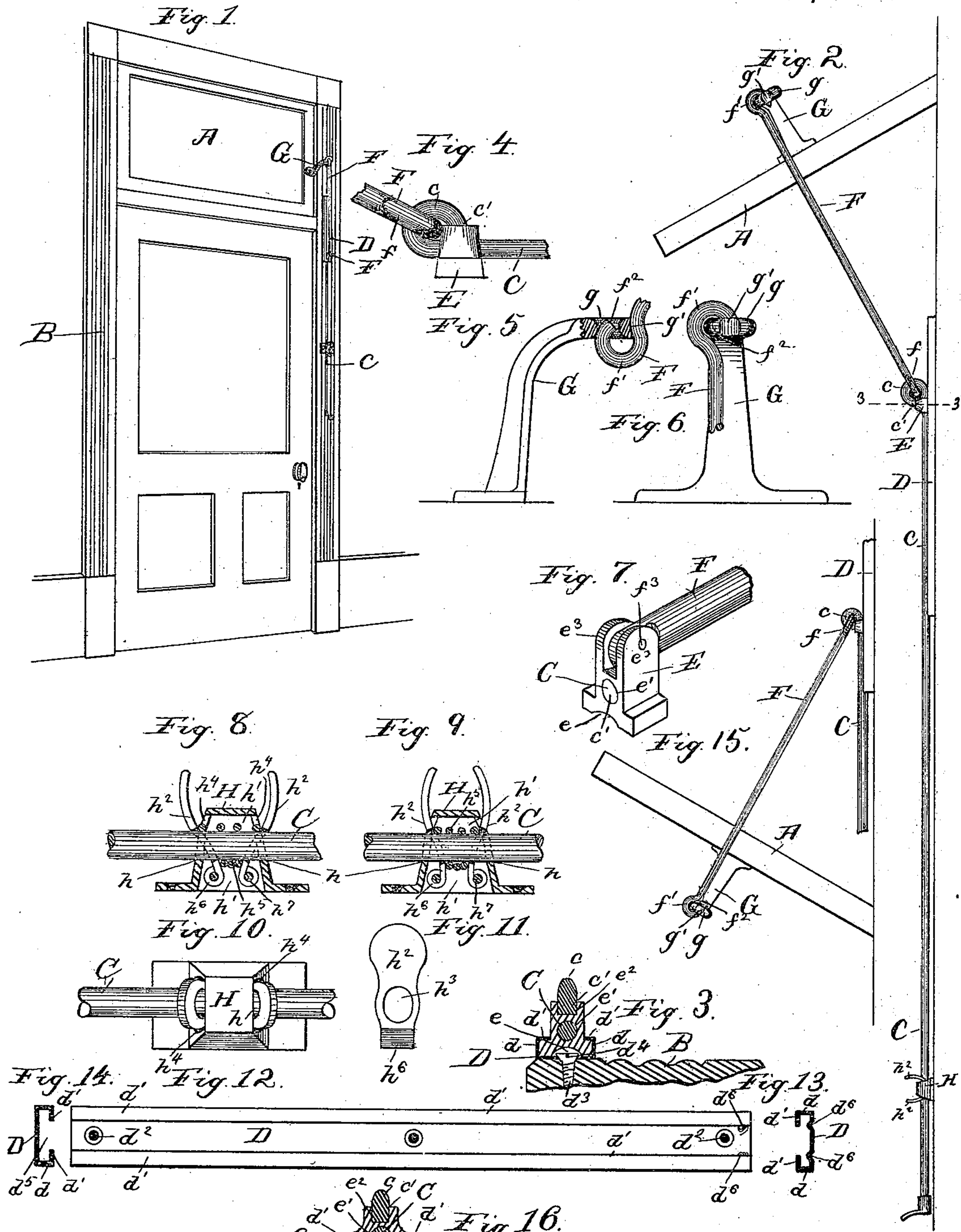


(No Model.)

E. PAYSON.
TRANSOM LIFTER.

No. 355,949.

Patented Jan. 11, 1887.



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UNITED STATES PATENT OFFICE.

EDWARD PAYSON, OF CHICAGO, ILLINOIS.

TRANSOM-LIFTER.

SPECIFICATION forming part of Letters Patent No. 355,949, dated January 11, 1887.

Application filed May 17, 1886. Serial No. 202,442. (No model.)

To all whom it may concern:

Be it known that I, EDWARD PAYSON, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Transom-Lifters, of which the following is a specification.

My invention relates to transom-lifters; and its object is to provide an efficient, easily-operated, and durable self-locking transom-lifter, of a simple, light, and cheap construction, which is reversible or applicable for use upon a top, bottom, end, or center hung transom, and which may also be readily and securely applied to door-casings having narrow beads or margins.

My invention consists, in connection with the sliding operating-rod and the connecting-rod, of a cross-head secured in place by the coil or eye at the extremity of said operating-rod, the cross-head having a socket or recess which receives the end of said coil. In this way the same means which forms the eye for the connecting-rod also serves to secure the cross-head in place.

