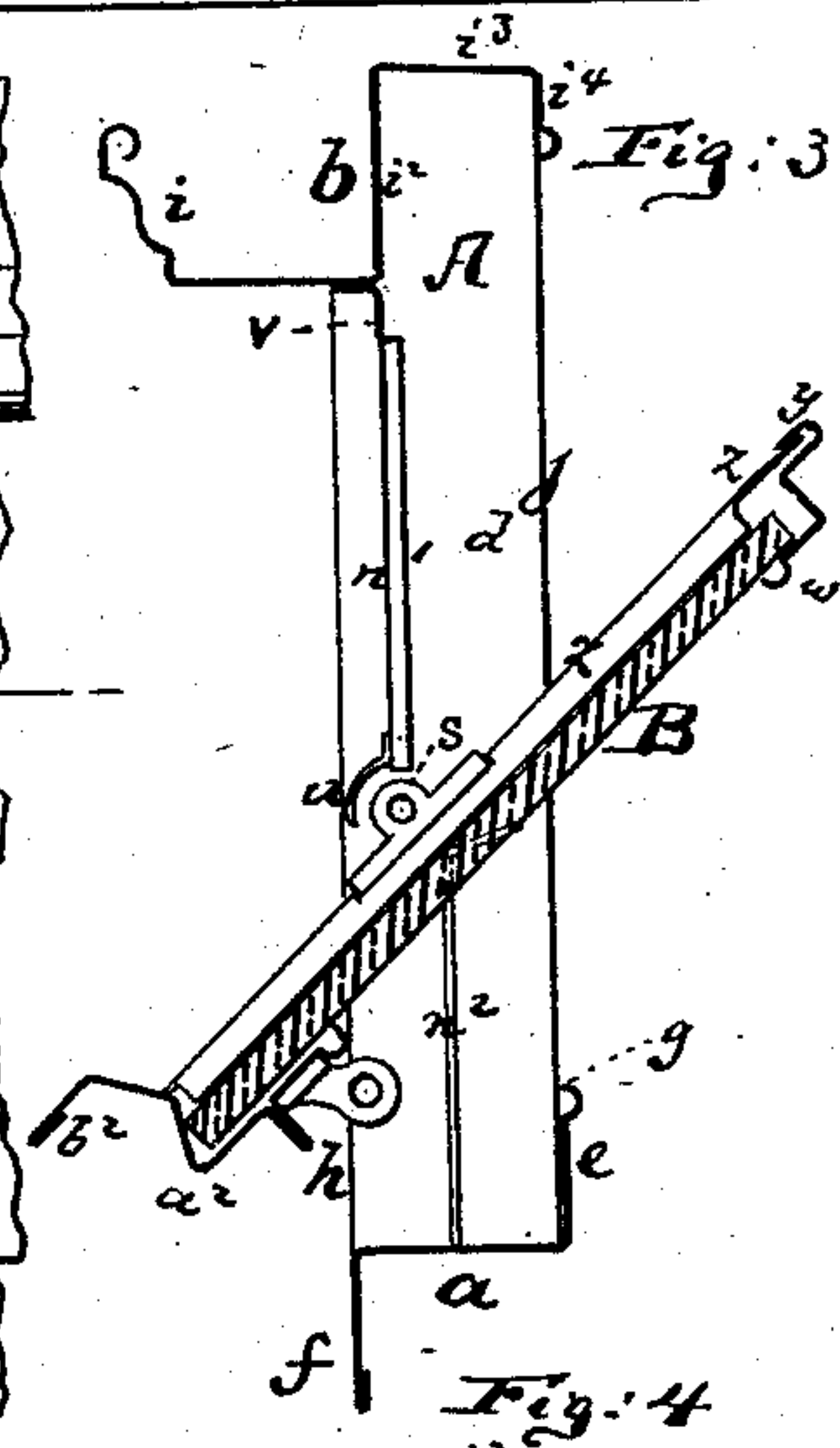
