

(No Model.)

2 Sheets—Sheet 1.

H. H. CRAIGIE.  
WINDOW.

No. 490,244.

Patented Jan. 17, 1893.

Fig. 1.

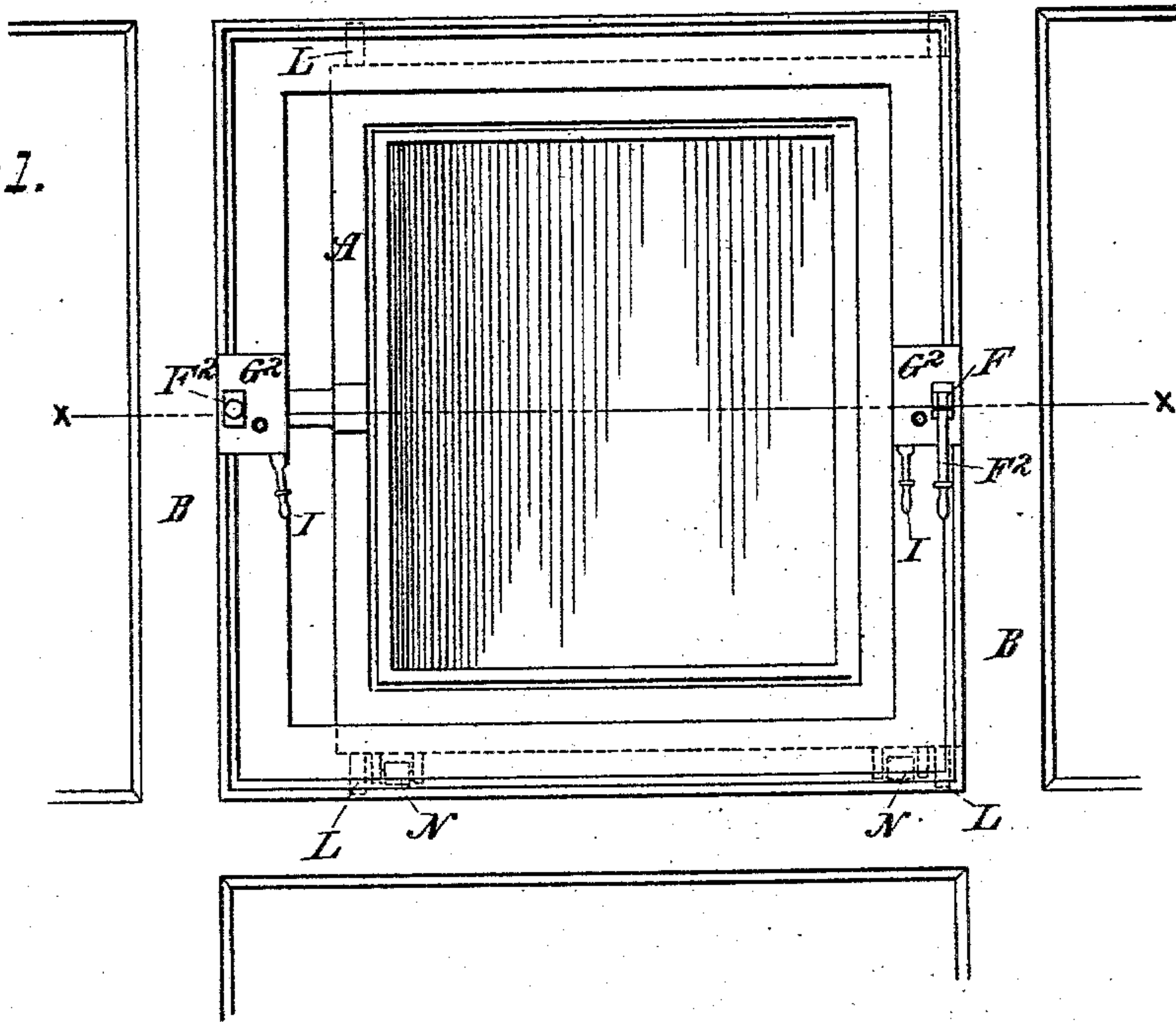


Fig. 2.

