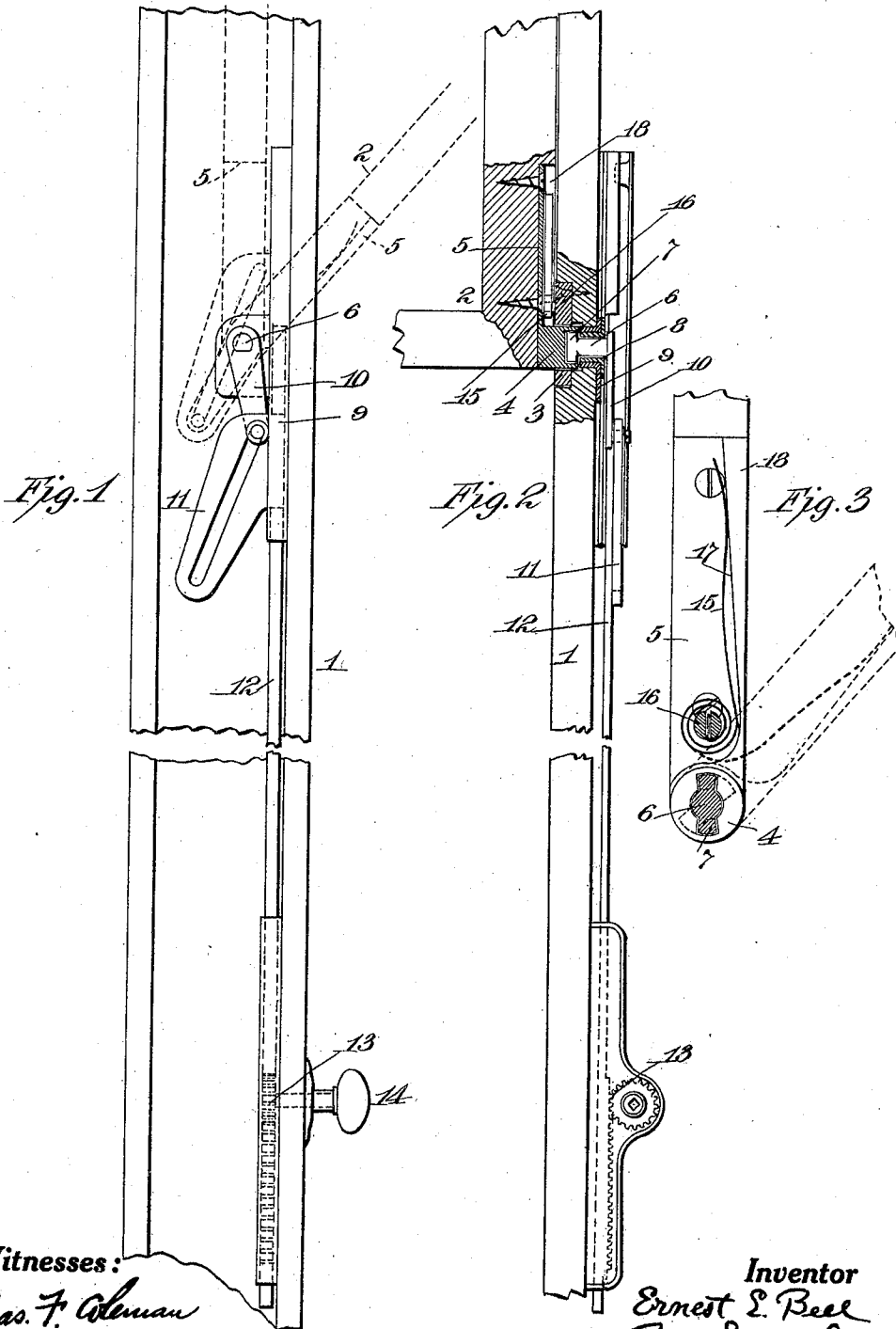


E. E. BELL.
TRANSOM LIFT.

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Patented Feb. 7, 1911.



