

(No Model.)

F. J. GRODAVENT.
WINDOW OR DOOR BUTTON.

No. 538,512.

Patented Apr. 30, 1895.

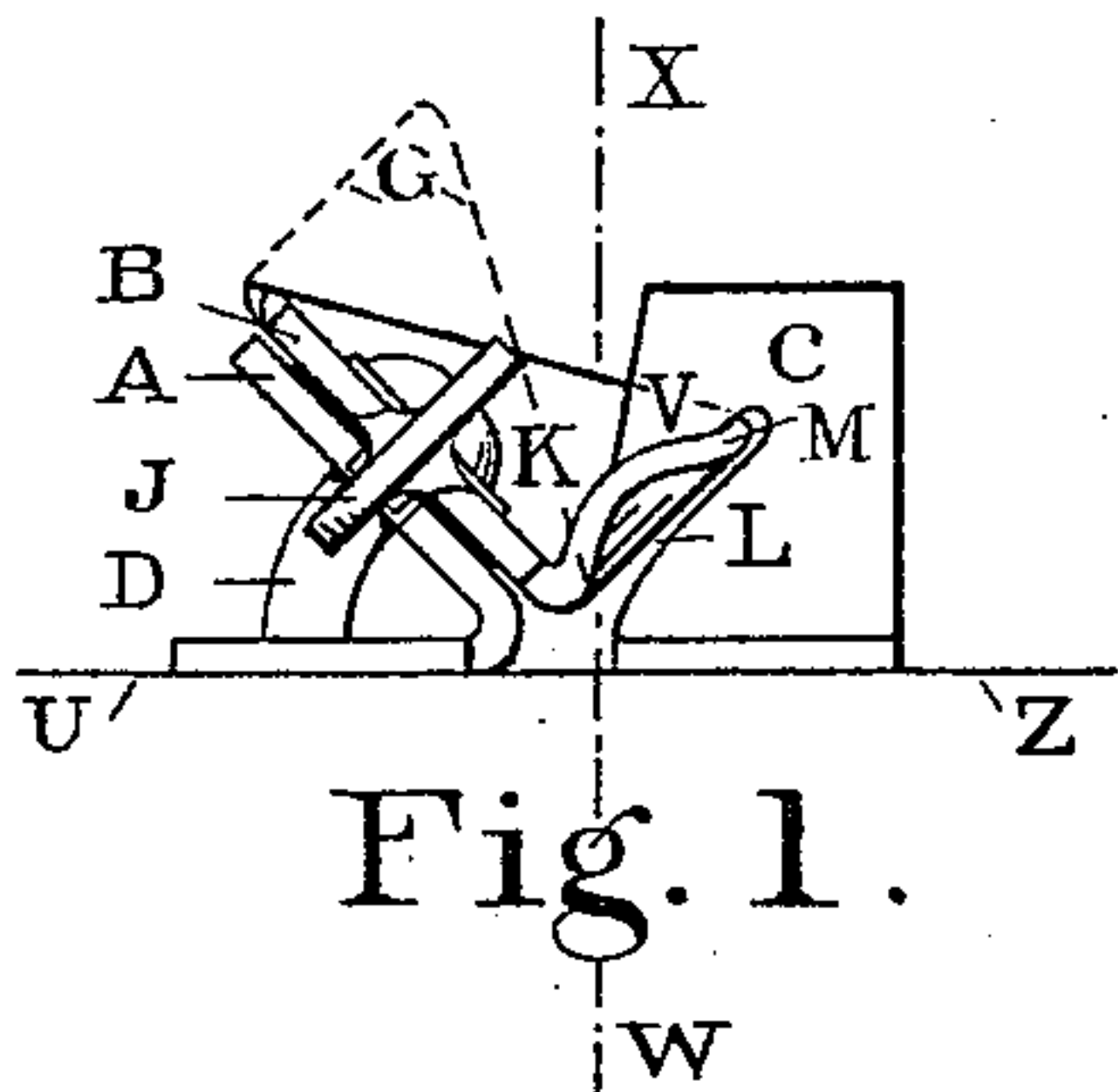


Fig. 1.