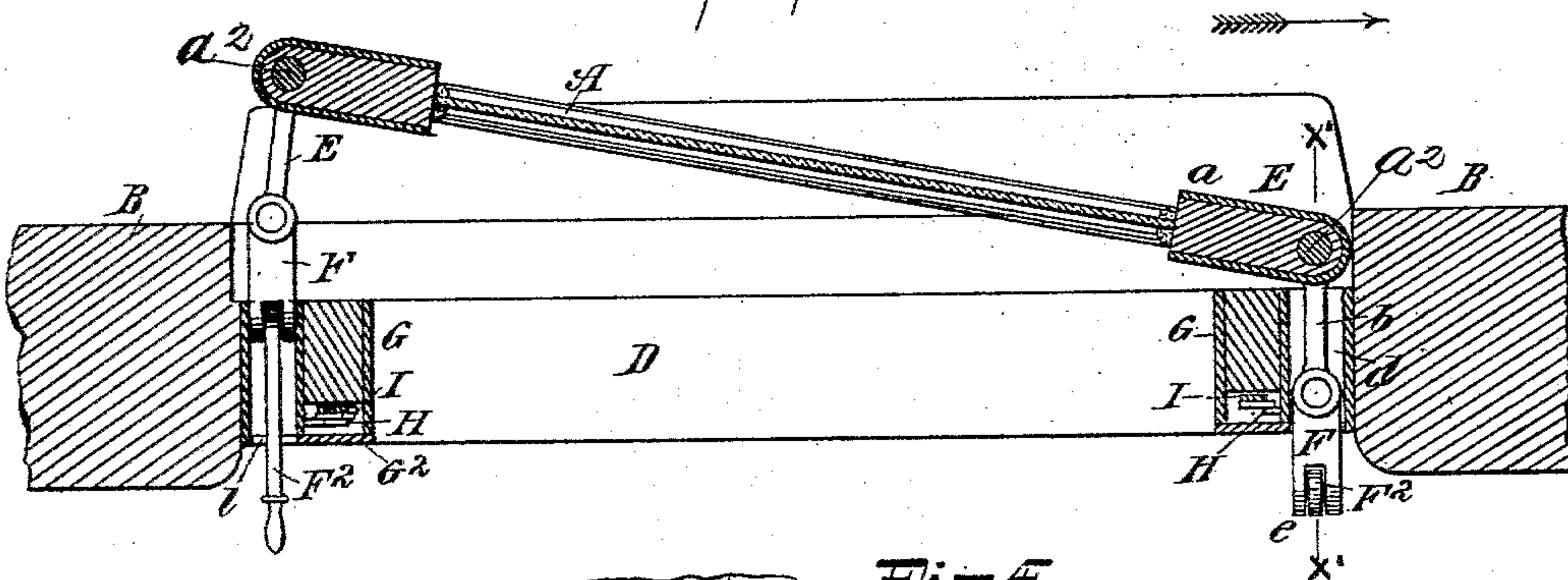


Fig. 3.

