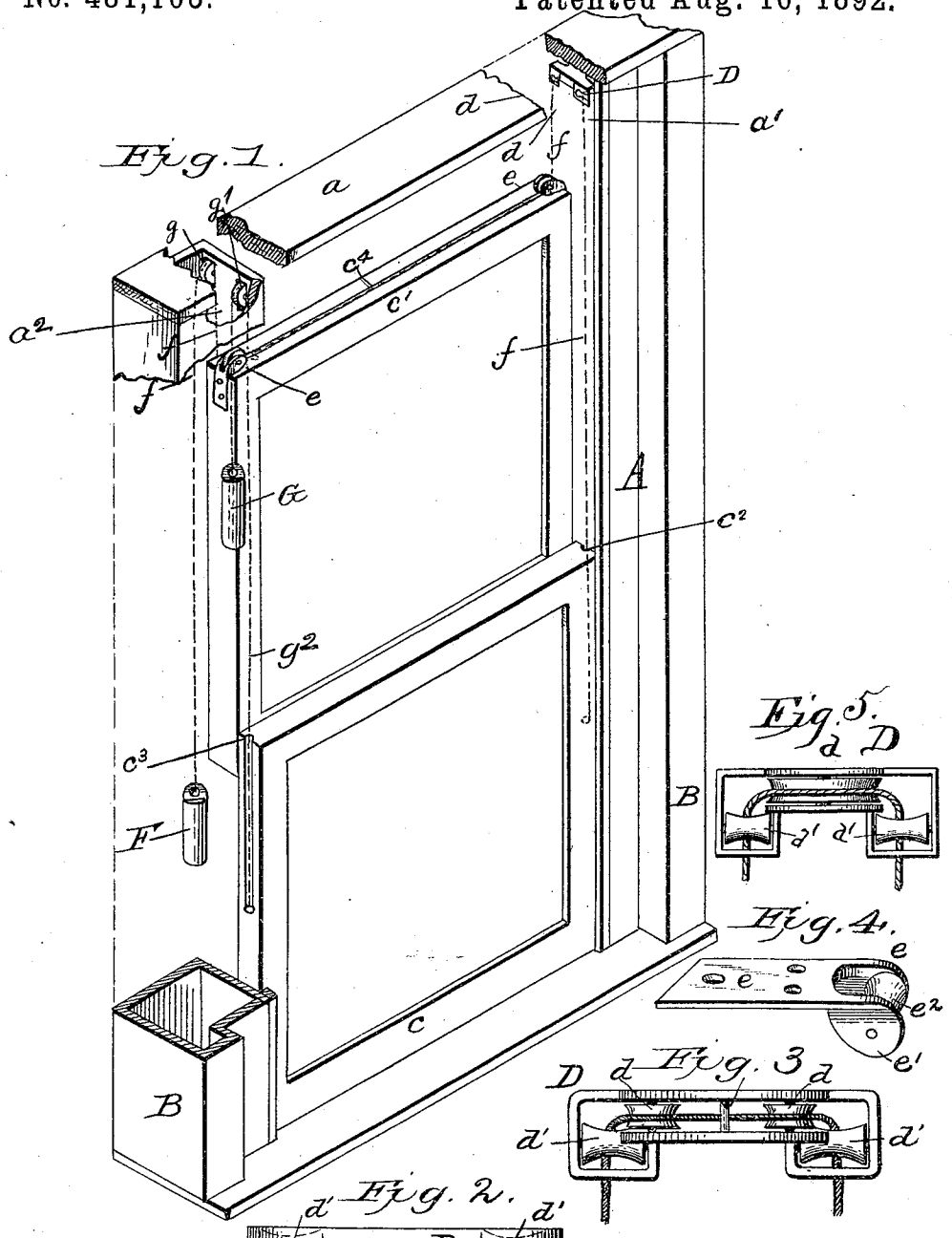
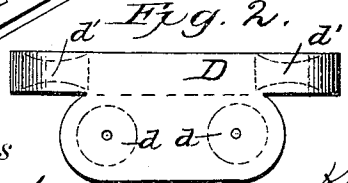
(No Model.)

H. P. CAYCE.

SASH BALANCE.

No. 481,103. Patented Aug. 16, 1892.





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HENRY P. CAYCE, OF McGREGOR, TEXAS.

