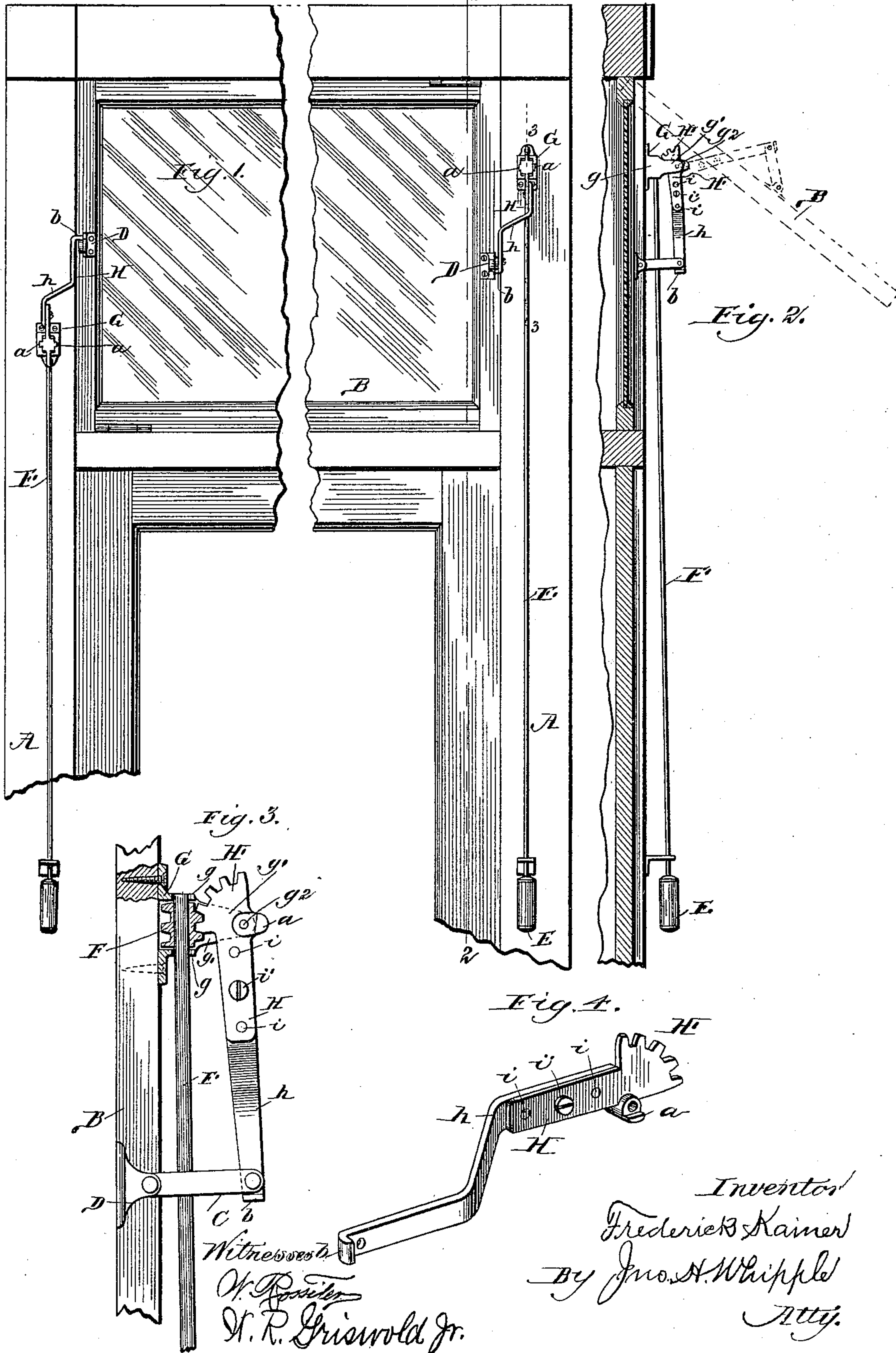


(No Model.)

F. KAINER.
TRANSOM LIFTER.

No. 441,670.

Patented Dec. 2, 1890.



Witnessed
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UNITED STATES PATENT OFFICE.

FREDERICK KAINER, OF CHICAGO, ILLINOIS.

TRANSOM-LIFTER.

SPECIFICATION forming part of Letters Patent No. 441,670, dated December 2, 1890.