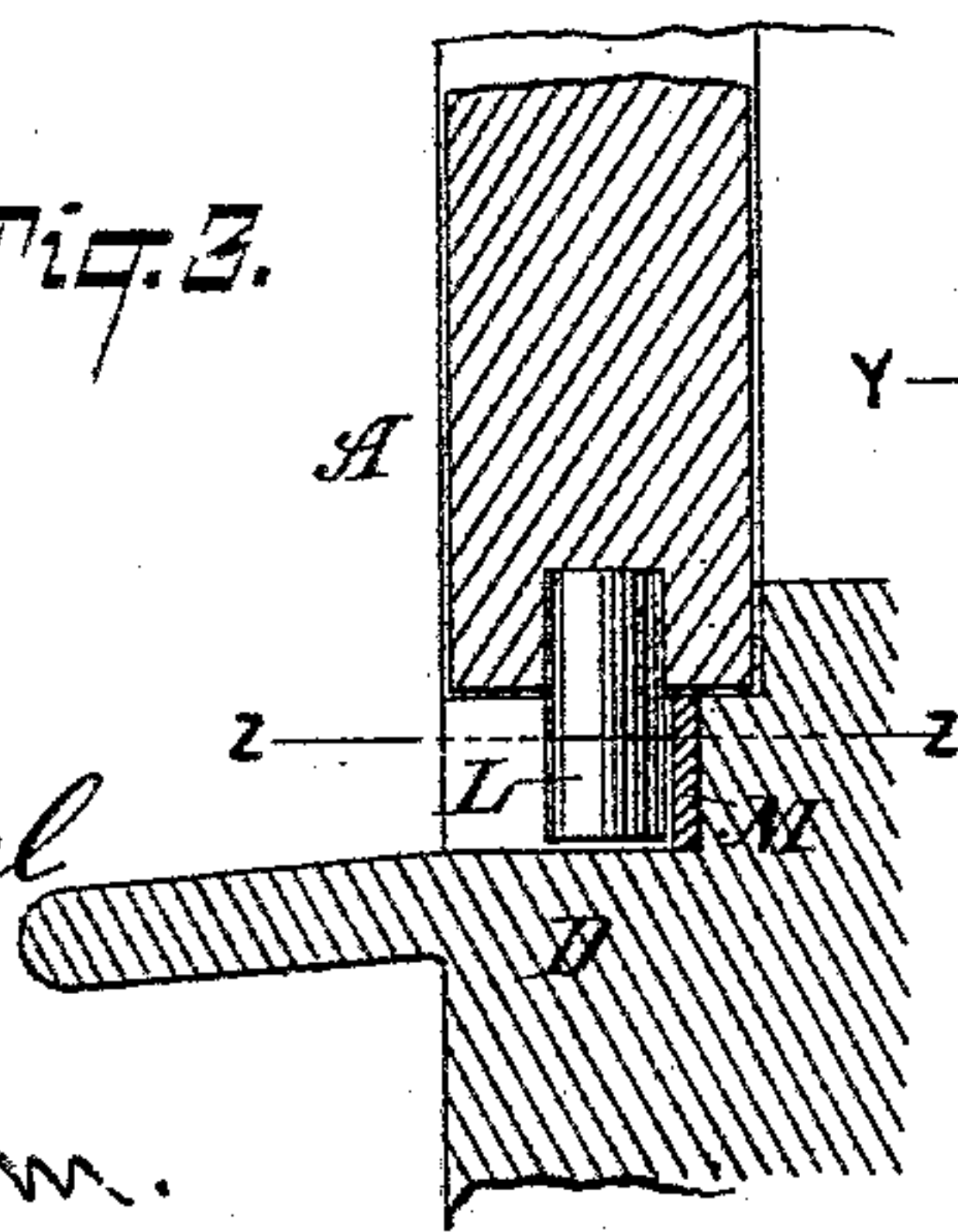
