(No Model.)

G. C. GARDNER.

SASH BALANCE.

No. 456,948. Patented Aug. 4, 1891.

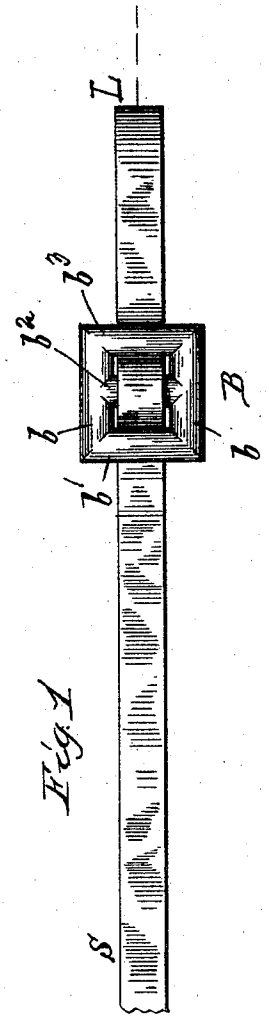


Fig. 1

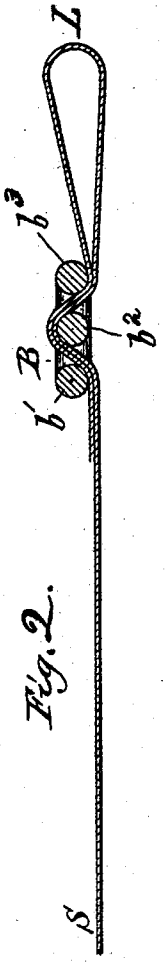


Fig. 2.

Witnesses
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By his Attys
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE C. GARDNER, OF HINSDALE, ILLINOIS.

SASH-BALANCE.

SPECIFICATION forming part of Letters Patent No. 456,948, dated August 4, 1891.

Application filed July 17, 1890. Serial No. 359,099. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. GARDNER, of Hinsdale, in the county of Du Page and State of Illinois, have invented certain new and useful Improvements in Sash-Balances, of which the following is a specification.

Referring to the accompanying drawings, in which similar reference-letters indicate the same parts, Figure 1 is a face view of the strap and its fastenings; Fig. 2, a section through the device for attaching the weight to the strap.

This invention relates to that class of sash-balances in which the sash is counterbalanced by a weight suspended by a metallic strap passing over a guide pulley or roller intermediate between the ends of the strap; and it consists in a new and improved means for fastening the weight to one end of the strap, substantially as hereinafter set forth, and more particularly pointed out in the claim hereto appended.

In this class of devices the essential requisites are cheapness, convenience of attachment and detachment, strength, and durability, and it is especially important that the means of fastening the strap to the sash and weight, respectively, should be such that the fastening and unfastening can be effected with the utmost readiness and ease, and yet when fastened there will be no danger of the strap pulling out or becoming abraded or ruptured at the fastenings. The object of this invention is to provide a simple and efficient means for accomplishing these results.

For the weight-fastening I provide a cast-metal clip B, consisting of two side bars $b\,b$, connected by three parallel bars $b'\,b^2\,b^3$, lying substantially in the same plane, as shown in Figs. 1 and 2. The strap is attached to this clip preferably by passing its end through between the bars $b'\,b^2$, thence over b^2, thence between $b^2\,b^3$ back to the same side of the clip at which it entered, thence down to a sufficient distance to form a loop L for the attachment of the weight or the link which supports the weight, thence back to the clip and between the body of the strap and the bar b^3, thence between bars $b^3\,b^2$ and over the latter, thence in between bars $b^2\,b'$, and out between b' and the body of the strap, as shown in Fig. 2. This arrangement causes the draft of the weight to clamp the strap and clip firmly together, and thereby dispenses with everything requiring a tool for removal, so that as soon as the weight is lifted to relieve the clip from its strain the strap can be readily detached. This construction brings the clamping action squarely and evenly across the fiber of the strap, so as not to impair its strength, and also avoid sharp turns and cutting-edges, which would interfere with its durability.

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

In a sash-balance, the combination of the flat metallic strap S with the clip B, having the side bars $b\,b$ and the three parallel bars $b'\,b^2\,b^3$, arranged substantially in the same plane, the strap being passed between the bars, substantially as described.

GEORGE C. GARDNER.

Witnesses:
L. HILL,
E. REED.