

J. H. FOOTE.
SASH PULLEY.
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1,029,003.

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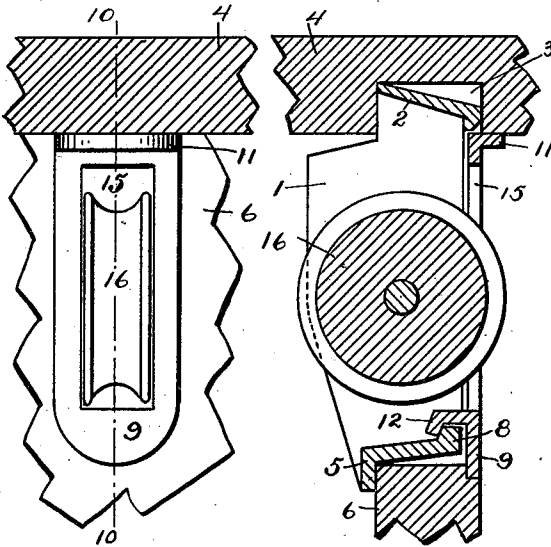


Fig. 1.

Fig. 2.

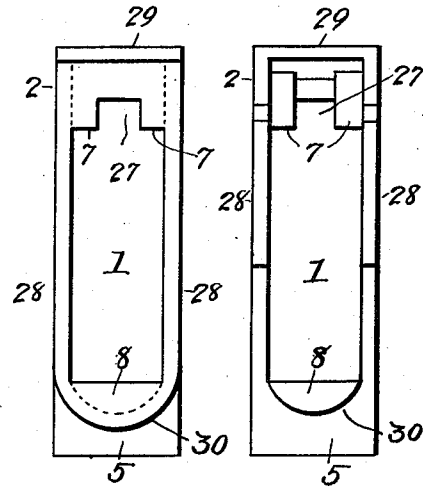


Fig. 3.

Fig. 4.

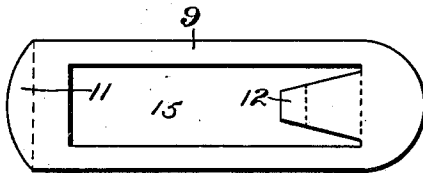


Fig. 5.

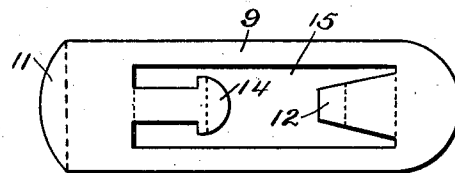


Fig. 6.

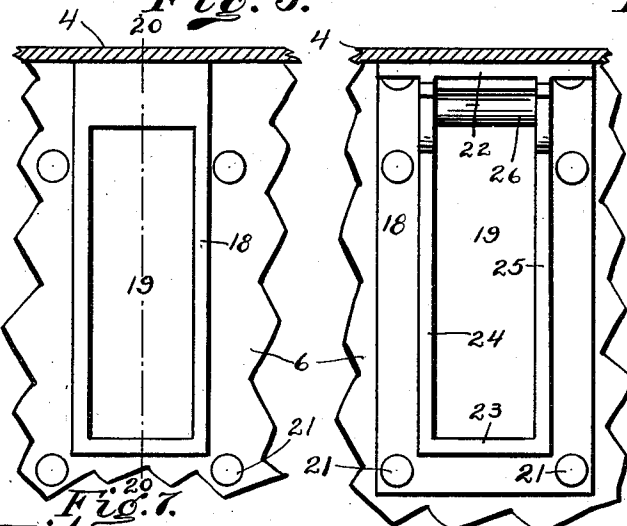


Fig. 7.

Fig. 8.

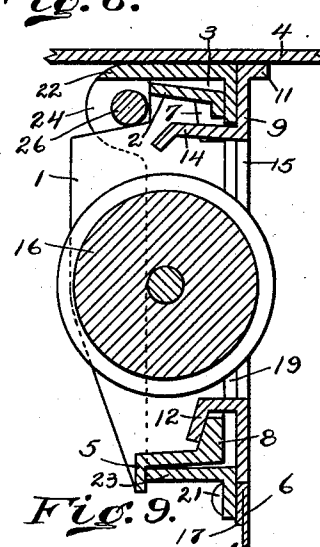


Fig. 9.