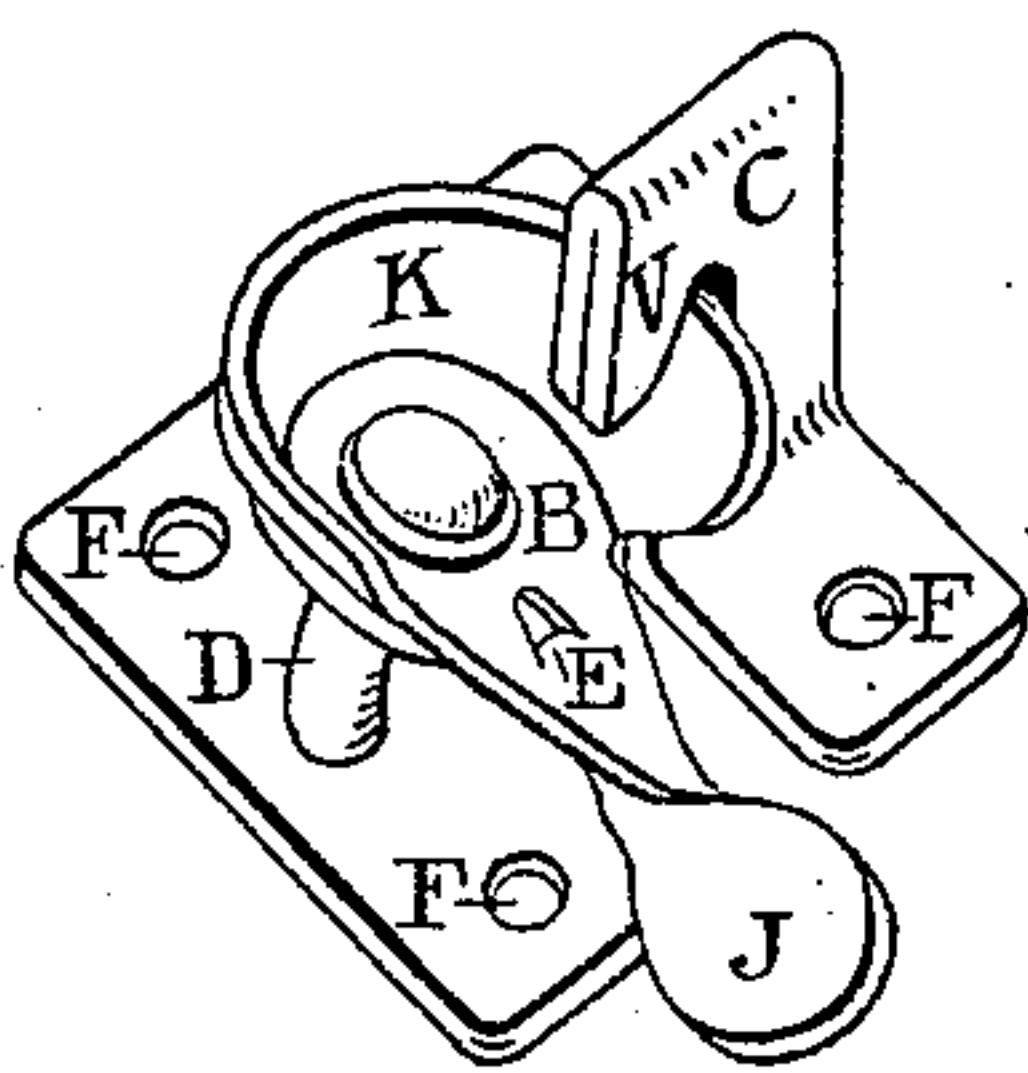


Fig. 2.

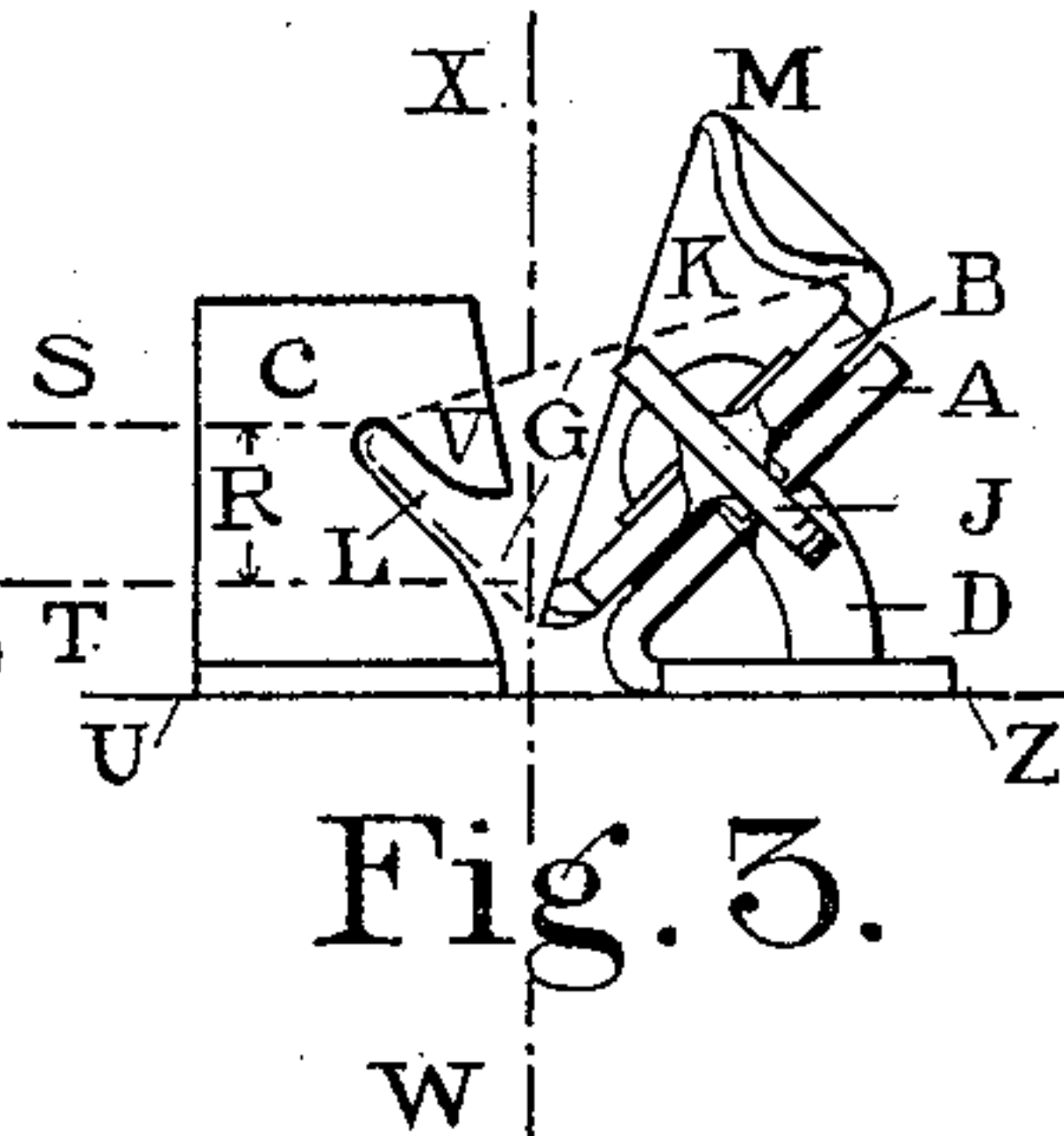


Fig. 3.

