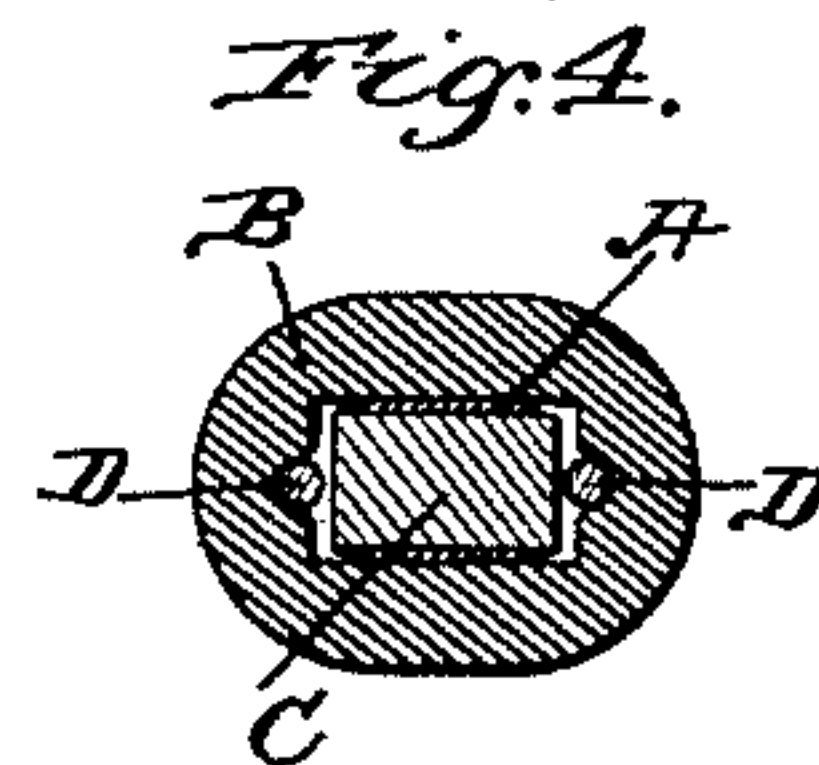
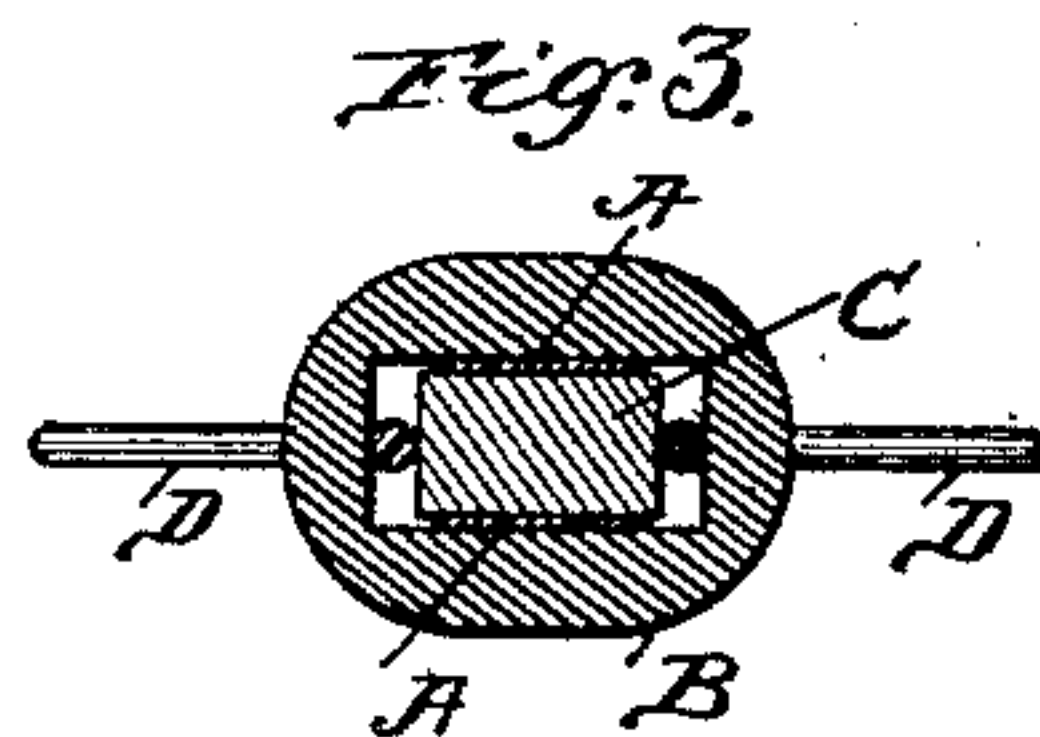
