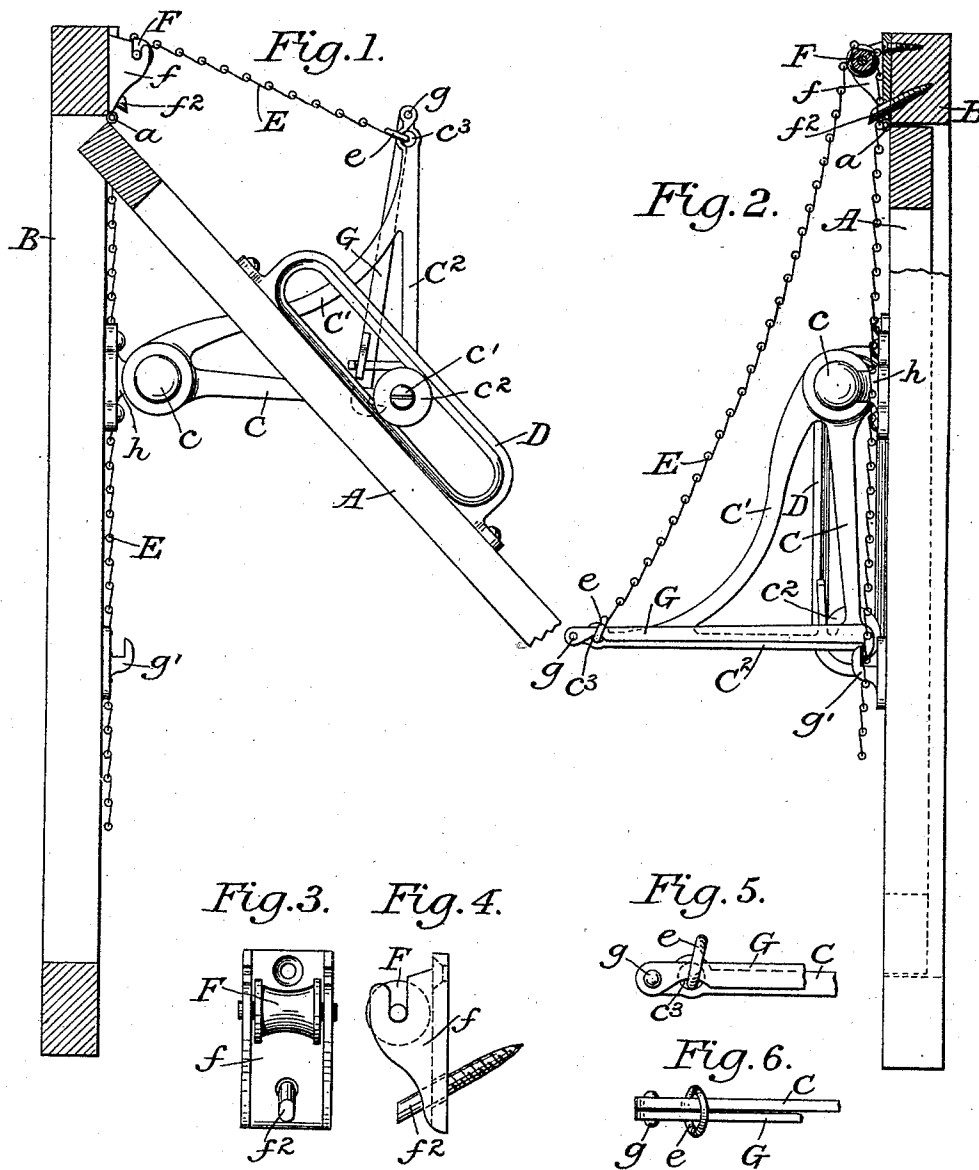


J. H. & W. A. ROSE.

TRANSOM LIFTER.

No. 474,065.

Patented May 3, 1892.



