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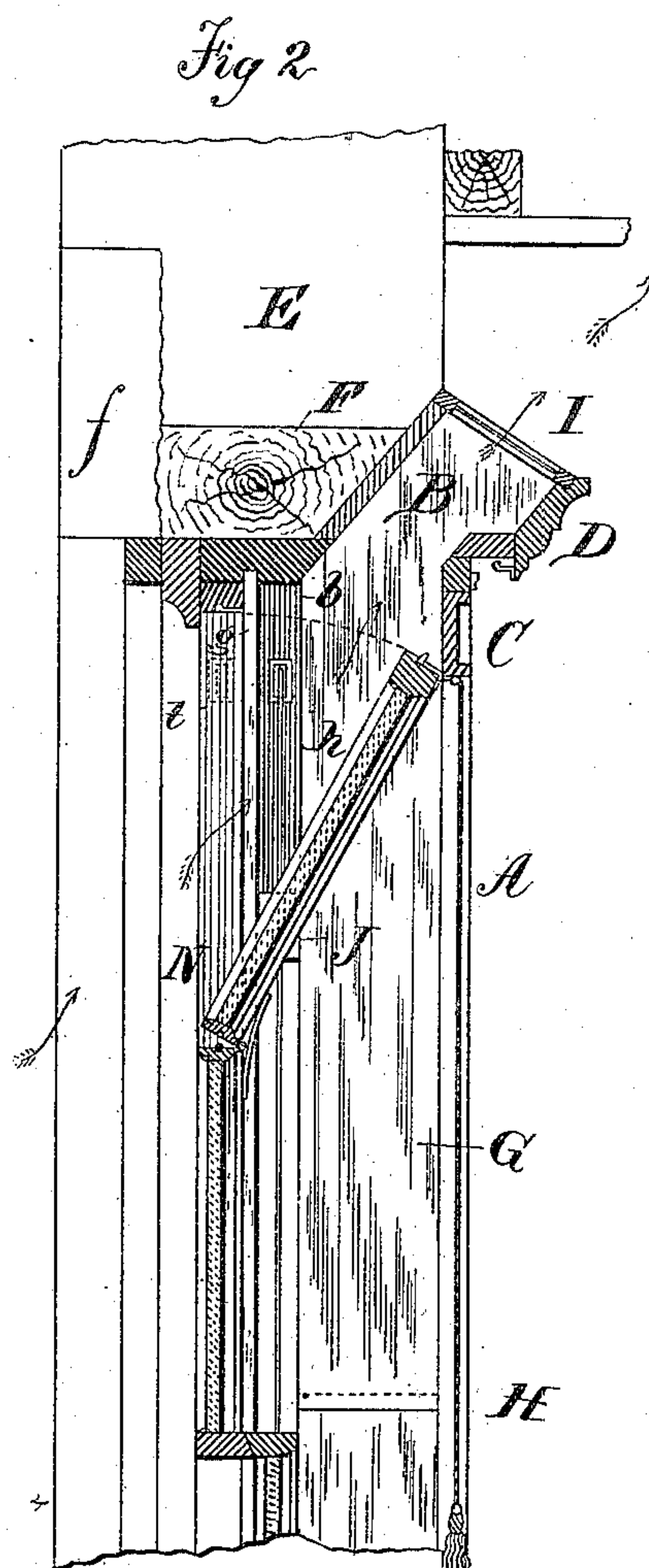
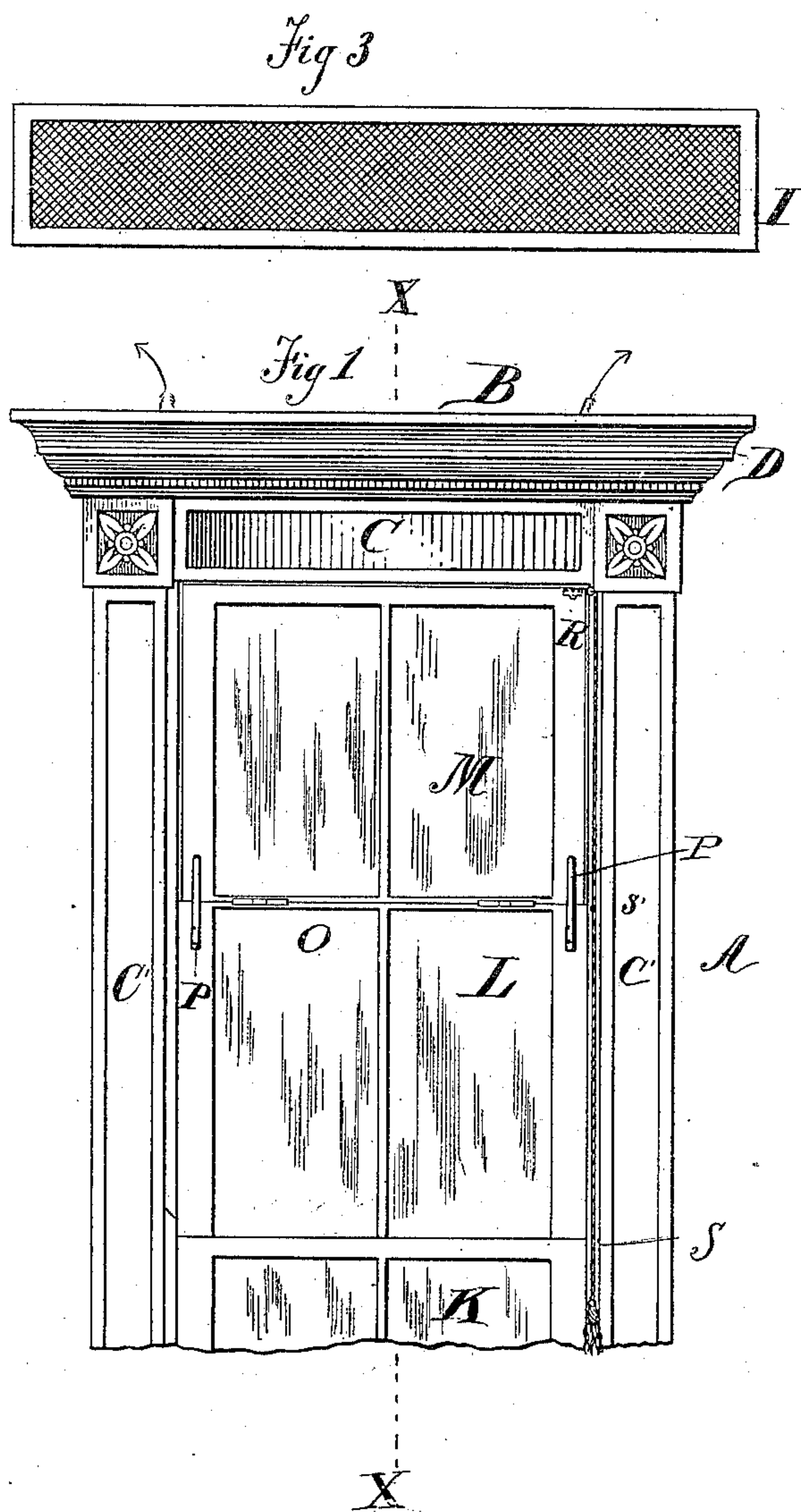
3 Sheets—Sheet 1.