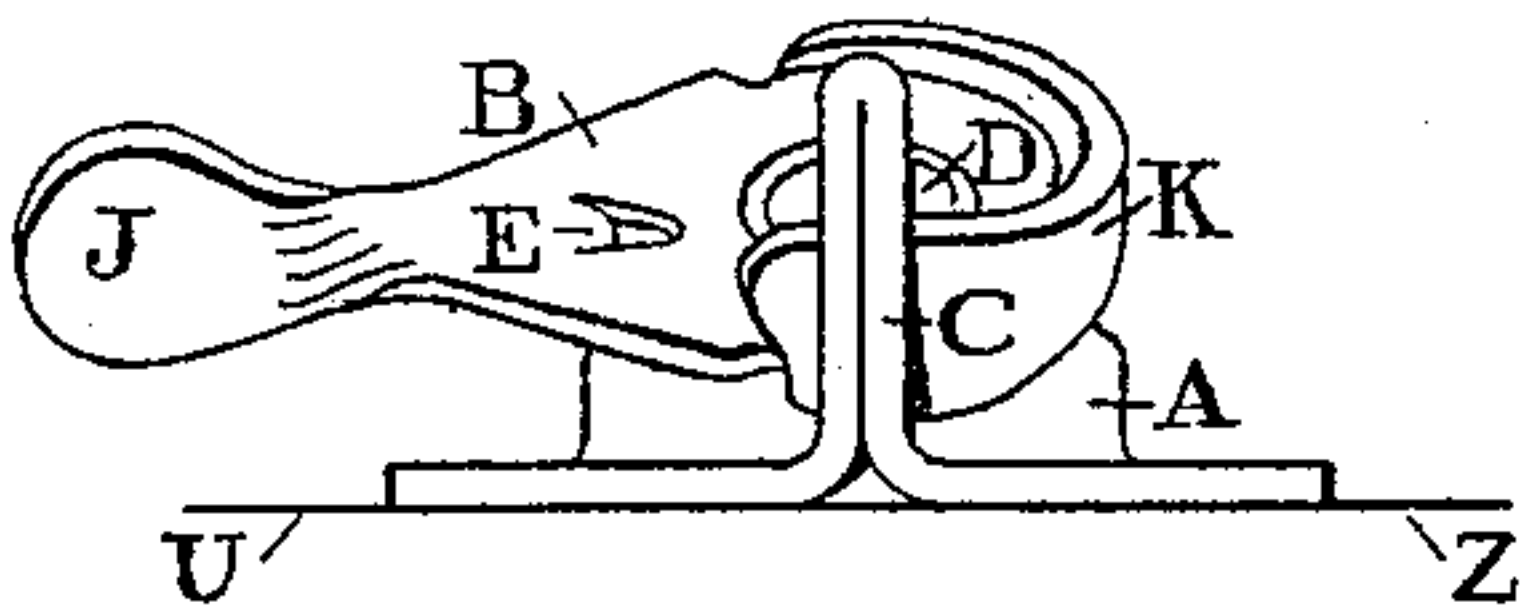


Fig. 4.