It also consists in a continuous sheet-metal guide for the cross-head, composed of a narrow strip of sheet metal, preferably sheet-steel, from about one-sixteenth to one thirty-second of an inch in thickness, having its edges folded at an angle to form a groove or guide for the cross-head to reciprocate in or upon. The flat part of the guide, which fits upon the bead or margin of the door-casing, is furnished with central screw-holes for securing the guide directly to the casing, and to prevent the screw-heads from obstructing the sliding movement of the cross-head the cross-head is grooved or channeled, so as to fit astride the screw-heads. In this way, as the sheet-metal guide is very thin and as it is secured by central screws directly to the casing, it may be securely fitted upon a very narrow bead or margin of the casing, and owing to the thinness of the guide the cross-head is brought very close to the casing, so that the strain of the transom upon the cross-head exerts very little side leverage upon the guide, tending to rack or loosen the guide or wrench it from the casing. Where it is desired to secure my guide to a round or oval bead, the back of the sheet-metal

guides may be given a concave form to conform to the shape of the bead. I ordinarily form stops for the cross-head near the upper end of the guide by simply indenting the back of the guide, so that the cross-head cannot slip through.

The invention also consists in providing the eye of the cast bracket, which is secured to the transom, with an outside notch at its end, so that the open or partially-open eye of the connecting-rod may be connected or disconnected therefrom before the parts of the transom-lifter are applied to the transom, while they cannot be so disconnected after the parts are put together and applied. By this means I am enabled to put my transom-lifter together either for a bottom-hung or a top-hung transom or a center-hung transom, while at the same time there is no possibility of an accidental disconnection of parts after the transom-lifter is once applied in one way or the other.

The invention also consists, in connection with a transom-lifter-operating rod, of a self-acting locking device therefor, consisting in a spring clamp or leaf or a pair of spring-levers mounted in a suitable guide bracket or case. Said clamp or clamps have an opening for the operating-rod somewhat larger than the rod, so that when the spring clamp or clamps are turned or held at about right angles to the operating-rod said rod may slide freely through the same; but when the spring clamp or clamps occupy an inclined position they will bind upon the operating-rod and hold it immovable. Two of these binding leaves or clamps are preferably employed, and a spiral spring surrounding the operating-rod will serve to press them apart or incline them so that they will bind upon and hold the rod stationary.

In the accompanying drawings, which form a part of this specification, and in which similar letters of reference indicate like parts, Figure 1 is a perspective view of a device embodying my invention. Fig. 2 is an enlarged side elevation. Fig. 3 is an enlarged section on line 3 3 of Fig. 2. Fig. 4 is an enlarged detail side elevation of the cross-head. Figs. 5 and 6 are detail views of the transom-bracket and its notched or narrowed eye. Fig. 7 is a perspective view showing a modified form of the cross-head. Figs. 8 and 9 are enlarged

detail longitudinal sectional views of the locking device. Fig. 10 is a front view of the same. Fig. 11 is a detail of one of the locking-levers. Figs. 12, 13, and 14 are detail, front, and end views of the sheet-metal guide. Fig. 15 is a view similar to Fig. 2, showing the transom-lifter applied to a bottom-hung transom; and Fig. 16 is a cross-section showing a modified form of the guide and cross-head.

In said drawings, A represents the transom; B, the door-casing; C, the operating-rod; D, the sheet-metal guide secured to the casing; E, the cross-head; F, the connecting rod or link, and G the bracket which is secured to the transom.

The sheet-metal guide D should ordinarily be about a foot long, depending, of course, upon the size of the transom and extent of movement which it is desired to impart to the cross-head E, and it is formed of a continuous strip of sheet metal by bending or folding its edges up at an angle, and preferably forming a right-angle wall or side, d , having an inwardly or outwardly turned flange, d' , as shown in Figs. 14 or 16. The back or body part of the guide is provided with screw or nail holes d^2 , preferably on about the central or median line of the guide, and d^3 are the screws by which the guide is secured to the casing. As the guide fits flat and directly upon the casing and the screws pass directly through the guide, it can be securely fixed to a very narrow bead or marginal part of the casing. The screw-holes d^2 are slightly beveled or countersunk in the guide, as indicated in Fig. 12; but as the guide is comparatively thin, the screw-heads d^4 will project up more or less into the groove or space d^5 for the cross-head E, and to prevent the screw-heads obstructing the movement of the cross-head, I provide the same with a channel or groove, e , on its under face, so that it may freely pass over the head of the screws. The central opening, d^5 , between the flanges d' of the guide is made wide enough to admit the head of the screw and screw-driver, so that the guide may be easily secured in place. Slight projections d^6 are provided near the end of the guide by indenting the sheet metal or otherwise, to form stops for the cross-head E.

The cross-head E is furnished with a hole or opening, e' , through which the operating-rod C is inserted, and the cross-head is secured in place by the extremity c' of the coil or eye c , fitting in a recess, e^2 , in the cross-head. In this way no shoulder has to be cut upon the rod C, or other provision made to secure the cross-head in place.