Application filed May 27, 1890. Serial No. 353,326. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK KAINER, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Transom-Lifters, of which the following is a specification.

My invention relates to a reversible transom-lifter; and the object of my improvements is to provide a transom-lifter of such construction that it may be readily applied to either side of the transom, whether suspended axially or hinged to the frame at the bottom or top. This object I have attained in the transom-lifter having its parts constructed as illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of a door-frame and transom in fragment and shows the lifter applied to the different sides. Fig. 2 is a vertical section taken on the line 2 2 of Fig. 1, looking toward the right, the dotted lines showing the transom open. Fig. 3 is a fragment of an enlarged vertical section taken on the line 3 3 of Fig. 1, looking toward the left. Fig. 4 is an enlarged detail showing in perspective view the lifter-arm detached.

In the drawings, A designates the door-frame.

B is the transom, which is shown in fragment, one part being hinged to the frame at the top and the other at the bottom.

The lifter is composed of a bracket G, having a base-plate adapted to be secured to the door-frame, a box or chamber *g* for housing a worm-gear F, fixed to a shaft F', which is journaled in said chamber-walls, and two arms *g'* projecting beyond the chamber, and a lifter-arm H provided with a segmental rack H'. Said lifter-arm is pivoted between the ends of the arms *g'* of said bracket by a screw or detachable pin *g*², and the construction of the rack and its relation to the lifter-arm and the pivotal connection with said bracket are such that said rack can be applied to the worm, so as to work the arm when projected from either side of said bracket, and the screw or pin being readily detachable enables the person who is to apply the lifter to reverse the lifter-arm in said bracket, so that it will extend up from said bracket on the door-frame, as shown at the left side

of Fig. 1, or down therefrom, as shown at the right side, whereby the lifter is adapted to the transom hinged at the bottom or top, and also to be applied on either side of the same. The lifter-arm is curved or bent to one side, so as to extend over and be connected with the transom-sash by means of a link C, pivoted at one end to the lifter-arm and at the other to a bracket D, adapted to be secured to the sash.

Although the lifter is made reversible by changing the lifter-arm in the bracket G in the manner described, it is nevertheless desirable under some conditions of application to effect this result without thus changing the lifter-arm in said bracket, and in order to adapt the reversibility of the lifter to all conditions I make the lifter-arm in separate parts H and *h*, the part *h* being provided with lugs *i*, adapted to corresponding holes in the part H, so that by a clamping-screw *i'* or other equivalent means the said parts may be secured rigidly together in such manner that the part *h* can be readily detached from and reattached to the part H, so as to project therefrom on opposite sides in its reversed positions. The part H is provided with lateral stops *a a*, which are adapted to strike the bracket G, and the part *h* has a stop *b* at the end, which is adapted to strike the link C, said stops operating to prevent the transom from being opened too far. The shaft F' is provided with a handle E on the lower end for revolving the worm to operate the lifter-arm. The application of the lifter thus constructed to either side of the transom is not conditioned on the manner of suspending or hinging the transom, but is made to conform to individual convenience or preference. If the transom is suspended axially, the bracket D may be connected at either side of the pivot, and by reversing the rack H' in the bracket G, or the part *h* of the arm on the other part, one or both, the lifter is made left-handed or right-handed, and the bracket D on the transom can be placed above or below the bracket G on the door-frame, so as to suit any individual case. One form of lifter is thus adapted to be applied in the various ways which the ordinary circumstances of use require.

Having thus described my invention, what I

claim, and desire to secure by Letters Patent, is—

1. In a transom-lifter and in combination, a bracket, as G, having a base-plate adapted to be secured to a door, a chamber, as *g*, above the base-plate, a worm-gear fixed in said chamber by an operating-shaft journaled therein, a lifter-arm provided with a segmental rack reversibly adapted to said worm-gear and bracket-arms, and means, substantially as shown, for connecting said lifter-arm with the transom-sash, as and for the purpose specified.

2. In a transom-lifter and in combination

a bracket, as G, a worm-gear, as F, fixed in said bracket by a shaft journaled therein, a segmental rack in connection with said worm-gear, and a lifter-arm made in separate parts, as H *h*, means, substantially as described, for readily detaching and reattaching the parts of said lifter-arm in reversed position, and a link for connecting said lifter-arm with the sash, as and for the purpose specified.

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Witnesses:

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