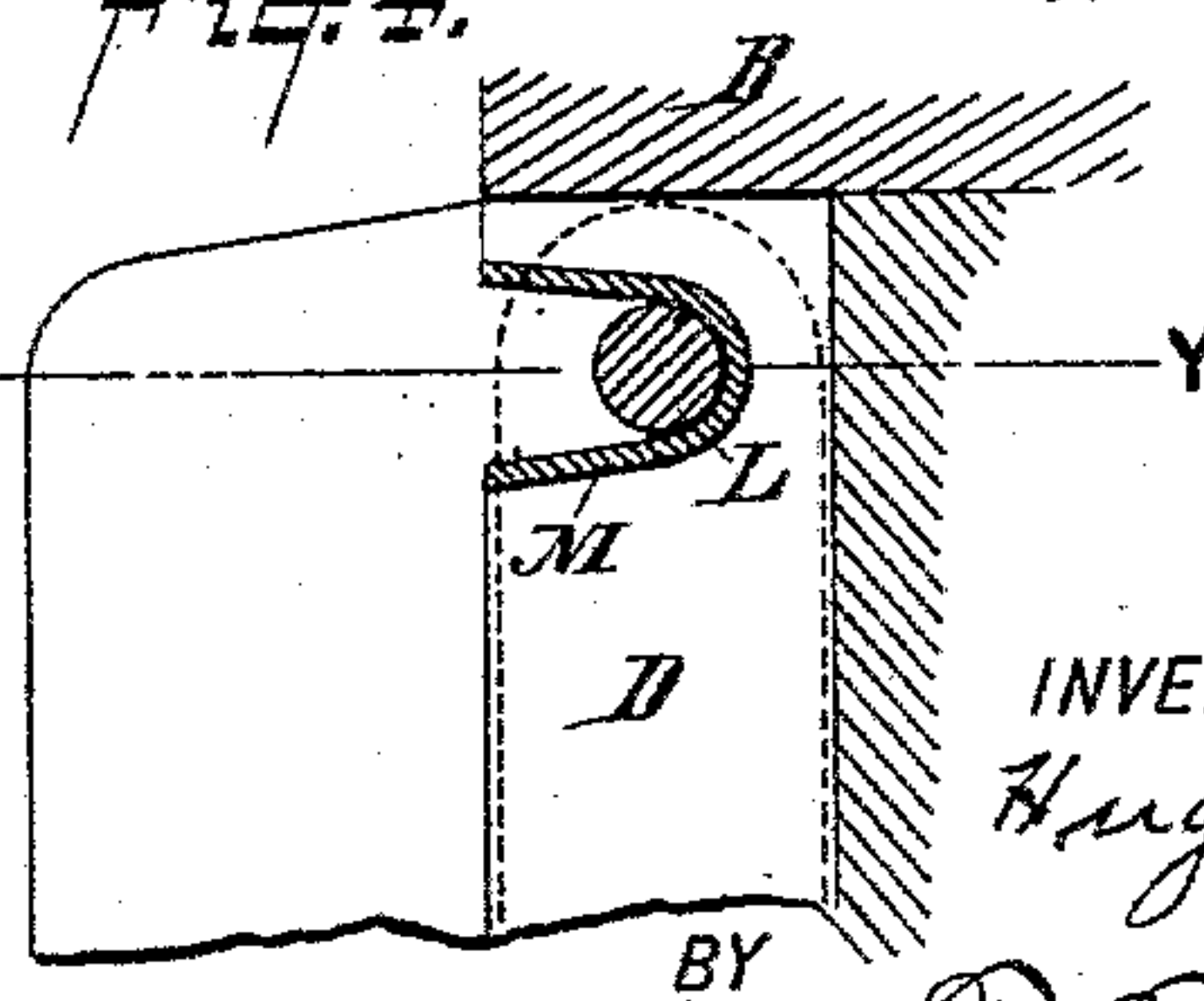