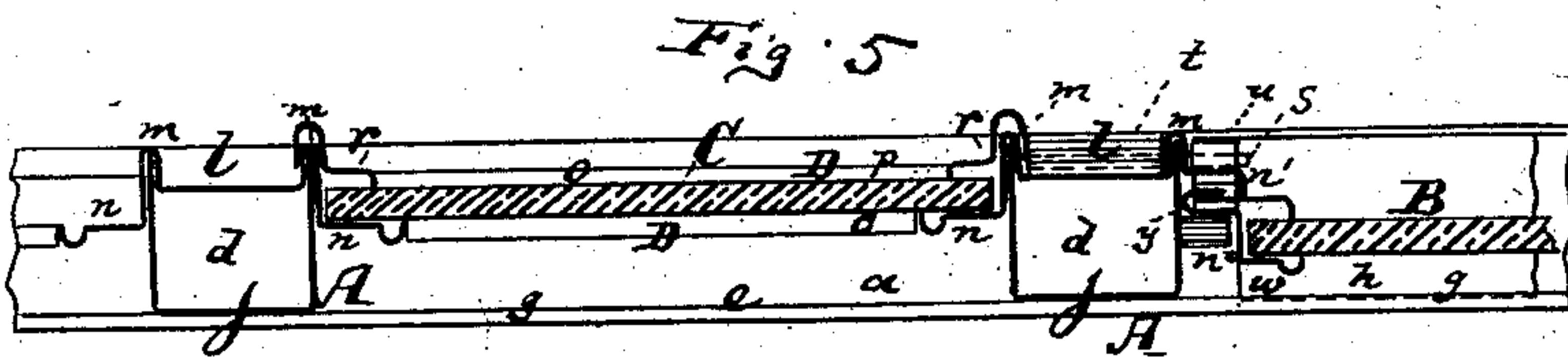
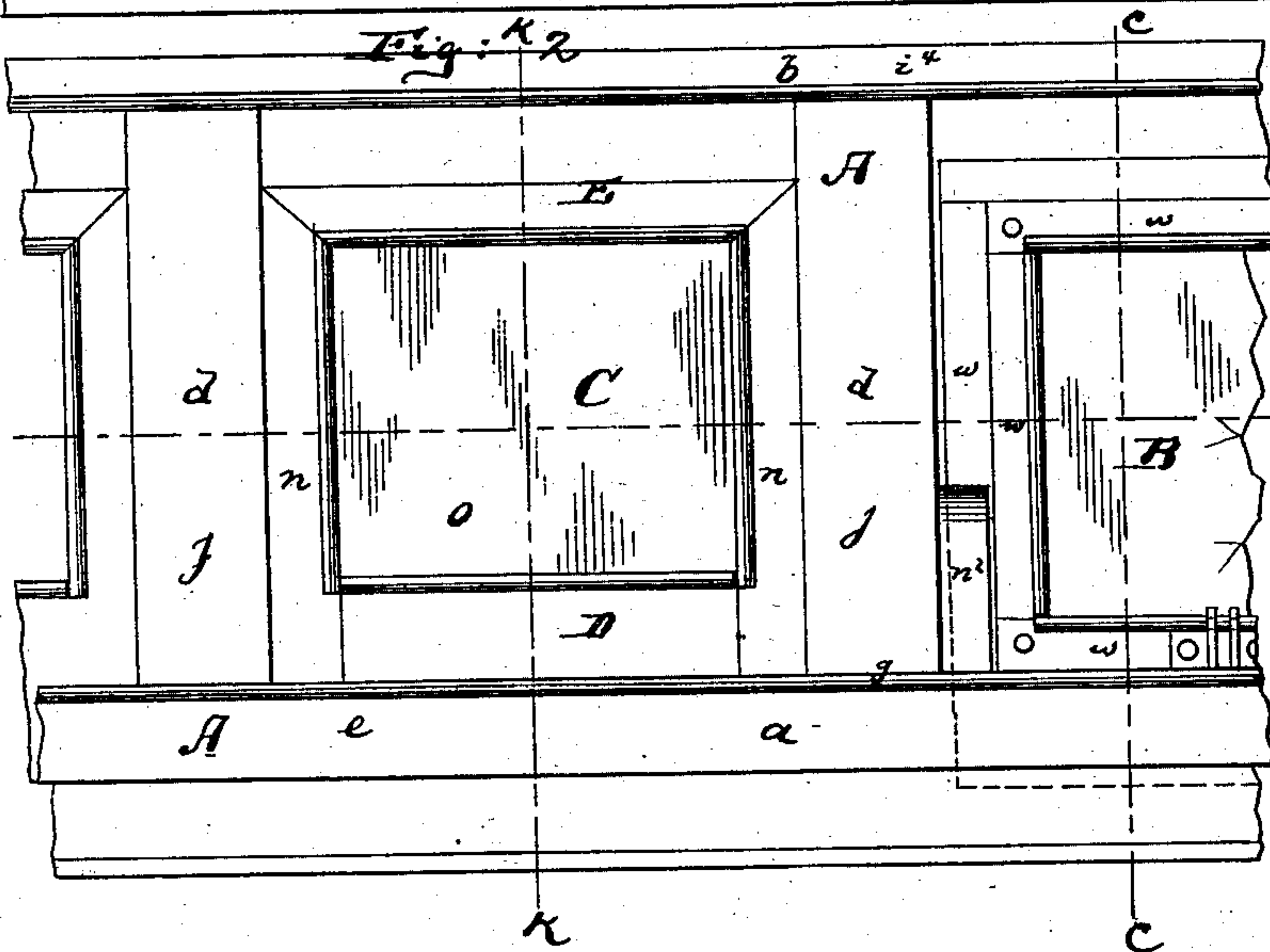
