

A. FROMHOLD.  
 TRANSOM LIFTER, &c.  
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1,021,308.

Patented Mar. 26, 1912.  
 2 SHEETS—SHEET 1.

Fig. 2.

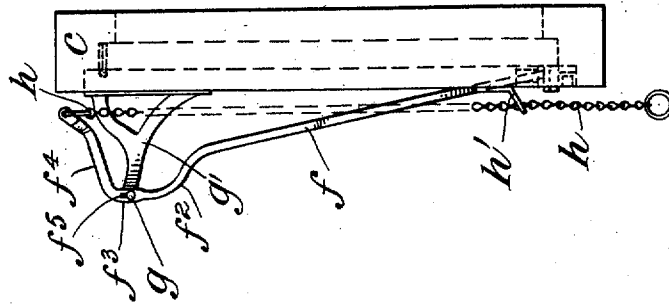
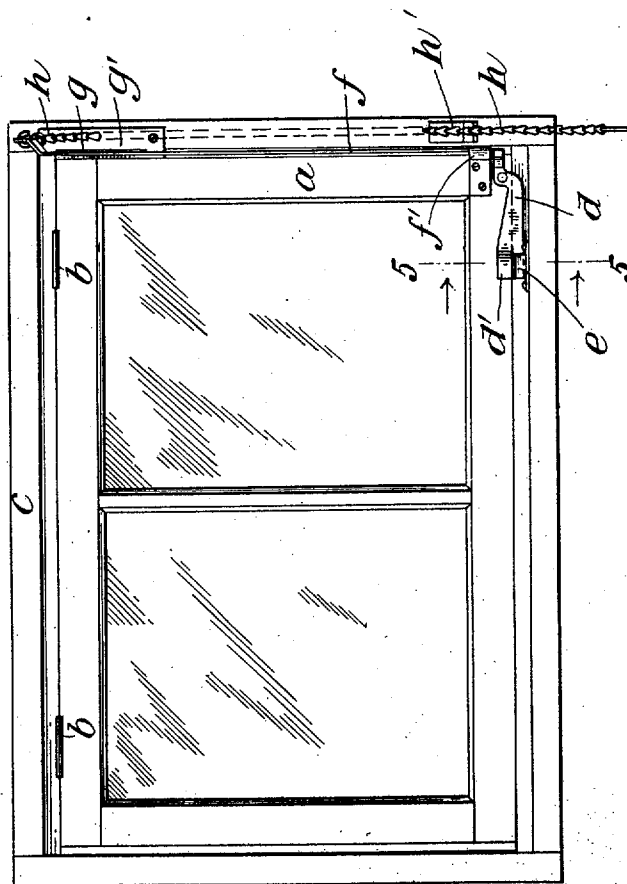


Fig. 1.



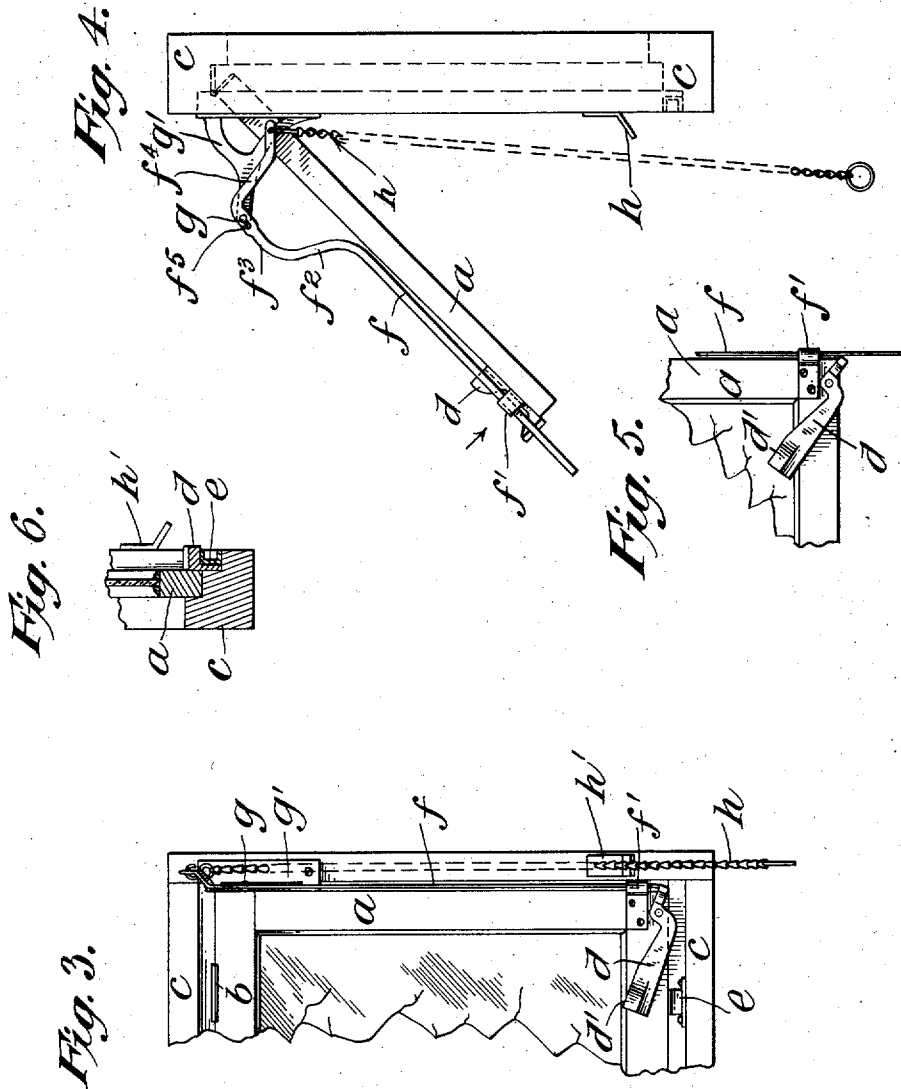
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2 SHEETS-SHEET 2.