Fig. 4.



WITNESSES:

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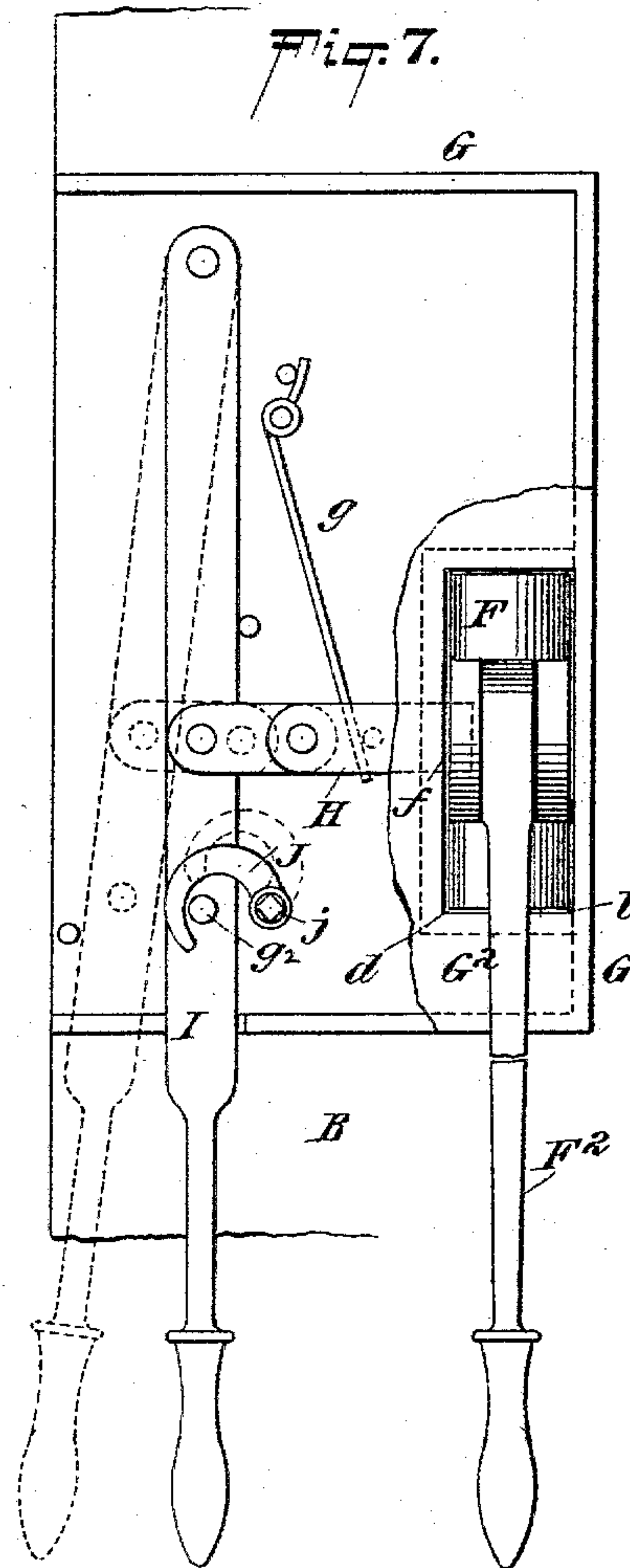