J. W. NAUGHTON.

WINDOW.

No. 312,005.

Patented Feb. 10, 1885.



WITNESSES:

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W. A. French.

INVENTOR

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James. H. Naughton

BY

Geo. H. Benjamin
ATTORNEY

(No Model.)

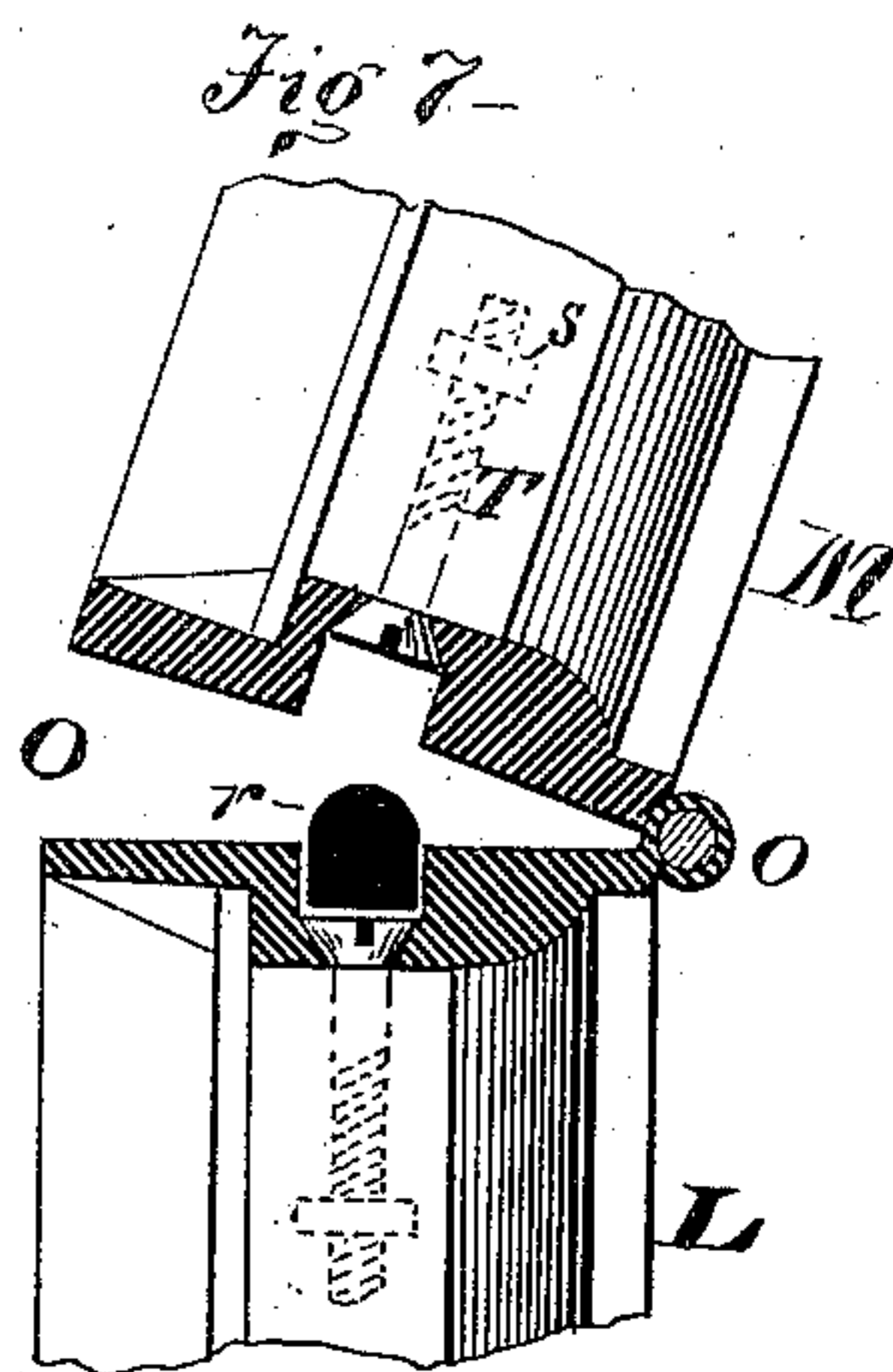
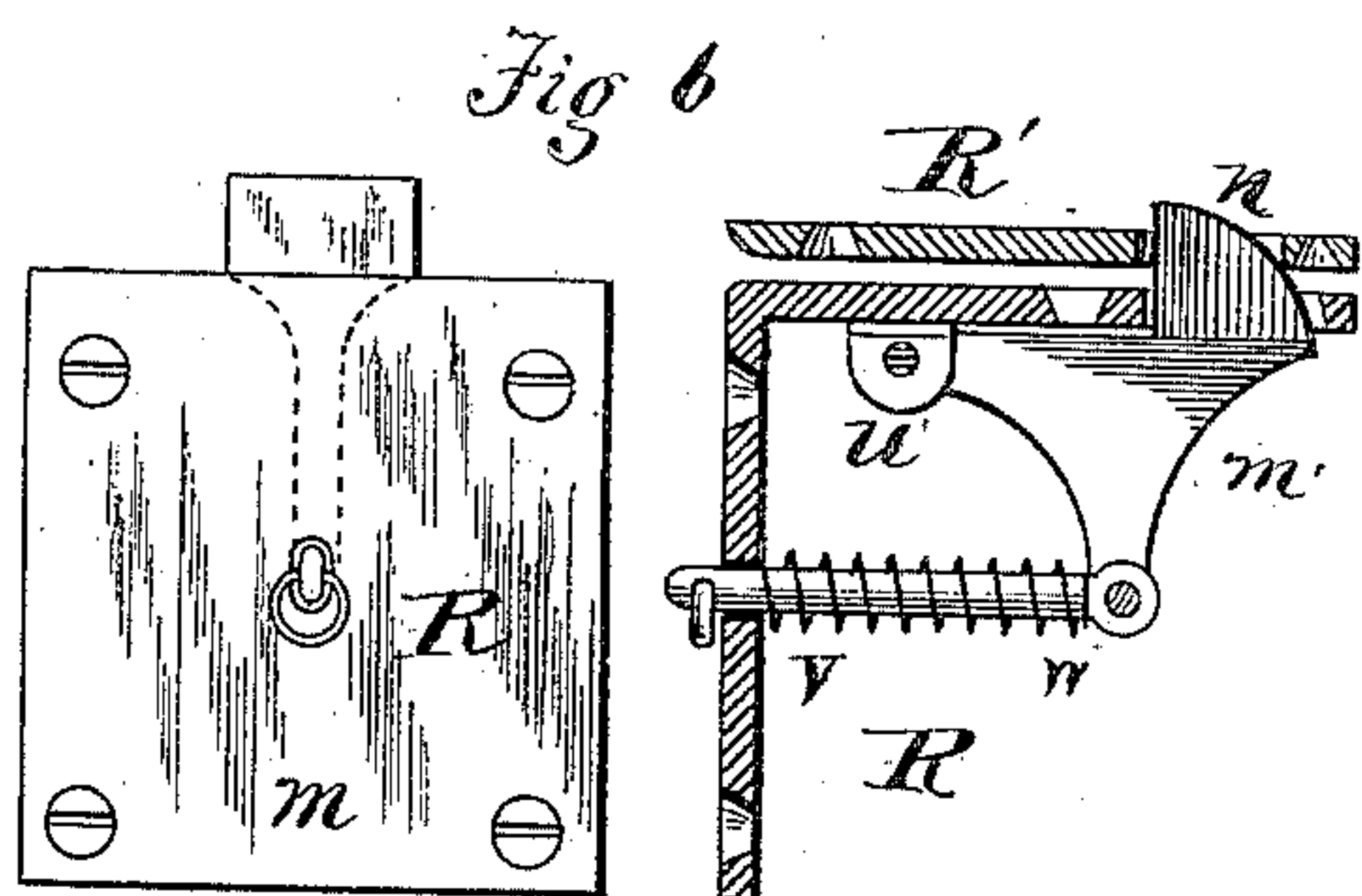
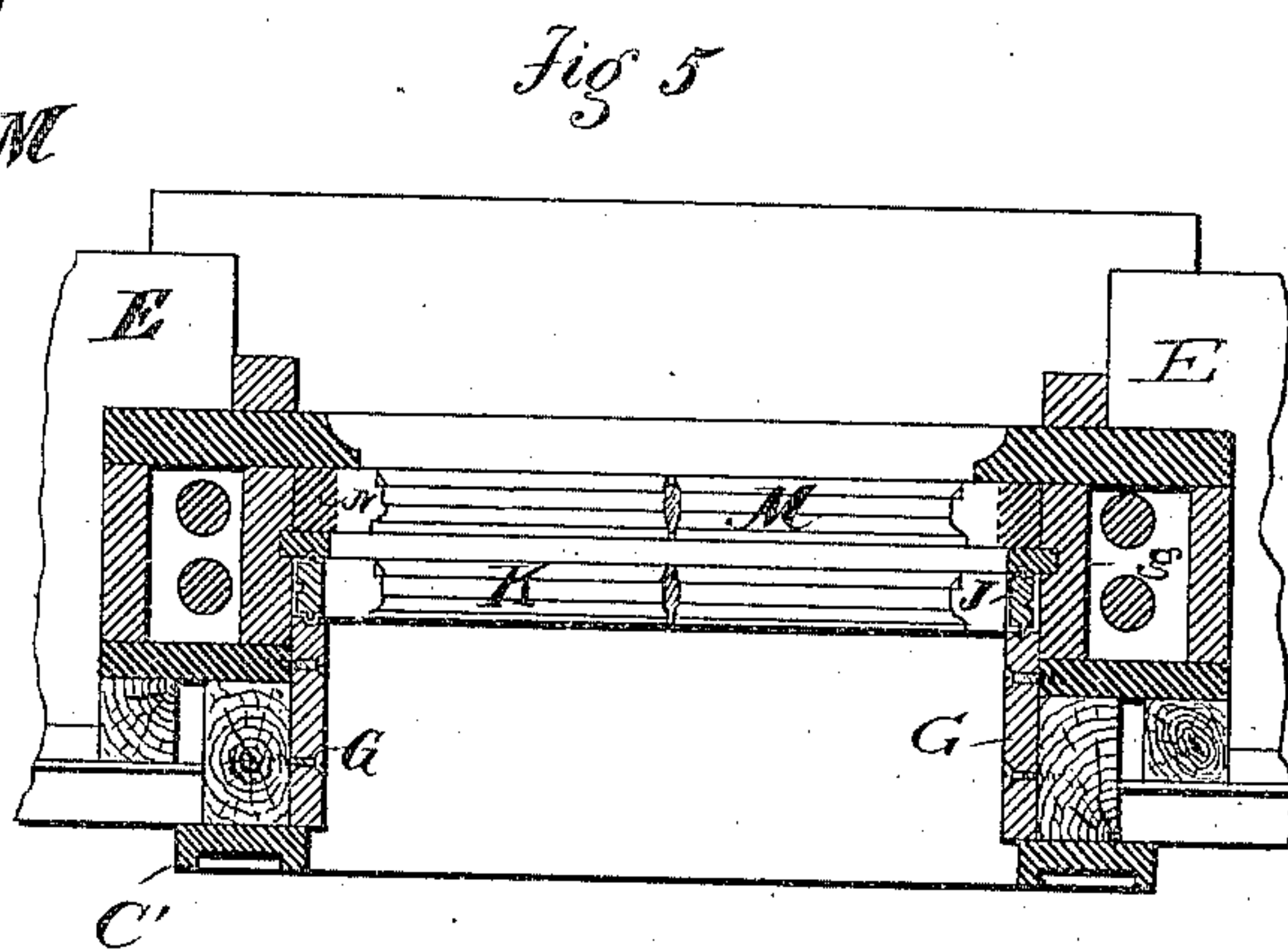
