(No Model.)

H. A. BENNETT.

TRANSOM LIFTER.

No. 436,065. Patented Sept. 9, 1890.

Fig. 1

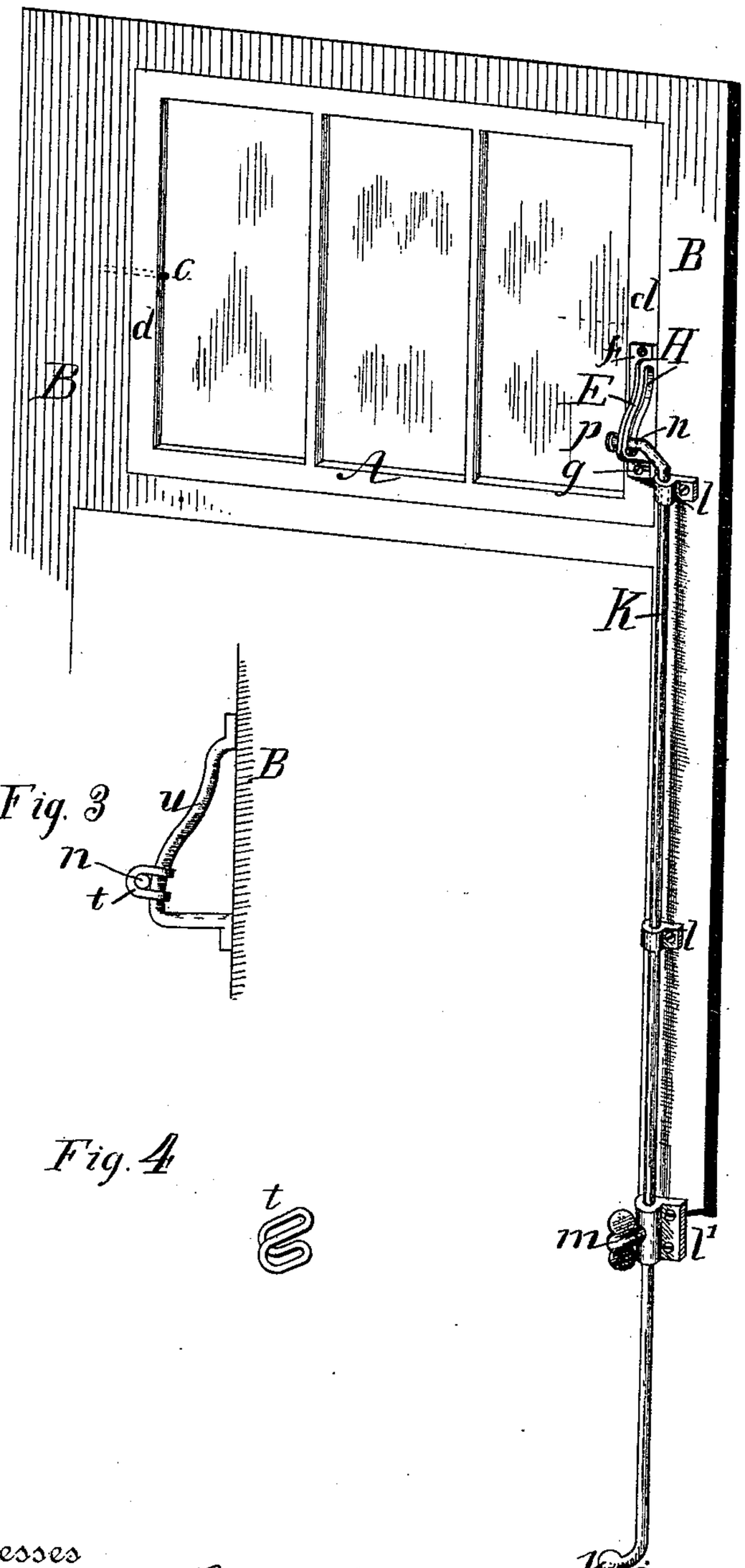

Fig. 2

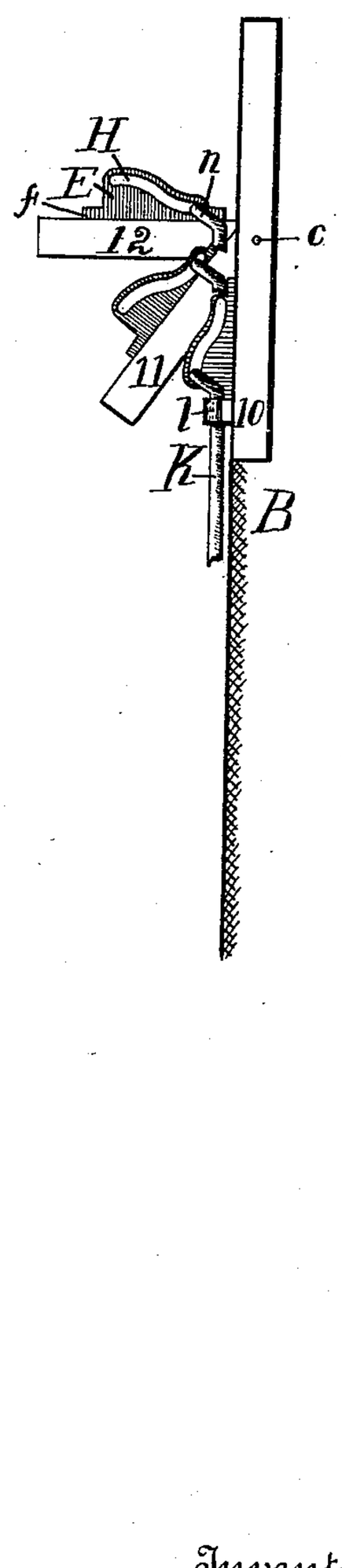

Fig. 3

Fig. 4

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TRANSOM-LIFTER.

SPECIFICATION forming part of Letters Patent No. 436,065, dated September 9, 1890.

Application filed May 31, 1890. Serial No. 353,697. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. BENNETT, a citizen of the United States, residing at New Haven, in the town and county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Transom Lifters and Locks, of which the following is a specification.

My invention relates to transom-lifters, and has for its object to provide a combined transom lifter and lock adapted to lift and operate the transom-window and clamp it tightly to place in its closed position positively locked and incapable of being swung open except by the normal action of the lifting-rod.

The invention consists in the novel arrangement and combination of a cam-fixture secured upon the transom-window and an arm or journal carried by the lifting-rod in engagement with the cam-fixture and adapted in its travel to slide along the cam and wedge and lock the window shut, and to actuate it directly or without camming action near the open position, as more fully hereinafter described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a perspective view of a transom-window fitted with my improved lifter and lock. Fig. 2 is an end elevation of the same, showing the window in open, closed, and intermediate positions. Fig. 3 shows a modification of the cam-fixture, and Fig. 4 is a view of the swivel for holding the operating-arm in engagement with the cam-fixture shown in Fig. 3.

Referring to the drawings, A designates an ordinary transom sash or window arranged to swing in the casing B on pins C, which pass through the end portion *d* of the sash-frame and are inserted in the casings. The transom-sash may be hung in any well-known manner with its axis at either the upper or lower edge of the sash or in any intermediate position; but it is here shown pivoted centrally, thus being balanced upon its journals.

At one end of the transom-sash and mounted upon the face of the end part *d* of the frame below the axis thereof is a cam-fixture E or metal plate having a flange *f*, through which pass suitable screws *g* for securing it to the frame. The said cam-fixture E is arranged in a plane parallel with the end of the sash—that is, vertical and at right angles to the face of the casing B, and has a cam-slot H through it extending lengthwise of the fixture and somewhat inclined to the sash, being farthest therefrom at its lower end or point farthest from the axis of the window.

