

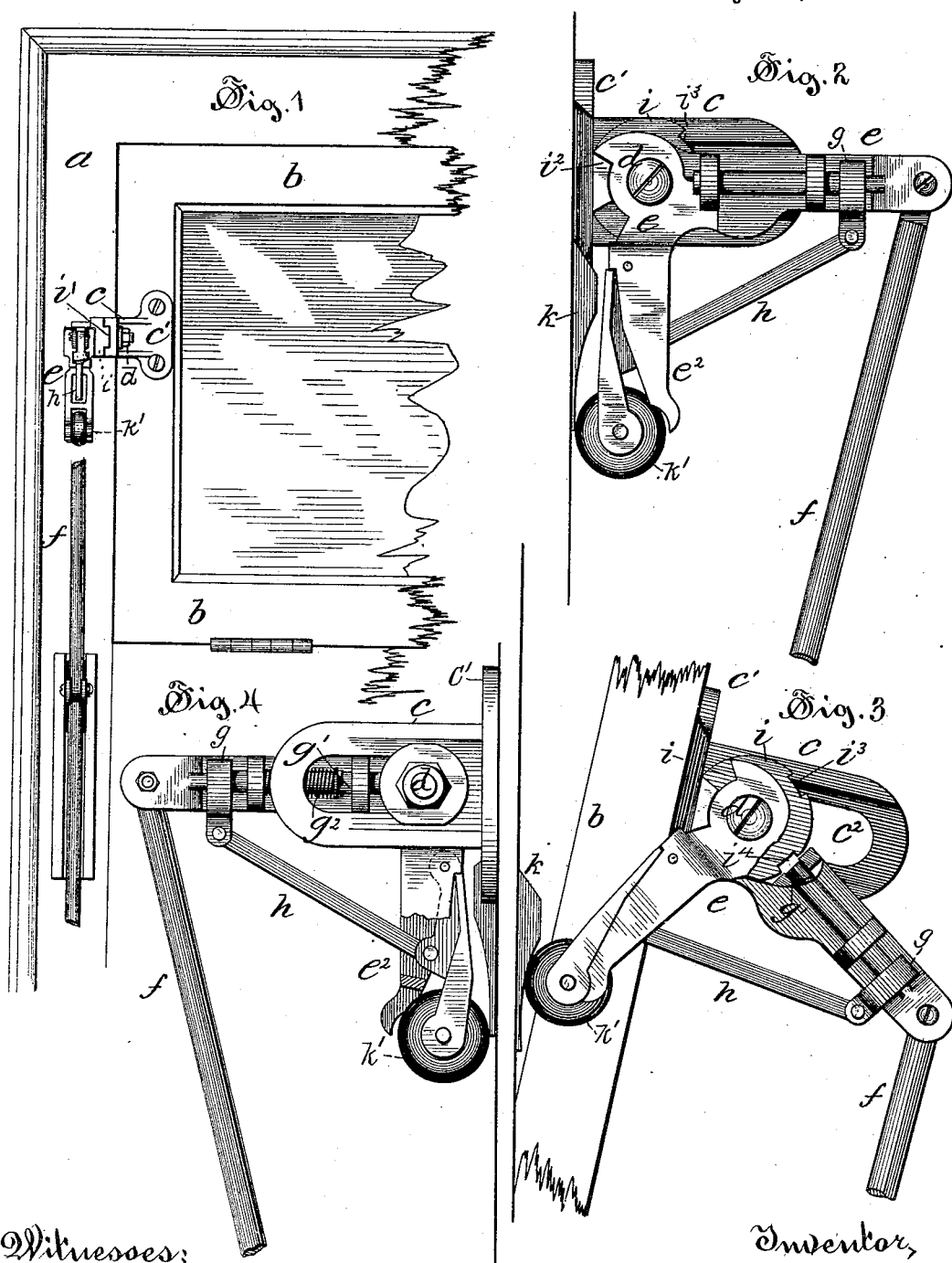
(No Model.)

2 Sheets—Sheet 1.

G. S. PERKINS.
TRANSOM LIFTER.

No. 386,343.

Patented July 17, 1888.



