N. B. HURD.

PULLEY.

APPLICATION FILED JULY 3, 1914.

1,111,260.

Patented Sept. 22, 1914.

2 SHEETS—SHEET 1.

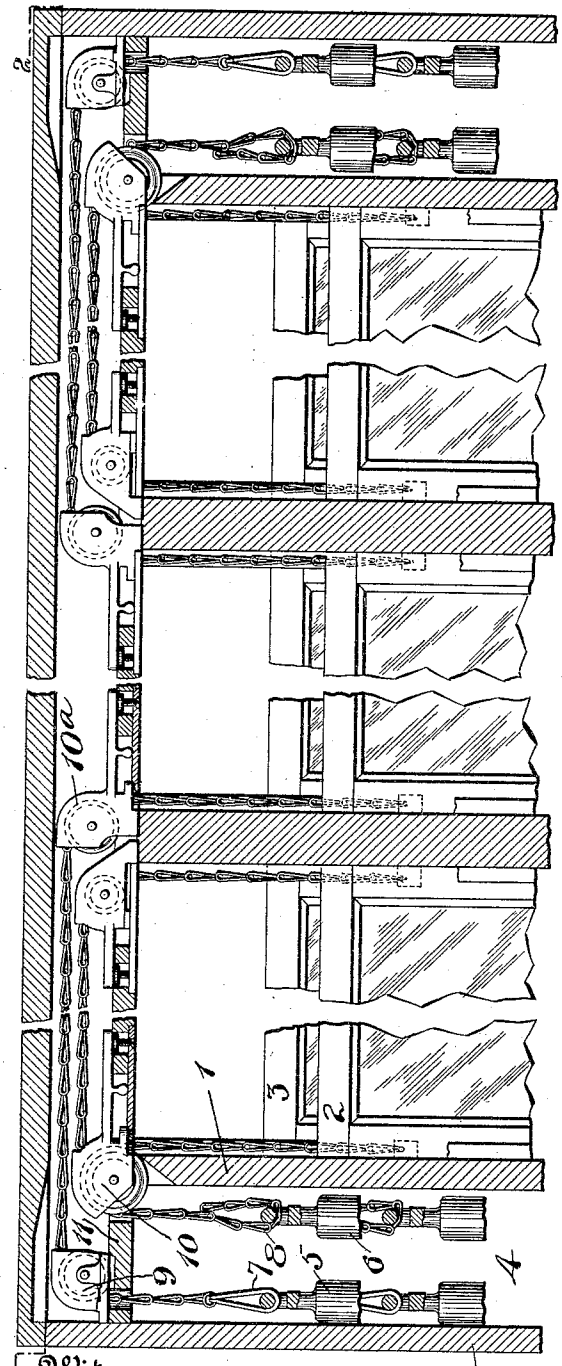


FIG. 1.

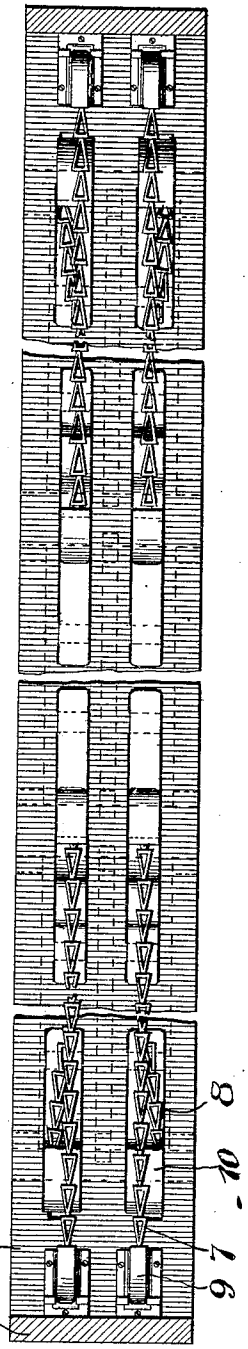


FIG. 2.

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2 SHEETS—SHEET 2.