On the face-casing B, adjacent to the swinging plane of the cam-fixture, a vertical lifting-rod K is arranged, guided in suitable bearings *l*, which are secured to the casing by any well-known method. The lower end of the operating-rod is bent to form a handle *i*, preferably terminating in a knob *j*, whereby the rod may be readily raised or lowered in its bearings, in one of which *l'* a set-screw *m* is placed with its point adapted to be screwed in against the rod for the purpose of clamping it in any desired position.

The upper end of the lifting-rod carries a horizontal arm or journal *n*, which is arranged, through the cam-slot H, in engagement with the sides thereof, and is adapted to slide thereon as the rod is raised or lowered. The said arm or journal is formed by bending the end of the rod over horizontal, or at a right angle to the main vertical part of the rod, and then bending the rod outward below the said angle sufficiently to throw the said horizontal arm or journal *n* in position to be received in the lower end of the cam-slot when the window is in the closed position. The end of the arm is preferably provided with a knot or head *p* or other equivalent device for preventing the arm from becoming disengaged from the cam-fixture. The shape of the cam-slot is such that when the window is in the closed position the lower end of the cam-slot is substantially parallel with the lifting-rod and path of the horizontal arm or journal, and as the slot is inclined toward the window from the said lower end and its inclination with the rod increases as the window is swung from the vertical to the horizontal position the effect of the arm in actuating the sash varies in different portions of its movement from a powerful wedging action when at the lower end of the cam-fixture to a direct pushing or lifting motion unattended by any camming action toward the upper end of its travel. Thus it will be seen that in the operation of the mechanism the window will be swung

freely, directly, and rapidly near the open position, as shown in Fig. 2 and designated by the reference-figures 12, and as the rod is lowered a wedging action is effected between the arm and the working-face of the cam-slot—as, for instance, in the position designated by the reference-figures 11 in the same figure. This wedging action increases as the rod descends, becoming very powerful as the arm reaches the lower end of the cam-slot and the window is in its closed position, as designated in Fig. 2 by the reference-figures 10, and also represented in Fig. 1. Thus in the said closed position the window will be wedged and clamped tightly to place, and will be securely locked in such position, as the lower end of the cam-slot is substantially vertical and parallel with the path of the arm of the lifting-rod, which will consequently bear horizontally against the inner vertical face of the slot, and any pressure brought against the sash while in that position will be directed against the arm at right angles to its plane of motion, and will not tend to slide the arm along the slot; but the window will remain positively locked and incapable of being opened except by the normal action of the lifting-rod. The said locking action is wholly independent of the clamping-screw, the purpose of which is to hold the rod when the window is opened.

Instead of a fixture having a cam-slot, a cam *u* or rod may be used having the same shape as the groove H, with the arm of the lifting-rod held in operative engagement or connection therewith by means of a suitable swivel *t* or similar device, as shown in Fig. 3. If the window is hinged at its lower edges, it is only necessary to reverse the position of the cam-fixture and place it with the outer end of the cam-slot upward, as would be represented by viewing the drawing top side downward.

I claim—

1. In a transom lifter and lock, the combination of a lifting-rod guided vertically in bearings upon the casing and provided with a horizontal arm or operating-fixture, a cam-fixture secured upon the window in sliding engagement with the said arm or operating-fixture, and having a locking face or bearing at the end farthest from the window-axis substantially vertical or parallel with the path of the operating-fixture when engaged therewith, whereby as the window is closed the engagement of the bearing and operating-fixture will hold the same securely locked, as specified.

2. In a transom lifter and lock, the combination of a lifting-rod guided vertically in bearings upon the casing and provided with a horizontal arm or journal, a fastener or clamp for holding the said rod in lifted position, and a fixture secured upon the window and provided with a cam-slot inclined to the plane of the window and receiving the said arm or journal and having a locking-slot in extension of the inclined slot at the end farthest from the window-axis, substantially parallel with the plane of the window, whereby in the movement of the lifting-rod the said arm or journal is adapted to slide along the inclined cam-slot to wedge the window shut and by continued motion to slide into the said locking-slot and lock the window in closed position, substantially as specified.

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