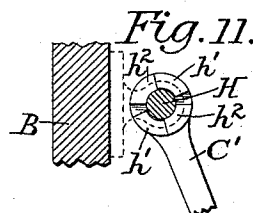
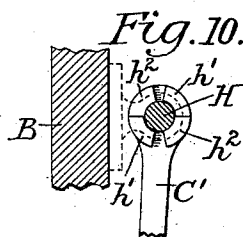
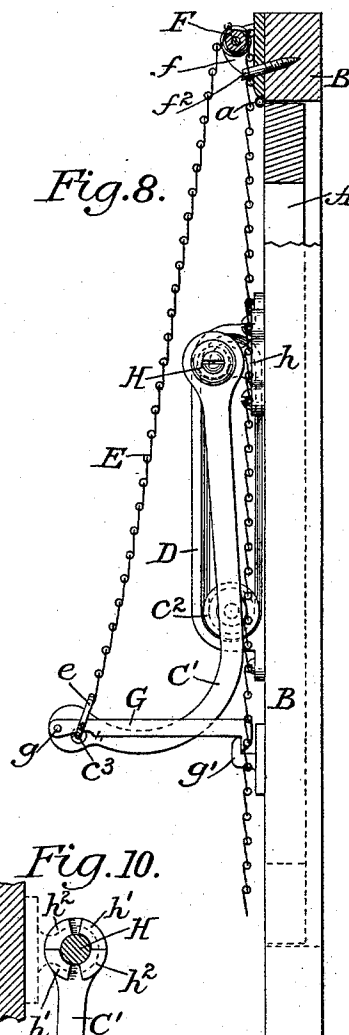
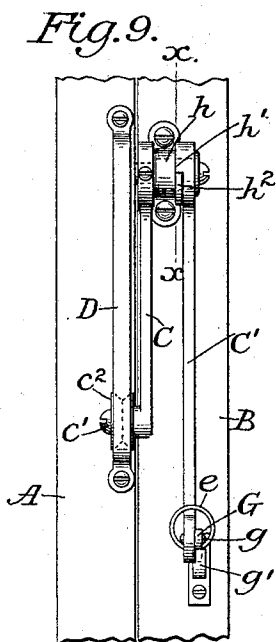
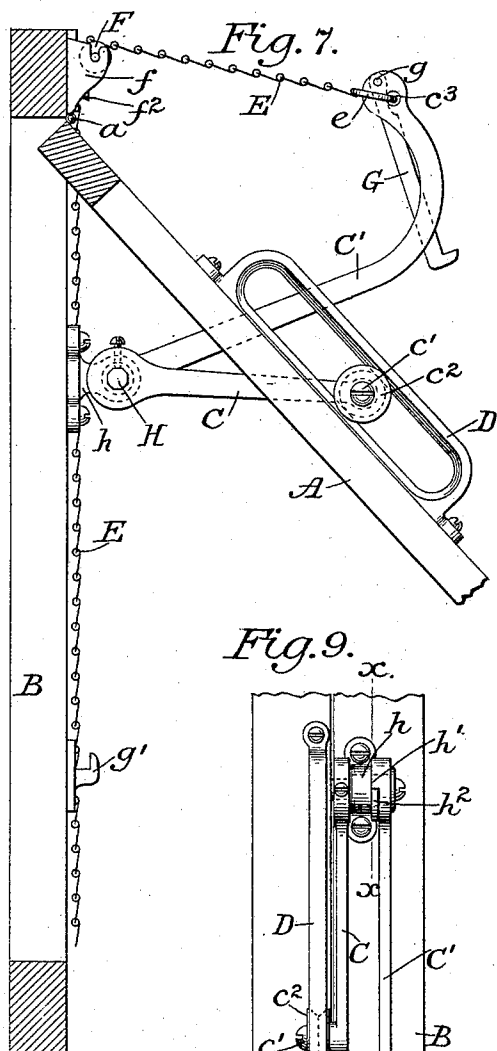
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UNITED STATES PATENT OFFICE.

JEFFREY H. ROSE AND WILLIAM A. ROSE, OF BROOKLYN, NEW YORK.

TRANSOM-LIFTER.

SPECIFICATION forming part of Letters Patent No. 474,065, dated May 3, 1892.

Application filed February 5, 1892. Serial No. 420,433. (No model.)

To all whom it may concern:

Be it known that we, JEFFREY H. ROSE and WILLIAM A. ROSE, both of Brooklyn, in the county of Kings and State of New York, have
5 invented certain new and useful Improvements in Devices for Opening Transoms, Windows, &c.; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accom-
10 panying drawings, and to the letters of reference marked thereon, making a part of this specification.

Our invention relates particularly to devices for opening transoms, although, as will
15 appear hereinafter, the improved device may be applied equally well to other forms of hinged windows, skylights, or doors.

Our object is to improve generally the construction and operation of such devices, and
20 particularly to make the transom self-locking, to enable the transom first to be unlocked and then to be opened by a steady pull upon a single cord or chain, and to provide improved means for holding the transom in any desired
25 position.

To these ends the invention consists in the device hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a vertical section through a transom sash and
30 frame, showing our improved lifter in elevation. Fig. 2 is an elevation of the same from the opposite side, a portion of the frame and sash being broken out and the transom represented as closed. Figs. 3, 4, 5, and 6 are
35 detail views of features to be referred to. Figs. 7 and 8 are views similar to Figs. 1 and 2, and illustrate a form of our device which may be preferred for some uses. Fig. 9 is a front view of the device shown in Figs. 7 and
40 8; and Figs. 10 and 11 are sectional detail views on the line *xx* of Fig. 9, showing the parts in different positions.