Fig 3

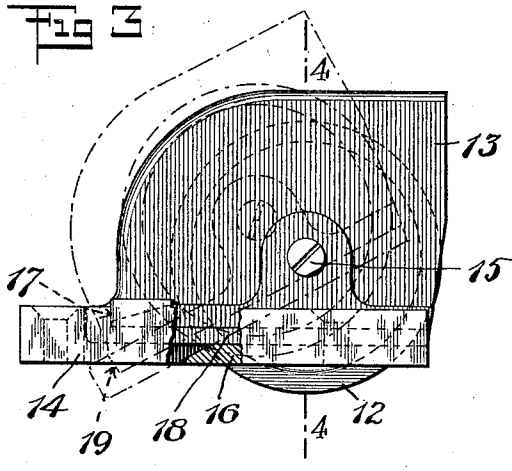


Fig 4

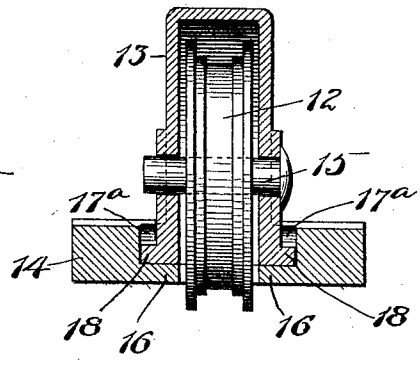


Fig 5

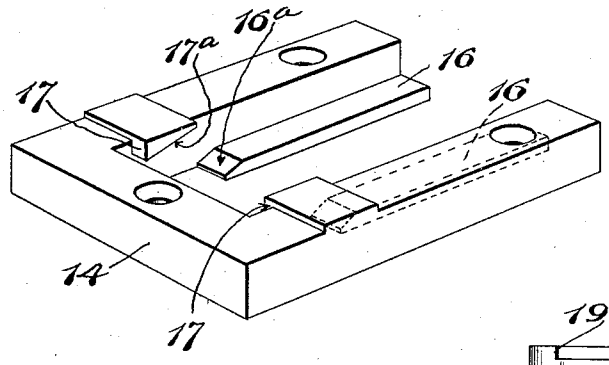
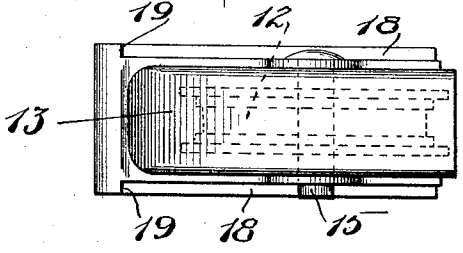


Fig 6



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UNITED STATES PATENT OFFICE.

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PULLEY.

1,111,260. Specification of Letters Patent. Patented Sept. 22, 1914.

Application filed July 3, 1914. Serial No. 848,846.

To all whom it may concern:

Be it known that I, NORMAN B. HURD, a citizen of the United States, residing at New Britain, county of Hartford, State of Connecticut, have invented certain new and useful Improvements in Pulleys, of which the following is a full, clear, and exact description.

My invention relates to overhead pulley construction, the invention being directed to improving certain pulleys used in conjunction with other pulleys in the triple and quadruple type of window sash lifting devices. These new pulleys are always wholly concealed in use and access to the same is difficult. By my improvement, the application of the pulleys and the replacement of such pulleys is easily effected. A better understanding of the difficulties overcome will be had from a reading of the following description:

In the drawings, Figure 1 is a sectional view on a small scale, of the window casing showing several windows and the window lifting means; Fig. 2 is a plan view partly in section on the line 2—2 of Fig. 1; Fig. 3 is a side elevation of my improved pulley construction, partly broken away; Fig. 4 is a section thereof on the line 4—4; Fig. 5 is a perspective view of the pulley base; and, Fig. 6 is a plan view of the pulley housing.

Referring first to Figs. 1 and 2, 1 represents a window casing having therein window sash 2—3. The window casing has a well 4 at its edge for the window weights 5—6. These weights are respectively connected to chains 7—8, which respectively lead over pulleys 9—10, both of which pulleys are located at one upper corner of that part of the frame in which one pair 2—3 of window sash is located. My invention relates to an improved construction for the pulley 9, no novelty being claimed for the pulley 10, as that is set forth and claimed in U. S. Letters Patent No. 978,796 dated December 13, 1910. As will be seen, the pulleys 9 and 10 are located adjacent the header 11 of the frame, the pulley 9 being concealed within the window frame, the window frame being prepared at the mill and then sent to the building and set up and boxed in. The pulley 9 is completely concealed and therefore it is necessary, in the event it is desired to apply or remove such a pulley, to work through the passage in the upper corner of the window casing provided for the pulley 10. Inasmuch as it is sometimes desirable to replace such pulleys, I have provided an improved construction whereby the pulley 9 may be readily applied to or removed from the window casing whenever occasion requires. The chains 7—8 may obviously lead in any desired way after leaving pulleys 9—10. That is to say, they may lead directly down to the sash from the pulley 10, or they may lead from the pulley 9 over to another pulley, such as 10^a, and thence directly down to the sash. Various combinations and arrangements in the leading of the chains may be effected, depending entirely upon the number, style and arrangement of windows with which the pulleys are associated. It will be observed that the pulley 9 is wholly independent of the pulley 10. That is to say, it is held in place wholly independently thereof and may be spaced therefrom or located closely adjacent thereto as the particular requirements demand.

Having thus in a general way described the purposes and location of the pulley 9, I will now proceed to describe the improved construction and will direct attention to Figs. 3 to 6 inclusive.