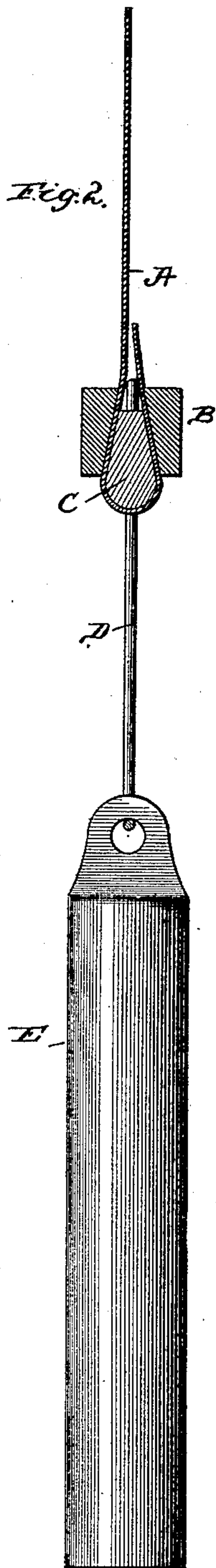
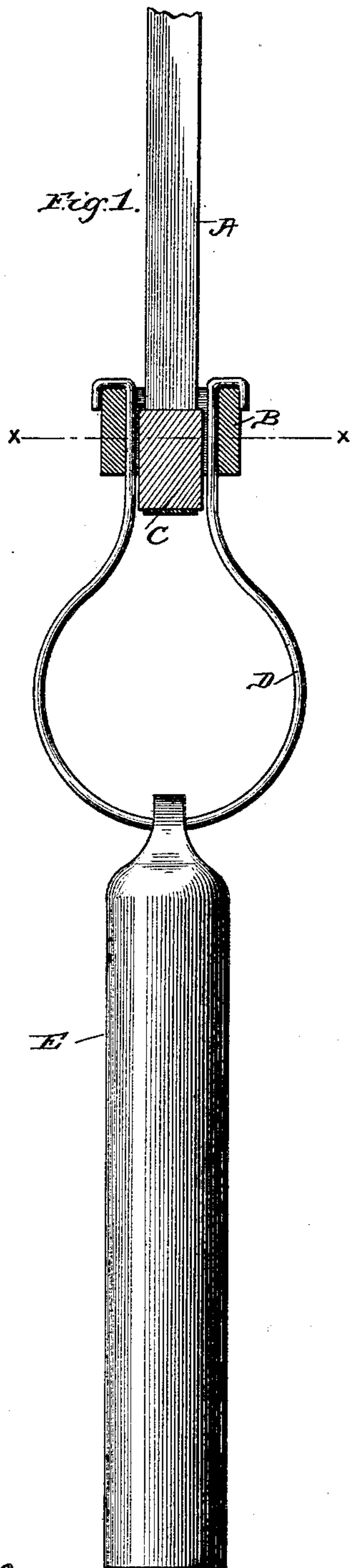