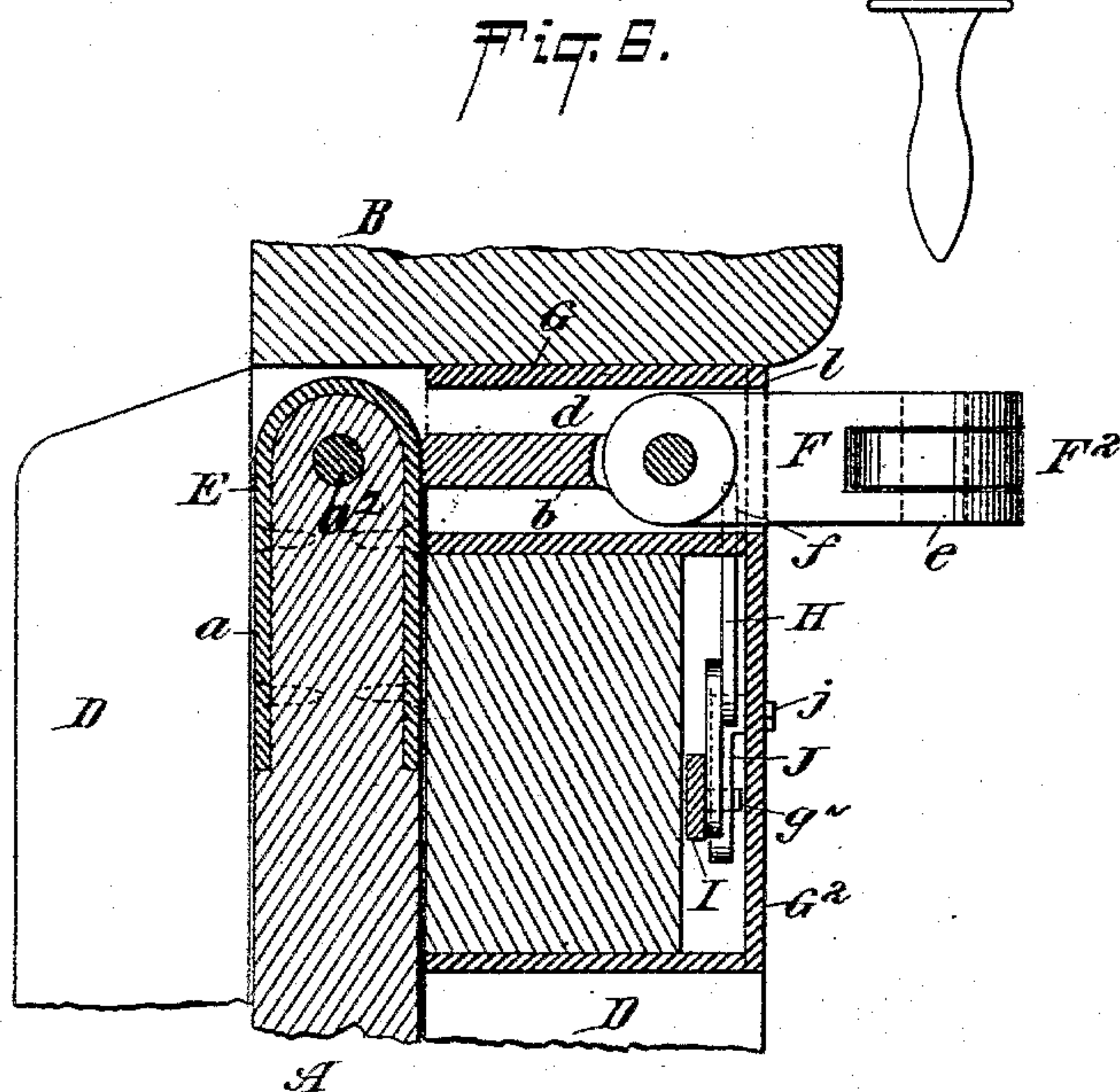
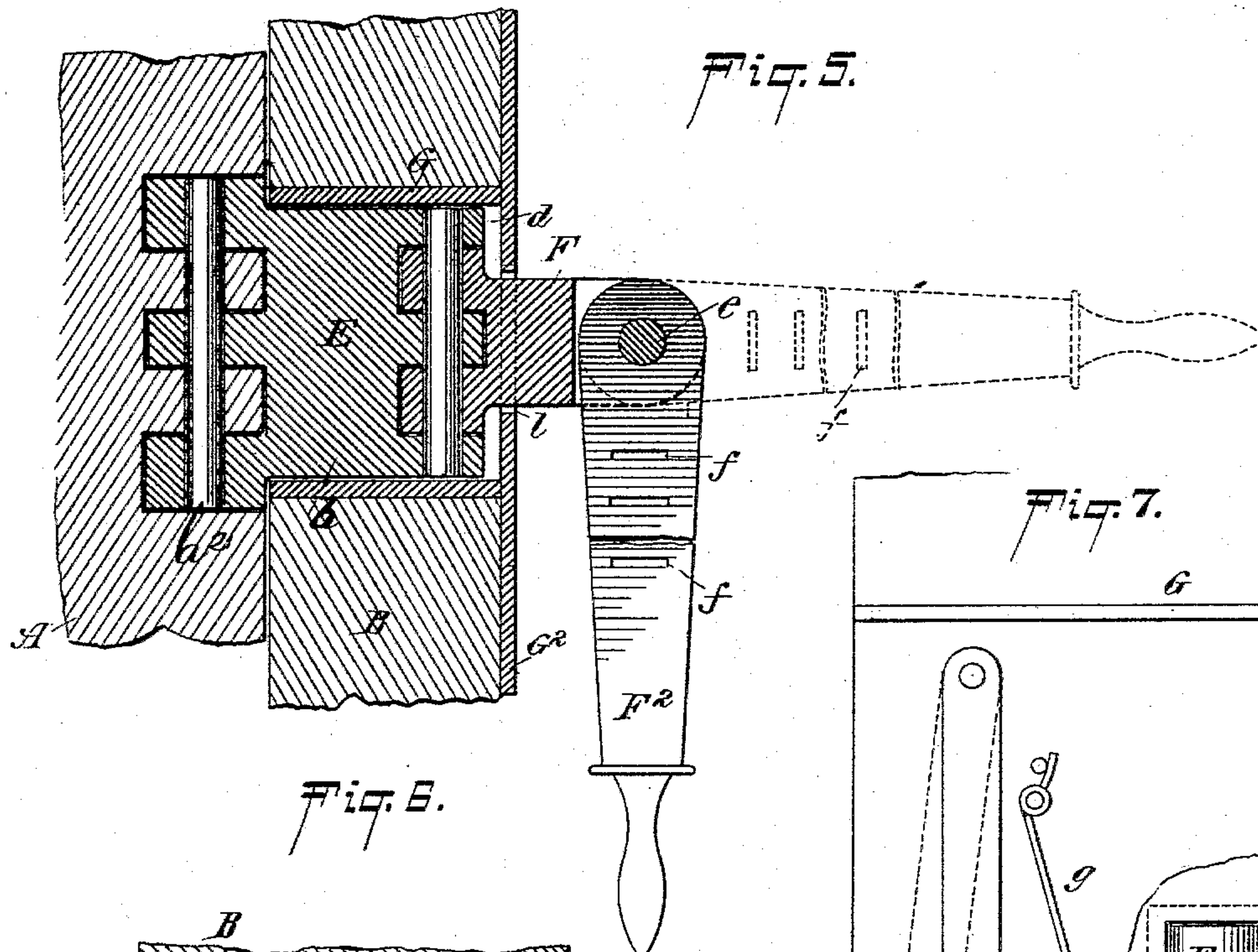
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2 Sheets—Sheet 2.

