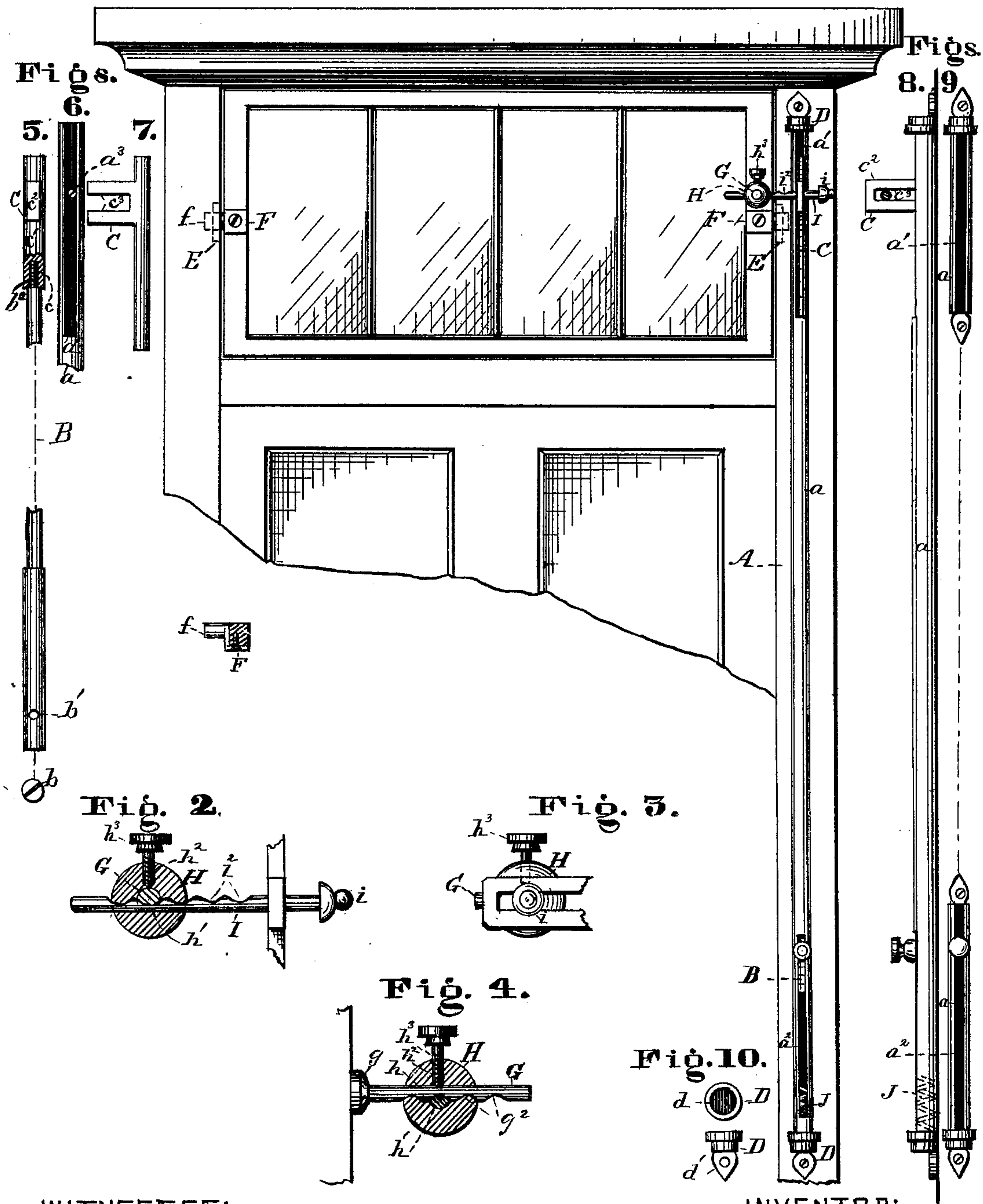


W. B. MITCHELL.
Transom-Lifter.

No. 200,869.

Patented March 5, 1878.

Fig. 1.



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IMPROVEMENT IN TRANSOM-LIFTERS.

Specification forming part of Letters Patent No. 200,869, dated March 5, 1878; application filed December 29, 1877.

To all whom it may concern:

Be it known that I, W. B. MITCHELL, of the city of New York, county of New York, and State of New York, have invented a new and useful Transom Regulator and Fastener; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention consists, mainly, in the novel combination of the actuating-rod with a removable fork-piece of special construction, and also in the combination of the fork-piece and the stud of the transom-sash with certain intermediate devices for uniting the two together, all as hereinafter more fully described and claimed.

In the drawings, Figure 1 represents a front elevation of my invention as applied to the door frame and transom. Figs. 2, 3, 4, 5, 6, 7, and 10 represent detail views of various parts; Fig. 8, a side elevation of the tube, and Fig. 9 a modification in which sections of a tube are employed instead of a continuous length.

To enable others skilled in the art to make and use my invention, I will now proceed to fully describe its construction and manner of operation.

A represents the door-frame, to which the regulator is applied. *a* represents a tube, of any proper size and suitable material, which is provided above with the slot *a*¹, open at its upper end, as shown in Fig. 6, and below with the slot *a*², closed at its lower end, as shown in Fig. 1. *a*³, Fig. 6, represents a securing-screw, by means of which the tube is supported and held from turning.

