

981,286.

Fig. 1. A perspective view of a mechanical device, likely a door or window frame assembly. The device consists of a main frame (1) with a central panel (5) and a side panel (3). The frame is supported by a base (20) and a top rail (24). A handle (27) is attached to the side panel (3) via a hinge (28). The handle (27) is connected to a lever (26) which is mounted on a pivot (22). The lever (26) is also connected to a spring (23) which is attached to the frame (1). The spring (23) is connected to a rod (24) which is attached to the handle (27). The handle (27) is also connected to a rod (25) which is attached to the frame (1). The frame (1) is supported by a base (20) and a top rail (24). The side panel (3) is supported by a hinge (28) and a pivot (22). The central panel (5) is supported by a hinge (28) and a pivot (22). The device is shown in a perspective view.

Fig. 1.

Fig. 4.

Fig. 3.

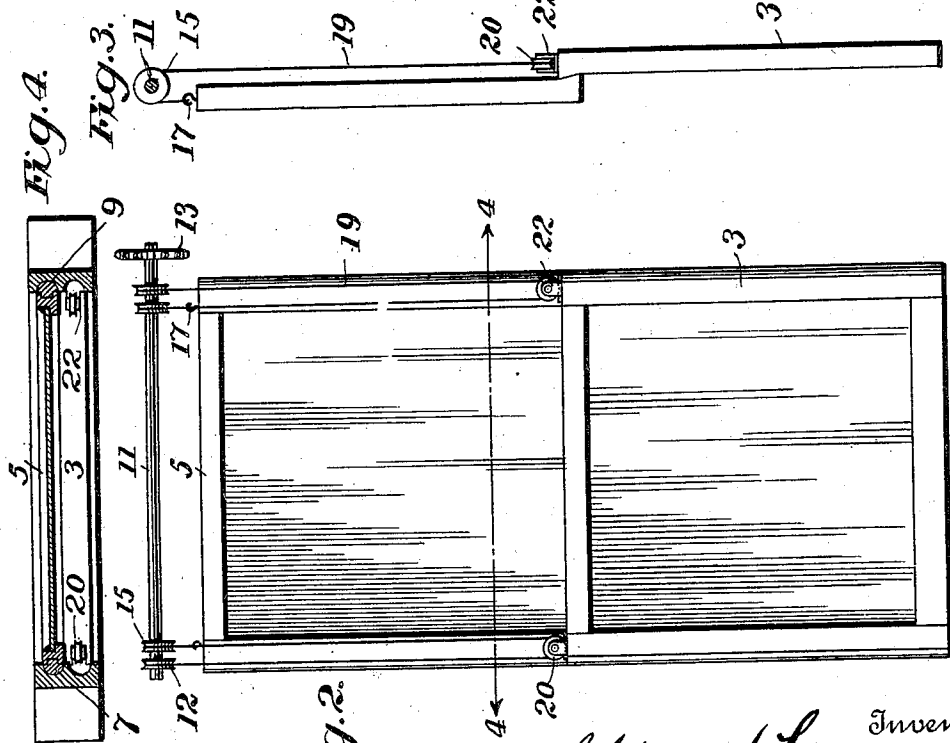


Fig. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

STEPHEN A. LANNING, OF MUSKOGEE, OKLAHOMA.

WINDOW-OPERATING DEVICE.

981,286.

Specification of Letters Patent.

Patented Jan. 10, 1911.

Application filed April 6, 1910. Serial No. 553,747.

To all whom it may concern:

Be it known that I, STEPHEN A. LANNING, a citizen of the United States, residing at Muskogee, in the county of Muskogee and State of Oklahoma, have invented certain new and useful Improvements in Window-Operating Devices, of which the following is a specification.

This invention relates to certain improvements in windows, and more particularly to means for balancing and operating sashes.

An important object of my invention is to provide an arrangement for balancing the sashes of a window so as to dispense with the usual sash-weights, which are often out of order and in need of repair. In the embodiment of the invention selected for illustration this object is accomplished through the instrumentality of a running flexible connection which is arranged between the sashes in such manner as to cause one sash to balance the other, in all positions of the sashes, said running connection being, furthermore, connected with a member through which power may be applied to raise or lower the sashes.