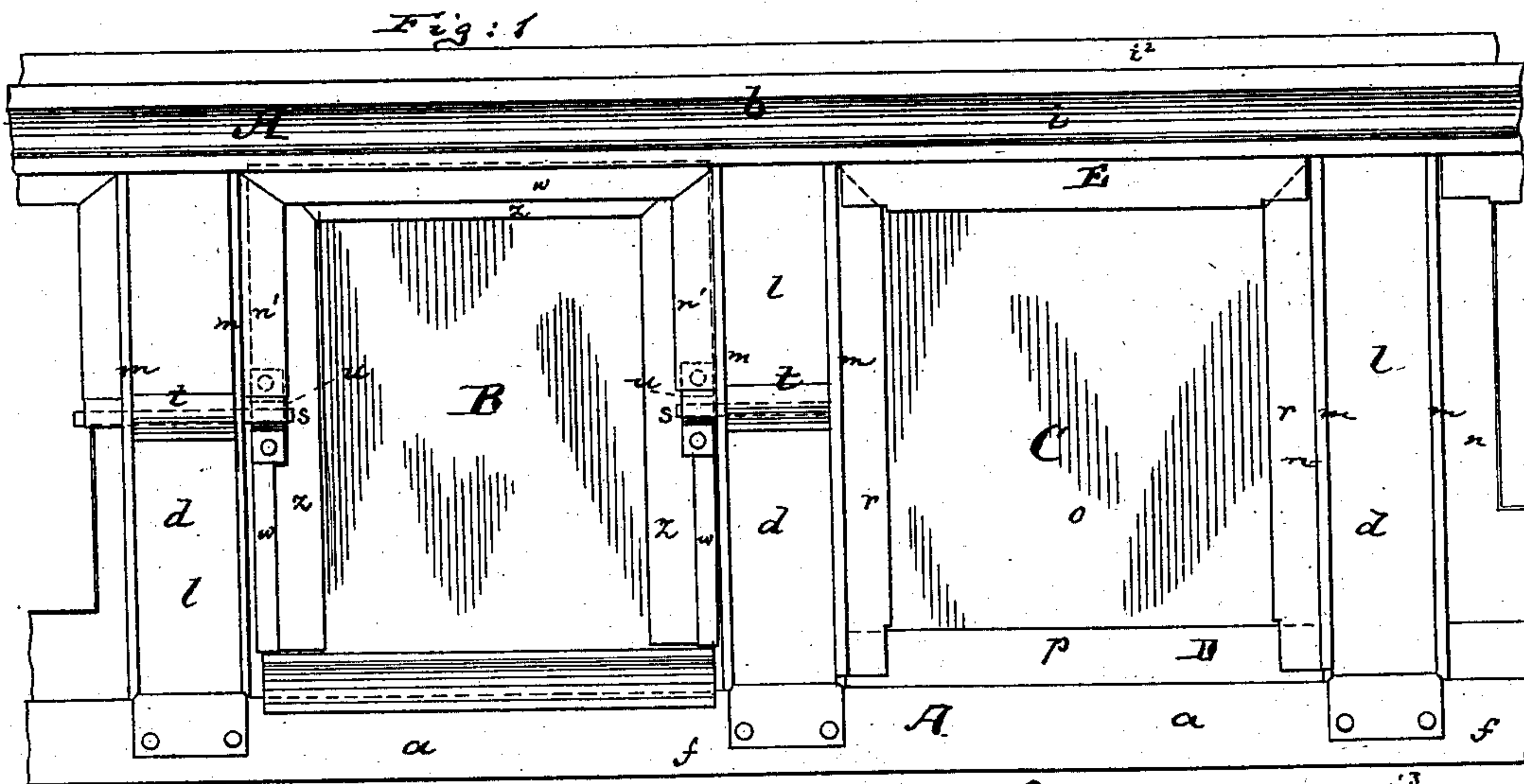
(No Model.)

