

(No Model.)

J. F. CHRISTIAN.
SASH BALANCE.

No. 452,912.

Patented May 26, 1891.

Fig. 1.

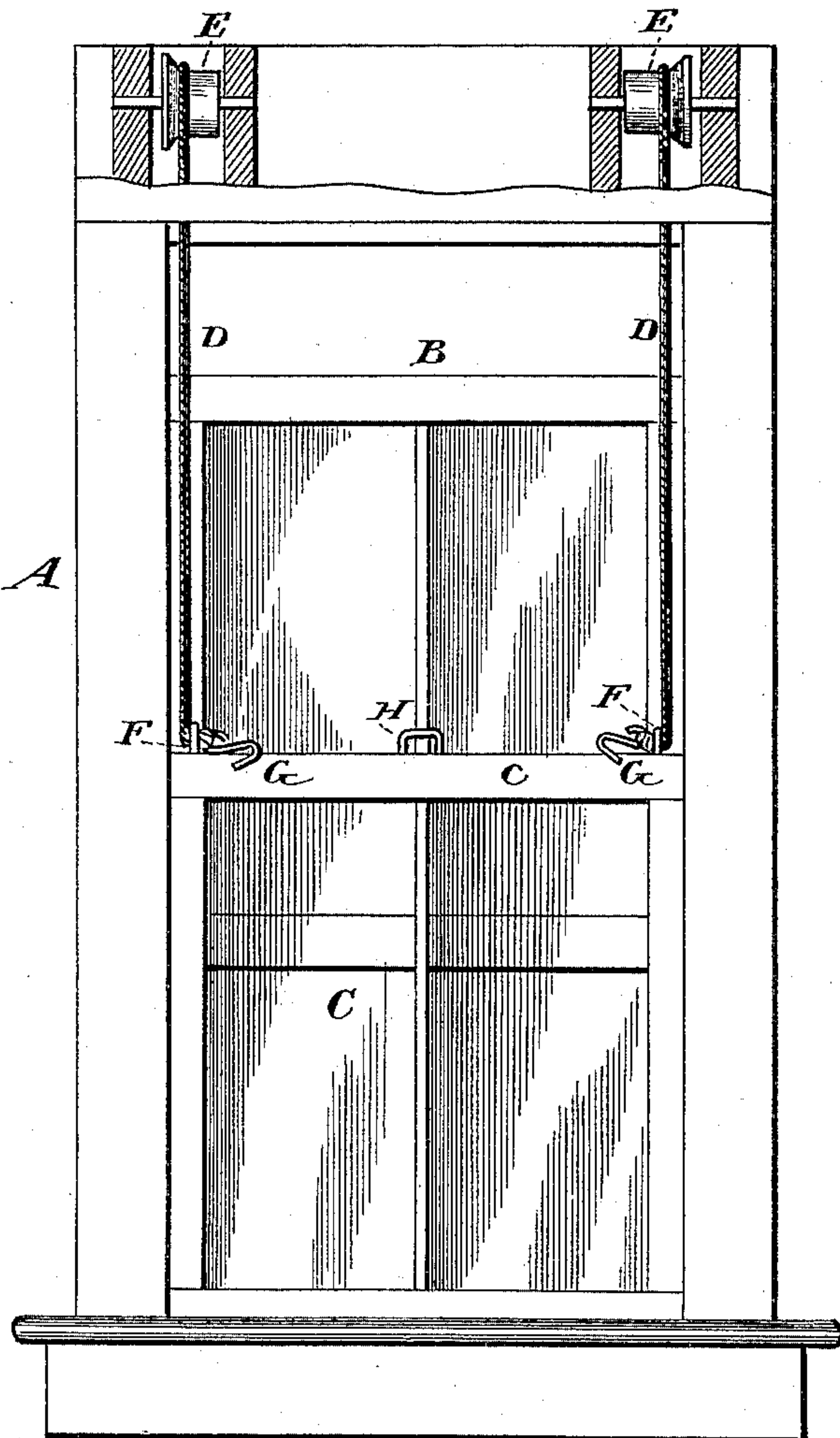
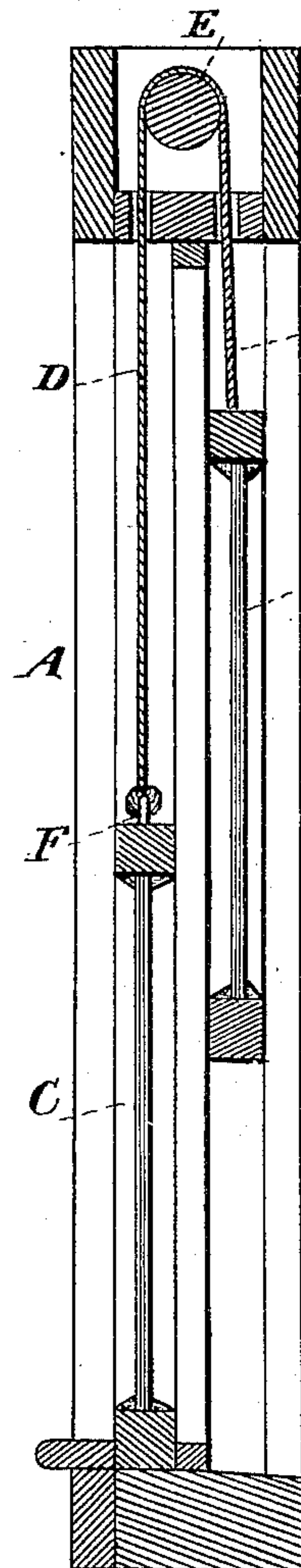