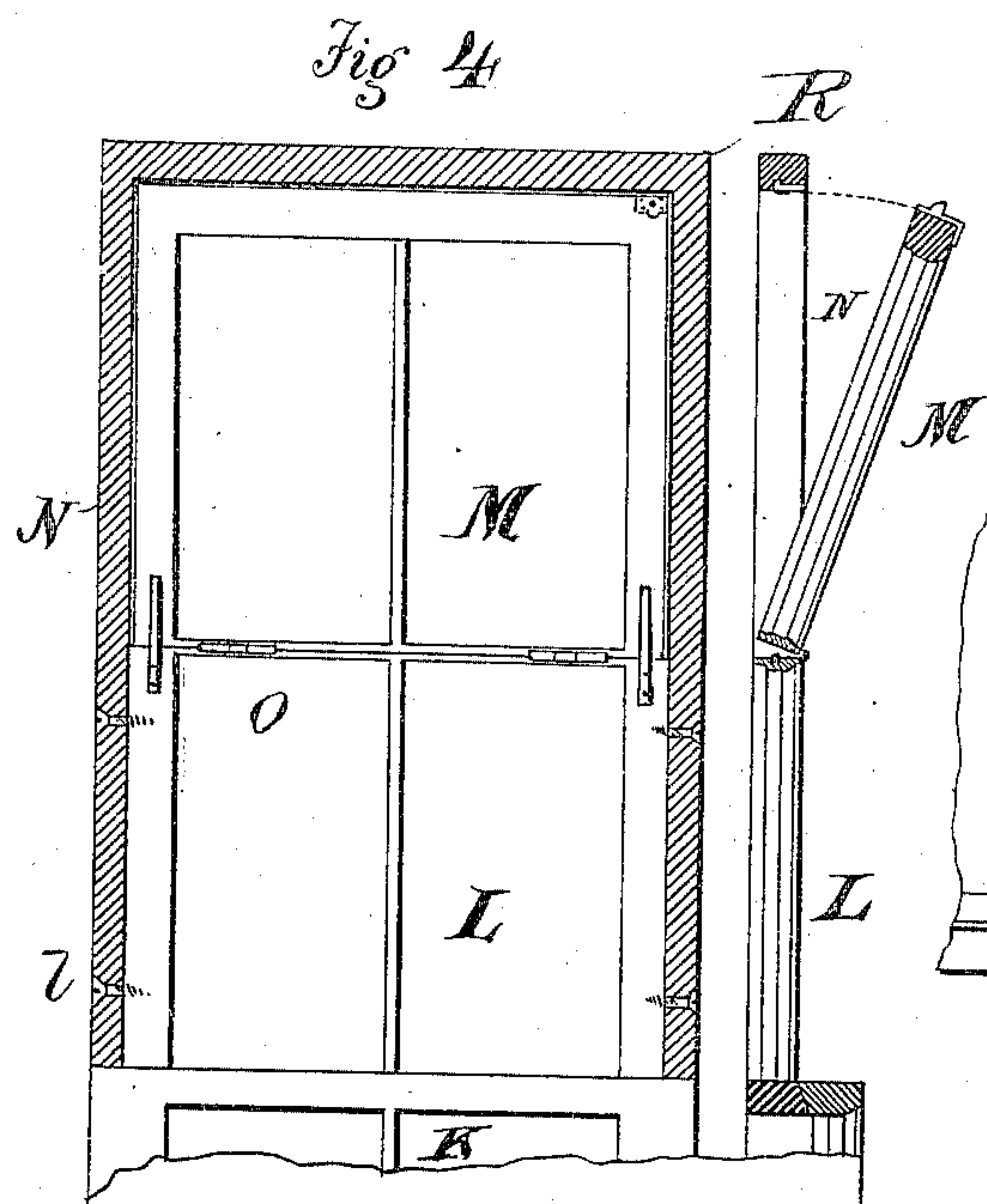
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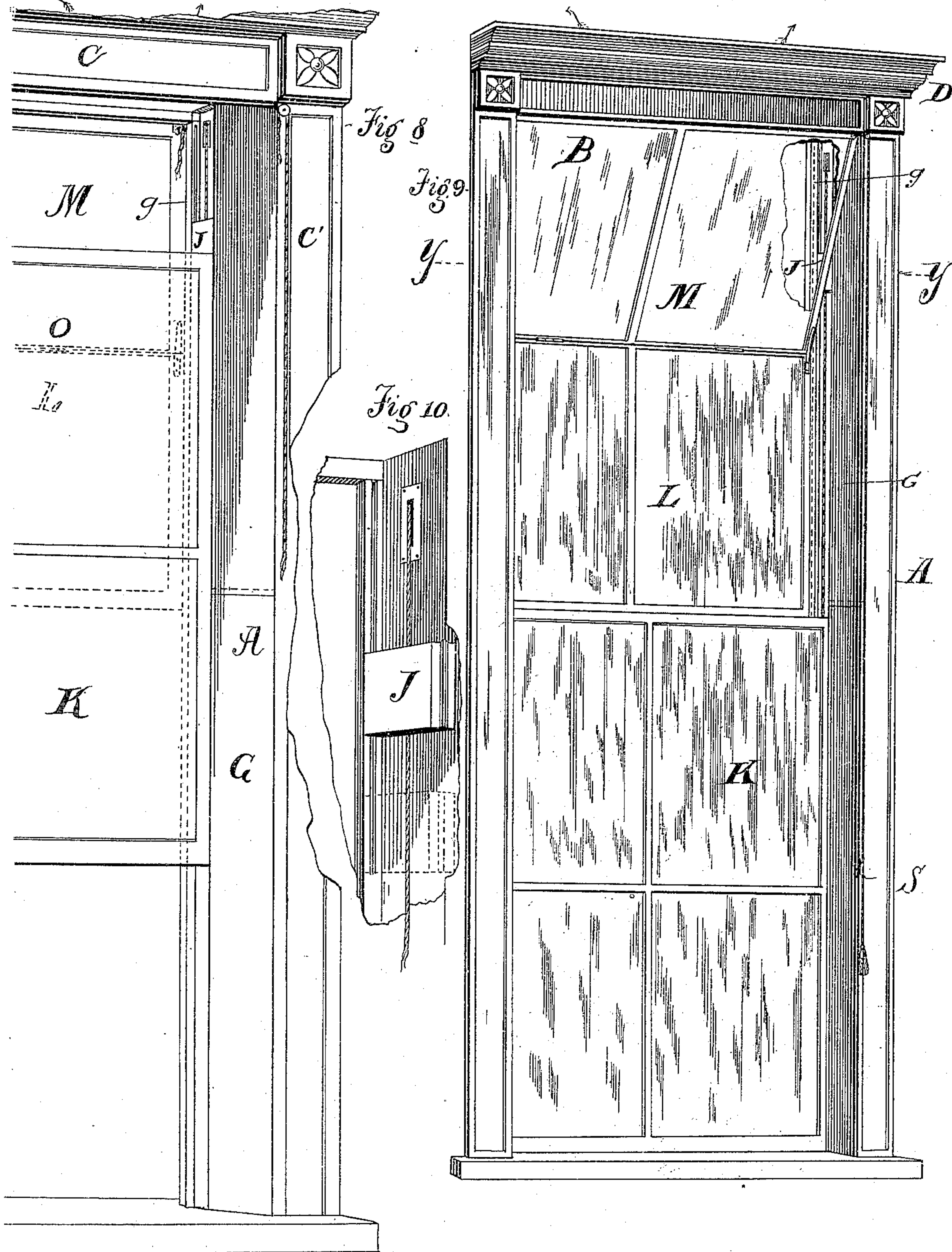
3 Sheets—Sheet 3.