A. & G. BICKELHOUP.

TURRET FOR SKYLIGHTS.

No. 258,978.

Patented June 6, 1882.



Witnesses:  
Henry F. Parker.  
Willy G. Schmittz.

Inventors:  
Adam Bickelhaupt  
George Bickelhaupt  
by their attorneys  
Briesen & Bode



# UNITED STATES PATENT OFFICE.

ADAM BICKELHOPT AND GEORGE BICKELHOPT, OF NEW YORK, N. Y.

## TURRET FOR SKYLIGHTS.

SPECIFICATION forming part of Letters Patent No. 258,978, dated June 6, 1882.

Application filed December 19, 1881. (No model.)

*To all whom it may concern:*

Be it known that we, ADAM BICKELHOPT and GEORGE BICKELHOPT, of New York, in the county and State of New York, have invented an Improved Turret for Skylights, of which the following is a specification.

Figure 1 is a front elevation of our improved turret for skylights, &c. Fig. 2 is an inner elevation of the same. Fig. 3 is a cross-section thereof on the line *c c*, Fig. 2. Fig. 4 is a cross-section thereof on the line *k k*, Fig. 2; and Fig. 5, a horizontal section thereof.

This invention relates to a new construction of metallic framing, and also of sashes for the upright portions or turrets of roof-ventilators, skylights, and analogous structures; and it consists in the new manner of constructing the stationary framing, so as to obtain strength in the posts, combined with lightness of material; also, in the new construction of sashes which enables their ready removal and dissection for the purpose of removing broken glasses, &c.; and, also, in the new arrangement of parts for conveniently hanging the sashes, all as hereinafter more fully described.

In the accompanying drawings we have shown the frame A of a skylight, and two sashes, B and C, of which sashes one is shown pivoted and the other stationary, and we desire it to be understood that the sashes may either all be pivoted or all stationary, although usually there will be some stationary and some pivoted sashes in each skylight or turret.

