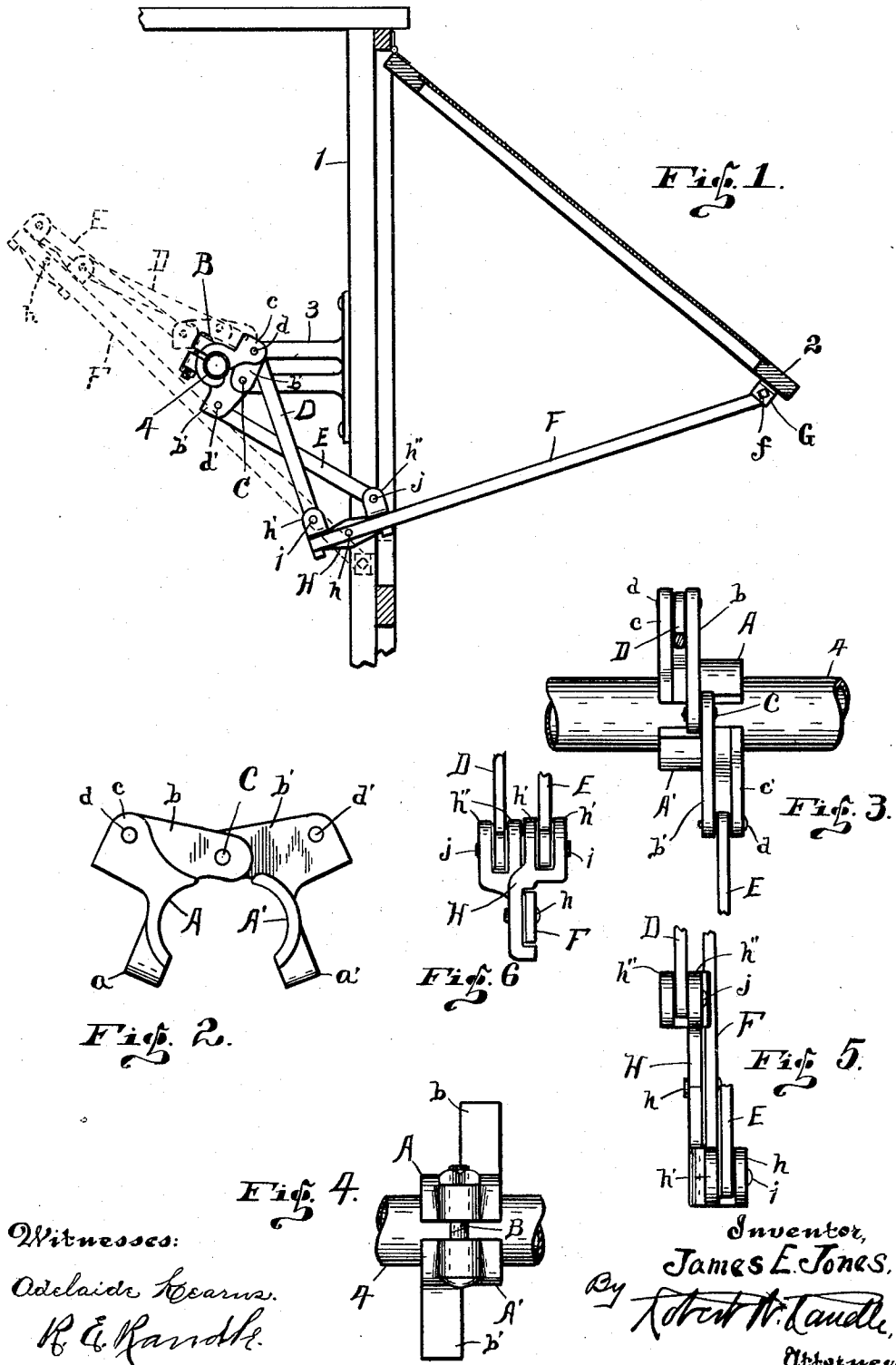


J. E. JONES.
SASH OPERATING DEVICE.
APPLICATION FILED MAR. 2, 1911.

1,007,953.

Patented Nov. 7, 1911.



Witnesses:

Adelaide Kearns.
R. E. Randall.

Inventor,

James E. Jones.

By Robert W. Landon,
Attorney.

UNITED STATES PATENT OFFICE.

JAMES E. JONES, OF RICHMOND, INDIANA.

SASH-OPERATING DEVICE.

1,007,953.

Specification of Letters Patent.

Patented Nov. 7, 1911.

Application filed March 2, 1911. Serial No. 611,764.

To all whom it may concern:

Be it known that I, JAMES E. JONES, a citizen of the United States, residing in Richmond, in the county of Wayne and in the State of Indiana, have invented a new and useful Sash-Operating Device, of which the following is a full, clear, and accurate specification, being such as will enable others to make and use the same with exactitude.

This invention has particular reference to mechanical constructions for operating window-sashes such for instance as those used in factory buildings, greenhouses, or the like.

The object of my present invention, broadly speaking, is to provide a sash operating device which shall be strong and durable in construction, positive in action, easily operated and controlled, and which can be manufactured and sold at a comparatively low price.

A more particular object is to provide a simple and efficient construction which will give a maximum of desirable results with a minimum of power applied, and at the same time being adapted to be operated singly or in series, and with certainty and precision.

Other particular objects and advantages of my invention will suggest themselves to the mechanic in the course of the following description, and that which is new and useful will be correlated in the appended claims which terminate this specification.