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UNITED STATES PATENT OFFICE.

JAMES W. NAUGHTON, OF BROOKLYN, NEW YORK.

WINDOW.

SPECIFICATION forming part of Letters Patent No. 312,005, dated February 10, 1885.

Application filed May 13, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. NAUGHTON, a citizen of the United States, residing at the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Ventilating Apparatus, of which the following is a specification.

My invention relates to a new and improved construction of window frame and sash, which has for its object to efficiently ventilate apartments, and at the same time, while offering no obstruction to light, to prevent the ingress of drafts of air, dust, and insects, and by preserving the ordinary appearance and action of a window-sash to produce a device whose operation is easily understood, and which, by its simplicity of construction, is not liable to get out of order.

My invention consists, primarily, of arranging the upper sash of a window within a skeleton frame, and in such a manner that the whole of the sash or its upper part shall act as a transom, and adapted to be angularly adjustable in relation to the skeleton frame, said skeleton frame being so arranged as to be vertically adjustable within the window-frame in the same manner as an ordinary window-sash.

The second portion of my invention relates to the window-frame within which the sash and transom, as described, are moved and capable of adjustment. The window-frame is constructed substantially like an ordinary frame, with the exception that in the top of the frame I provide an air-passage located between a cornice arranged over the inside trim of the frame and the inner face of the frame or wall of the building, so arranged that incoming currents of cold air are directed toward the ceiling of the apartment, thereby preventing cold drafts passing across the upper portion of the room. I construct the jambs of the frame so that they act in the manner of ordinary stop-beads, and the object of which is that the jambs shall be flush with the sides of the transom when the same is opened for the purposes of ventilation.

My invention also relates to various details of construction of the different parts of the window frame and sash, all as hereinafter fully described.

In the accompanying drawings, which illus-

trate my invention, similar letters of reference indicate like parts.