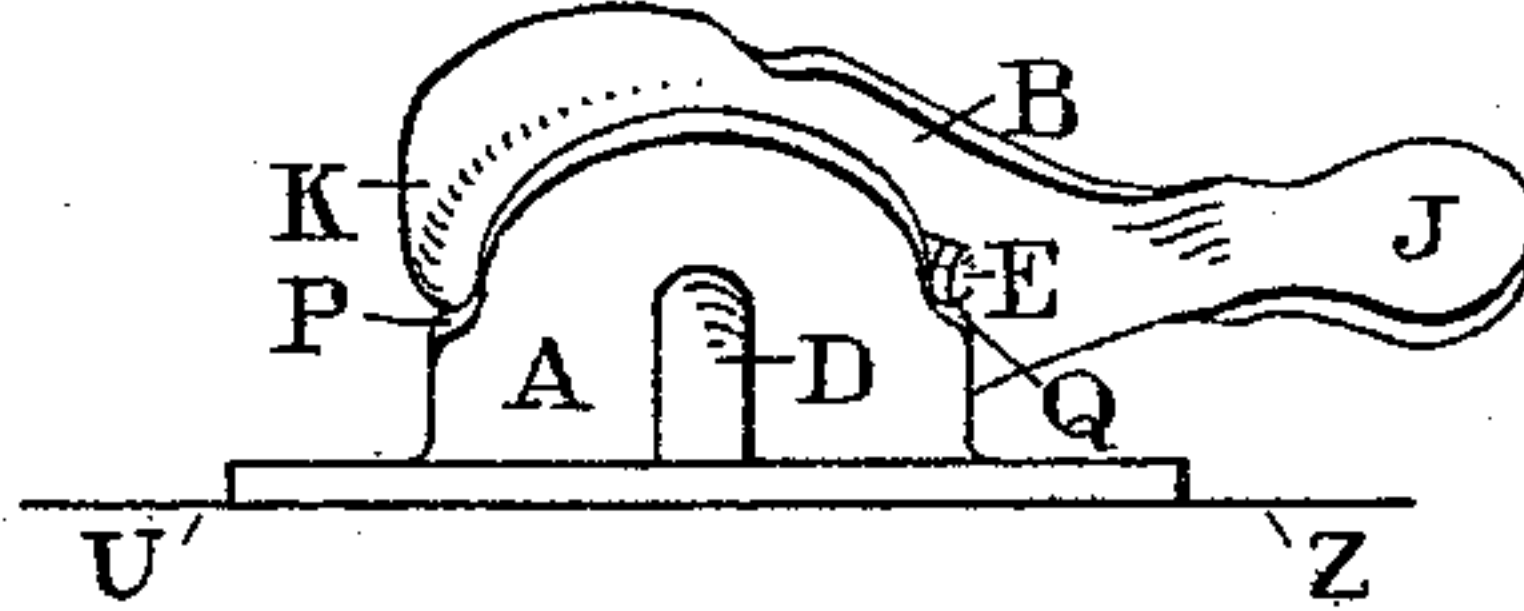


Fig. 5.

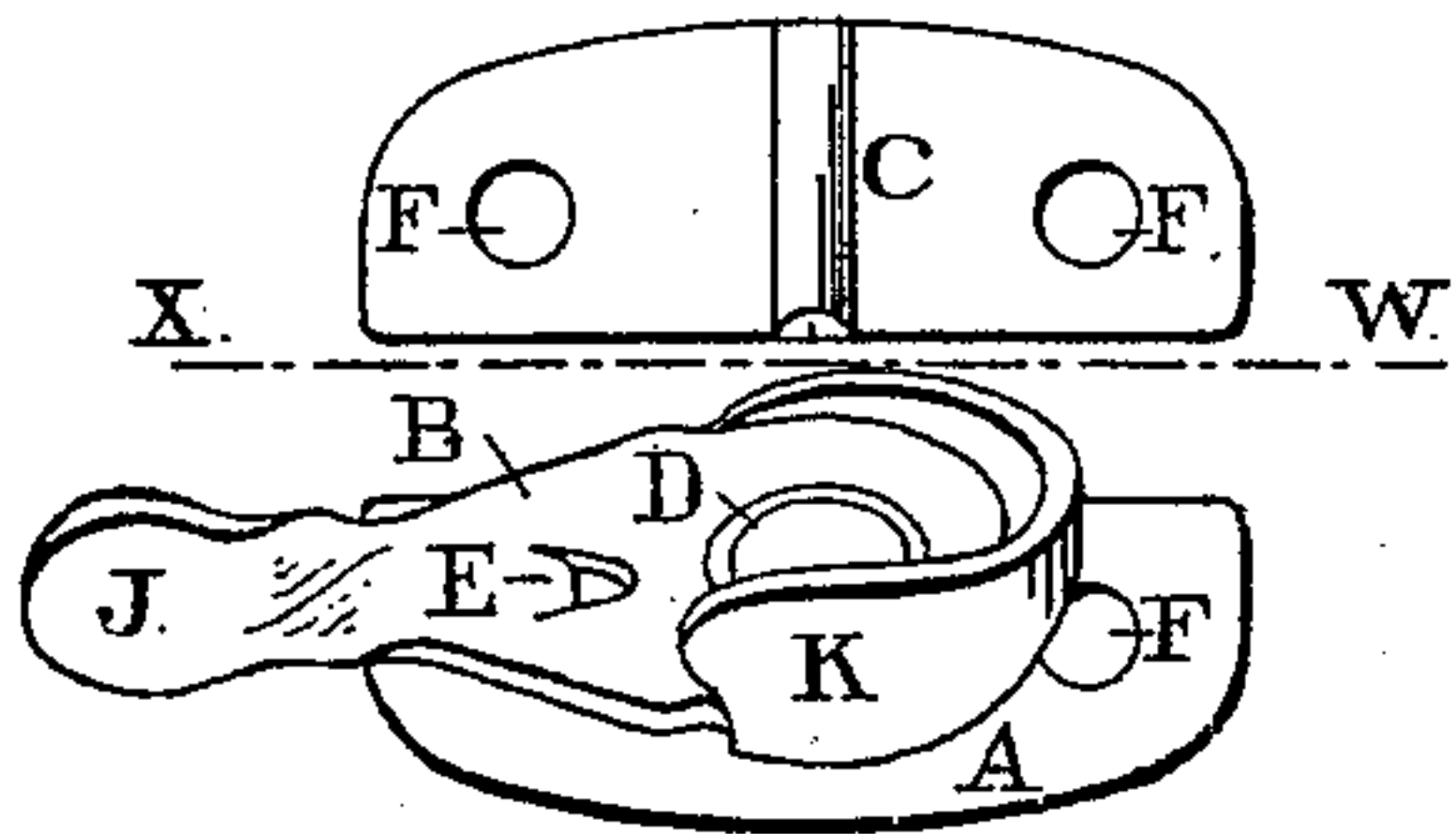


Fig. 6.