The invention will be particularly described in connection with the accompanying drawings, and the novel features will be pointed out in the following claims.

Figure 1 represents, in front elevation, a window of the sliding-sash type, with one embodiment of my invention applied thereto; Fig. 2 is a view, in front elevation, of some of the parts shown in Fig. 1, the window frame being omitted; Fig. 3 is a side elevation showing the sashes and a part of the balancing cord, the shaft 11 appearing in section; and Fig. 4 is a view in cross-section on the line 4-4, Fig. 2.

The numeral 1 indicates the frame of a window, which preferably is grooved, as shown at 7, to provide guideways for the convexly curved guiding strips 9, which may be of wood or metal, as desired, and are shown as having tenons to fit grooves in the side edges of the sashes 3 and 5. As herein shown, the lower sash 3, has secured to its upper edge, upon opposite sides, the pulleys 20, whose brackets 22 have laterally extended bases to overlap the upper ends of the guide strips 9, and when secured to the sash these brackets hold said strips in place.

The upper part of the frame 1 is preferably constructed to provide a casing for a

shaft 11, which has bearing in the sides of said casing and is free to turn therein. One end of the shaft 11 is shown as extending outside of the casing and has fast thereon a sprocket wheel 13, over which passes a chain 24, which may be concealed within the wood-work around the window frame, access to said chain being conveniently obtained, if desired, through an opening 27, which is shown as being closed by a swinging panel 28. The lower part of the chain 24 is shown as passing over a small sprocket wheel 26, which is mounted to turn on a shaft supported in the frame, or adjacent structure.

The shaft 11 carries pulleys 12, which are fast on said shaft, and also pulleys 15, which turn freely on said shaft. As shown in Fig. 3, the upper sash 5 has attached to its upper edge, on opposite sides, the screw eyes 17, or any other suitable anchoring devices. To each of these screw eyes is attached one end of a cord 19, or other flexible connection, which passes thence over a loose pulley 15, and is carried down and under a pulley 20, then up and is secured to a fast pulley 12, which acts as a winding drum for the cord.

With the construction and arrangement of parts as described, it will be seen that the flexible connection between the sashes so connects them that while they are free to move in opposite directions, to raise the lower and lower the upper one, the sashes will be perfectly balanced in all positions, and without the use of the objectionable weights in common use. It will also be seen that upon applying power to the shaft 11 through the chain 24 and described connections, or through any other approved means, when the shaft is rotated the sashes will be simultaneously opened, or closed as desired, according to the direction of rotation of said shaft.

It is to be understood that changes in form, proportions, or minor details of the construction shown may be made without departing from the spirit of my invention.

Having described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. In a device of the class described, the combination of oppositely movable sashes, a pulley carried by one of said sashes, an operating shaft, means for rotating said shaft, and a flexible connection having one end attached to the other sash and passing over

said shaft and pulley and having its other end attached to a winding drum on said shaft.

2. In a device of the class described, the
5 combination of oppositely movable sashes, a pulley carried by one of said sashes, an operating shaft, a loose pulley and winding drum on said shaft, a flexible connection
10 extending from the other sash over the loose pulley thence around the pulley on the first-mentioned sash, and finally to the winding drum, and means for operating said shaft.

3. In a device of the class described, the
15 combination of a frame, sashes sliding therein, pulleys carried by one of said sashes, a shaft having bearing in the frame, a loose

pulley and a winding drum carried by the shaft near each end thereof, cords having one end connected with one sash, passing over said loose pulleys and the pulleys on the other sash, and having their other ends connected with said winding drums, a sprocket wheel on said shaft, and a chain passing over said sprocket wheel, whereby said shaft may be operated.

25 In testimony whereof I affix my signature in presence of two witnesses.

STEPHEN A. LANNING.

Witnesses:

JOS. E. MASON,
J. W. SPRINKLE.