B, Figs. 1 and 5, represents the actuating-rod, which is adapted to rest in the tube *a*, and to slide freely in a longitudinal direction. *b*, Fig. 5, represents a groove or recess formed in its lower end, which is adapted to receive a screw-driver end, for purposes hereinafter explained. *b*¹ represents a threaded opening, located at any proper point between the ends of the rod, which is adapted to receive the threaded end of the set-screw knob, as shown. *b*² represents a thread cut upon the upper end of the rod, which is adapted to enter the

threaded recess *c* of the fork-piece C, as shown. This fork-piece C consists of a cylindrical portion, *c*¹, Fig. 5, and a right-angle extension, *c*², Fig. 8, having a slot, *c*³, as shown.

The cylindrical portion of the fork-piece and a proper length of the rod below are enlarged in diameter, as shown in Fig. 5, to furnish proper bearing-surfaces to guide the rod in its vertical movement.

D D, Figs. 1 and 10, represent brackets, by means of which the tube is finished at its ends and is properly held in place, which are constructed with an annular recess, *d*, adapted to receive the end of the tube, and a flattened portion, *d*¹, having an opening to receive the securing-screw, as shown. These parts are placed in position in the following manner: The tube, having the bare rod inserted therein, is first adjusted to the door-frame. If the transom-molding projects over the frame in such manner as to prevent the tube from being placed in its proper position, a hole must first be bored vertically through it, of proper size to permit the tube to pass through the same. After this has been done and the tube has been secured against turning, the fork-piece may be united to the rod by passing its cylindrical portion into the open slot *a*¹ of the tube, and by screwing the threaded portion of the rod into its socket *c*, as shown, the action being readily performed by applying a screw-driver to the lower end of the rod. The securing or finishing brackets may then be placed in the proper positions, and the set-screw knob be screwed into its proper place.

By means of this construction it will be understood that the actuating-rod and its attached fork-piece may be readily moved within the tube in a vertical direction, and it may be readily secured at any desired point.

The transom and the intermediate connections by means of which the actuating-rod is united thereto will now be described.

E E represent socket-plates, of any proper construction, which are located at any proper points in the sash-frame. F represents an angle-iron, having the projecting pivot-pin *f*, which is secured to the sash A on each side, as shown. G, Fig. 4, represents a stud secured, by means of a proper base-plate, *g*, to the face of the sash, which is provided upon its lower

side with a series of notches or recesses, $g^2 g^2$, as shown. H represents a ball or sphere, provided with an opening, h , extending through it in one direction, an opening, h^1 , extending through it at right angles thereto, and a vertical threaded opening, h^2 , extending through its upper part, which latter is provided with a set-screw, h^3 , as shown. By means of the opening h the ball is adapted to rest upon the stud G, and be properly adjusted thereon to suit the necessities of the case.

I, Fig. 2, represents a connecting-rod, having a head, i , at one end, and a series of notches or recesses, i^2 , upon its upper face, as shown. This rod is placed in position by passing the small end of the same through the slot in the fork-piece, and also through the opening h^1 in the ball H, as shown.

When the parts are properly in place the stud G of the sash will be united to the rod I by means of the ball H and its set-screw, in such manner as to prevent the separation of the parts, this result being accomplished by the recesses $g^2 i^2$, which are so interlocked that improper movement is impossible.

J, Figs. 1 and 8, represents a spring located at the bottom of the tube, which may be employed, if desired, to stop the jar.

The general operation of the regulator will be readily understood. The actuating-rod is adjusted within the tube in a vertical direction by the set-screw knob to regulate the transom-light, as may be desired. When properly adjusted, it may be held in any desired position by properly turning the set-screw knob. The movement of the actuating-rod is properly communicated to the sash by the intermediate connections described.

The fork-piece gives movement to the connecting-rod I, and the latter conveys the same, by means of the ball H, to the stud G of the transom-sash. The rod I being loosely held in the slot of the fork-piece, the necessary play incidental to the change of position of the sash and its stud is readily permitted.

The connecting-rod, by means of its peculiar construction, is adapted to make proper con-

nections between the rod and sash attachments at greater or less distances apart.

The ball D, also, may be readily adjusted upon the stud to bring the parts into the proper position relatively to each other.

If desired, the transom-sash may be pivoted at top or bottom instead of the center. In the former case the fork-piece should be inclined downward from the rod at about an angle of forty-five degrees, and in latter case inclined upward at about the same angle.

If desired, also, sections of a tube may be employed, as shown in Fig. 9, instead of a continuous length, the lower tube being slotted, as shown, to permit the working of the set-screw. Instead of the upper section, simple screw-eyes may be employed, if desired.

The fork-also, if desired, may be made solid on the rod, as shown in Fig. 7.

I am aware that it is not broadly new to operate a transom by means of a movable rod upon the door-frame.

I am also aware that a slotted tube is not new in like use, and these, separately, are disclaimed.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the actuating-rod B, the removable fork-piece C, substantially as described.

2. The combination of the fork-piece C, the rod I, and stud G with the ball H, as described.

3. In combination with the slotted tube a , the actuating-rod B, and the removable fork-piece C, the finishing-brackets D, as described.

4. In a transom-lifter, the headed rod I, having the notches or recesses i^2 , in combination with the recessed stud G and ball H, substantially as described.

This specification signed and witnessed this 19th day of December, 1877.

WILLIAM BROWN MITCHELL.

Witnesses:

RICHARD C. JONES,
J. EDGAR LEAYCRAFT.