April 21, 1925. 1,534,767

J. BROGDEN

SASH WEIGHT

Filed Dec. 12, 1923

FIG. I.

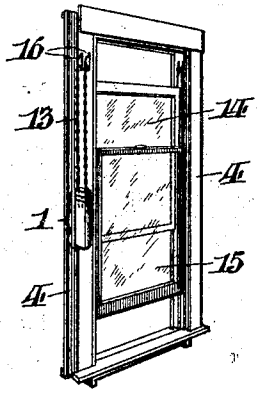


FIG. II.

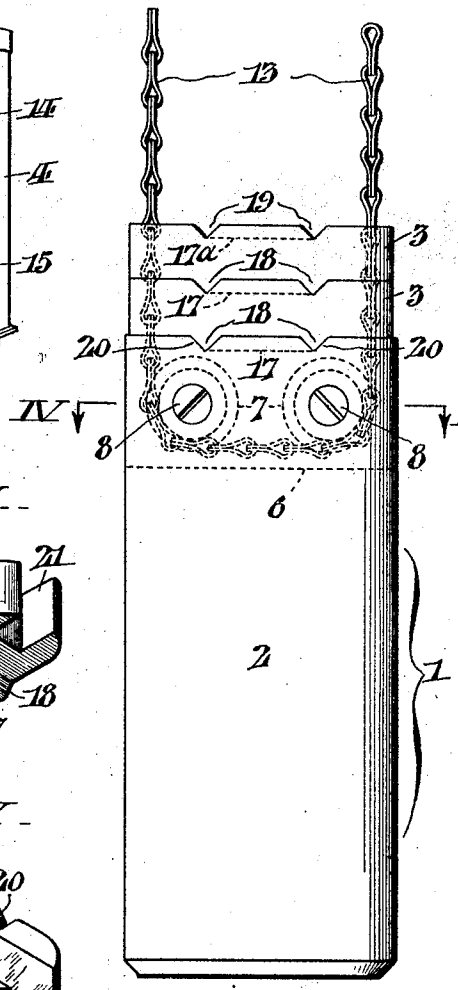


FIG. III.

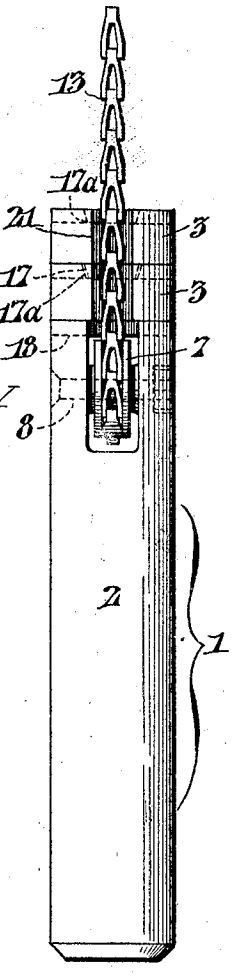


FIG. VI.

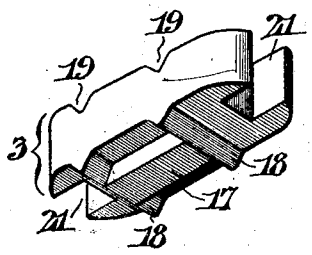


FIG. V.

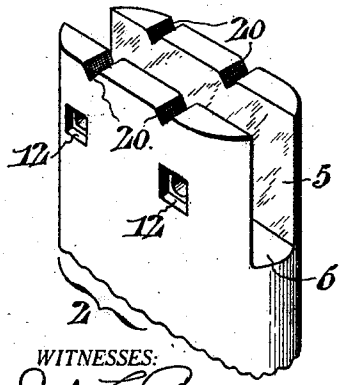
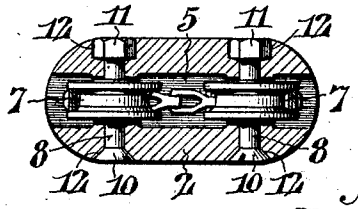


FIG. IV.



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UNITED STATES PATENT OFFICE.

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SASH WEIGHT.

Application filed December 12, 1923. Serial No. 680,074.

