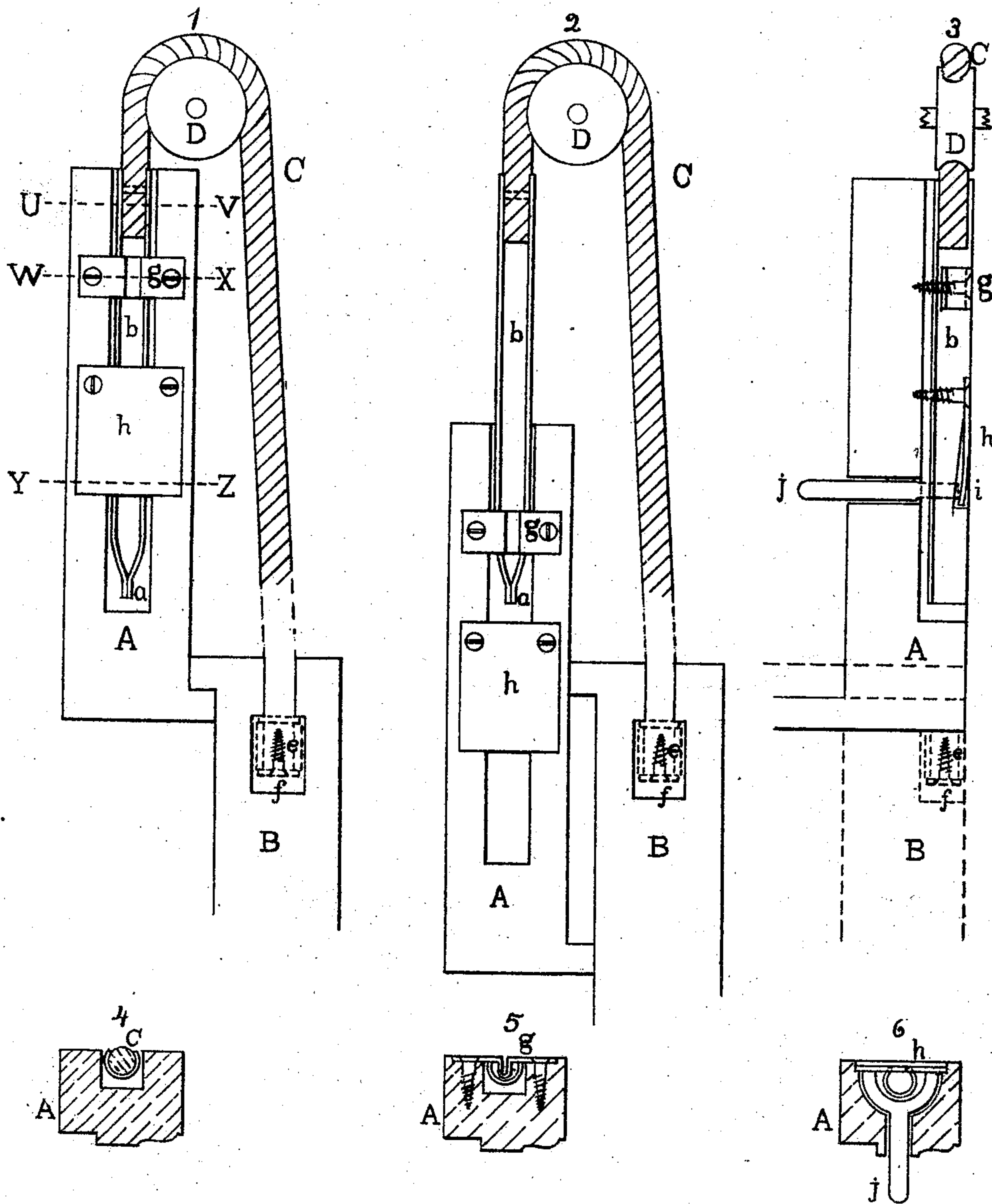


LEWIS GOODWIN'S IMPROVED SASH BALANCE AND WINDOW FASTENER. PATENTED JUN 27 1871



WITNESSES.