Witnesses:
A. R. Williams,
A. B. Jenkins.

Inventor,
Gustavus S. Perkins,
by Simonds & Burdett,
attorneys.

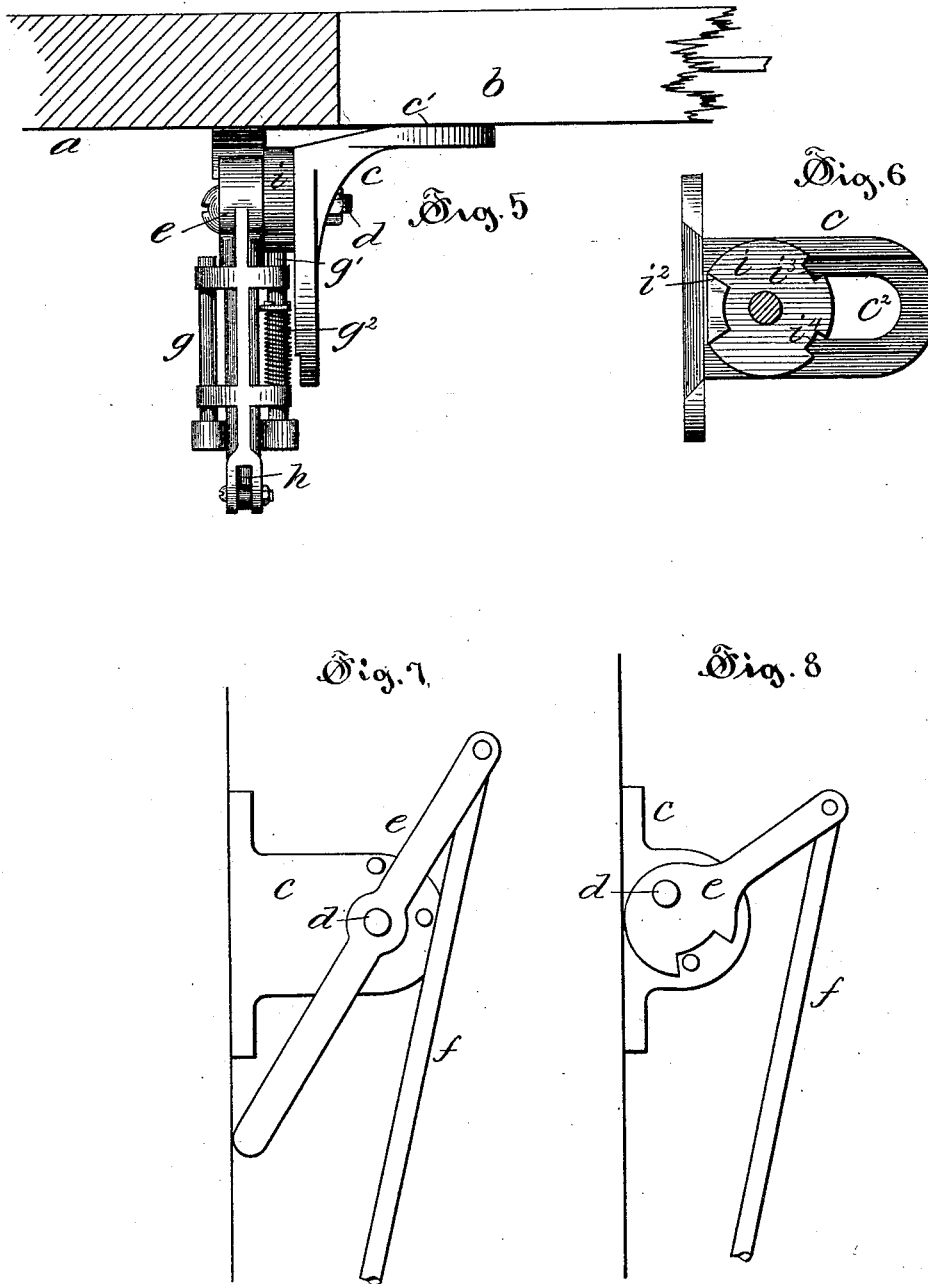
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TRANSOM LIFTER.

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UNITED STATES PATENT OFFICE.