To all whom it may concern:

Be it known that I, JOAH BROGDEN, a citizen of the United States, residing at Melrose Park, county of Montgomery, and State of Pennsylvania, have invented certain new and useful Improvements in Sash Weights, whereof the following is a specification, reference being had to the accompanying drawings.

My invention relates to sash weights such as are used in connection with window structures wherein the two sashes are balanced by a single or common weight at each side of the window, the sash cords or chains being attached at their opposite ends to the respective sashes, and the weights suspended in saddle loops formed at the points of retroversion of the oppositely moving runs of the cords or chains.

Amongst the objects of my invention are to enable weights useful for the purpose noted to be easily adjusted for balancing sashes of different sizes; and to insure such weights against turning or wobbling within the weight boxes afforded by the window frame so as to prevent the chains or cords from becoming deranged or twisted.

These, together with other objects and attendant advantages of this invention, will become readily apparent from the detailed description which follows of a typical embodiment thereof; while the appended claims define the scope of said invention in so far as present knowledge is concerned.

In the drawings Fig. I is a perspective view of a window structure of the type in which a weight embodying this invention may be advantageously employed.

Fig. II is a side elevation of the improved sash weight, on an enlarged scale.

Fig. III is an end elevation of the same viewed from the right of Fig. II.

Fig. IV is a horizontal plan section taken as indicated by the arrows IV—IV in Fig. II.

Fig. V is a perspective view of the upper portion of the primary or main weight member of the device; and

Fig. VI is a similar view of one of the supplemental weights capable of being used, in an auxiliary capacity, with the primary or main weight member aforesaid.

In these illustrations, the improved sash weight is comprehensively indicated by the numeral 1 and shown as comprising a primary or main weight member 2, and a series of auxiliary weight members 3 adapted to be superposed upon the member 2 as best shown in Fig. II, the number of auxiliary weight members employed being determined in accordance with the size of the sashes with which the sash weight 1 is to be used. More especially from Figs. IV and V, it will be noted that the plan cross sectional configuration of the weight member 2 is oblong with its ends well rounded so as to render insertion into the weight box or channel 4 of the window frame easy of accomplishment, and to avoid sharp projecting corners likely to increase frictional contact with the side walls of said weight box or channel. Across its top, the member 2 has a longitudinal slot 5 extending downwardly to a level indicated at 6. This slot 5 is provided for accommodation of pulleys 7—7, which are mounted upon fixed axles 8—8 occupying positions in a common horizontal plane as clearly shown, so as to predetermine alignment of said pulleys, with their peripheral grooves in direct registry. The axles 8—8 of the pulleys 7—7, it will be observed, are in the form of screw bolts headed at one end as at 10, and provided with detachable nuts 11 at the opposite ends, the side walls of the primary weight member 2 being recessed as shown at 12—12 (see Fig. IV) for lodgment of the heads 10 and nuts 11 of said bolts. In this way all surface projections are obviated so that a continuous flush surface of the weight 1 is presented to the side walls of the weight channel 4 of the window frame.

The sash cord or chain indicated at 13 may be of any approved form or construction, and, as will be apparent from Fig. I, has its opposite ends attached to the respective sashes 14—15. This cord or chain 13 passes about the conventional sheaves 16 appropriately supported near the top of the window frame, and from thence has its opposite runs extending vertically downward in the weight box or channel 4 to a point of retroversion where it passes beneath the pulleys 7—7 in the main weight member 2 and thereby supports the same freely in suspension within the saddle loop thus formed. By this arrangement it follows that, as the sashes 14—15 are moved, the weight 1 will

correspondingly shift its position without any tendency whatever to turn, or wobble within the box or channel 4 of the window frame, the definite guidance thus afforded precluding the possibility of any noises whatever accompanying the sash shifting.