(No Model.)

R. M. GARDNER.
SASH BALANCE.

No. 450,667.

Patented Apr. 21, 1891.



Witnesses.
Wm. M. Phelps
H. D. Vries

Inventor:
Richard M. Gardner
By Cattermole Hall & Brown
Attys

UNITED STATES PATENT OFFICE.

RICHARD M. GARDNER, OF CHICAGO, ILLINOIS, ASSIGNOR TO JAMES P. GARDNER, OF SAME PLACE.

SASH-BALANCE.

SPECIFICATION forming part of Letters Patent No. 450,667, dated April 21, 1891.

Application filed October 9, 1890. Serial No. 367,470. (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.

My invention relates to an improvement in sash-balances; and it has for its objects to improve the means for supporting the weights; and to this end my invention consists in the construction hereinafter described and claimed.

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

Figure 1 is a vertical longitudinal section of the clamping-block and wedge-piece, showing the bail in side elevation and the weight supported thereon. Fig. 2 is a vertical cross-section, showing the bail in end elevation and the weight supported thereon. Fig. 3 is a horizontal section on the line X X. Fig. 4 is a similar sectional view of a modified construction.

In the drawings, A represents a tape or ribbon of a well-known form, the lower end of which is looped around a wedge-piece C, which latter fits in a correspondingly-shaped socket formed in the clamping-block or base-piece B. This form of construction is similar to that contained in my application filed March 14, 1889, No. 343,821, and consequently I herein lay no claim to such construction, but simply illustrate and describe it with a view of showing its connection with the devices which I employ in the construction of my present invention.

D represents a bail, preferably of resilient wire, and having its ends bent so as to form hooks, which may clasp the sides of the clamping-block, as is shown. This bail, before it is adjusted in position, has one of its ends passed through an aperture in the balancing-weight of the sash-balance, and after such weight is forced down so as to be supported upon the loop of the bail the two ends of the latter are passed through an opening in the clamping-block and hook over the upper edge of the same, or are otherwise secured thereto.

The wedge-piece and tape or ribbon are then secured in their proper positions in the clamping-block. It is manifest that in this manner the bail is conveniently secured and held in place, and the greater the strain or weight upon it or the ribbon the more securely will the bail be kept from slipping out of its place, and yet by simply loosening the wedge-block and removing the same the bail may be readily detached from its position and a different weight or a different bail, or both, be substituted.

It is obvious that many modifications may be made in the form of the bail and in the manner of attaching it and in other details of the invention without departing from the principle of the same; and I wish it to be understood that I do not desire to limit myself to the precise construction shown and described.

A slight modification is represented in Fig. 4 of the drawings, where the grooves are made upon the interior surfaces of the clamping-block or base-piece, in which grooves the shanks of the bail are designed to be placed, and in this way swaying of the weight and bail are prevented and steadiness is secured.

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

1. In a sash-balance, the combination of a block or base-piece having an opening there-through and a fastening device for securing the tape therein, with a bail carrying the weight and secured in the opening in the block or base-piece, substantially as and for the purpose set forth.

2. In a sash-balance, the block or base-piece having an opening therethrough, a tape or similar suspension device secured thereto, and a bail having a weight supported in its loop and its ends passed through the opening in the base-piece and secured to the latter, substantially as and for the purpose set forth.

3. In a sash-balance, the combination of the block or base-piece having an opening there-through, an elastic-wire bail carrying a weight in its loop and having its ends passed through the opening of the base-piece and bent into hooks for supporting it thereon, and a tape

which is suitably secured by a wedge-block in the opening in said base-piece, substantially as and for the purpose set forth.

4. In a sash-balance, the combination of the
5 base-piece having an opening therethrough and grooves upon the inner faces of the same, a bail supporting a weight and having its ends passed through the opening of the

base-piece and resting within the grooves of the same, a tape, and a wedge-block securing the same in the base-piece, substantially as and for the purpose set forth.

RICHARD M. GARDNER.

Witnesses:

L. T. PALMER,

H. DEVRIES.