GUSTAVUS S. PERKINS, OF HARTFORD, CONNECTICUT.

TRANSOM-LIFTER.

SPECIFICATION forming part of Letters Patent No. 386,343, dated July 17, 1888.

Application filed May 11, 1888. Serial No. 273,566. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVUS S. PERKINS, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Transom-Lifters, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

The object of my invention is to produce a device for opening and closing transoms and that shall readily overcome the resistance from sticking or similar cause that presents so great an obstacle in the use of prior transom-lifters.

My invention consists in the combination, with the bracket, of a pivoted or rocking starting-lever that is operated by the pull-rod.

It further consists in the combination of the transom-bracket, the adjustable starting-lever and the transom-rod.

It further consists in the combination of the transom-bracket, the starting-lever pivoted thereto, the lever-lock, and the transom-rod. And it still further consists in details of the several parts of the transom-lifter and in their combination, as more particularly hereinafter described, and pointed out in the claims.

Referring to the drawings, Figure 1 is a front view in elevation of part of a door-frame and of a transom, showing the manner of applying my improved lifter. Fig. 2 is a detail side view, on enlarged scale, of the bracket and starting-lever, the transom being closed. Fig. 3 is a view of the same parts, showing their position with the transom partly opened. Fig. 4 is a detail view of the parts shown in Fig. 2, but looking from the left. Fig. 5 is a detail view of the transom and the starting-lever. Fig. 6 is a detail view in side elevation of the transom-bracket and the carrier-block. Fig. 7 is a diagram view of part of a transom-lifter, showing an alternate form of starting-lever. Fig. 8 is a diagram view showing another alternate form of starting-lever.

In the accompanying drawings, the letter *a* denotes a door-frame, part of which only is shown. *b* denotes a transom that in this instance is hinged or hung at the bottom, although my improvement is not limited to this specific form of transom or one thus hung. The transom-bracket *c* has a foot, *c'*, through which screws or nails may be passed to secure the bracket to the transom, and the projecting

part of the bracket has a lengthwise slot, *c''*, through which the pivot-bolt *d* passes. This bolt serves to pivotally connect to the transom-bracket the starting-lever *e*. By this term "starting-lever" I mean a movable piece, whether it be straight, bent, as shown in the drawings, or terminating in a cam-surface, one end of which is adapted to thrust against the frame of the door, while the outer end of the lever is connected to the upper end of the transom-rod *f*. Owing to the fact that in most transom-lifters a longitudinally-moving rod is held in a guide piece close against the side rail of the door with a shorter rod pivoted to its upper end and extending outward to connect it to the outer end of the transom-bracket, a pull upon the rod in the effort to open the closed transom exerts but a small proportion of the actual force used in tending to pull the transom outward, the proportion of the opening force that tends to pull directly outward upon the transom depending on the length of the bracket and the inclination of the connecting rod.

In my invention there is provided a device (the starting-lever) that utilizes a greater part of the force used in opening the transom in a direct thrust that pushes the transom directly open, and thus overcomes the holding back when the transom sticks for any reason.

In the form of my improvement herein described the starting-lever *e* is a bent lever pivoted at its bend on the transom-bracket and connected at its outer end to the transom-rod, and having the other arm of the lever extending downward along the face of the door-frame, so that a pull upon the rod rocks the lever and forces the transom outward by the thrust of the inner end of the lever against the door-frame. At a certain part of its path in opening, the transom is free to move several inches beyond the control of the operator, who holds the lower end of the rod, and in order to prevent the fall of the transom through this part of its path I take up this lost motion by means of a locking device, *g*. To the outer arm of the starting-lever is attached a sliding bolt, *g'*, that is thrust inward toward the joint by a spring, *g''*, a connecting-rod, *h*, extending from the outer end of the bolt across the angle and downward to the inner end, *e'*, of the lever, this lower arm being pivoted to the main part

so as to move a short distance in the plane of movement of the lever and moving relatively with the bolt g' .

