F. A. REIHER.

TRANSOM-LIFTER.

No. 188,947. Patented March 27, 1877.

Fig. 1

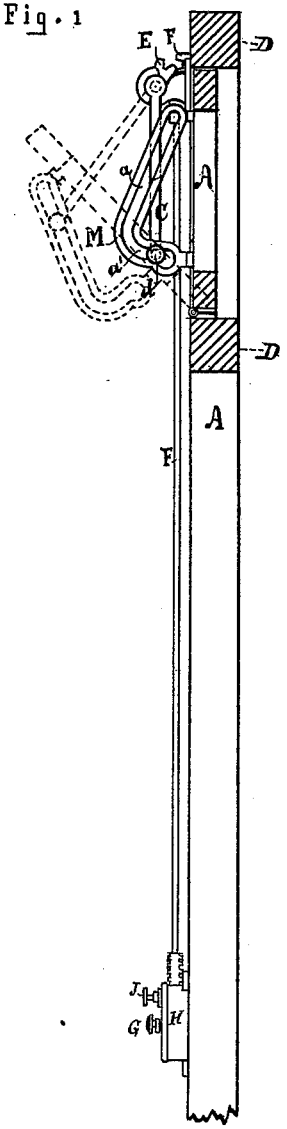


Fig. 4

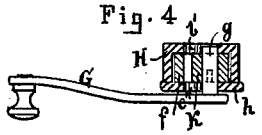


Fig. 5

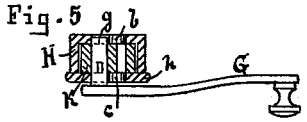


Fig. 6

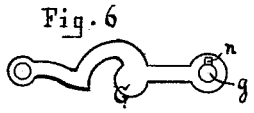


Fig. 3

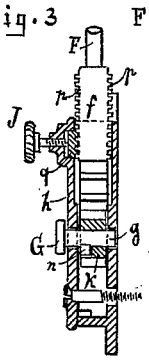


Fig. 2

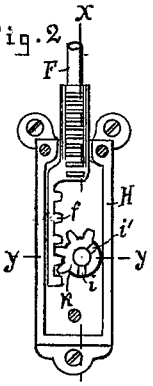
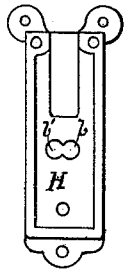


Fig. 7



WITNESSES:

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N. C. Collins

INVENTOR:

Frank A. Reiher.

UNITED STATES PATENT OFFICE.

FRANK A. REIHER, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF HIS RIGHT TO C. T. BOLLMANN, OF SAME PLACE.

IMPROVEMENT IN TRANSOM-LIFTERS.

Specification forming part of Letters Patent No. **188,947**, dated March 27, 1877; application filed February 5, 1877.

To all whom it may concern:

Be it known that I, FRANK A. REIHER, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Transom-Lifters, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

This invention relates to certain improvements in transom-lifters on which Letters Patent No. 186,166 were granted to the undersigned, dated January 9, 1877; and these improvements consist in the peculiar construction of the rail attached to the transom-sash; also, in the mode of operating the rack-rod, and in the arrangement of the parts in the casing, to adapt the same castings for right or left hand transoms.

In the drawings, Figure 1 shows a section of a door-frame and transom-sash with the improved transom-lifter affixed thereto. Fig. 2 shows the arrangement of the parts operating the rack-rod, the cover being removed. Fig. 3 is a vertical section to line *x x* of Fig. 2. Figs. 4 and 5 are cross-sections to line *y y* of Fig. 2. Fig. 6 shows a plan view of the handle inverted. Fig. 7 shows the casing separate.

The transom-sash A, hinged to the door-frame D in the usual manner, is provided with the slotted guide-rail M, and the arm C, operating with the finger *d* in the slot *a* of the guide-rail, adjusts the position of the transom in a similar manner to that shown in the patent referred to, by means of segment E and rack-rod F.

The slot *a* in guide-rail M is inclined to the sash A, and bends almost vertically toward the sash at the most elevated end *a'*. The inclined position of the slot will allow a wider opening of the sash, the slot being nearest to the sash at its outer or end opposite the hinge.

When the transom-sash is closed, as shown in Fig. 1, the finger *d* of the arm C will enter the slot part *a'*. The sash cannot be opened by pushing against its outer side, as such a pressure will cause the inside of the rail M to bear against the finger *d*. The rail is rigidly affixed to the transom-sash, and the finger *d* and arm C will resist a direct pull. It will be seen that the transom-sash is thus locked, and can be opened only by a swinging movement of the arm C. The slot part *a'*, in conjunction with the finger *d* and arm C, forms a perfect and secure lock.

The rod F is provided at its lower end with another rack, *f*, gearing to the pinion-segment K, which is made to turn with the pin *g* of the crank or handle G, all arranged in the casing H, as shown in Fig. 2. This casing (shown detached in Fig. 7) is made to answer for transom-lifters to be operated from the right or left hand side of the door; and to this end it is provided with two holes, *b* and *b'*, situated close together, so as to form one orifice, and these, with corresponding holes *c* and *c'* in the cover-plate *h*, serve as a bearing for the pin *g*.

For transoms to be operated from the left-hand side of the door the rack *f*, with pinion-segment K, is arranged as shown in Figs. 2 and 5. The pin *g* is centered in the holes *b* and *c*. For transoms operated from the right-hand side of the door the rack *f* is inverted, and the pinion-segment K, with pin *g*, is centered in the holes *b'* and *c'*, as shown in Fig. 4.

The pinion-segment K is provided with two recesses, *i* and *i'*. The projection or beard *n* on pin *g* drops into one of these recesses, and by its rotation carries the pinion with it. The projection *n* is situated under the cover *h*, in such a manner as to keep the pin *g*, with handle G, in proper place. These cannot be taken out after the cover is fastened to the casing.

The upper part of rack *f*, where it connects to the rod F, is made square, and its surface, above and below, is provided with a number of corrugations or small teeth, *p*. A little plate, *q*, provided with corresponding corrugations, is situated in a recess formed in the cover *h*, and, by means of the thumb-screw J, serves to hold the rack-rod F, and, consequently, the transom-sash, secure in any desired position.

It will be seen that one set of parts will answer alike for left or right hand transoms.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The rail M, with slots *a* and *a'*, acting in conjunction with the arm C and finger *d*, for the purpose set forth.

2. The combination of the rack *f*, pinion-segment K, handle G, and pin *g* with the casing H and cover *h*, all arranged as shown and described.

3. The rack *f*, with its corrugated surfaces *p p*, in combination with the plate *q* and thumb-screw J, as and for the purposes set forth.

FRANK A. REIHER.

Witnesses:
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J. C. RICHARDS.