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# UNITED STATES PATENT OFFICE.

ALEXANDER FROMHOLD, OF RUTHERFORD, NEW JERSEY.

TRANSOM-LIFTER, &c.

1,021,308.

Specification of Letters Patent.

Patented Mar. 26, 1912.

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*To all whom it may concern:*

Be it known that I, ALEXANDER FROMHOLD, a citizen of the United States, residing in Rutherford, Bergen county, State of New Jersey, have invented certain new and useful Improvements in Transom-Lifters, &c., of which the following is a specification, reference being had to the accompanying drawings, which form a part hereof.

In Letters Patent of the United States No. 977,291 dated November 29, 1910, there are shown and described certain improvements in mechanism for locking and unlocking, opening and closing transoms, shutters, etc., such improvements being adapted especially to outwardly opening transoms, etc.

The present invention relates to mechanisms of the same general character or intended for the same general purposes, but has for its object to provide improved devices for locking and unlocking and for opening the transom, the improved devices being especially applicable to inwardly opening transoms or shutters, that is, shutters which open toward the side on which they are operated.

The invention will be more fully explained hereinafter with reference to the accompanying drawings in which it is illustrated as embodied in a suitable frame and in which—

Figure 1 is a view in front elevation of a transom equipped with the improved mechanism, the transom being locked. Fig. 2 is a view of the same as seen from the right hand in Fig. 1. Fig. 3 is a partial view in front elevation showing the transom unlocked. Fig. 4 is a view similar to Fig. 2 but showing the transom opened part way. Fig. 5 is a detail view in front elevation showing a portion of the transom with the latch and operating bar in the relative positions which they assume when the transom is partly open, as shown in Fig. 4. Fig. 6 is a detail view in section on the plane indicated by the broken line 5—5 of Fig. 1, looking in the direction of the arrows.

In the application of the invention shown in the drawings, a glazed transom *a* of ordinary construction is hinged at its upper edge, as at *b b*, in a frame or casing *c*. A transom hung in this manner is closed by gravity, when released, but it will be obvious that the invention might be applied to a transom or shutter or door hung in

some other manner and arranged to be closed either by the weight of the transom itself or by an applied weight or spring. Near the edge of the sash is pivoted a latch *d*, which is arranged to move automatically to locking position, its longer arm being preferably weighted, as indicated at *d'*. The latch is adapted to engage a catch *e* which is secured to the casing *c*. The shorter arm of the latch *d* stands normally in the path of an operating rod or lever *f*, the end of such lever resting upon the short arm of the catch, as shown in Figs. 1 and 2. A guide *f'*, in which the lever *f* may move longitudinally and may also swing somewhat, is secured to the sash, preferably in close proximity to the latch *d*. Near its upper end the lever is bowed outwardly or away from the sash, that is, it is bent outwardly, as at *f<sup>2</sup>*, away from the sash, and then vertically or substantially parallel with the sash, as at *f<sup>3</sup>*, and then inwardly or toward the sash, as at *f<sup>4</sup>*, so that it may be pivoted in a plane remote from the sash. It is mounted upon a pivot *g* which may be supported by a suitable bracket *g'*, and is capable of having a limited longitudinal movement, that is, movement substantially parallel with the sash, being shown as slotted for this purpose, as at *f<sup>5</sup>*, to engage the pivot. The lower portion or longer arm of the lever *f* is preferably straight, as shown, so that it may move freely through the guide *f'* when the transom is opened or closed. To the shorter arm *f<sup>4</sup>* of the operating lever is connected the operating rod or chain *h*, a clip or fastening device *h'* being conveniently secured to the casing for engagement with the operating lever to hold the transom in any desired position.