Coming now to the examination of the auxiliary weight members 3 of which one is shown in perspective in Fig. VI, attention is directed to the fact that they are generally of the same configuration as that of the main or primary weight member 2, and differ from the latter only as to depth. The lower faces of said auxiliary weight members 3 are provided with longitudinally extending ridges 17 adapted to engage with corresponding slots 17^a in adjacent auxiliary weight members, or within the top of the slot 5 of the primary weight member 2, sufficient clearance being left above the pulleys 7 for this purpose. In addition, the auxiliary weight members 3 are characterized by other ridges 18, preferably of V-shaped cross-section, as best shown in Fig. VI, extending laterally of the longitudinal ridges 17 and designed to engage correspondingly configured recesses 19 in adjacent auxiliary weight members 3, or with similar recesses 20 in the top of the main weight member 2. By reason of such complementary longitudinal and lateral ridging and recessing, it will be at once apparent that these auxiliary weight members 3 may be interchangeably used in connection with each other and also with the main or primary weight 2, and that they are interlocking held in position against relative displacement. The auxiliary weight members 3 are furthermore notched at opposite ends as shown at 21—21, these notches forming, collectively, continuous clearance spaces through which the opposite strands of the cord or chain 13 may move enroute to and from the pulleys 7. As a further precaution against surface projections, the auxiliary sash weights 3 are preferably made somewhat smaller in perimetrical dimension than the main or primary weight member 2 as clearly suggested in Fig. II.

The manner of operation of my invention is thought to be obvious from what has already been said, and therefore requires no further detailed description,—this being also true of the advantages, both structural and commercial, accruing from the novel construction herein set forth.

Having thus described my invention, I claim:

1. In a sash weight the combination of a main weight member, a pair of pulleys, having their axes in a common horizontal plane, accommodated in a lateral slot of said member, and auxiliary interlocking weight members adapted to be superposed upon the main weight member and having registering end notches affording collectively clearances for passage of the sash cord or chain enroute to and from the pulleys.

2. In a sash weight the combination of a main weight member with a slot extending across its top, sash cord pulleys with their axes in a common horizontal plane and aligned with their grooves in registry mounted within the slot aforesaid, and a series of auxiliary weight members adapted to be superposed upon the main weight member, each said auxiliary weight member being provided, for the purpose of preventing relative displacement with means for interengagement with each other and with the slot of the main weight member, also with registering end notches affording, collectively, clearances for passage of the sash cords enroute to and from the pulleys.

3. In a sash weight the combination of a main weight member with a slot extending across its top, sash cord pulleys, with their axes in a common horizontal plane and aligned with their grooves in registry, mounted within the slot aforesaid, and an auxiliary weight member adapted to be superposed upon the main weight member, and provided, for the purpose of preventing its displacement, with ridges for engaging the slot and complemental recesses of the main weight member, and also end notches affording clearances for passage of the sash cord or chain enroute to and from the pulleys.

4. In a sash weight the combination of a main weight member with a slot extending across its top, sash cord pulleys, with their axes in a common horizontal plane and aligned with their grooves in registry, mounted within the slot aforesaid, and an auxiliary weight member adapted to be superposed upon the main weight member, and provided, for the purpose of preventing its displacement, with a longitudinal ridge for engaging the slot of the main weight member, and also end notches affording clearances for passage of the sash cord or chain enroute to and from the pulleys.

5. In a sash weight the combination of a main weight member with a slot extending across its top, sash cord pulleys, with their axes in a common horizontal plane and aligned with their grooves in registry, mounted within the slot aforesaid, and an auxiliary weight member adapted to be superposed upon the main weight member, and provided, for the purpose of preventing its displacement, with a longitudinal ridge for engaging the slot of the main weight member, and transverse ridges for engaging recesses in the top of said main weight member, and also end notches affording clearances for passage of the sash cord or chain enroute to and from the pulleys.

6. In a sash weight of the type described

the combination of a series of auxiliary weight members adapted to be superposed upon the main weight member, each said auxiliary weight member being complementarily ridged and recessed both longitudinally and laterally for interchangeable interengagement with each other and with the main weight member to preclude the possibility of relative displacement, and also having end notches affording free passage for the sash cord or chain.

7. In a sash weight of the type described the combination of a weight member having a lateral slot in its upper part, sash cord pulleys mounted for rotation in said slot, and screw bolts in a common horizontal plane forming the axles of said pulleys, the sides of the weight members being recessed for accommodation of the heads and nuts of the bolts to obviate any projections beyond the weight surface.

In testimony whereof, I have hereunto signed my name at Philadelphia, Pennsylvania, this 4th day of December, 1923.

JOAH BROGDEN.

Witnesses:
JAMES H. BELL,
E. L. FULLERTON.