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WITNESSES:

*William Goebel.*

*J. S. Kilham.*

INVENTOR

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# UNITED STATES PATENT OFFICE.

HUGH H. CRAIGIE, OF STAMFORD, CONNECTICUT, ASSIGNOR TO J. AGNES  
CRAIGIE, OF SAME PLACE.

## WINDOW.

SPECIFICATION forming part of Letters Patent No. 490,244, dated January 17, 1893.

Application filed January 9, 1892. Serial No. 417,449. (No model.)

*To all whom it may concern:*

Be it known that I, HUGH H. CRAIGIE, a resident of Stamford, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Windows, of which the following is a specification.

My invention relates to window sashes that are adapted to be swung outwardly, but more particularly to a sash that is pivotally supported on either side in contradistinction to one that is pivoted in the middle.

The object of my invention is to pivotally support a window sash so that either side can be swung outwardly, the other side remaining close to the window frame and acting as the pivotal point of the sash.

The invention consists in the novel details of improvement and the combination of parts that will be more fully hereinafter set forth and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming part hereof, wherein,

Figure 1, is a front elevation of a window sash embodying my invention; Fig. 2, is a horizontal section on the line  $x, x$ , Fig. 1; Fig. 3, is a vertical cross sectional detail view, on the plane of the line  $y, y$ , Fig. 4, showing the lower rail of the window sash and the window sill; Fig. 4, is a horizontal section on the plane of the line  $z, z$ , Fig. 3; Fig. 5, is an enlarged vertical cross section on the plane of the line  $x', x'$ , Fig. 2; Fig. 6 is a horizontal section through the window frame, showing the sash and its hinge in section, and Fig. 7 is a partly broken face view showing the casing in which the parts are supported, and the means for holding the edge of the sash in position.

My improvements are designed more particularly for use on railway cars or other conveyances, where a circulation of air is desired without an inrush of dust, cinders, &c. And for this purpose, the sides of the window sashes are provided with hinges, either one of which can be held against the window frame or jamb while the other is pushed outward to permit the sash to swing on the hinge that is held.

Referring more particularly to the accompanying drawings, the letter A, indicates a suitable window sash.

B is the frame-work or jamb of the window and D is the window sill, all of which parts may be constructed as desired to best suit the requirements.

On opposite sides of the sash A, are placed suitable hinges E, preferably similar to an ordinary door hinge for the purpose of giving steadiness to the sash when it is swung outward,  $a^2$  being the pintles of said hinges, one wing  $a$  of which is secured to the window sash, the other wing  $b$  being adapted to pass into or through an aperture  $d$  in the frame B, (see Figs. 2 and 6).

To the wing  $b$  of the hinge E, is pivotally connected an arm F, adapted to slide through the aperture  $d$  in the window frame B. Although this arm F, could extend straight through the frame B, in position to be operated by hand, I prefer to joint it, as at  $e$ , close to the inner wall of the car or the like, so that its end  $F^2$  can hang down, and not be in the way, as shown.

I prefer to provide a metallic casing G, for each side of the window, which casing is set into the frame B as shown. The wing  $b$  and arm F,  $F^2$ , are adapted to slide in said casing and the parts for holding the sash open and shut are also carried by said casing when it is used.

The arm F,  $F^2$  is to be locked in any desired position and for this purpose it is provided with a series of recesses or apertures  $f$ , in which a sliding bolt H, is adapted to fit, as shown. The bolt H, is pivotally carried by a depending lever I, preferably pivoted on the casing G, its lower end or handle extending below the casing in position to be operated by hand. (See Figs. 1 and 7). A suitable spring  $g$ , keeps the bolts H, in position normally to hold the arm F,  $F^2$ .

To permit but one side of the sash A to be swung outward at once, I provide a lock for the bolt H, or lever I, one simple form of lock consisting of a pivoted hook J, that is carried by the casing G, (when the latter is used,) said hook being adapted to engage a pin  $g^2$ , on the lever I (see Fig. 7). The pivot of the hook J, has a squared or other shaped end  $j$ , adapted to receive a suitable key to turn the hook. On the face of the casing G, is a cover or plate  $G^2$ , that covers and protects the parts,



said cover or plate having an aperture  $l$  through which the arm  $F$ ,  $F^2$  can pass.

On the upper and lower sides of the sash  $A$ , at the corners, in line with the pivots of the hinge  $E$ , are pins or projections  $L$ , the lower of which pins are adapted to rest on the sill  $D$ , (see Figs. 1 and 3.) These pins normally rest in sockets  $M$ , on the sill  $D$ , that are open on their outer sides (see Fig. 4), and are preferably inclined from their outer sides inward, as shown, so that as the pins  $L$  enter the sockets  $M$ , they will be firmly held therein. The pins or projections  $L$  are placed in line with the pintles of the hinges  $E$ . On the lower sides of the sash  $A$ , are rollers  $N$ , that are adapted to ride on the sill  $D$  to guide the sash.

