(No Model.)

R. M. GARDNER.

SASH BALANCE.

No. 441,757. Patented Dec. 2, 1890.

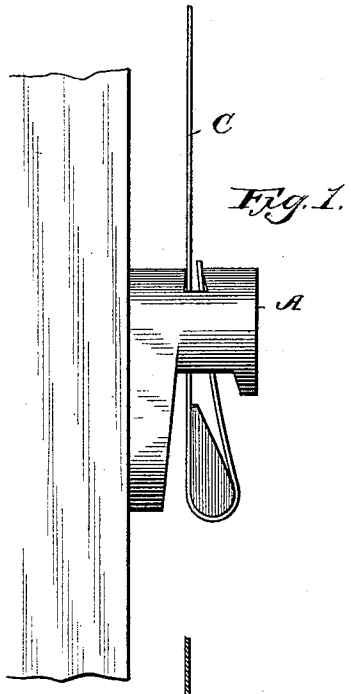


Fig. 1.

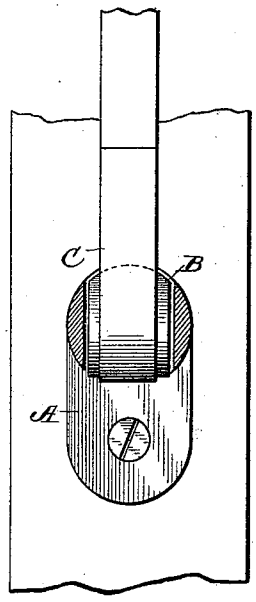


Fig. 3.

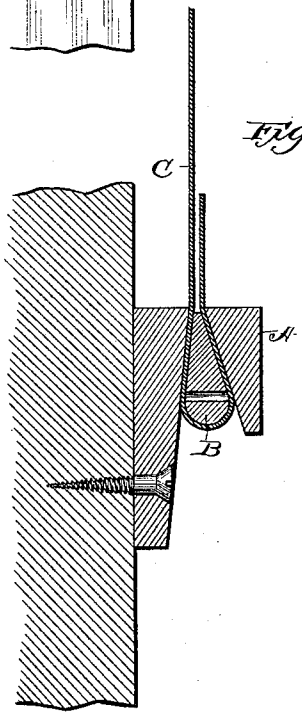


Fig. 2.

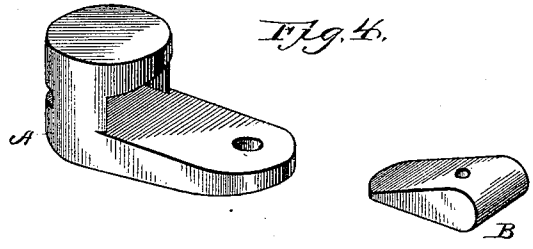


Fig. 4.

Witnesses.

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Frederick Searle.

Inventor.

Richard M. Gardner

By Butterworth, Hall, Brown & Smith

his atty's.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

RICHARD M. GARDNER, OF CHICAGO, ILLINOIS.

SASH-BALANCE.

SPECIFICATION forming part of Letters Patent No. 441,757, dated December 2, 1890.

Application filed March 14, 1890. Serial No. 343,821. (No model.)

To all whom it may concern:

Be it known that I, RICHARD M. GARDNER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Sash-Balances, of which the following is a specification.

A familiar form of modern sash-balance is one in which a flat metallic ribbon is employed in lieu of the old-fashioned rope to suspend the counter-balance, and such ribbon is detachably connected to the sash by a suitable fastening device.

The object of my present invention is to improve the form of fastening device heretofore employed; and to that end it consists in the construction and arrangement hereinafter described, and then more particularly pointed out in the claim.

Like letters refer to the same parts in the several figures of the drawings, in which—

Figure 1 is a side elevation of my device with the loop of the ribbon enlarged so as to admit the securing-wedge. Fig. 2 is a vertical section of the device with the securing-wedge tightly in place. Fig. 3 is a cross-section of the slotted block, so as to show the wedge and ribbon in plan; and Fig. 4 is a perspective view of the slotted block and securing-wedge detached.

A block of metal having a flat portion for attachment to a sash and a projecting head having a slot cut therethrough constitutes the base of the fastening device. The slot in such head is not of uniform depth, but flares considerably toward what may be termed its "mouth," which latter is at the lower side of the head when the base is in vertical and operative position. This slotted block is marked in the drawings by the letter A.

C represents the flat ribbon, one end of which is secured to the counter-balance and the other end of which is bent in a reverse direction, so as to form a loop. When the loop is formed, a securing-wedge B is inserted therein, and the loop and wedge are drawn into the flaring slot in the block A.

There has heretofore been invented an arrangement similar to the present invention, except that a cylindrical pin was inserted within the loop of the ribbon in lieu of the wedge employed by me. It has been found in practice that the cylindrical pin, if properly placed, will prevent the loop from pulling through the slotted block; but if the workman who puts the fixture up is not careful to hold it in proper position until the strain of the sash and counter-balance are exerted on the ribbon the pin is liable to fall out and allow the ribbon to slip, and so if the ribbon buckles and makes the loop too large the pin may slip or work out of place. My securing-wedge, however, under the strain of the ribbon will be guided and forced into proper position, and will then not only act as a cross-pin in the loop, but will also press the sides of the latter against the inner surfaces of the slotted block and produce such friction that it will usually be retained in place even after the sash is removed and the ribbon thereby relieved of strain. This friction against the inner surface of the slotted block will also serve to make the wedge and ribbon retain their respective positions in cases where the loop of the latter is made too large by buckling or otherwise.

The securing-wedge above described and shown in the accompanying drawings is the preferred form, because I have found it extremely efficient; but it is obvious that there might be many modifications made which would embody this wedging principle, even though in appearance they may be widely different, and I therefore wish it to be understood that I do not confine myself to the precise construction shown.

What I claim, and desire to secure by Letters Patent, is—

In a sash-balance, the combination of a flat tape or ribbon having a loop formed at one end thereof, with a fastening device therefor, comprising a base-piece having a flaring slot and means for securing said base-piece to the window-frame, and a loose co-operating wedge for insertion within said loop, substantially as shown and described.

RICHARD M. GARDNER.

Witnesses:

ARTHUR L. HUGHES,

L. C. MERRILL.