(Model.)

E. O. LADD.

FASTENER FOR THE MEETING RAILS OF SASHES.

No. 296,188. Patented Apr. 1, 1884.

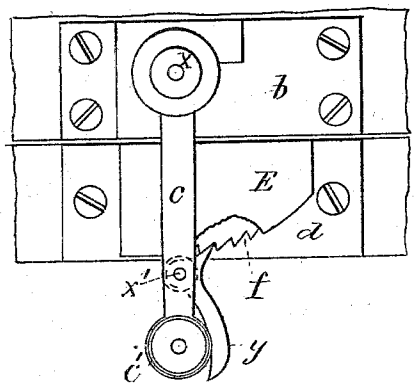


Fig. 1.

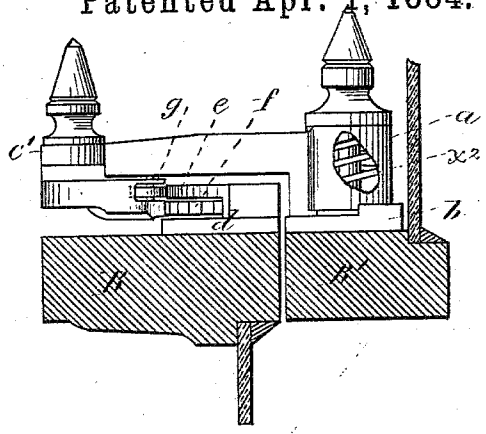


Fig. 2.

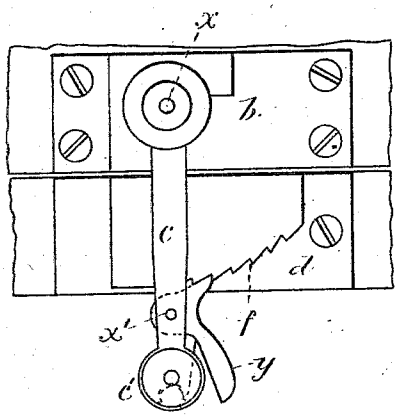


Fig. 3.

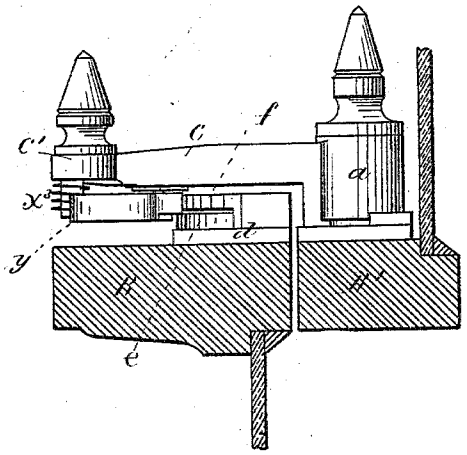


Fig. 4.

WITNESSES

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UNITED STATES PATENT OFFICE.

EDWARD O. LADD, OF EVERETT, MASSACHUSETTS.

FASTENER FOR THE MEETING-RAILS OF SASHES.

SPECIFICATION forming part of Letters Patent No. 296,188, dated April 1, 1884.

Application filed April 21, 1883. (Model.)

To all whom it may concern:

Be it known that I, EDWARD O. LADD, of Everett, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Sash and Door Fasteners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, in which like letters indicate corresponding parts.

My invention relates to that kind of sash-fasteners, or "window-fasteners," as they are sometimes called, which are applied midway of the window, having one part of the device fastened to the bottom of the upper sash, and the other fastened to the top of the lower sash and provided with an arm which interlocks or otherwise secures the sashes together.

Figure 1 is a general view of one form of my device in which the cam-plate *e* is broken away to represent the ratchet *f* underneath. Fig. 2 is a sectional view of a pair of sashes with an elevation of the device attached. Fig. 3 is a plan view similar to Fig. 1, of a part of my device in which the ratchet *f* is placed above the cam-bearing surface *e*. Fig. 4 is a section of the upper and lower sash, with an elevation representing the form of construction shown in Fig. 3.

In Figs. 1 and 2 B represents the top of the lower sash; B′ the bottom rail of the top sash. *b* is the back plate, which is screwed or otherwise secured to the bottom of the top sash. The arm *c* is pivoted or secured to the plate *b* in the usual manner through the end *a*. In Fig. 2 the outside cap of *a* is broken away, showing inside the spring x^2, which operates upon the arm *c* to draw it back from its position over the bottom sash, and is formed in the usual manner. *c′* is the front end or knob of the arm *c*, by which it is conveniently operated. Upon the arm *c* is pivoted or otherwise secured at x' a pawl, *y*, adapted to operate upon the ratchet *f*. A spring is preferably placed underneath the top end of the arm *c′* to operate upon the pawl *y* similarly, as represented in Fig. 4, x^3. This keeps the pawl upon the ratchet. As it is undesirable that the pressure needed to draw the two sashes together should be exerted upon the pawl and ratchet, I place the cam-bearing surface *e*, Fig. 2, over the ratchet-surface *f*, and preferably place upon the under side of the arm *c*, or in connection with the pawl *y*, the friction-roller *g*, which is adapted to operate upon the cam-bearing surface *e*, and relieve the pawl from the pressure necessary to draw the sashes together in operating the fastener.

In Figs. 3 and 4, I show a device very similar to the one already described and represented in Figs. 1 and 2, with this difference: In Figs. 3 and 4 I place the ratchet *f* above the cam-bearing surface *e*, and by making the side of the pawl slightly rounding upon its surface next to the bearing-plate I am enabled to make a very efficient fastening device without bringing undue pressure upon the ratchet. This form enables me to do without the cam-wheel *g*; but it will work easier with the cam-wheel than without. It will be observed that I do this without departing from the spirit of my invention. The operation in the two cases is mechanically the same.

I am aware that window-sash fasteners have been made with the spring x^2 to draw the arm back when released; also, that a cam-bearing plate has been used in connection with a lever for securing the sashes together; also that various devices for locking arm or lever have been employed. My present invention more particularly consists in forming the ratchet *f* in connection with the arm and pawl and the cam-bearing surface. By this means I am enabled to fasten the arm *c* at any point desired. It is often difficult where the arm must be brought to a vertical position to secure the plates to the sashes in a proper position for that purpose, and if perfectly adjusted when first placed upon the sashes, in consequence of the warping and swelling of the wood, the operation of the fasteners becomes difficult and the lever is often bent and strained. My present device obviates all this, as it will draw the sashes together tightly whatever the distances between them, and whether the sashes are wet or dry the arm will be secured by the pawl falling into some one of the notches of the ratchet in a most convenient and secure manner.

Having now described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a sash-fastening device, the combination of an edge cam-bearing plate and an edge ratchet-plate, the plates or edge surfaces

being independent of each other but coincident in curvature, and adapted to operate in connection with the fastening mechanism, substantially as and for the purposes set forth.

2. The sash-fastening device consisting of the plate *b*, provided with the arm *c*, pivoted thereto, the said arm adapted to be actuated by the spring x^2, inclosed in the spring-case *a*, in combination with the plate *e*, provided with a circular-edge cam-plate, *e*, and the circular-edge ratchet-plate *f*, formed coincident with each other, and adapted to operate in combination with a projecting shoulder cam and pawl arranged on the outer end of the arm *c*, all substantially as specified and set forth.

3. In a sash-fastening device, the combination of a projecting revolving shoulder cam and pawl, each adapted to co-operate with independent edge cam and edge ratchet plates, said plates being formed coincident with each other upon the plate *d*, substantially as and for the purposes set forth.

EDWARD O. LADD.

Witnesses:
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