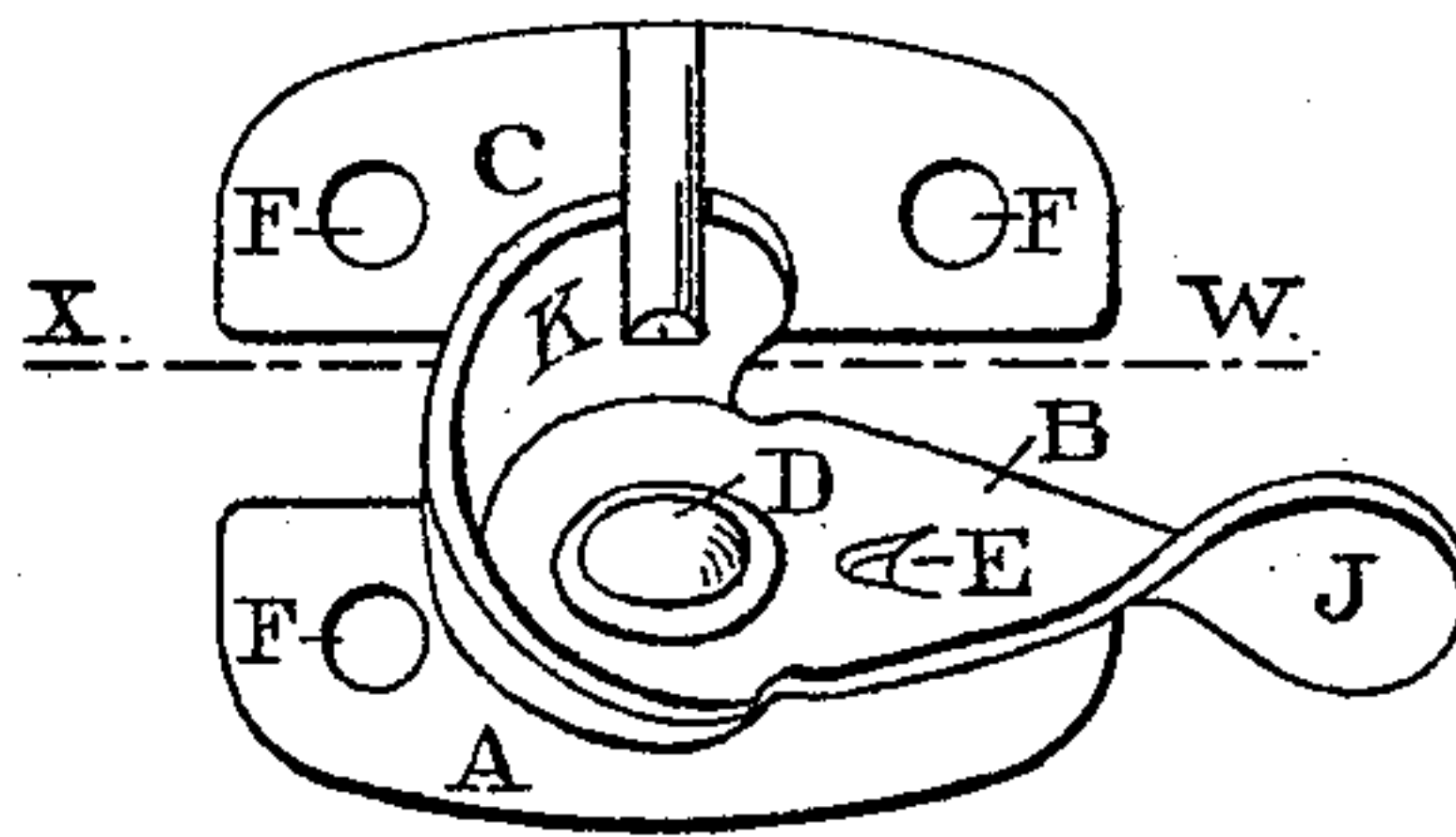


Fig. 7.