My improvements operate as follows: Suppose the car is traveling in the direction of the arrow in Fig. 2, and it is desired to open the window sash  $A$  as indicated. The bolt  $H$  on the right of the sash is locked, and the other bolt unlocked. The arm  $F^2$ , on the left is now lifted and pushed out, which swings the left hand side of the sash  $A$  outward, as shown, the right hand side of the sash now turning on the hinge  $E$ , and pins  $L$ , as pivots. As the arm  $F$  on the right side is held it keeps the pins  $L$  in their sockets  $M$ , whereby all movement (except rotary) of that side of the sash is prevented. To close the window the arm  $F$ , is drawn in which moves the outer side of the sash inward when it can be locked by the bolt  $H$ . If the car is moving in the direction opposite to the arrow in Fig. 2, the side of the sash on the left can be held and the side of the same on the right pushed out, in manner as stated. From the foregoing it will be seen that whichever side of the sash is pushed out, the other side will be pivotally, yet firmly, held against the window frame, as the corresponding arm  $F$ , being locked prevents outward movement of that side of the sash.

My improvements will be found very useful, especially on railways that burn soft coal, as the sash will preclude the entrance of cinders, &c., while a free entrance of air is permitted. Of course the particular mechanism shown can be altered to suit requirements without departing from the spirit of my invention.

Having now described my invention, what I claim is:

1. A window sash having hinges on opposite edges, either one of said hinges being arranged to be pushed outward while the other is held to form a pivot for the side of the sash, said hinges forming the means by which the sash is pivotally carried, combined with an arm pivoted to each of said hinges and located in the jamb or frame of the window and acting to support the outer edge of the sash when it is pushed out, and a joint in said arm to permit its inner end to drop down, substantially as described.

2. A window sash having hinges on the opposite vertical edges, said hinges being adapt-

ed to be pushed outward, combined with an arm pivoted to each of said hinges and a joint as  $e$ , in each of said arms to permit its inner end to hang down with the frame of the window, and with means to hold either hinge while the other is pushed out, substantially as described.

3. A window sash having pivotal connections on opposite sides and adapted to be moved sidewise, and means to hold either of said pivotal connections to permit one side of the sash to swing sidewise combined with stationary rigid projections on the sash and sockets having one side open to receive said projections to be supported by the window sill and in vertical alignment with the pivotal connections for the sash, substantially as described.

4. A window sash having pivotal connections on opposite sides to permit either side of the sash to be swung sidewise, and means to hold either of said pivotal connections, combined with projections on the lower side of the sash, and sockets having one side open and carried on the window sill to receive said projections, substantially as described.

5. The combination of a window sash adapted to be swung sidewise, with hinges on the vertical side edges of said sash, arms as  $F$ , pivoted to said hinges, and arranged to slide longitudinally through the window frame to push said hinges outward and to support the outer edge of said sash when pushed out, and means for locking said hinges and arms in either position, substantially as described.

6. A window sash adapted to be moved sidewise, combined with hinges on opposite sides, said hinges being movable with the sash, and with projections on the top and bottom of the sash in line with the pintles of the hinges, and with sockets on the window frame, said sockets having openings on one side to receive the projections, substantially as described.

7. The combination of a window sash adapted to be moved sidewise, hinges on opposite sides thereof, sliding arms  $F$ , connected with said hinges, joints as  $e$ , in said arms to permit their inner parts to drop down, casings on the window frame to receive said hinges and arms, and means to hold said arms in either position, substantially as described.

8. The combination of a window sash, hinges on opposite sides, arms connected to said hinges, joints as  $e$ , in said arms, bolts to hold said arms, levers for actuating said bolts, and springs for holding said bolts in the normal positions, substantially as described.

9. The combination of a window sash, hinges on opposite sides thereof, arms connected with said hinges, bolts for holding said arms, levers to actuate said bolts and hooks  $J$ , to hold said levers, substantially as described.

10. The combination of a window sash, hinges on opposite sides thereof, arms connected with said hinges, a casing  $G$  through which said arms pass, apertures  $l$  in said casings, bolts



carried by said casings, levers for actuating said bolts, springs to move said bolts, means to hold said levers, and plates or covers G<sup>2</sup>, on casing to cover said parts, substantially as described.

11. In a window sash, a flat door hinge of sufficient width to maintain the window sash firmly in its vertical position when pushed out, and to hold the side of the sash against the jamb when the window is closed, the hinge being in about the center of the vertical side of the sash, combined with a handle connected with said hinge and arranged to slide out-

ward in a straight line across the jamb to push the sash outward and assist in supporting the outer edge of the same when it is pushed out, and to retain the sash in either position, substantially as described.

Signed at Stamford, in the county of Fairfield and State of Connecticut, this 5th day of January, A. D. 1892.

HUGH H. CRAIGIE.

Witnesses:

SAMUEL YOUNG,  
JULIUS B. CURTIS.