

(No Model.)

2 Sheets—Sheet 1.

F. V. PHILLIPS.

SASH CORD GUIDE.

No. 347,508.

Patented Aug. 17, 1886.

Fig. 1.

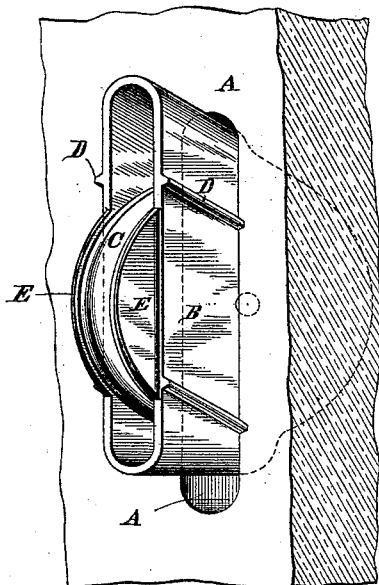


Fig. 2.

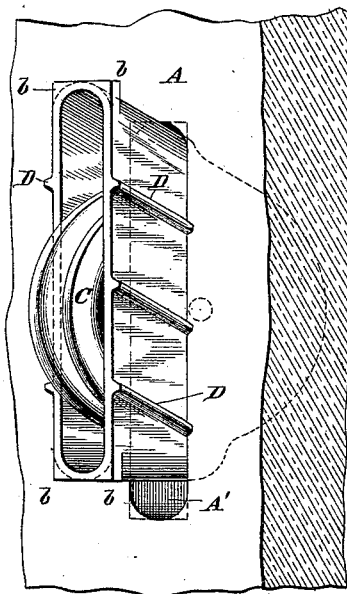


Fig. 3.

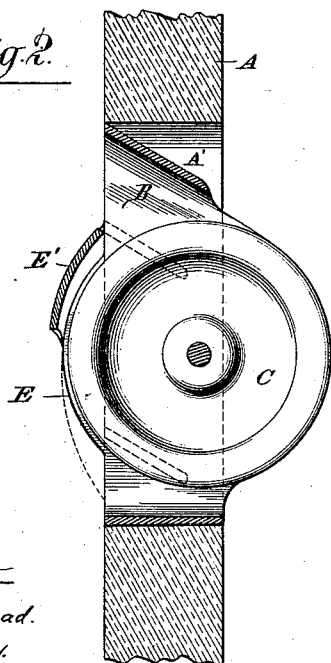
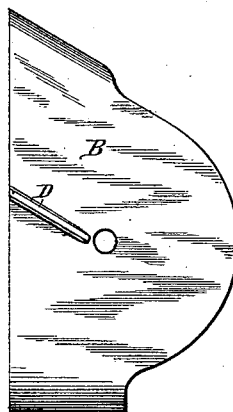


Fig. 4.



