No. 733,953. PATENTED JULY 21, 1903.

J. FOSTER.

SASH BALANCE.

APPLICATION FILED APR. 17, 1903.

NO MODEL.

Fig. 1.

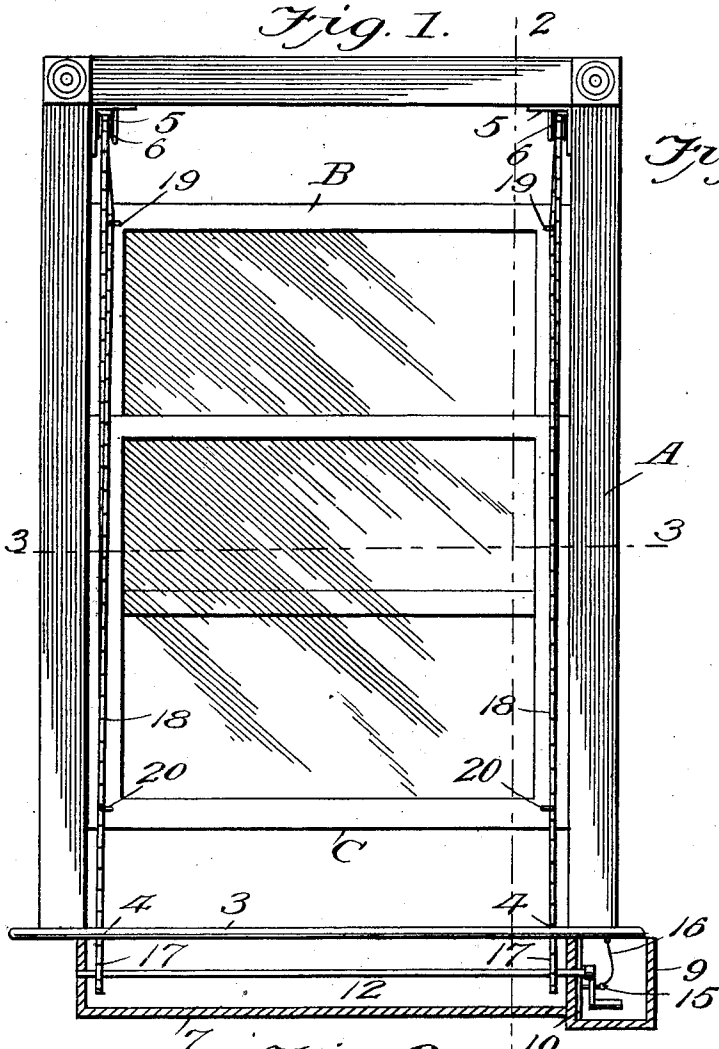


Fig. 2.

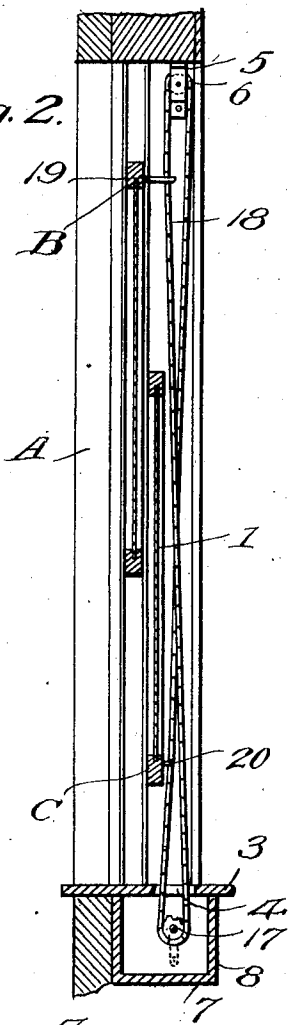


Fig. 3.

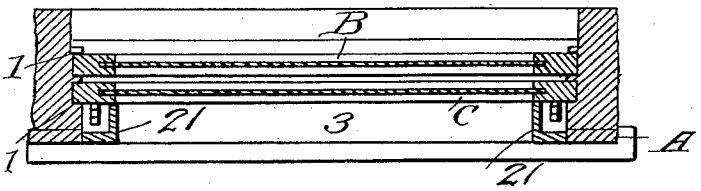


Fig. 4.

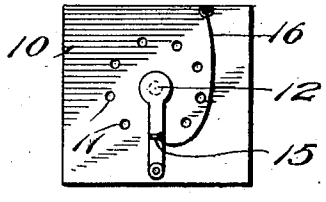
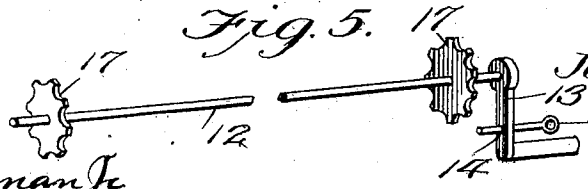


Fig. 5.



Witnesses

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No. 733,953. Patented July 21, 1903.

UNITED STATES PATENT OFFICE.

JACOB FOSTER, OF ALTOONA, PENNSYLVANIA.

SASH-BALANCE.

SPECIFICATION forming part of Letters Patent No. 733,953, dated July 21, 1903.