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TRANSOM-LIFT.

983,474.

Specification of Letters Patent.

Patented Feb. 7, 1911.

Application filed October 19, 1909. Serial No. 523,395.

To all whom it may concern:

Be it known that I, ERNEST E. BELL, a citizen of the United States, residing in Glen Ridge, county of Essex, State of New Jersey, have invented a certain new and useful Transom-Lift, of which the following is a specification.

This invention relates to apparatuses for supporting and turning transoms, windows and analogous structures, and the objects I have in view are to increase the rigidity of the support, to reduce friction, to avoid the danger of breakage and also to prevent the transom from accidentally opening and to avoid noise when it is being opened or closed. These and further objects will more fully appear from the following specification and accompanying drawings, considered together or separately.

In the drawings: Figure 1 is a side view of a portion of the trim, showing an apparatus embodying my invention applied thereto. Fig. 2 is a view at right angles thereto, partly in section. Fig. 3 is a detail in section and enlarged.

In all of the views like parts are designated by the same reference characters.

1 represents the trim and 2 the transom. One end of the transom is supported by the mechanism illustrated in the drawings. The other end is supported by the ordinary hook pintle, (not illustrated). The mechanism carried by the trim includes the device for supporting the transom and the device for turning the transom. The device for supporting the transom comprises a plate 3, which is attached to the inside of the trim. This plate is shown as countersunk within the trim so that its outer face is flush with the face of the trim. Within the plate is a circular opening; within this opening is a circular boss or pintle 4, carried by the transom. This boss or pintle I show as formed integral with a plate 5 secured by screws to the side of the transom. The plate is shown as counter-sunk within the transom so that the opening between the transom and trim will not be excessive. The boss 4 working within the plate 3 forms the sole support for that end of the transom.

The device for turning the transom includes mechanism which is attached to and

carried by the other side of the trim and which does not serve in any way to support the weight of the transom. This mechanism includes a shaft 6, having a cross head 7. This cross head 7 lies within a recess of similar shape formed in the end of the boss 4. It is apparent that upon the shaft 6 being rotated, engagement of the cross head with the opening in the end of the boss will rotate the latter. The shaft 6 is supported in a bushing 8, which in turn is carried by a plate 9. This plate 9 is attached to the side of the trim opposite the plate 3. The shaft 6 is rotated by any suitable mechanism,—that illustrated comprising a crank 10, the end of which engages within a slotted plate 11, which is carried upon a vertical rod 12. At the lower end of the rod is a rack and pinion 13, the latter being turned by a knob 14. Any other mechanism may be used for rotating the shaft 6, that illustrated being similar to that disclosed in the copending application of Charles F. Hannington, filed May 17, 1909, Serial No. 496,534.

It is apparent that the shaft which serves solely for the purpose of turning the transom may be made much smaller than if it also supported the weight of one end of the transom. It is also apparent that the shaft, not sustaining any weight, its bearings and other appurtenances are less liable to accident and derangement than if supporting the weight of the transom. Another point which is also apparent is that the device may be used with trim of minimum thickness, as supports for the shaft 6 may be light and narrow while the plate 3 may be made of considerable thickness. It may be made as long or broad as is necessary to secure the required strength. It is also apparent that the device may be adjusted with great facility, as the shaft 6, its bearings and turning mechanism are attached to one side of the trim, entirely independent of the supports of the transom, as has been described.

