

(No Model.)

H. MARSHALL.
SASH WEIGHT.

No. 527,151.

Patented Oct. 9, 1894.

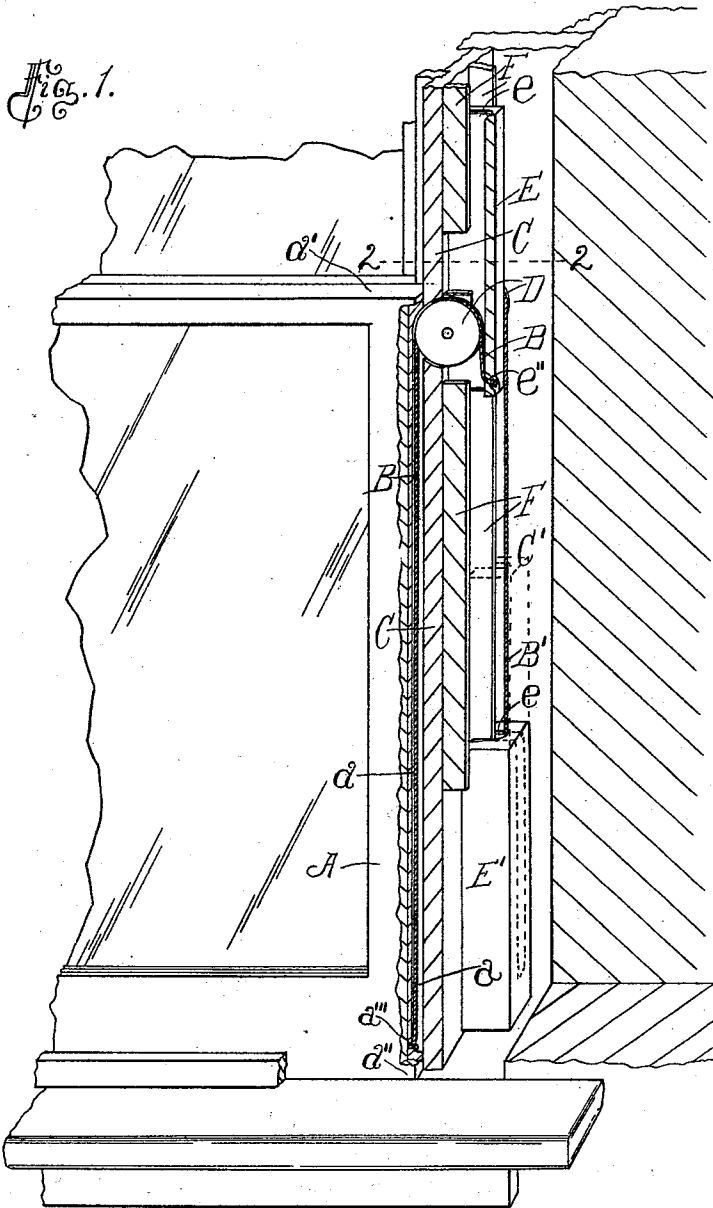
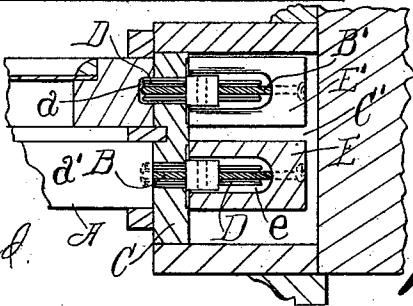


Fig. 2.

Witnesses.

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UNITED STATES PATENT OFFICE.

HERBERT MARSHALL, OF LOS ANGELES, CALIFORNIA.

SASH-WEIGHT.

SPECIFICATION forming part of Letters Patent No. 527,151, dated October 9, 1894.

Application filed October 9, 1893. Serial No. 487,571. (No model.)

To all whom it may concern:

Be it known that I, HERBERT MARSHALL, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Improvement in Sash - Weights, of which the following is a specification.

My invention relates to that class of weights in which the suspending cord is attached to the bottom of the weight in order to allow the weight to pass upward above the suspending pulley, so that such pulley may be arranged slightly below the top of the sash to which the weight is attached, thereby to conceal the pulley and cord so that the casing of the window will present a neat finish.

Heretofore in this class of weights it has been necessary to provide pulleys or guide-ways to engage the weight to retain it in its upright position while being drawn upward past the suspending pulley. This causes considerable friction and prevents the free operation of the device, and besides being expensive, is also liable to get out of order.

The object of my invention is to provide a sash weight of this class which will be perfect in its operation; simple in construction and whereby all friction is practically avoided. The accompanying drawings illustrate my invention.