In order to make the lever adjustable on the bracket and also reversible, a carrier-block, i , is interposed between the bracket and the lever, a tenon-like projection, i' , fitting between the guideways in the bracket c , that are formed on opposite sides of the slot c^2 , thus holding the carrier-block against rotation, but permitting it to slide lengthwise of the bracket when the pivot-bolt is loosened. The back end of this carrier-block has a projection, i^2 , that, lying in the path of a projection on the starting-lever, forms a stop that limits the rotary movement of the lever on the pivot, the stops on the block and on the lever being normally in contact when the transom is closed and the inner end of the starting-lever is resting against the side of the door-frame. The carrier-block is also provided with bolt-sockets i^3 i^4 , into one of which the end of the bolt g' is thrust by the spring as soon as the transom has opened to a certain extent and just before it would otherwise get beyond the control of the operator and fall outward.

In operating my device the transom-rod, which may be of any ordinary form and construction, is pulled downward, thus rocking the starting-lever and pushing the transom directly open. The rocking movement of the lever continues until the bolt of the lock g on the lever engages the socket i^3 , making the connection a rigid one and allowing the transom to be opened to any desired extent in the ordinary manner. To close the transom, the rod is released, pushed upward in the usual manner until the roller on the inner end of the starting-lever strikes the face of the side frame of the door, unlocks the lever, and allows it to rotate until the stop on the lever strikes the stop on the carrier-block, and this pushes the transom tightly shut.

It is evident that my improved starting-lever may be made in several forms, and in operation is not limited to the particular arrangement herein shown and described, and I do not limit myself thereto.

In order to obviate the friction and aid the operation of the starting-lever, there is pivoted on the inner arm of the lever an anti-friction roller, k' , that is adapted to thrust against the side of the frame or to be used in connection with a striking-plate, k , that has a slightly-curved contact-surface that aids in the operation of the locking device on the lever.

Where the transom is hinged at the top the short arm of the starting-lever will extend upward, and in this case it is obvious that the locking device is not needed, as there will be no lost motion or play of the transom.

I claim as my invention—

1. In a transom-lifter, in combination with the transom-bracket secured to the transom, the starting-lever pivoted to the transom-

bracket, and with one end adapted to thrust against the frame in which the transom is hung when the said lever is moved in opening the transom, and the transom-rod pivoted to the outer end of the said lever, all substantially as described. 70

2. In combination with the transom-bracket secured to the transom and having a pivot-slot, the starting-lever pivoted to the transom-bracket, and with one end adapted to thrust against the frame in which the transom is hung when the said lever is moved in opening the transom, the lever-pivot, and the transom-rod pivoted to the outer end of said lever, all substantially as described. 80

3. In a transom-lifter, in combination with the transom-bracket, a carrier-block adjustably secured to the said bracket by the means substantially as described, the starting-lever pivoted to said block, the pivot-bolt connecting the above-described parts, and the transom-rod pivoted to the outer end of the starting-lever, all substantially as described. 85

4. In combination with the transom-bracket, the carrier-block adjustable thereon, the starting-lever pivoted to the carrier-block, the lever-lock that unites the carrier-block and the lever, and the transom, all substantially as described. 90

5. In combination with the transom-bracket c , having slot c^2 , the carrier-block i , with the tenon i' , fitting between the guideways in the bracket and whereby said block is held against rotation thereon, the starting lever e , pivot-bolt d , holding said bracket-block and lever together, and the transom-rod attached to the outer end of the starting-lever, all substantially as described. 95

6. In combination with the transom-bracket c , the carrier-block i , attached thereto, as by means of a pivot-bolt and nut, as described, and provided with the stop and the bolt-socket, the starting-lever e , pivoted to said carrier-block, the lock g , mounted on the starting-lever and having a bolt, g' , that is adapted to engage the said bolt-socket in the carrier-block, and the transom-rod attached to the outer end of the starting-lever, all substantially as described. 100

7. In combination with the transom-bracket, a starting-lever pivoted to said bracket, the anti-friction roller borne on the inner end of the starting-lever, and the transom-rod attached to the said starting-lever, all substantially as described. 105

8. In combination with the transom-bracket c , a starting-lever, e , pivoted to the bracket, the anti-friction roller borne on the inner end of the lever, and the striking-block k , having the inclined or curved face, all substantially as described. 110

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