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SASH-PULLEY.

1,029,003.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES H. FOOTE, a citizen of the United States, residing at Cincinnati, Ohio, have invented a new and useful Improvement in Sash-Pulleys, of which the following is a specification.

My invention relates to sash pulleys for use in window frames and the like, whether constructed of wood or metal and the object is to provide a pulley that can be mounted or dismounted with ease and rapidity, that will not be dislodged by accidental impact of the sash weight or by any of the strains imposed upon it by the cord or chain passing over the sheave and that can be secured in place in a wood frame without danger of splitting the jamb by avoiding the use of wood screws.

To this end my invention consists of a sheave bearing casing adapted to be mounted in a seat or mortise in a window frame and having extensions or flanges one of which is designed to enter a recess or socket in or adjacent to the head of the frame and the other to abut to the rear of the frame jamb, means such as lugs or flanges or a mere increase in the thickness of the metal of the casing, at a desired point, for securing a plate designed to inter-lock with or be fastened to the casing for the dual purpose of forming a finish or face plate and of more securely holding the sheave casing in position in the frame, and where metal windows are concerned, means, as an auxiliary plate, for mounting such a casing.

Referring to the drawings, in which similar reference numerals indicate like parts, Figure 1. shows a broken cross section of the head and a front elevation of a portion of the jamb of a wooden window frame with the sheave bearing casing and finish or clamping plate in position therein. Fig. 2. is a longitudinal section on the dotted line 10—10, of Fig. 1. Fig. 3. is a front view of the sheave casing without the sheave and detached from the frame. Fig. 4. is a rear view of same. Fig. 5. is a plan of the blank from which the clamping plate shown in Fig. 2. is formed, the dotted lines indicating the points at which the bends occur. Fig. 6. is a plan of the blank from which the plate shown in Fig. 9. is formed. Fig. 7. is a front elevation of a portion of the jamb of a metal window frame and broken cross section of the head thereof showing the auxiliary plate which forms the seat for

the sheave casing riveted in position. Fig. 8. is a rear elevation of the same. Fig. 9. is a slightly enlarged longitudinal section of such a plate on the dotted line 20—20, of Fig. 7. showing in addition the sheave casing and clamping plate in position therein.

In the embodiment of my invention here shown, 1, represents the sheave casing, consisting of side walls 28—28, suitably connected, at the top and bottom, by cross plates 29 and 30, and 8, represents a flange, projecting inwardly toward the sheave 16, from cross plate 30. Casing 1, has an extension 2, at the upper end, the surfaces thereof forming an opposing projection at the face to abut the framework and arrest its forward movement, and an opposing projection at the back to so abut and oppose its backward movement, in the frame opening, and at the bottom, an extension 5, to bear against the framework, at the rear of its seat, and oppose forward movement.

The upper and lower extensions 2 and 5 of the sheave casing are formed in order that the sheave pulley may be secured in a suitable opening formed in the upper end of the frame jamb 6, with an abutment from the rear so that without any other means for securing it in the frame, the sheave bearing casing cannot be dislodged by reason of the sash weight striking the pulley or the casing from the rear. In securing my sash pulley in the window frame, the jamb 6, at its upper end is routed out to form a slot of the proper size to receive the casing, and inasmuch as it is usual in wooden frame constructions to gain the jamb 6, into the head 4, of the frame, in such constructions, the slot cut in the jamb is continued up into the head, leaving a socket 3, in the head. In mounting my sheave bearing casing in the frame, the casing is passed through the mortise thus formed in the jamb, the extension 2 is pushed up into the socket 3, in the head, and the casing pulled forward with the base of the pulley casing resting on the base of the mortise, and with the flange or extension 5, abutting to the rear of the jamb 6, as shown in Fig. 2. With this construction not only can the pulley not be dislodged from the rear, but when the sash cord is attached to the weight at one end, and the window sash at the other, running over the sheave 16, the weight of the parts holds the sheave casing in place, not only from dislodgment from the rear, but also from