The preferred manner for the construction of my invention is shown in the accompanying drawings, in which—

Figure 1 shows my invention in elevation, in operative position, and indicating the proposed operation thereof. Fig. 2 is a detail view, showing a side elevation of the clip for securing the device to a shaft, showing the clip as opened out. Fig. 3 is a detail showing a plan of the clip in connection with a shaft. Fig. 4 is a detail plan view of the clip taken from the opposite side from that shown in Fig. 3. Fig. 5 is a detail view showing a plan or edge view of the link. And Fig. 6 is an end elevation of the link, showing the application of the arm and the fingers thereto.

Similar indices denote like parts throughout the several views.

In order that the construction and the operation of my invention may be more fully understood and appreciated I will now take up a detail description of the several parts

and the application of the invention to its intended use, in which I will set forth the invention as briefly and as comprehensively as I may.

In the drawings numeral 1 denotes a window-frame in which is fitted the sash 2 which is hinged at its upper edge and it is adapted to swing outward as indicated.

I would have it understood that in practice the frame 1 may be disposed at any desired angle as in greenhouses or the like, however the application of my device thereto and the operation thereof would make no material changes in the construction, it being contemplated that various changes may be made in order to meet various conditions.

Extending inward from the inner face of the side of the window-frame is a bracket 3 in which is rotatably mounted the shaft 4. It should be understood that there should be other such brackets for holding said shaft in addition to the one shown, and that various means, not shown, may be employed for rotating the shaft, as for instance that shown in Patent No. 776,517, dated Dec. 6, 1904.

My mechanism is connected to the shaft 4 by means of the clip, shown open in Fig. 2. Said clip comprises two members which are interchangeable and are identical with each other, but are oppositely disposed in use. Each clip comprises the segmental members A and A' which together are adapted to neatly surround the shaft 4. Formed integral with the central forward portion of said members are ears a and a', respectively, through each of which is formed a square aperture, at right angles to the shaft. Said apertures are formed in alinement with each other in order to receive the bolt B which is common to both and by which the said ears may be drawn toward each other. Formed integral with the members A and A' and located at right-angles thereto are the ribs or flanges b and b', respectively, same being disposed at right-angles to the shaft 4, and they are located on the opposite ends of members A and A' from that of the said ears a and a'.

The ribs or flanges b and b' are offset sufficiently with relation to each other such as to allow their inner portions to overlap each other, the overlapping portions of said flanges or ribs being connected together by means of the pivot C, whereby the two parts of the clamp are hinged together at one

side, and they are adapted to be secured together at the opposite side by the bolt B. Formed parallel to and integral with each of the two members of the clamp are the ears *c* and *c'*, same being located at the central portion of the flanges and being spaced therefrom for the purpose presently stated herein. Pivoted between the ear *c* and the flange *b* is the inner end of the arm D, same being attached by the pivot *d*; and in like manner pivoted between the ear *c'* and the flange *b'* is the inner end of the arm E, same being attached by the pivot *d'*.

Letter F denotes the bar, there being one for each sash. One end of said bar is pivoted by the bolt *f* to the small hanger G, which latter is secured to the lower portion of the inner face of the sash 2. The bar F is of relatively great length, and to the inner end thereof is secured the link H by means of the rivet *h*, there being a channel in the face of the link H in which the bar may fit, as in Fig. 6, to prevent the bar and the link from turning with relation to each other.

Rising from each end portion of the link H is a pair of ears *h'* and *h''*. The two members of each pair of the last mentioned ears are spaced apart, as in Fig. 6, and the two pairs of ears are substantially the same distance apart as are the ear *c* and flange *b* from the ear *c'* and the flange *b'*.

Mounted on the pivot *i*, and between the ears *h'*, is the outer end of the arm D; and in like manner mounted on pivot *j*, and between the ears *h''*, is the outer end of the arm E, all as indicated in Fig. 1. The arms D and E cross each other but they are spaced apart, as indicated in Fig. 3, it being understood that the two pairs of ears *h'* and *h''* are staggered with relation to each other to the same extent as are the ears *c* and *c'*.

I desire that it be noticed that my device is very easily attached in operative position, particularly by reason of the two members of the clamp being hinged together, thereby requiring but a single bolt (B) for securing them together and upon the shaft. Also by reason of the two members of the clamp being continuously engaged with each other it is evident that there is no danger of the parts becoming lost or separated; also it is evident that but one pattern will be required

in making the entire clamp, as the two parts are duplicates of each other.

In the drawing the window is shown as open with the device shown in the position it would occupy when the window is open as shown; if now the shaft 4 be turned to the right then the device will assume the position indicated partly by dotted lines in Fig. 1, thereby causing the window sash to be closed.

Having now fully shown and described my invention what I claim and desire to secure by Letters Patent of the United States, is—

1. In a device of the nature set forth, the combination with a window-sash and a rotatable shaft located in proper relation thereto, of a two-part clip attached to the shaft, the two parts of the clip being hinged together and adapted to be secured to the shaft by a single bolt, a pair of arms crossing each other and having their inner ends spaced apart and pivoted to said clip, a link having two pairs of ears in which the outer ends of said arms are pivoted, a bar secured at one end to said link, and means for pivotally connecting the outer end of the bar to the window-sash, all substantially as shown and described, and by which the window-sash will be opened and closed by the rotation of said shaft.

2. The combination with a swinging sash, of a shaft extending horizontally in front of the sash, a means for supporting the shaft, a clamp adapted to be secured at any point along the shaft, said clamp comprising two parts which are identical with each other and which are hinged together at one side, a bolt for securing the members of the clamp at the other side and in connection with and around the shaft, a link located at a distance from the clamp, a pair of arms crossing each other and connecting the clamp with said link, and a bar connecting the link with the window sash, all substantially as shown and described.

In testimony whereof I have hereunto subscribed my name to this specification in the presence of two subscribing witnesses.

JAMES E. JONES.

Witnesses:

ROBERT W. RANDLE,
RAYMOND E. JONES.