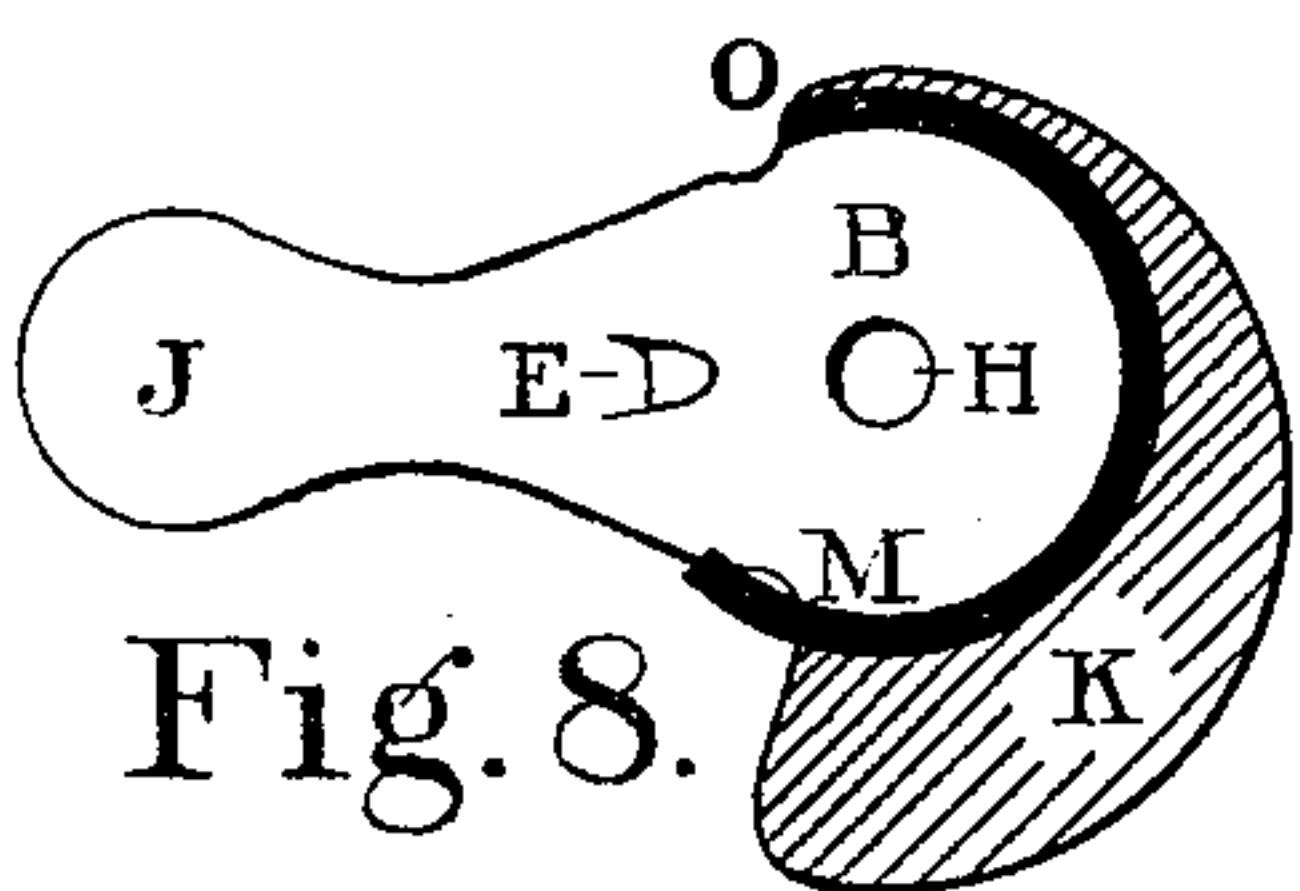


Fig. 8.

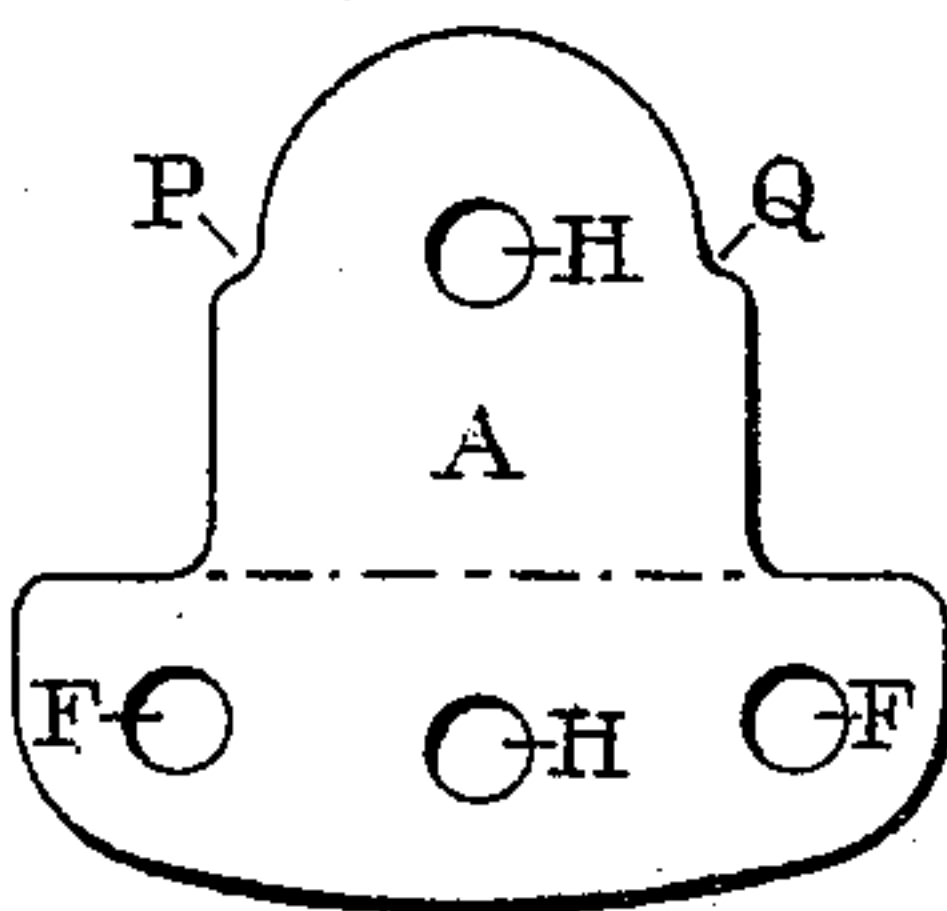


Fig. 9.