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UNITED STATES PATENT OFFICE.

LEWIS GOODWIN, OF BANGOR, MAINE.

IMPROVEMENT IN SASH-BALANCES.

Specification forming part of Letters Patent No. 116,302, dated June 27, 1871.

To all whom it may concern:

Be it known that I, LEWIS GOODWIN, of Bangor, in the county of Penobscot and State of Maine, have invented new and useful Improvements in Window-Sash Balance and Window-Fasteners, of which the following is a specification:

This invention relates to improvements upon the sash-balance described and shown in Letters Patent issued to myself on the 30th day of March, 1869, and numbered 88,471; and the invention consists in an improved sliding rod and its connection with the sash-cord; also, in the stops, and their combination with the sliding rod, and in the releasing mechanism of the lower stop; as also in an elastic buffer combined with the cord; as will be hereinafter more fully described.

Figure 1 is a side elevation, showing the window closed. Fig. 2 is a similar elevation, showing the upper sash dropped. Fig. 3 is a central vertical section taken in the direction of the plane of the glass. Fig. 4 is a transverse section taken on line U V, Fig. 1. Fig. 5 is a transverse section taken on line W X, Fig. 1. Fig. 6 is a transverse section taken on line Y Z, Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

In the drawing, A represents the stile of the upper, and B the stile of the lower sash, while C is the sash-cord, which, passing over a pulley, D, at the top of the casing, has its ends secured perspective to stiles A B, as shown and hereinafter described. In the stiles of the upper sash is formed a longitudinal groove, *a*, in which the rod *b* slides freely. This rod is formed of thin sheet metal in a trough-like semicircular form, as shown by its cross-section in Figs. 4, 5, and 6. The method of uniting cord C with rod *b* is to insert the cord in the hollow of the rod, when the latter is closed firmly upon the cord, as shown in Fig. 4, and a small pin passing through both secures them together. At the lower end of the cord a small section of rubber or other elastic tubing, marked *e*, is secured upon the cord by means of a disk of metal and a screw inserted in the end of the cord, as shown in section. This

buffer is inserted in the cavity *f* in the lower sash, thereby attaching the cord to the lower sash, yet serving as a cushion to prevent shocks when the upper sash is suddenly lowered, while the lower one remains closed. *g* is a metallic bar inserted in the upper sash across bar *b*, as shown. This bar *g* is doubled or folded at its center, as shown in Figs. 1 and 5, the fold occupying a position in the cavity of bar *b*; the lower end of this latter being closed or pressed together, as shown in Fig. 1, it will be apparent that although bar *b* slides freely, yet the closed end would be arrested by the intervening portion of bar *g*, thereby preventing the former from being entirely withdrawn from the stile. *h* is a wide spring, serving the double purpose of holding the lower end of bar *b* in place, and also preventing the upper sash from falling when closed. In Fig. 3 a small notch or recess is shown in bar *b*, in which the curved end of spring *h* engages when the upper sash is closed. *j* is a stud, formed forked, as shown in Fig. 6, in order that it may bear against spring *h*, yet not impeding the free movement of rod *b*, and by pressing against the projecting end of this stud the spring *h* is disengaged from catch *i* in rod *b*, thereby allowing the upper sash to move vertically independent of rod *b*, as before described.

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

1. The combination of cord C and its hollow rod *b*, substantially in manner as and for the purposes specified.
2. The combination of bar *g* and tube *b*, when constructed and arranged to operate substantially as and for the purposes specified.
3. The combination of bar *b*, spring *h*, and stud *j*, when arranged to operate substantially in manner as and for the purposes specified.
4. In combination with cord C, the elastic buffer *e*, substantially in manner as and for the purposes specified.

Witnesses: LEWIS GOODWIN.

H. L. MITCHELL,
H. B. FARNHAM.