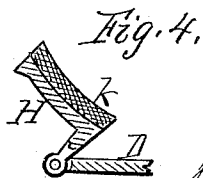
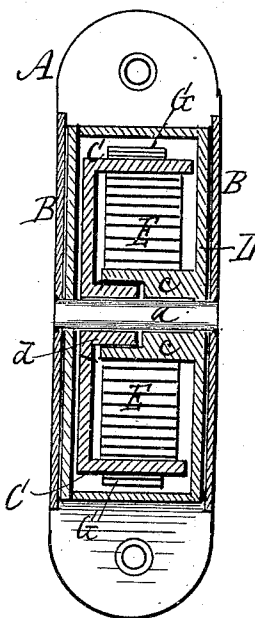
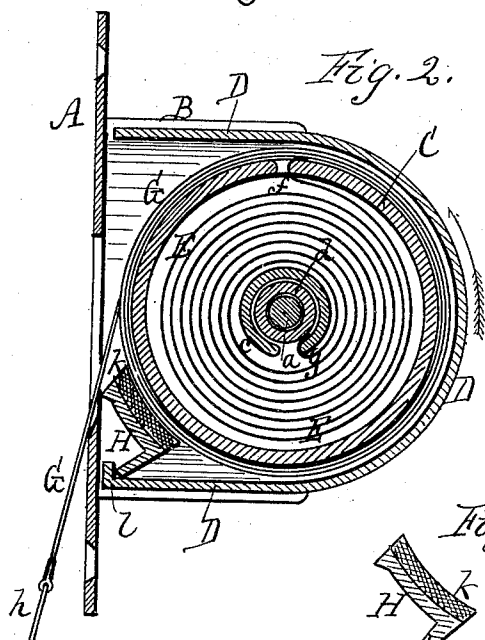
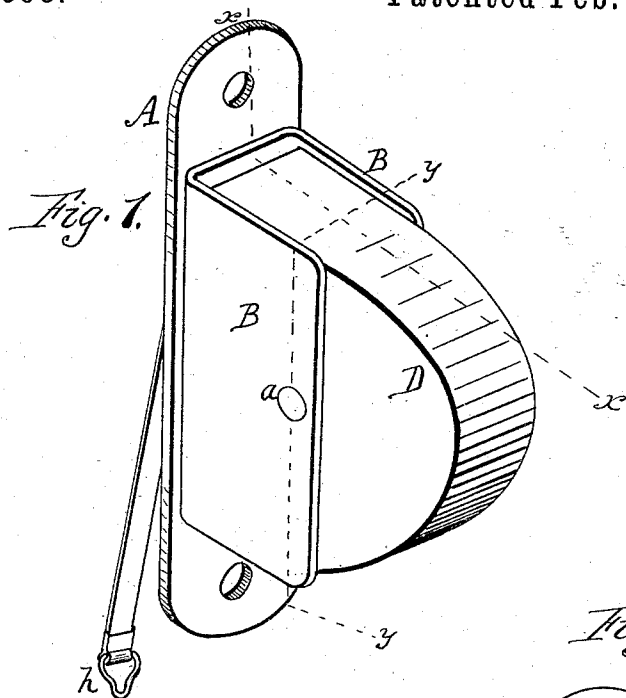


(No Model.)

B. H. ROSE.
SASH BALANCE.

No. 469,598.

Patented Feb. 23, 1892.



Witness
P. A. Leustick
A. S. Smith

Inventor
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UNITED STATES PATENT OFFICE

BYRON H. ROSE, OF ROCHESTER, NEW YORK, ASSIGNOR TO THE PULLMAN
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SASH-BALANCE.

SPECIFICATION forming part of Letters Patent No. 469,598, dated February 23, 1892.

Application filed December 7, 1891. Serial No. 414,224. (No model.)

To all whom it may concern:

Be it known that I, BYRON H. ROSE, of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Sash-Balances; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the drawings accompanying this specification.

My improvement relates to that class in which a spring-case is attached to the window-jamb and a tape or cord attached to the spring-drum extends down and is connected with the sash.

The invention consists in the combination of parts by which brake action is applied to the tape that winds on the drum, as herein-after more fully described.

In the drawings, Figure 1 is a perspective view of the device. Fig. 2 is a longitudinal vertical section in line *xx* of Fig. 1. Fig. 3 is a cross-section in line *yy* of Fig. 1. Fig. 4 is a modification of the brake attachment.

A indicates the face-plate, which is attached to the casing by means of screws in the ordinary way, and B B are two cheeks or side plates, which form the bearings for the drum.

C is the roller, turning on a shaft *a*, which passes through from side to side and rests in the side plates B B.

D is a casing, which also rests loosely on the shaft *a* and has a limited turning motion thereon. On the outside this casing is circular and concentric with the drum; but on the inner side its ends are straight and horizontal, as shown. In fact it is a rim which fits loosely between the side plates B B and covers the interior mechanism. A little space is left between its ends and the back of the face-plate A to allow the necessary rocking motion. On its inner face is a central hollow hub *c*, which rests around the shaft, and on the inner face of the drum C is a similar half-hub *d*, which fits inside the half-hub *c*.

E is the coiled spring inside the drum, by which the latter is operated. One end of this spring is attached to the drum, as shown at *f*,

and the other end is attached to the half-hub *c* of the casing D, as shown at *g*.

G is the ordinary tape or cord attached to and winding on the drum, its free end being provided with a loop *h*, that connects with the window-sash.

H is a brake, consisting of a metal block, preferably provided with a felt or other soft pad *k*, that rests in contact with the tape around the drum. One end rests against or within a lug *l* of the casing D and the other against the face-plate A. It can be used either above or below the drum. Instead of resting loosely in the casing it may be pivoted to the end of the casing D, as shown in Fig. 4.

The operation is as follows: When the tape is drawn down by the lowering of the sash, the drum is turned and the spring wound up, thereby increasing the tension. As this spring is attached at one end to the drum and at the other to the loosely-turning casing D, the latter is caused to turn to a limited degree in the direction indicated by the arrow, Fig. 2. This draws upon the brake H and causes it to hold with greater force against the outside of the tape. The greater the tension the greater will be the pressure of the brake. By this means the brake is applied automatically and in proportion to the tension on the spring.

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

In a sash-balance, the combination, with the stationary frame and a spring-drum mounted therein, of an inclosing casing turning freely on the same axis with the drum, a brake actuated by the casing to apply resistance to the drum, and a tape winding on the drum, as and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

BYRON H. ROSE.

Witnesses:

R. F. OSGOOD,
CHAS. A. WIDENER.