My improved pulley includes the sheave 12, the housing 13, and the separate base 14. The pulley 12 is of course suitably mounted to rotate in the housing 13, a suitable pivot 15 being provided. The housing 13 and the base 14 are so constructed that they are readily interlocked in the operative position shown in solid lines in Figs. 3 and 4. The base 14 may be said to be of U-shaped outline, as shown in Fig. 5, and at each opposite inner edge this base in its preferred construction is provided with supporting ledges 16—16, which terminate short of the

inner end of said U-shaped frame. At opposite sides of the U-shaped frame I also provide rigid locking lugs 17—17, which likewise terminate short of the inner end of said U-shaped frame. The upper surface of the inner end of each supporting ledge 16 is preferably beveled as shown at 16ª, Fig. 5, while the under sides of the lugs 17 are likewise beveled as shown at 17ª. The lower edge of the housing 13 is arranged to rest upon and be supported by the ledges 16—16 and the lower edges of said housing are preferably offset as indicated at 18—18, Figs. 4 and 6. At the inner ends of the offsets 18—18 are upwardly directed locking shoulders 19—19.

Now, assuming it is desired to assemble the parts of the pulley: The housing 13 is slightly tilted and slid into the position indicated in dotted lines Fig. 3, the shoulders 19—19 passing through the space between the beveled portions 16ª—17ª. The housing 13 is then swung down to the position indicated in solid lines Fig. 3, whereupon the shoulders 19—19 will project up back of the locking lugs 17—17 of the frame, and the offsets 18—18 will rest upon the supports 16—16, the pivot center 15 being located above the supporting ledges 16. When the parts are in this position, it is obvious that the housing 13 is held against any sliding movement on the base 14, and hence the strain of the chain 7, which is in a direction to tend to slide the housing 13 to the right as viewed in Fig. 1, is incapable of dislodging the housing 13. It will now be seen that if the pulley 10 is removed from the casing, as is possible, an opening is afforded into the inclosed space in which the pulley 9 is located. By taking the strain off the chain 7, the pulley housing 13 may be tilted to the dotted line position, Fig. 3, thereby disengaging the locking lugs and shoulders, whereupon the housing 13 with its sheave may be removed through the opening in the corner of the frame in which the pulley 10 ordinarily stands, it being understood, of course, that the dimensions of the passage in which the pulley 10 stands is sufficiently large to not only permit the pulley 10 to be inserted and removed, but also large enough to permit the pulley 9 to be inserted or removed.

In actual manufacture, it will be understood the window casings are ordinarily made at a mill and after the same are installed in a building it is impossible to get ready access to the interior of the casing throughout, and particularly where the pulleys 9 are placed. Accordingly, the base 14 would be supplied to the mill and would be fastened in place as by ordinary wood screws before the casing is entirely finished, so that when the casing is delivered, this part of the pulley 9 would be in place ready to receive the other section thereof, which would of course be inserted after the window casing is set up and boxed in ready for use and ordinarily at the same time the pulleys 10 are inserted.

By my improved construction, the pulley 9 may be located as close to or as far from the pulley 10 as the requirements demand, it being a fact that the distance between the chains 7 and 8 varies in different cases in accordance with varying conditions.

What I claim is:

1. An overhead pulley construction, comprising a sheave and a sheave carrying element, a base support with means for detachably interlocking said sheave carrying element with said base support by tilting one part relatively to the other.

2. An overhead pulley construction, comprising a sheave and a sheave carrying element, a base support with means for detachably interlocking said sheave carrying element with said base support by tilting one part relatively to the other, said means including interlocking lugs and shoulders arranged to be engaged and disengaged by tilting the sheave carrying element relatively to the base support.

3. In an overhead pulley construction, a base support in general of a U-shaped outline, a sheave carrying element arranged to be detachably interlocked therewith and supported thereby, the interlocking means including a lug on said base and a coöperating shoulder on said sheave carrying element, said interlocking parts being engaged when the sheave carrying element and base are in operative position, and being disengaged when said parts are tilted at an angle to the operative position.

4. In an overhead pulley construction, a base in general of U-shaped outline, a supporting ledge at the inner opposite edges of the same, each of said ledges terminating short of the inner end of said base, an interlocking lug near the inner end of said base, said lug having an interlocking shoulder facing the inner end of said base, a sheave carrying element having an upwardly projecting interlocking shoulder arranged to coact with the interlocking lug, said shoulder facing in an opposite direction from said interlocking lug and arranged to be engaged and disengaged therefrom by tilting said sheave carrying element relative to said base.

5. In an overhead pulley construction, a sheave carrying element, a substantially U-shaped base support therefor, said sheave carrying element being arranged to project into the space between the side walls and the end of said U-shaped base, a rigid locking shoulder on the base, and a complemen-

tary locking shoulder on said sheave carrying element, said interlocking shoulders cooperating to prevent independent longitudinal movement of the sheave carrying element and the base when the parts are in operative position, said interlocking shoulders being disengageable by tilting the sheave carrying element relatively to the base.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."