The second portion of my invention relates to means to prevent the transom from falling open when closed or partly open, and also to prevent noise when it is being moved. This mechanism comprises a device for exerting a constant pressure upon the

bearings of the transom. The details of structure wherein this feature is embodied comprise a spring and appurtenant mechanism. The spring 15 surrounds an ear 16. This ear 16 is carried by the plate 3. It is shown as arranged above the opening in which the boss 4 is mounted. The ear is slit, as shown in Fig. 3, to hold one end of the spring. The spring is coiled several times around the ear and its free end bears against an inclined surface 17. This inclined surface I show as made of a flange 18 formed on one edge of the plate 5. The free end of the spring engaging with the inclined surface 17 will tend to hold the transom open and will also tend to hold the operating parts in contact, namely, the rack and pinion 13 and slotted plate 11 and crank 10 or their equivalents. The normal tendency of the spring is to exert its force to open the transom and when the opening mechanism is in operation the movement of the transom is made even and regular and there is no tendency for the transom to spring back when it has been opened as far as desired. A further object of the spring is to prevent back lashing of the transom while it is being opened when the operator shifts the position of his hand on the knob. I have found that without the use of the spring when the knob is being manipulated to open the transom, the weight and inertia of the moving parts will cause the transom to kick back and this fault will become worse as the transom approaches the horizontal causing it to shake and chatter. With the spring plate there is no "chattering" or rattling of the members when the transom is being opened or closed. Another feature is that the spring 15, engaging with the inclined surface 17, exerts a greater pressure when the transom is closed than when it is open. This is because the spring is more tightly wound around the ear 16 when the transom is closed than when open. This increased pressure neutralizes the decreased weight on the parts when the transom is closed. In other words, it makes the load more nearly uniform, irrespective of the position of the transom, and acts as a counter weight, without the complications of the latter and its supports.

In accordance with the provisions of the patent statutes, I have described the principle of my invention, together with the apparatus which I now consider to represent the best embodiment thereof; but I desire to have it understood that the apparatus shown is merely illustrative and that the invention can be carried out in other ways.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a transom lift, the combination with a transom and a trim, of supporting means

carried by the trim for supporting the transom and independent operating means carried by the trim for operating the transom, said independent means engaging with the supporting means.

2. In a transom lift, the combination with a transom, of a boss for supporting the same and an operating shaft, the said operating shaft engaging with the boss.

3. In a transom lift, the combination with a transom, of a boss for supporting the same, the said boss having a recess and an operating shaft, said operating shaft having a cross head which engages within the recess of the boss.

4. In a transom lift, the combination with a transom, of a boss for supporting the same, a bushing and an operating shaft supported in the bushing, said operating shaft engaging with the boss.

5. In a transom lift, in combination with a transom and a boss for supporting the same, of a trim, a bushing within the trim, a shaft within the bushing and engaging with the boss, said shaft having rotating means on one side of the trim opposite the transom.

6. In a transom lift, the combination with a transom, a boss carried by the transom, of a trim, a plate carried by the trim for receiving the boss, a shaft carried by the trim and engaging the boss and means carried by the trim for rotating the shaft.

7. In a transom lift, the combination with a transom, a member carried thereby and a boss on the member, of a trim, a plate carried by the trim, a socket within the plate for receiving the boss, and a spring secured to the trim plate and bearing on the transom member.

8. In a transom lift, the combination with a transom, a member carried thereby and a boss on the member, of a trim, a plate carried by the trim, a socket within the plate for receiving the boss, a spring secured to the trim plate and bearing on the transom member, a shaft carried by the trim and engaging the boss and means carried by the trim for rotating the shaft.

9. In a transom lift, the combination with a transom, a member secured thereto, a flange on the member, and a boss on the member, of a trim, a plate carried in the trim, a socket within the plate, a spring carried by the plate, the free end of the spring bearing on the flange of the transom member, a shaft carried by the trim and engaging the boss and means carried on the trim for rotating the shaft.

10. In a transom lift, the combination with a transom, a plate secured to the transom, an inclined flange on the plate, a boss on the plate and a socket in the boss, of a trim, a plate carried in the trim, a socket within the plate for the reception of the

boss, a spring secured to the plate, the free
end of the spring bearing on the flange of
the transom plate, a shaft carried by the
trim, a head on the shaft for engagement
5 with the boss socket, a crank on the shaft
and means carried by the trim for oscillating the crank.

This specification signed and witnessed
this 4th day of October, 1909.

ERNEST E. BELL.

Witnesses:

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