(No Model.)

H. B. IVES.

SASH FASTENER.

No. 352,617. Patented Nov. 16, 1886.

Fig. 1

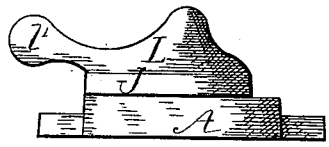


Fig. 2

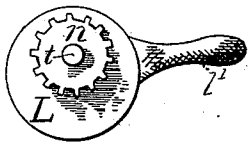


Fig. 3

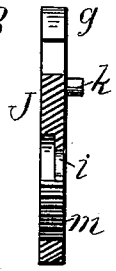


Fig. 4

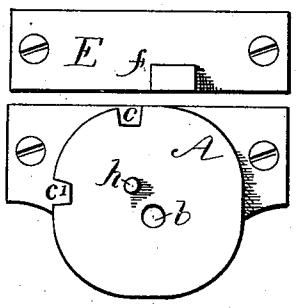


Fig. 5

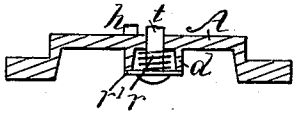


Fig. 6

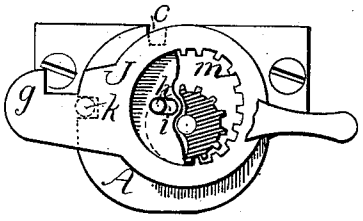


Fig. 7

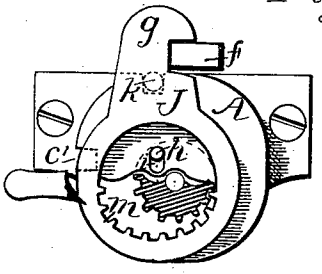
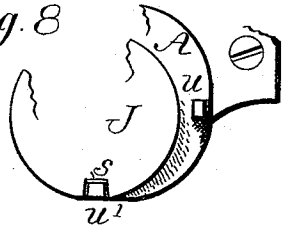


Fig. 8



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UNITED STATES PATENT OFFICE.

HOBART B. IVES, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO HOBART B. IVES & CO., OF SAME PLACE.

SASH-FASTENER.

SPECIFICATION forming part of Letters Patent No. 352,617, dated November 16, 1886.

Application filed September 13, 1886. Serial No. 213,442. (No model.)

To all whom it may concern:

Be it known that I, HOBART B. IVES, a resident of the town of New Haven, in the State of Connecticut, have invented new and useful Improvements in Fastenings for Meeting-Rails of Sashes, of which the following is a specification.

My invention has for its object to provide an improved fastening for meeting-rails of sashes, and relates to that class of sash-fasteners in which a latch is mounted on a suitable base-plate and adapted to swing against and engage the latch-hook and draw and lock the rails together, operated by an external knob or handle.

My invention embodies novel means for operating the latch; and it consists in combining a pinion with the operating knob or lever, and suitable gear-teeth upon the latch for meshing with the pinion, and means for locking the latch at each extremity of its throw, as hereinafter more fully described and claimed.

In the accompanying drawings, Figure 1 shows a view of my improved lock in elevation. Fig. 2 is a view of the lower side of the knob or handle. Fig. 3 is a side elevation of the latch, partly in section. Fig. 4 is a plan view of the base-plate. Fig. 5 is a section through the base-plate. Fig. 6 is a plan view of the base-plate and latch in unlocked position. Fig. 7 is a view of the same in locked position, and Fig. 8 shows a converse modification of a part of the mechanism.

Referring to the drawings, A denotes the raised base-plate, which is formed with a circular perforation, *b*, near its center, and provided with a vertical stud or projection, *h*, near the perforation. Two notches, *c c'*, are formed in the edge of the base-plate in the positions covered by the latch at the extremities of its throw, and a rim, *d*, is formed around the perforation *b* on the under side of the plate.