any dislodgment from the front. In order however to obtain a better finish and to rigidly secure the sheave casing against any tendency to be dislodged from the front by reason of looseness of the fit of the parts, or otherwise, I provide the plate 9. This plate 9 is provided with a central opening 15, to allow for the projection therethrough of the sheave 16, and for the passage of the sash cord, and at the lower end of the slot 15, a hook 12, is provided, while at the upper end the plate is formed with a flange or lip 11.

When the sheave has been inserted in the window jamb as above described, the plate 9 is located in place to form the desired finish by slipping the hook 12, over the flange 8, of the pulley casing, and then forcing the plate back at its upper end and into its counter-sunk seat, so that the lip 11 of the plate will have a sliding action on the lower face of the head 4, of the window frame, and the plate 9, becomes locked in place by reason of the wedging action between the lip 11, and the hook 12. This action draws the plate 9, and the pulley casing toward each other, and clamps the parts in place on opposite sides of the jamb 6. The plate 9, also acts as a strut or brace to hold the casing down firmly in its seat in the frame.

Instead of routing out the mortise for the sheave pulley at the top of the jamb, so as to provide a socket for the upper extension of the sheave casing in the head of the frame, the sheave pulley may be mounted in the upper part of the jamb adjacent to the head, and I have illustrated this construction in connection with a metal window frame. Such construction is illustrated in Figs. 7, 8 and 9. An opening at or near the top of the jamb is formed by cutting into it so as to leave flaps, and the metal is then folded over against itself as shown at 17, Fig. 9. A plate 18, having a centrally disposed opening 19, of less area than that of the opening formed in the frame jamb, is then secured to the rear surface of the frame jamb by screws or rivets 21, passing through the double thickness of the metal surrounding the jamb opening, and thus forming a counter-sink for the clamping plate 9. The plate 18 has rearwardly extending flanges 22, 23 24 and 25, which form a seat for the sheave casing similar to the seat routed for its reception in the wooden window frame, and the flanges 24, 25 are connected by a pin or bar 26, near their upper end to form a socket for the reception of the extension 2, of the sheave casing. When mounting the sash pulley in such a construction I prefer to form lugs 7—7 projecting inwardly from each side wall of casing 1, leaving a midway space or channel 27 between them, and in this event I provide the plate 9, with a barbed tongue

14, and in inserting the finishing plate 9 in place, the barbed tongue 14, is bent as it enters the casing and is sprung up or forced up with the barbs registering behind the rear edges of the lugs 7—7, the narrow part of the tongue passing up between these lugs. When desired, this same construction of the plate with the barbed tongue can be employed for mounting the sash pulley in the wooden window frame.

It will be evident from the foregoing description, that my sash pulley can be mounted with equal ease and rapidity and in substantially the same manner in either wood or metal window frames, and that the socket for holding the upward extension of the pulley can be formed either in the head of the frame, or in the jamb itself adjacent thereto.

While I have shown a sheave casing and an auxiliary plate of cast metal and a finish and clamping plate of sheet metal, it is obvious that either cast or sheet metal can be used for any or all of the parts, and a number of variations in their shape and arrangement employed to obtain similar results without in any way departing from the spirit and scope of my invention.

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

1. In a sash pulley, the combination with a sheave bearing casing having rigid top and bottom projections thereon for preventing outward movement of the casing in its surrounding framework, of a separate face plate adapted to cooperate with the framework, and having a sheave opening therein, said face plate being movable toward the casing when the latter is seated in the window framework, and cooperating interlocking projections on the casing and face plate whereby they are connected, the framework is clamped between the plate and casing and the casing is held down in its seat in the framework.

2. A sash pulley embodying a sheave bearing casing having a supporting surface and a shoulder at the bottom for cooperation with the surrounding framework and front and rearwardly facing surfaces on its upper portion for engaging with the framework to prevent both inward and outward movement at the top, and means detachably connected with the casing and adapted to be moved into position to engage with the framework at the top of the casing to hold the casing down in its seat after the casing is seated.