The framing A of the turret consists of a base, *a*, top *b*, and posts *d*. The base *a* is a piece of angle-iron, with an upwardly-projecting ledge, *e*, on the inner side, and with a downwardly-projecting ledge, *f*, on the outer side, as shown in Figs. 3 and 4. This construction of base has many advantages. It furnishes a protection to the outer face of the supporting rafter or wall by means of the pendent flange *f*. It likewise furnishes an abutment, *e*, against which the lower part of a swinging sash may fold, and its construction is also such that any water of condensation will flow outward over said base, and is not liable to enter the building. The upwardly-extending ledge *e* of the base should, at or near its upper part, have an outwardly-extending horizontal lip, *g*, forming a recess or rabbet,

under which an inwardly-extending rib, *h*, of the swinging sash B (see Fig. 3) can fold when the sash is closed, thus insuring a tight joint when such sash is to be held closed. The top *b* of the frame A has on its outer part an overhanging cornice, *i*, while its inner portion is first carried up at *i*<sup>2</sup>, then inward at *i*<sup>3</sup>, and then down at *i*<sup>4</sup>, all as clearly indicated in Figs. 3 and 4, its vertical parts entering into proper connection with the posts. Said top *b* is made by preference in one single piece of sheet metal, bent to the form indicated in Figs. 3 and 4. Each post *d* is made of two main portions, as clearly appears from the horizontal section, Fig. 5—namely, on the inner side of the structure the post is composed of a U-shaped upright plate of iron, (marked *j*,) while on the outer side the post is formed of the piece *l*. This piece *l* is bent outward to form two vertical grooved parts, *m*, into which the edges of the U-post *j* enter, so that at *m* the post proper, constructed of two parts, *j* and *l*, has three thicknesses. At the sides of the part *j* the wings of the inwardly-projecting parts *l* are carried sidewise, as shown at *n*, to form supports for the sashes B or C.

Where the sash is stationary, as shown at C, the glass *o* thereof is placed against the outer sides of the wings *n* and upon a supporting-shoulder, *p*, (see Fig. 4,) that is formed of a bent plate, D, that rests on the horizontal portion of the base *a*. The upper end of this glass C is inserted in a hollow receiver, E, that is first rigidly attached to the lower part of the top *b*, and embraces the top of said glass in front and at the back, as indicated in Fig. 4. The glass C, when to be fastened in place on the frame of the construction mentioned, has its upper end first inserted in the hollow receiver E, and is then rested with its lower end on the shell *p*, leaning at the same time against the wings *n*. It is finally secured in place by strips *r*, of sheet metal, that are doubled so as to straddle the double portions *m m* of the posts, and that are extended from where they are doubled so as to partly bear against the glass, as clearly shown in Fig. 5. These strips *r* are then, in their upper and lower ends, soldered fast to the parts D and E, leaving the glass C firmly secured in position; yet if the glass should break or require to be replaced



from any other cause it is only necessary to melt the small portions of solder that fasten the strips *r*, take off said strips, and thereby release the glass C and make room for a new glass.

The swinging sash B is hung on pins *s*, that are fitted through the three thicknesses of sheet metal that project outward at *m* from each post *d*, as already specified, and said pins are secured by being covered with solder between the outwardly-extending double portions *m* of the post. The lump of solder that secures each pin may by preference be covered and concealed by an outer cap, *t*, of sheet metal, placed over it between the outwardly-projecting flanges of the post. The two pins *s*, that are secured in two posts, *d*, for holding one sash B, enter appropriate bearings on opposite sides of said sash and allow the sash to swing on them. As these bearings must come near to the outwardly-projecting flanges *m* of the posts, they are, to an extent, in the way of the wings *n*. Hence we partly cut out said wings *n* to allow the vibration of the sash on said pins, and, moreover, for a vibrating sash we set the part *n'* of the wing *n*, which is above the pivot *s*, farther outward than that part, *n*<sup>2</sup>, of the same wing which is below the pivot *s*. This, as clearly indicated in Fig. 3, allows the sash to be swung up into a vertical position, and then to rest (above the pivot with its outer portion) against the upper part, *n'*, of said wings, and on the inner side (with its lower portion) against the lower part, *n*<sup>2</sup>, of said wings *n*. To prevent rain-water from interfering with the pivots of the sash we attach a small hood, *u*, to the lower part of the outwardly-set portion *n*<sup>2</sup> of the wing *n*, as shown in Fig. 3. Thus the vibrating sash B is securely hung in the posts, and when closed is held closed by suitable means. Its lower part, carrying the rib *h*, beneath the lip *g*, excludes the air from the interior of the structure, also by coming against the ledge *e* of the base and by bearing against the outer sides of the portions *n*<sup>2</sup> of the wings *n*. The upper part of the said swinging sash, when in the vertical position, excludes air by bearing against the portions *n'* of the wings *n*, and also by striking against a suspended ledge, *v*, that projects downward from the cap *b*, as shown in Fig. 3.