Figure 1 is a fragmental perspective front view of a window provided with my improved weights; a portion of the casing and a portion of one of the weights being shown in section to expose the parts. The front sash is shown fully lowered thus bringing its weight into its highest position so that the pulley is chambered in the lower part of the groove. Fig. 2 is a fragmental sectional plan view from line 2—2 Fig. 1.

A A' respectively represent the lower and upper window sash each of which is provided along its edge with a cord groove (l^a) which extends almost but not quite to the top a' (l^a) and bottom a'' ($l^{a''}$) of the sash. At the bottom of this groove is provided an ordinary recess a''' in which the end of the cord B (B') is secured in the customary manner.

Upon the inside of the window jamb C at a point slightly below the point occupied by the top of the lower sash when such sash is fully lowered, is secured a cord pulley D

which is of a diameter sufficiently great to hold the cord B free from the jamb upon both sides thereof and to hold it at a material distance therefrom in the weight chamber C' as and for the purpose hereinafter specified.

E (E') represent my improved weight which is provided along one side with a straight cord and pulley chambering groove e , opening from the top of the weight downward, and as shown is provided at its bottom or at a point below the top of the weight with a hole e'' or other suitable means for fastening the cord whereby the suspending cord B (B') may be attached to the bottom of the weight and extend upward along the groove. The groove e is of sufficient depth and the cord fastening e'' is so arranged as to bring the cord B nearly upon the line of the center of gravity of the weight and such groove is of sufficient depth to allow the weight to lean toward and rest against the cord B as shown in Fig. 1 thus to hold the weight in the proper upright position, without engagement with the casing of the window. The groove e is large enough to chamber that portion of the pulley which would otherwise project into the path of the weight so as to allow the weight to pass up and down, without engaging the pulley. F, F' represent suitable weight guides which may be secured to the window casing, to project into the grooves of the respective weights to retain the weight in its proper upright position.

It will of course be seen that the groove e may extend completely through the weight to form a slot to receive the suspending cord, in which case the guides F F' and the window jamb C will retain the weight in its upright position. Dotted lines in Fig. 1 indicate the weight E' as slotted in this manner.

I prefer to make the weights square or rectangular in cross-section to economize space and I also make the weight chamber of relatively proportioned cross-section so that when the weights are in place in the chamber they will be free to slide up and down therein but will be prevented, by the walls thereof from turning axially to bring the weight and its cord groove out of position with relation to the pulley E.

In practice, the weights are secured in place

in the usual manner, with the exception that the suspending cord is secured to the bottom of the weight and runs free thence upward within the groove. The weight is arranged with the groove *e* presented toward the window-jamb *C* as shown in Fig. 1 and the cord is chambered in the groove. When the sash is fully raised, its weights are suspended below the pulleys and near the bottom of the weight chamber as illustrated by the weight *E'* in Fig. 1. When the sash is lowered, the weight is drawn upward until its upper portion projects above the pulley *D* as shown by the weight *E* in Fig. 1, the groove *e* allowing the greater portion of the weight to pass upward beyond the pulley with perfect freedom. A much longer weight of this form will work in a chamber of given size, than any weight heretofore known to me, for the reason that in devices of this kind as heretofore employed the cord groove does not extend into the weight beyond the center of gravity, thus giving the weight a tendency to tip backward when the weight is raised by pulling upon the cord, and necessitating the use of pulleys or guides to sustain the weight in an upright position while being drawn upward, and also necessitating the use of a weight of a length substantially equal to the distance which the window sash moves in being raised or lowered, in order to prevent the weight from becoming disengaged from the supporting pulleys or guides. Such construction also causes great friction which prevents the free working of the window sash and also causes excessive strain upon the cord.

I am also enabled by this invention to arrange the pulleys *D* at a point where the pulley and the cord will at all times be fully

concealed by the window sash, thus giving a neatness of finish to the window casing which can not be secured where the ordinary form of weight is employed, without extending the weight chamber *C'* to a considerable distance below the bottom of the window-sill, which construction is practically impossible in buildings constructed of brick, or stone.

In counter-balancing heavy plate-glass windows, it has heretofore in many instances been impossible to provide a weight chamber of sufficient capacity to accommodate an iron weight of sufficient size to counterbalance the window, and therefore it has been customary to form such weights of lead, thus making the expense in large buildings an item of considerable importance.

By my improved construction the weight may be of any length desired and when the window is lowered the extra length of weight will project above the pulley where there is always a considerable amount of waste room. A weight of extra length is indicated in dotted lines in Fig. 1.

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

A sash weight provided on its front side with a straight cord and pulley chambering runway arranged longitudinal the weight and extending into the weight beyond its center of gravity, said weight being adapted to be suspended by a cord attached to such weight at the rear of its center of gravity and passing upward through such runway.

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Witnesses:

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