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

JAMES F. CHRISTIAN, OF MINERAL WELLS, TEXAS.

SASH-BALANCE.

SPECIFICATION forming part of Letters Patent No. 452,912, dated May 26, 1891.

Application filed February 27, 1891. Serial No. 383,107. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. CHRISTIAN, a citizen of the United States, residing at Mineral Wells, in the county of Palo Pinto and State of Texas, have invented certain new and useful Improvements in Window-Sash Balances; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to that class of window-sashes which are flexibly connected, so as to balance one another and so as to make an open air-space at the bottom and top of the window.

The invention consists in connecting the two sashes so that they will not only balance, but also so that either may be raised or lowered without affecting the other.

Figure 1 of the drawings is a front view of a window and frame, showing my invention, the upper part being broken away; and Fig. 2 is a vertical cross-section.

In the drawings, A represents the window-frame, B the upper sash, and C the lower sash. I connect the two sashes by two cords D D, of whose ends two are secured fixedly to the top rail of the upper sash B. Then the cords are carried over the rotary pulleys E E, which turn on shafts in bearings in the upper part of frame A down to and through the guides

or keepers F F on the upper rail of the lower sash C. The cords D D are provided with the hooks G G, which engage detachably the loop H near the middle of the rail *c* of the lower sash.

If it is desired that the sashes shall act together and correspondingly, the hooks G are fastened in the loops H; but if it is preferred that the sashes shall act independently of each other, so that only one opening shall be made for the inlet of fresh air and the outlet of foul air, the hooks G are taken out of the loops H. Thus one or two openings can be made in the window without trouble, loss of time, or any inconvenience whatever.

Having thus described all that is necessary to a full understanding of my invention, what I claim as new, and desire to protect, is—

In balanced sashes, the cords which pass over pulleys in the upper part of frame, made fast to the top rail of upper sash and connected with the lower sash by hooks and loops G H, said cords first passing through guides or keepers F F on the upper rail *e* of the lower sash, as shown and described.

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

JAMES F. CHRISTIAN.

Witnesses:

A. H. LATIMER,
C. M. HARRIS.