In order to get at the sash B, when it is desired to remove it, it is only necessary to melt the solder that holds the pins *s* to the posts, whereupon said pins can be slid out of their supports, thus leaving the sash B free to be removed. The sash B is constructed so that the glass can be easily taken out of it and replaced in it. To this end it is composed of a main frame of sheet metal, (marked *w*,) which frame is of rectangular form to receive the rectangular glass, and which, at its sides and top, is doubled, as shown at *y*, to form grooves, into which the edges of the fastening-strips *z* are inserted after the glass has been placed in position. The lower part of the frame *w* is

bent to form the rib *h*, hereinabove referred to, and also a shoulder, *a*<sup>2</sup>, on which the glass rests, and a downwardly-projecting ledge, *b*<sup>2</sup>, on the outer side, which ledge, when coming in contact with the part *f* of the base, will insure a tight joint. When the glass has been placed on the frame *w*, so as to rest on the shoulder *a*<sup>2</sup>, the side fastening-plates *z* are first inserted into the grooves of the frame *w*, which are provided for their reception, as indicated in Fig. 5, and thereupon the top fastening-plate *z* is inserted into its groove, as indicated in Fig. 3, so as to partly overlap the ends of the strips *w*, as indicated in Fig. 1. Then by applying a small quantity of solder at the ends of the upper strip *z* where it overlaps the vertical strip *z* the entire structure will be united and readily connected, and yet the glass can at all times be easily removed by merely melting the solder off said strip, and then withdrawing them from the main frame *w* of the sash.

We claim—

1. The base *a*, having upwardly-projecting ledge *e* on its inner side, and outwardly-extending lip *g* thereon, in combination with the swinging sash B, having a rib, *h*, on its inner side, which rib is adapted to enter beneath the lip *g*, substantially as described.
2. The post *d*, constructed of the U-piece *j* and of the outer portion, *l*, which is doubled at *m*, in line with the transverse walls of the U-piece *j*, to embrace the edges of the U-piece, substantially as described.
3. The posts *d*, made with outwardly-projecting doubled extensions *l*, and combined with doubled strips *r r* and with the lower supporting-piece, D, having shoulder *p*, and upper receiver, E, all arranged for receiving and securing the glass C in the frame A, substantially as specified.
4. The posts *d*, made with outwardly-projecting doubled extensions *l*, and combined with the lower supporting-piece, D, having shoulder *p*, and upper receiver, E, all arranged for receiving and securing the glass C in the frame A, substantially as specified.
5. The combination of the vibrating sash B with the base *a*, having ledge *e*, and with the top *b*, having cornice *i*, bends *i*<sup>2</sup> *i*<sup>3</sup> *i*<sup>4</sup>, and downwardly-projecting flange *v*, substantially as described.
6. The sash-frame *w*, constructed with lower shoulder, *a*<sup>2</sup>, suspended ledge *b*<sup>2</sup>, and rib *h*, substantially as specified.
7. The sash-frame *w*, having grooves at the sides and top, and combined with the locking-strips *z*, which are inserted in said grooves and hold the glass in place, together with said frame *w*, substantially as specified.

This specification of our invention signed by us this 14th day of December, 1881.

ADAM BICKELHOUP.

GEORGE BICKELHOUP.

Witnesses:

WILLIAM H. C. SMITH,

WILLY G. E. SCHULTZ.