The plate A is secured to the top rail of the lower sash, and a smaller plate, E, is secured to the lower rail of the upper sash, and provided with a hook or projection, *f*, for the engagement of the latch. The latch J is formed with a hook part, *g*, for engaging the projection on the plate E, and has a central longitudinal slot, *i*, for receiving the projection *h* on the main base-plate, by which it is kept in position. The latch is provided with a pin, *k*, which fits the notches *c c'* in the base-plate, and is formed with a rack, *m*, or series of gear-teeth, as shown in Figs. 6 and 7.

The knob or lever L, for operating the latch, is shaped to cover the central portion or body of the latch, and is formed with or without a handle, *l'*, to act either as a knob or lever, as required. A pinion or gear, *n*, is secured on the under side of the knob, preferably cast thereon, and a vertical stud, *t*, is cast or riveted in the knob centrally through the pinion. The knob surmounts the latch with its stud extending down through the perforation in the base-plate, and its pinion intermeshing with the teeth on the latch. A spring, *r*, and washer *r'* are placed upon the end of the stud *t*, which is then riveted over, thus fastening all the parts of the lock securely together.

In operation, as the knob and its pinion is turned back and forth, its teeth engage the teeth on the latch and swing the latch to and fro and draw it longitudinally at the extremities of its movement, so that the pin *k* enters in the notches *c c'* in the base-plate. In these positions the latch cannot be turned, except by the movement of the knob, being held by the pin *k* and the projection *h* on the base-plate. The rack *m* is shaped to conform to the path and movement of the latch, so as to engage the pinion at every portion of its travel. The position of the center of the pinion may be changed somewhat from that shown in the drawings, provided the rack is modified to conform to such alteration; but the form shown is preferable on account of its compactness. I prefer to proportion the gears so that about half a turn of the knob throws the latch through about a quarter-turn, as shown in Figs. 6 and 7, in which the latch is represented in both its unlocked and locked positions with the knob removed and a section of the pinion designated to show the action of the parts. It will be seen that the latch engages with the projection *f* on the base-plate E and then draws the sashes firmly together, and is then locked by the engagement of the pin *k* with the notch *c*. The other notch, however, simply holds the latch open, which feature is not so important as the other, and may be dispensed with,

if desired. Its use, however, is preferable. As the parts of the latch are pressed together by the spring *r*, sufficient friction is produced to hold the latch and prevent it from jarring out of the notches.

It is evident that instead of the pin *k* in the latch and its receiving-notches *c c'* in the base-plate an opposite notch, *s*, may be formed in the latch and the base-plate provided with corresponding projections, *h h'*, which converse modification is shown in Fig. 8; also, both of these modifications may be combined in one sash-fastener, if desired, the effect remaining unchanged.

I claim as new and desire to secure by Letters Patent—

1. In fastenings for meeting-rails for sashes, the combination, with a base-plate, of a latch guided on the base-plate and provided with a rack or series of gear-teeth, a knob or lever arranged to turn upon the base-plate, and provided with a pinion or gear for engaging the teeth of the latch to close the fastener and draw the sashes together, and means for locking the latch at either or both extremities of its throw, substantially as and for the purpose described.

2. In fastenings for meeting-rails for sashes, the combination of a latch mounted and guided upon a base-plate and provided with a rack or series of gear-teeth, with a pinion or gear secured upon an external knob or lever supported on the base-plate and intermeshing with the teeth of the latch, as and for the purpose specified.

3. In combination, the base-plate A, having the central perforation, *b*, pin *h*, and slots *c c'*, the hooked latch J, having the pin *k* and central slot, *i*, by which it is guided upon the projection *h* on the base-plate, and provided with a rack or series of gear-teeth, the knob or lever L, mounted upon the base-plate, and provided with a pinion or gear for intermeshing with the teeth of the latch, and the base-plate E, having a raised projection or catch, *f*, all combined substantially in the manner and for the purpose described.

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Witnesses:
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