Application filed April 17, 1903. Serial No. 153,112. (No model.)

To all whom it may concern:

Be it known that I, JACOB FOSTER, a citizen of the United States, residing in Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Sash-Balances, of which the following is a specification.

My invention relates to improvements in sash-balances; and the object is to provide a mechanism of the kind named and for the purposes intended which is simple in construction and arrangement of elements and which is certain in operation and effective in holding the respective sashes in any position to which they may be moved and adjusted.

The invention embodies a casing to receive the appliances, upper and lower sets of sheaves or pulleys, chains on the sheaves, fastenings connecting the chains to the respective sashes at determined points, and means to rotate the sheaves and to lock the sashes at determined points in their movements, all as hereinafter will be fully described and the novelty particularly pointed out and distinctly claimed.

I have fully and clearly illustrated the improvements in the annexed drawings, forming a part of this specification, and wherein—

Figure 1 is a view in elevation of a window-frame, the side shields or strips being removed to show the arrangement of the sash-chains, and the boxing or shaft-case being shown in longitudinal vertical section and showing the operating-shaft and the means for holding the chains with the sashes in any position to which they may be moved. Fig. 2 is a vertical section taken on the line 2 2 of Fig. 1. Fig. 3 is a horizontal section taken on the line 3 3 of Fig. 1. Fig. 4 is a detail end view of the operating-crank and showing the means for locking the arm or crank in the desired position. Fig. 5 is a detail perspective view of the operating-shaft and sprockets and the crank with the fastening or locking pin.

In the drawings similar parts appearing in the several illustrations are designated by similar reference-notations.

Referring to the drawings, A designates the window-frame, made up of the usual vertical stiles, a top rail, and a sill or plate at the bottom. B designates the upper sash, and C the lower sash, of the usual make, and guided in their movements by vertically-placed guide cleats or strips 1, formed on the inner faces of the stiles of the frame and between which the side rails of the sash engage, substantially as indicated in the drawings. In the plate or sill 3, adjacent to the stiles, are made openings 4, through which the sash-chains pass during the operation of raising and lowering the sashes.

In each corner of the top rail and the stiles is secured a bracket 5, and in each bracket, between the depending plates thereof, is journaled a sprocket 6, on which the sash-chains are arranged.

Below the plate 3 or sill is provided a suitable boxing or case 7, the boxing being rectangular in formation or construction and extending across the width of the frame. A proper closure 8 closes the front side of the casing 7, which closure may be removable for convenience. At one end of the closure 7 is a box 9, into which the operating-shaft extends, as hereinafter stated more fully. The box 9 is provided with a door, (not shown,) through which access to the interior may be had for the purpose of operating the crank of the shaft. On the outer face of the partition, between the casing 7 and the box 9, is secured a metal plate 10, provided with a series of pin-holes 11, arranged in a circle at stated intervals apart, as shown in Fig. 4 of the drawings.

Longitudinally of the casing 7 is journaled a shaft 12, which has one end extended through the end piece of the casing, and on the projecting end is fixed a crank-arm 13, in the arm of which is made a pin-hole 14, through which a pin 15 passes, having an eye in its outer end, in which a chain or other suitable holding device may be attached, as seen at 16. It will be readily seen that by inserting the pin through the arm with its inner end lodged in one of the pin-holes 11 the arm will be locked in the position to which it may be turned, and thus the shaft be locked against rotation. On the shaft 12, at points in alinement with the sprockets 6, are mounted fixedly sprockets 17 17. On the sprockets 6 and 17 are arranged sprocket-chains 18.

At a determined point in the chains, being such as will move the sashes the distance required in either direction, the chains are fas-

tened to the sashes, the connection being made to the upper sash by means of a staple 19, located, preferably, at a point adjacent to the upper rail of the sash, and the connection to the lower sash being made to the other strand of the chain at a point in the lower sash adjacent to the lower rail of the sash, as at 20. It will be readily perceived that this arrangement of the chains and the connections to the sashes of the opposite strands will move the sashes in opposite directions, as may be desired, by turning the operating-shaft in the direction to accomplish the movement of the sashes either up or down.

The chains and upper sprockets are concealed by angular or L-shaped side strips 21, as indicated in the drawings.

The utilization of the mechanism is apparent. The crank is turned to impart rotation to the operating-shaft in the desired direction, which eventuates in moving the sashes in the direction desired through their connections to the chains, and then when the sashes have been moved to the location desired the holding-pin 15 is passed through the arm of the crank into one of the pin-holes in the plate 10, and the sashes are held and locked against further movement in either direction for the time being and until the fastening-pin is detached from its engagement. It will be perceived that I accomplish moving the sashes singly or in opposite directions by the connections of the links or staples, as specified.

Having thus described my invention, what I claim is—

The combination with the upper and lower sashes, of sprocket-wheels journaled at the upper corners of the window-frame, a rotatable shaft journaled under the base of the window-frame, sprocket-wheels mounted on the shaft in alinement with the upper sprockets, chains arranged on the sprockets with their opposite strands connected to the upper and lower sashes to raise and lower them, and means to turn and lock the shaft.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JACOB FOSTER.

Witnesses:
D. B. SWAYNE,
J. H. FLORY.