3. In a sash pulley, the combination with a seat in a window frame and a sheave bearing casing with an extension at its upper end presenting forwardly and rearwardly facing surfaces to engage the walls of a socket prepared for its retention at the up-

per end of said frame seat to prevent both inward and outward movement at the top and an extension at the rear of its lower end having a forwardly facing surface to
 5 arrest the forward movement of said casing in said seat, of means interposed between said casing and the surrounding framework for holding said casing against upward movement in said frame seat.

10 4. A sash cord pulley adapted to seat in a previously prepared seat in a window frame, embodying a sheave bearing casing having a rigid extension permanently projecting a fixed distance at the top with rear-
 15 wardly and forwardly directed faces for engaging with the frame to prevent both inward and outward movement of the top of the casing, and a rigid extension at the bottom having a forwardly directed face lo-
 20 cated in substantially the same vertical plane as the rearwardly directed face of the top extension for engaging with the frame to prevent outward movement of the bottom of the casing.

25 5. A sash cord pulley adapted to seat in a previously prepared seat in a window frame, embodying a sheave bearing casing having a rigid extension at the top with rearwardly and forwardly directed faces for engaging
 30 with the frame to prevent both inward and outward movement of the top of the casing, a rigid extension at the bottom having a forwardly directed face for engaging with the frame to prevent outward movement of
 35 the bottom of the casing, and a face plate detachably secured to the casing and extended laterally beyond the casing to overlie the frame around the casing seat said face
 40 plate being adapted to move into operative position, after the casing is seated.

6. A sash cord pulley adapted to seat in a previously prepared seat in a window frame, embodying a sheave bearing casing having
 45 projections for engaging with the framing to prevent outward movement of the casing, and a face plate movably secured to the casing and extended laterally to engage with the front of the framing around the casing
 50 seat to retain the holding projections in engagement with the framing.

7. A sash cord pulley adapted to seat in a previously prepared seat in a window frame, embodying a sheave bearing casing having
 55 frame engaging projections at top and bottom, and a member in detachable engagement with the casing and cooperating with the window framing to hold the projections

in proper relation thereto to retain the casing in position said member being adapted to move into retaining position after the
 60 casing is seated.

8. A sash cord pulley adapted to seat in a previously prepared seat in a window frame, embodying a rigid sheave bearing casing
 65 having frame engaging faces, and a face plate detachably connected with the casing and extended laterally to cooperate with the front of the framing around the casing seat.

9. A sash cord pulley adapted to seat in a previously prepared seat in a window frame, embodying a rigid sheave bearing casing, a
 70 face plate separate therefrom, and interlocking projections on the casing and plate, whereby the casing may be first seated and then secured in its seat by the face plate. 75

10. A sash cord pulley adapted to seat in a previously prepared seat in a window frame, embodying a sheave bearing casing having
 80 frame engaging projections at top and bottom and a plate having a sheave opening therein and projecting laterally beyond the casing, and means for connecting the plate and casing to permit of relative movement
 85 when the casing is seated whereby the casing may be seated and the plate moved into position to retain it in its seat.

11. A sash cord pulley embodying a sheave bearing casing having frame engaging pro-
 90 jections and shoulders within the casing, and a detached plate having a central sheave opening and inwardly extending tongues having shoulders for cooperation with the
 95 shoulders in the casing and an upwardly directed frame engaging face at the upper end for holding the casing down to its seat, whereby the casing may be first seated and
 the plate moved into position for retaining the same in its seat.

12. A sash cord pulley embodying a sheave bearing casing having upwardly and down-
 100 wardly extending projections with frame engaging faces directed toward the rear and front respectively and both lying in substantially the same vertical plane, whereby
 105 the inward movement of the top and the outward movement of the bottom of the casing will be prevented, and means for holding the casing against outward movement at the upper end and inward move-
 ment at the lower end.

JAMES H. FOOTE.

Witnesses:

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