In the drawings we have represented the device as applied to a transom-sash A, hinged,
45 as at *a*, along its upper edge to a frame B. In this case the transom closes by gravity; but it will be obvious that it might be hinged along one side and closed by a spring or an equivalent weight and our lifter or opener
50 correspondingly changed in position without other modification. A lever-arm C is pivoted at one extremity, as at *c*, to the frame B, and

at the other extremity has a sliding engagement with the sash, as by a projection *c'*, which engages a slotted plate or bar D, fixed
55 to the sash. Preferably said projection bears an anti-friction roller *c²*. A second lever-arm C' is pivoted at the point *c* and is connected to the lever-arm C, being, in the construction shown in Figs. 1 and 2, rigidly connected
60 thereto at the pivot end and further connected by a brace C². At or near the free end of the lever-arm C' is attached a cord or chain E, which is passed over a guide-roller F, carried by a suitable bracket *f*, and thence
65 led to any convenient point. A latch G is pivoted to the arm C', as at *g*, and is adapted to engage automatically with a latch-piece *g'*, which is fixed to the frame B. Near the pivot-point *g* the arm C' is formed with an eye
70 *c³*, and the last link *e* of the chain E is passed through said aperture *c³* and about the latch G. A pin *f²* is fixed to the frame or to the bracket *f* in position to be engaged, when desired, by the chain E.

The operation of the device is as follows:
75 The cord or chain E being put under tension first raises the latch G to disengage it from the hook *g'*. The latch moves sufficiently to permit the link *e* to come in contact with the
80 upper side of the opening *c³* in the end of the arm C'. The strain is thus transferred from the latch to the arm itself, and a continued pull upon the chain swings both arms upon the pivot, and thereby, through the engage-
85 ment of the arm C with the sash, causes the latter to swing upon its hinges. When the transom has been opened to the desired extent, the free end of the chain is carried toward the frame, thereby causing the chain to
90 engage the pin *f²* and to hold the transom in the desired position.

In Figs. 7 to 11, inclusive, we have shown a form of our device which may be somewhat
95 more expensive, but is intended to be used when the projection of the arm C' from the frame or casing to the extent represented in Fig. 2 might be objectionable. In this case the lever-arm C', instead of being rigidly connected to the arm C, is movable to a limited
100 extent with respect thereto, so that while it stands out only a short distance from the casing when in its lowest position it may be first drawn out alone by the cord or chain

without moving the arm C until it reaches a position with respect to the said arm C, as indicated in Fig. 7, where the same or a greater amount of leverage may be exerted on the transom as with the longer rigid arm shown in Figs. 1 and 2. Any convenient means may be employed to connect the two arms so as to provide for the lost motion between them; but we prefer the means shown in the drawings and described below. The arm C is fixed to a short shaft H, which has a bearing in a bracket h. The arm C' is loose upon the shaft and is formed with lugs h', which may be engaged by lugs h², formed upon the shaft. The space between the lugs h' is greater than the width of the lugs h² in accordance with the degree of lost motion desired between the two arms. The arm C is preferably made adjustable upon the shaft H to permit it to be placed in different positions, according to the requirements of its use. For this purpose we have shown the arm as having an angular hole to fit upon the reduced prismatic end of the shaft H. Any suitable means may be employed to prevent lateral displacement of the arms upon the shaft.

We do not intend to limit ourselves to the exact shape of the levers shown nor to the manner of their engagement with each other and with the transom, nor to the form of latch shown, as these features may be varied widely.

We claim as our invention—

1. The combination, with a hinged sash or

door and its frame, of two lever-arms pivoted to the frame, means to connect said arms with limited lost motion between them, one of said arms having a sliding engagement with the transom, and a cord or chain attached to the free end of the other arm, substantially as shown and described.

2. The combination, with a hinged sash or door and its frame, of two lever-arms pivoted to the frame and connected to each other, one of said arms having a sliding engagement with the sash, a latch carried by the other arm, and a cord or chain connected to said last-named arm and adapted to trip said latch, substantially as shown and described.

3. The combination, with a hinged sash or door and its frame, of two lever-arms pivoted to the frame and connected to each other, one of said arms having a sliding engagement with the transom, a chain attached to the free end of the other arm, a guide for the chain, fixed to the frame, and a pin fixed to the frame near the guide and adapted to be engaged by the chain, substantially as shown and described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JEFFREY H. ROSE.
WILLIAM A. ROSE.

Witnesses:

A. N. JESBERA,
W. B. GREELEY.