Figure 1 is an inside elevation of the window frame and sash complete. Fig. 2 is a vertical section taken through the line *x x* of Fig. 1. Fig. 3 is a plan view of a wire screen or netting, such as is used over the air-passage in the window-frame. Fig. 4 is an elevation of the sash, showing the skeleton frame in section and the method of fastening the lower half of the sash thereto. It also represents a vertical longitudinal section, showing the transom partially open within the skeleton frame. Fig. 5 represents a section with the transom closed. Fig. 6 is a transverse section through the hinge bar and joint, showing the details of construction. Fig. 7 is an elevation and transverse section of the fastening-latch. Fig. 8 is an elevation in perspective, showing the lower sash raised and the follower pushed up in the running groove. Fig. 9 is also an elevation in perspective with a part of the window-light broken away, and showing the follower at its lowest point in the running groove. Fig. 10 is a view in perspective, showing the follower and details of the parts surrounding it.

In the drawings, A represents my window-frame as a whole, constructed substantially like an ordinary window-frame in most of its parts.

The features of my frame wherein it differs from others heretofore constructed consists, first, in providing an air-passage, B, through the upper part of the frame, and to do this without altering the ordinary appearance of the frame I arrange across the upper part of the frame a trimming-piece, C, flush with the trimming-pieces C' C', forming the outside trim of the frame. Above the trimming-piece C is a molding or cornice, D. By this arrangement an air-passage is provided through the top of the frame, which is preferably inclined in such a direction that the currents of air passing between the inner face of the frame *b* and the inside of the cornice D and trimming-piece C will have their course directed upward, so as to impinge upon the ceiling of the room, and thereby avoid and prevent drafts or currents of air from passing across the room.

E represents the wall of the building, and

F and f the lintels, to which the various upper parts of the frame are attached.

G represents the jambs of the window-frame, which are so arranged as to serve the purpose of a jamb in the ordinary manner, and also as a stop-bead to the lower window-sash. The portion of the jamb below the scarf-joints (shown at H) is made removable, thus affording access to the sash-weight pocket, and permitting removal of sashes from window-frame. This construction also dispenses with the inside casings and pockets necessary in the ordinary window-frame.

Arranged across the top of the air-passage, on the window-frame, is a wire screen or netting, I, Figs. 2 and 3, which has for its object to prevent the ingress of dust or insects to the room. The screen can be suitably attached to the frame by hinges, but preferably made removable, so as to enable it to be cleaned.

g represents the parting-strip between the upper and lower sashes. The strip is formed in the usual manner, with the exception that it is grooved upon its inner edge and opposite to a similar groove in the jamb G for a portion of their length. The grooves so formed are adapted to receive tongues formed on the sides of a block of wood or metal, J, which serves as a follower. The grooves, as before stated, are formed along only a portion of the length of the parting-strip and jamb, and the point at which the grooves stop is a point just below where the adjustable transom (as will hereinafter be more fully described) crosses the parting-strip, the groove h, in which the follower runs, and the jamb G.

The object of forming the groove in the manner as described is that while allowing the ordinary movement of the lower window-sash, K—that is, up or down vertically—the follower J being moved upward thereby and falling by its own gravity, currents of air are excluded, which would otherwise enter the groove h, in which the lower sash runs, and so find their way into the room. The follower, by filling up this opening, prevents the ingress of air at that point.

Referring to Fig. 9, K represents my lower window-sash, L the upper window-sash, and M an adjustable transom. The lower window-sash is the same in all particulars as that ordinarily used. My upper sash, which is shown in detail in Fig. 4, consists, first, of a skeleton frame, N, which may be of hard or soft wood or iron. The ordinary sash-cords and weights are attached to the skeleton frame, which is arranged to be vertically adjustable, and with it the fixed sash L and transom M, within the window-frame, in the ordinary manner of a sash. The lower sash, L, is rigidly attached to the skeleton frame in any suitable manner—such as by screws, as shown at l. The transom M is free to move or to have its position changed from the vertical to an angle forward within the skeleton frame. I therefore attach the transom by its lower stile to

the fixed sash L or lower bar of skeleton frame by means of a peculiarly-constructed hinge-bar, the details of which are shown in Fig. 7. The hinge-bar O is constructed of two plates of metal connected together by means of the hinges o, cast or riveted thereon, and the said plates are attached to the transom and window-sash stiles by means of bolts T and nuts S, which are countersunk below the level of the plates. In the orifice or groove in the lower plate of the hinge-bar, fastened to the upper stile of the sash L, I arrange a plate or tongue of wood or rubber, r, which fits into a corresponding groove in the upper plate of the hinge-bar attached to the transom-stile, and thereby prevent the ingress of water or cold air. The hinge-bar, as described, may be applied to the sash at any point, making the transom M as deep as may be desired, even to the extent of including the whole sash, in which case the upper plate of the hinge-bar only need be employed, the same being attached by hinges to the bottom portion of the skeleton frame N.