The connecting-rod F is furnished with a coil or eye, f , linked into the coil or eye c on the rod C, thus connecting it by a double or universal joint with said rod. The rod F is also provided with an eye or coil, f' , on its opposite end, which eye has a contracted opening, f^2 , so that it may be readily hooked into the eye g of the bracket G at the exterior notch or narrowed part, g' , in said eye g . The notch g'

is located at the extremity of the bracket G or of its eye g , as shown in Figs. 5 and 6, so that the rod F cannot be disengaged from the bracket G when the transom-lifter is attached to the transom or in operation, as indicated in Figs. 2 and 15, and so that it may still be capable of being readily engaged or disengaged before the transom-lifter is applied to the transom. In this way the same transom-lifter may be applied to a top-hung transom, as shown in Fig. 2, or to a bottom-hung transom, as indicated in Fig. 15, by simply reversing the rod F, as indicated in Figs. 2 and 15. In Fig. 2 it will be observed that the hook or eye f of the rod F engages the lower limb of the eye g , while in Fig. 15 it engages the upper or opposite limb of said eye g .

The bracket G is secured in the usual manner by screws to the transom-frame.

To a center-hung transom the transom-lifter will be applied, as indicated in Fig. 2 or in Fig. 15, according as the bracket G is secured to the transom below or above its center or pivot.

The double or universal joint formed between the rods C and F by their eyes c and f is often a matter of great convenience in putting up the transom-lifter, as it enables the operating-rod C and the guide D to be placed to either side of a vertical line passing through the eye g of the bracket G in cases where it is not convenient to locate them directly in line therewith. However, the ordinary hinge or umbrella joint, as indicated in Fig. 7, may be used where desired. In this case the rod F is pivoted to ears e^3 on the cross-head E by a pin, f^3 , and the rod C is furnished with a shoulder, and its end riveted or upset to secure the cross-head thereon.

H is a locking case or bracket for the lower part of the operating-rod C, having an opening, h , through which said rod passes, and preferably cast in the form of a hollow shell or box. In the interior h' of this bracket H a pair of locking devices or clamps, h^2 , are pivoted. These locking devices or friction-clamps h^2 preferably consist each of a narrow strip of sheet metal having an opening, h^3 , for the rod C to pass through, and they project out through suitable slots or openings, h^4 , in the guide-block H. A spiral spring, h^5 , surrounding the rod C, serves to incline the clamps h^2 , as shown in Fig. 8, so that the edges of the openings h^3 will bind upon the rod C and securely hold the same. By pressing the two friction-clamps h^2 together, as indicated in Fig. 9, the rod C may be moved freely up or down.

The leaves or clamps h^2 may be pivoted to the locking case or bracket H, in any suitable manner—as, for example, by furnishing said clamps with eyes h^6 and pivot-pins h^7 . By these spring-clamps, having holes through which the smooth operating-rod passes, said rod may be held in any desired position without providing it with any notches, and the clamps are self-acting. The operating-rod C has a handle, c^2 , upon its lower end.

Thereby expressly disclaim the device shown and described in Letters Patent No. 243,613 to F. V. Phillips, granted June 28, 1881. I make no claim to any form of cast guide for the cross-head, such as shown and described in said Phillips, patent.

I claim—

1. The transom-lifter consisting in the combination of an operating-rod with a cross-head secured thereto having a channeled under surface, a continuous sheet-metal guide having central screw-holes, a reversible connecting-rod having an open eye, a transom-bracket having an exteriorly-notched eye, and a pair of spring-clamps having openings through which said operating-rod passes, substantially as specified.

2. In a transom-lifter, the combination, with a guide and connecting-rod, of a cross-head, E, having recess e^2 , and an operating-rod, C, inserted through said cross-head and having a coil or eye, c , the extremity of which enters said recess in said cross-head, whereby the cross-head is secured in place, substantially as specified.

3. In a transom-lifter, the combination, with an operating-rod, cross-head, and connecting-rod, of a thin sheet-metal guide, D, having a smooth back wall and folded side edges forming a smooth groove or channel for said cross-

head, the cross-head fitting against the back wall of said guide, whereby the inward and side pressure of the connecting-rod is prevented from exerting twisting or bending strains on said guide, substantially as specified.

4. In a transom-lifter, the combination, with a connecting-rod, F, furnished with a coil or eye, f' , having a contracted opening, f^2 , of a transom-bracket, G, furnished with an eye, g , having a notched or narrowed part for engaging and disengaging said eye f' , whereby the transom-lifter may be applied either to a bottom-hung or a top-hung transom, substantially as specified.

5. The combination, with a transom, of a transom-bracket, a connecting-rod, a smooth vertically-sliding operating-rod having a handle near its lower end, a locking-case bracket, H, having a guide hole or opening through which said operating-rod passes, a pair of pivoted clamps, $h^2 h^2$, having thumb-pieces integral therewith, and openings $h^3 h^3$ for said operating-rod, and a spring, h , between said clamps, said thumb-pieces projecting through openings or slots in the front face of said bracket H, substantially as specified.

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