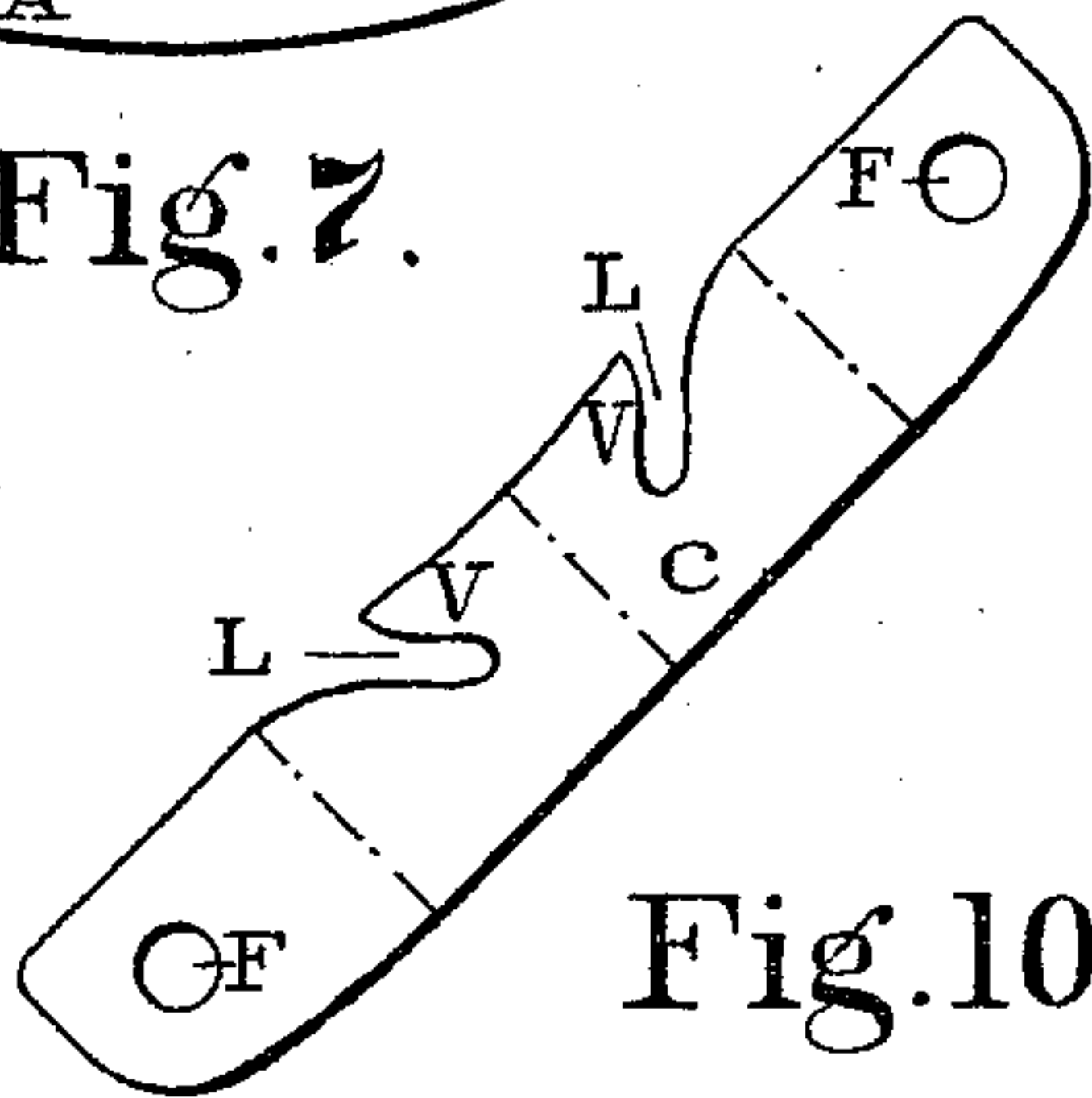


Fig. 10.

Witnesses.

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WINDOW OR DOOR BUTTON.

SPECIFICATION forming part of Letters Patent No. 538,512, dated April 30, 1895.

Application filed December 26 1894. Serial No. 532,943. (No model.)

To all whom it may concern:

Be it known that I FRANK J. GRODAVENT, a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented a new and useful Improvement in Fasteners for Meeting-Rails of Sashes; and I do hereby declare the following to be a full, clear, and exact description of my invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, all of which form parts of this specification.

My invention relates to fasteners for securing the meeting-rails of sashes, and consists of an angular base-plate to which is pivoted a single piece combined operating lever and locking-latch, the whole being secured to the meeting-rail of the lower sash by screws which pass through the base-plate. On the meeting-rail of the upper sash is secured in a similar manner, a single piece base-plate with standing keeper designed to receive and engage the locking-latch when the window is locked. In operating, the window is locked when the lever has been turned the distance of a half-circle, thus engaging the locking-latch and keeper. The window is unlocked in a similar manner but with the reverse motion which disengages the locking-latch from the keeper and permits the two sash to slide in their usual manner.

While I am aware my invention can be detailed and manufactured in cast metal, the idea is to produce a fastener for meeting-rails of sashes with but few parts, reduced to the minimum weight for strength, all of which can be stamped from wrought sheet steel or other similar material, and the stamped parts shaped to the desired forms, and when assembled forming the fastener for meeting-rails of sashes which I claim as my invention.

In the different drawings to which reference is made by figures, like letters refer to similar parts. These drawings show the fastener complete, also the three separate stamped parts of which the fastener is composed before they are bent to the finished forms. In construction, all the peculiarities of these forms may not be produced and completed in stamping until after the parts are bent to the required shape.