As before stated, the transom M is arranged to have its position changed from the vertical to an angle, and when the transom is wide open the upper outside edge, as shown in Figs. 2 and 9, rests against the inside of the transverse trimming-piece C in the upper part of the window-frame. It will now be readily understood that when the transom is in this position currents of air coming from the outside (indicated by arrows) can only find ingress into the room by means of the air-passage B, formed in the upper part of the frame. The skeleton frame, in which the upper sashes and transom are contained, is so designed that its inner edges, which are opposed to the outer edges of the transom, will, when the frame is in its position in the running groove t of the window-frame, be on a level with the surface of the parting-strip and jamb. Thus when the transom is open its side edges lie close to the sides of the jamb.

In order that the transom shall be closed or brought back to a vertical position when desired and retained closed, I have shown the flat steel spring P, fastened to the fixed sash L, which acts, by bearing upon the side bars of the transom, to restore the same to its vertical position in the skeleton frame. I wish it understood, however, that I do not limit myself to the device as shown for restoring the transom to its vertical position. Many different forms of spring devices can be used for this purpose—as, for instance, a coiled steel spring arranged within the skeleton frame and fastened to the transom. I have shown the flat spring as the most simple form of device for the purpose.

In order that the transom, when closed, shall be retained in its position, I have shown at Fig. 6 a catch, R, such as is suitable for the purpose, and is preferably attached at the corner of the top rail of the transom, the strik-

ing plate R' being inserted directly above in the lower side of the top rail of the skeleton frame N.

The device consists of a metallic plate bent at an angle, having the openings provided therein through which the fastening-screws are inserted, and through which the crank-catch *n* and releasing-pin *v* project.

The catch consists of a lever, M', fulcrumed at *u*. The end of the lever is fastened to a pin, V, which is surrounded by a spiral spring, W.

The operation of the catch will be easily understood. The crank-catch strikes the plate in the skeleton frame and is depressed, thereby compressing the spring W, which, by its own resiliency, forces the catch into the orifice made to receive it in the striking plate R'. The catch can be operated by means of a pulley and cord, S, arranged at one side of the window-frame, which also serves to open the transom by releasing the catch and drawing the transom forward.

The transom can be retained open by fastening the cord in any suitable manner, as by a cleat, or by passing the cord through a cam-pulley.

I claim as my invention—

1. A device for ventilating and cooling buildings, consisting of an adjustable transom contained within a skeleton frame forming a part of a vertically-adjustable window-sash, and a window-frame for supporting said sash, the upper part of which is provided with an air-passage arranged between a cornice and the trimming on the upper part of said frame and the wall of the building or inner facing of window-frame, substantially as described.

2. In a ventilating device, the combination of an adjustable transom, a window-sash, a vertically-adjustable skeleton frame containing said transom and sash, with a window-frame, a cornice, and trimming arranged across the upper outside edge of said frame, substantially as and for the purpose set forth.

3. In a ventilating device, the combination of a window-frame provided with an air-passage in the top thereof, and arranged to deliver air-currents in an upward direction, with the means for admitting said currents from within, consisting of an adjustable transom arranged in a skeleton frame, said frame adapted to be vertically adjustable within the window-frame, substantially as described.

4. In a ventilating device, a combination in the window-frame A of the trimming-piece C and C', cornice D, and inner facing, *b*, whereby

an air-passage, B, is provided in the upper part of said frame, substantially as described.

5. In a ventilating window-frame, the jamb G, provided with grooved parting-strip *g*, the trimming-pieces C and C', and cornice D, substantially as described.

6. In a ventilating device, the combination, with a window-frame provided with an air-passage in the top thereof, of the skeleton frame N, fixed sash L, and adjustable transom M, substantially as described.

7. In a ventilating window-sash, the combination, with the vertically-adjustable skeleton frame, of a fixed sash and an adjustable transom contained therein, and the means for connecting the said sash and transom together, consisting of the hinge-bar O, screws T, nuts *s*, and protecting-strip *r*, all arranged substantially as described.

8. In a ventilating device, the combination, with a window-frame provided with an air-passage in the top thereof, of the sash K, skeleton frame N, transom M, fixed sash L, and follower J, substantially as described.

9. In a ventilating device, the combination, with a window-frame having an air-passage provided in the top thereof, of the skeleton frame N, fixed sash L, adjustable transom M, and the means for unfastening and opening said transom, consisting of the latch R and cord S, substantially as described.

10. In a ventilating device, the combination, with a window-frame having an air-passage provided in the top thereof, of the skeleton frame N, fixed sash L, adjustable transom M, and the means for closing and fastening said transom, consisting of spring P and latch R, substantially as described.

11. In a ventilating device, the combination, with the window-frame having an air-passage provided in the top thereof, and with the ventilating window-sash provided with the adjustable transom, substantially as described, of the means for preventing the ingress of insects or dust, consisting of the screen I, substantially as described.

12. In a ventilating device, the combination, with a window-frame, of the vertically-adjustable skeleton frame N, fixed sash L, angularly-adjustable transom M, and means for opening and closing said transom, substantially as described.

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Witnesses:

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