It will now be seen that in the operation of the improved lifter or operating mechanism, a pull downward on the chain *h* draws the operating lever *f* downward, as permitted by the slot therein, and causes the lever to press downwardly upon the short arm of the latch *d* and thereby to disengage the latch from the catch *e*, the lever *f* having been held in its upper position by the over-balanced latch. In the unlocking of the transom in this manner, the pull on the operating chain or rod is substantially in the same direction as that of the operating lever *f*, so that there is at that time no great tendency to swing the transom upon its hinges. After the latch has been dis-

engaged from the catch, however, and the sash is swung slightly away from the frame, the shorter arm  $f^4$  of the operating lever, by reason of its shape and of the location of the pivot  $g$  in a plane at some distance from the sash, acts with a rapidly increasing leverage to cause the lower and longer arm of the lever to swing away from the casing. As the longer arm of the lever is in engagement with the sash through the guide  $f'$ , the sash itself is swung away from the casing at the same time and to an extent determined by the movement of the operating lever. When the sash has been opened to a sufficient extent the rod or chain  $h$  is engaged with the clip or fastening  $h'$  so that the sash is thereby retained in the desired position. When the chain is released from the catch the transom swings immediately to its closed position and as it reaches its closed position the lower end of the operating lever  $f$  rises above the short arm of the latch  $d$  and permits the latch to close quickly, but gradually, so that there is no rebound of the latch. This is a very desirable feature as the locking of the transom is thereby assured even when the transom is released quickly, as by the fusing, through the heat of fire, of a fusible link in the chain which holds the transom open.

It will be obvious that form and arrangement of parts of the improved device will be varied to suit different conditions of use and that the invention, therefore, is not limited to a particular construction and arrangement shown and described herein.

I claim as my invention:—

1. The combination with a transom adapted to swing to closed position when released, of a latch mounted on the transom and moved by gravity into operative position, a catch mounted on the frame or casing, and a lever pivotally supported on the frame or casing, engaging the transom, bearing directly against the latch and having a limited longitudinal movement with respect to its pivot, whereby operative movement of the lever first disengages the latch and then moves the transom.
2. The combination with a transom adapted to swing to closed position when released, of a latch mounted on the transom and moved by gravity into operative position, a catch mounted on the frame or casing, a guide secured to the transom, and an operating lever pivotally supported on the frame or casing, movable longitudinally

through said guide, having a limited longitudinal movement with relation to its pivot, and bearing directly against an arm of said latch, whereby operative movement of the lever first disengages the latch and then moves the transom.

3. The combination with a transom adapted to swing to closed position when released, of a weighted latch mounted on the transom and having a short opposed arm and moved by gravity into operative position, a catch mounted on the frame or casing, a guide secured to the transom, and an operating lever pivotally supported on the casing, adapted to have a limited longitudinal movement with relation to its pivot, engaging said guide, and bearing directly against the short arm of the latch, whereby operative movement of the lever first disengages the latch and then moves the transom.

4. The combination with a transom adapted to swing to closed position when released, of a latch mounted on the transom, a catch mounted on the frame or casing, a guide secured to the transom, a supporting bracket secured to the frame or casing, and an operating lever bent outwardly from the casing and pivotally mounted on said bracket, in its bowed portion, in a plane remote from the transom with freedom for limited longitudinal movement with relation to its pivot, engaging said guide and cooperating directly with said latch, whereby operative movement of the lever first disengages the latch and then moves the transom.

5. The combination with a transom adapted to swing to closed position when released, of a pivoted weighted latch mounted on the transom normally held in operative position by gravity and having an oppositely extended short arm, a catch mounted on the frame or casing, a guide secured to the transom and an operating lever pivotally supported on the frame or casing, adapted to have limited longitudinal movement on its pivot and bearing directly upon the short arm of said latch whereby the latter is disengaged upon the said longitudinal movement of the operating lever.

This specification signed and witnessed this 12th day of August A. D. 1911.

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Witnesses:

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