SASH-BALANCE.

SPECIFICATION forming part of Letters Patent No. 481,103, dated August 16, 1892.

Application filed November 24, 1891. Serial No. 412,930. (No model.)

To all whom it may concern:

Be it known that I, HENRY P. CAYCE, a citizen of the United States, residing at McGregor, in the county of McLennan and State of Texas, have invented certain new and useful Improvements in Sash-Balances; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention has relation to sash balances and hoisters; and it consists in the novel construction and arrangement of its parts, hereinafter set out in this specification, and the claim hereto attached.

In the accompanying drawings, Figure 1 is a perspective view of my invention. Fig. 2 is a top plan view of one of the pulleys. Fig. 3 is an edge plan view of the same pulley, Fig. 2. Fig. 4 is a perspective view of another pulley used in my invention. Fig. 5 is an edge plan view of the pulley when only one center wheel is used.

My invention is constructed of the usual window frame and sash, slightly changed to meet the requirements of my pulleys, cords, and weights, together with certain pulleys of my own construction, and is described as follows:

A is an ordinary window-frame provided with the usual weight-box B.

c is the lower sash and *c'* is the upper sash.

D is the pulley provided with three runners, the vertical runner *d* and the horizontal runners *d'*. When the sash are large and heavy, I use a pulley with four runners, as shown in Figs. 2 and 3.

e is a pulley provided with the ears *e'* and horizontal runner e^2.

The side pieces of the lower frame *c* have in their outer edges grooves c^2 and c^3, and the top piece of the sash *c'* has in its upper face a groove c^4, and to each end of said sash are secured pulleys *e* and *e*, (see Fig. 4,) with the ears *e'* turned in, so that the rope will be forced to run along said groove and under runner e^2. To the inner face of the side lintel *a'* and at its upper end is secured the pulley D, so that the bearing-surfaces of the runners *d'* are on a line with said side lintel and the runner of the pulley *e*. To the inner face of side lintel a^2 and at its upper end is secured a pulley *g*. Said pulley *g* is on a line with the pulley secured on the left-hand end of the sash *c'*. One end of the cord *f* is secured to the lower sash *c* in the groove c^2. The other end is carried thence over the front roller *d'* in the pulley D, thence in rear of the vertical roller *d*, thence over the rear roller *d'*, thence under the roller e^2 of the pulley *e*, thence along the groove c^4 under a similar pulley *e*, thence up over the pulley *g* in side lintel a^2, thence down into the weight-box B, and has secured to its lower end a weight F. One end of a cord g^2 is attached to the left-hand side of the lower sash in a groove c^3. The other end is carried upward and over the roller of a pulley *g'*, secured in the side lintel a^2, thence down and into the weight-box B, and has secured to its free end a weight G.

The phrase "left hand," is used simply as a matter of description. The weights may be at either side of the window.

The operation of my invention is easy and simple. Both sash may be moved at once; but either sash may be moved without moving the other. If I wish to move the lower sash up or down, I put one hand against the upper sash to hold it in place and move the lower sash, in which case the cord *f* will traverse the pulley D, groove c^4, pulleys *e* and *g*, and the weight-box B; but if I wish to move the upper sash I put my hand on the lower sash to hold it in place and move the upper sash, in which case the said cord will take the course just above described, and as said cord passes under the rollers *e*—one at each end of the sash—both ends of said sash are carried up or let down evenly, and therefore do not impinge against the frame.

The weights G and F are to weigh one-half the weight of each sash.

It is not necessary that I use the weight G and cord g^2, because by placing the hand near the left-hand corner of the lower sash when I wish to raise it it will move without impinging against the face of the frame; but where the window is wide and the sash heavy I use the said weight and cord to bear up said left-hand side of said sash.

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

The combination of the frame A, sash *c*, having the grooves c^2, sash *c'*, provided with the groove c^4, pulley D, provided with the vertical pulley *d* and horizontal pulley *d'*, secured in the upper end of lintel a', pulleys *e e*, one attached to each end of the sash *c'*, pulley *g*, secured in lintel a^2, cord *f*, one end attached to the sash *c*, the other traversing the pulleys D and *e e* and *g*, and weight F, running in the weight-box B and secured to the free end of said cord, substantially as shown and described.

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

HENRY P. CAYCE.

Witnesses:
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