Referring to the drawings, Figure 1 is a right-hand side view showing the window locked. Fig. 2 is a perspective of the fastener with a square base-plate showing position of parts when the window is locked. Fig. 3 is a left-hand side view showing the window unlocked. Figs. 4 and 5 are elevations, back and front, showing position of parts when the window is locked. Figs 6 and 7 are plans showing, respectively, position of parts when the window is unlocked and locked. Figs. 8, 9, and 10 show, respectively, the operating lever, the base-plate, and the keeper as cut from the flat sheet or in the lay-out of the parts. In Fig. 8 the portion shaded by diagonal lines indicates the part to be bent, forming the segmental cam or locking-latch, the finished lines of which are shown in solid black. The dotted lines on Figs. 9 and 10 are lines of fold where these pieces are bent to give the completed shapes to these forms. In Figs. 1, 3, 6, and 7 line X W is the line of opening at meeting-rails between sash. In Figs. 1, 3, 4 and 5 line U Z is top or bed line of meeting-rails to which the fastener is secured.

In the different figures, 1 to 7 inclusive, B is the combined operating lever and locking-latch pivoted to the angular base-plate A, and secured thereto with the bent rivet D, which passes once through lever B, at or near the center of the segmental cam K, and passes twice through base-plate A, where the end is upset and secured at the bottom when the parts are assembled. Operating lever B, is separated from base-plate A, with a thin friction washer, and a similar washer is placed beneath the head of pivoting rivet D. These washers compensate for any irregularity of parts in contact and prevent any unnecessary lost motion. The locking-latch or cam K, of operating lever B, is shaped by bending the metal in the form of a circle whose center is taken at or near the center of pivot hole H, Fig. 8, and the metal bent or turned at right angles with the main body of lever B, giving the periphery of cam K, a circular and gradual inclination from O, to full height of locking-latch at M, or opposite point of starting, thus giving cam K, the form of a segmental wedge as shown in the different figures.

The dotted lines G, in Figs. 1 and 3, show cam or locking-latch K, in a reverse position,

Fig. 1, as if unlocked and Fig. 3 as if locked. In these same figures, base-plate A, is folded or bent to an acute angle giving a sloping upper bed to allow the greatest elevation M, in the wedge or locking-latch K, which is pivoted to base-plate A, to come within or forward of line X—W, Fig. 3, of opening between sashes at meeting-rails when the window is unlocked and preventing parts striking when the window is opened. This angle of inclination in bed-plate A, permits cam or locking-latch K, when turned as in locking, to reach in the greatest horizontal distance beyond and back of line X—W, Fig. 1, and engage with keeper C. In Fig. 3, when motion of turning is imparted to lever B, as in the act of locking, cam or locking-latch K, will travel toward and across line X—W, and engage with keeper C, as in Fig. 1. In Fig 1, the reverse motion or act of unlocking, cam K, will travel toward and forward of line X—W, and disengage from keeper C, allowing meeting-rails to pass as in Fig. 3. The horizontal distance of travel given cam or locking-latch K, in relation to line X—W, is governed by the angle of inclination given base-plate A.

Figs. 3 and 6, show the fastener unlocked. In the motion of locking, operating lever B, is started from a horizontal position at the left-hand, turning toward the right and finishing at a horizontal position at the right-hand as in Fig. 7. (If in construction the position of cam or locking latch K, be reversed on operating lever B, from position shown, then the motions in locking will also be reversed.) From start when unlocked to finish and locked, the vertical travel or lift of cam K, will be as shown by R, between dotted lines S and T, Fig. 3; but this lift will be partly lost by the lost motion between meeting-rails of the two sash and also by amount of depression in hook V, of keeper C. The two sash are drawn together by cam or locking-latch K, swinging under hook V, into slot L, and engaging with keeper C. Both being on the same angle of inclination, keeper

C, slides down the incline of cam or locking-latch K, drawing and keeping the two sash together at the meeting-rails.

In Figs. 4, 5, 6, 7 and 8, stop E, on operating lever B, is formed by punching the metal through and bending in a position to strike notches P and Q, on base-plate A, when the parts are assembled as seen in Fig. 5. The finger piece J, of operating lever B, is formed by bending end J, in a quarter twist at right angles with the body of lever B.

Letters H, in Figs. 8 and 9, represent holes through which pivoting rivet D, is passed to secure lever B, to base-plate A, when the parts are assembled.

Letters F, in the different figures represent screw holes for securing the fastener to the meeting-rails of upper and lower sash.

Having thus described my improved fastener for meeting-rails of sashes, what I claim as my invention, and what I desire to secure by Letters Patent, is—

1. The supporting base-plate in a sash-lock, formed of a blank with stops and holes, bent up and combined with the bent pivoting rivet, securing the two wings of the base substantially as shown.

2. The combination, in a fastener for meeting-rails of sashes, of the single piece operating lever B, with its locking-latch and segmental cam K, pivoted and secured with the bent rivet D, to the angular base-plate A. The keeper C, with its hook V, and slot L, constructed to receive and engage locking-latch K, when operated together substantially as described and for the purpose specified.

3. The locking keeper in a sash-lock, formed of a blank having two oppositely arranged oblique slots, adapted to form a locking hook when properly bent or folded, substantially as shown and for the purpose specified.

In testimony whereof I, the said FRANK J. GRODAVENT, have hereto set my hand.

FRANK J. GRODAVENT.

Witnesses:

FRANK C. GOFF,
EDWARD NICKLAS.