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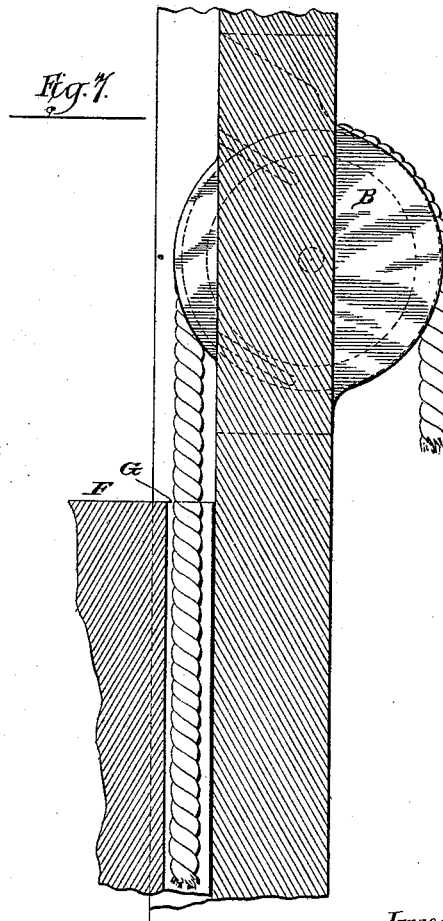
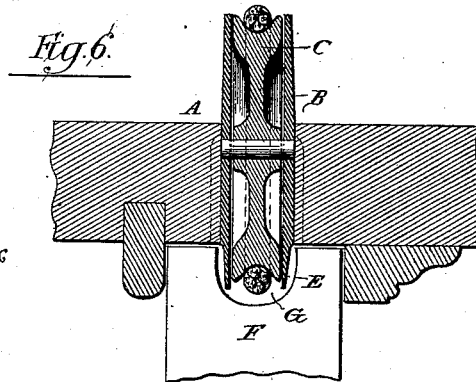
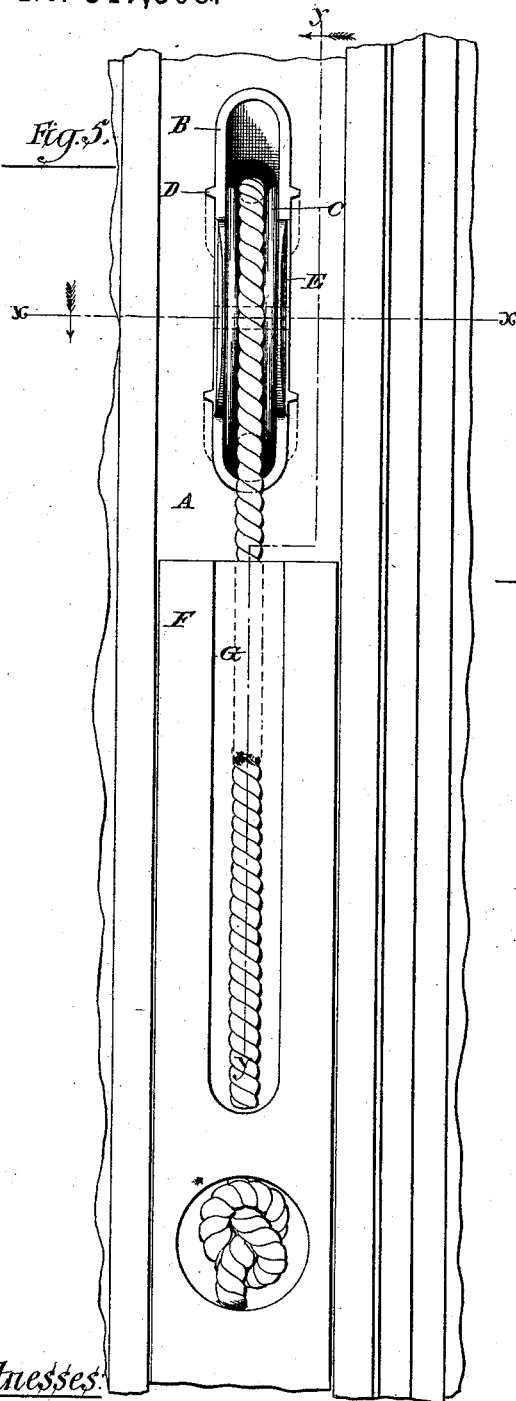
2 Sheets—Sheet 2.

F. V. PHILLIPS.

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No. 347,508.

Patented Aug. 17, 1886.



Witnesses:
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Inventor:
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UNITED STATES PATENT OFFICE.

FRANCIS V. PHILLIPS, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO CHARLES H. SMITH AND JOHN HEWITT, OF SAME PLACE.

SASH-CORD GUIDE.

SPECIFICATION forming part of Letters Patent No. 347,508, dated August 17, 1886.

Application filed April 3, 1886. Serial No. 197,596. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS V. PHILLIPS, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sash-Cord Pulleys; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention has for one of its objects to provide a construction in the shells of sash-cord pulleys, by which they may be conveniently, expeditiously, and securely inserted in the mortises of window-frames; and to this end it consists, primarily, in providing the shell with one or more inclined ribs on its external lateral face or faces, for the purpose that will hereinafter fully appear. With reference to this purpose, it also consists in the combination, with the inclined rib or ribs on the shell, of other features of construction in the shell, as will hereinafter further appear.

Another object of my invention is to provide against injury to the sash-cord, which often arises from its being caused to ride the flanges of the pulley-wheel when the sash is loose between its stops, and is raised to cover the pulley, the tendency of the loose sash being to throw the cord over the flanges of the pulley and to cut or chafe the cord by compressing it between said flanges of the pulley and the walls of the cord-groove in the sash. To this end the invention consists in providing projections on the face of the pulley-shell on opposite sides of the cord, which projections stand out from the face of the window-frame and enter the cord-groove in the sash, and therefore prevent the latter, when being raised from swaying and catching the cord, as above described.

Still another object of my invention has reference to the protection of the pulley-wheel from breakage, particularly when constructed of wood, brass, or other easily-frangible material. To this end the invention consists in providing upon the face of the shell flanges or projections located on the opposite side of the pulley or pulley-wheel, and extending to

or beyond the margin of the flanges of said pulley, and therefore projecting outwardly from the face of the window-frame when the pulley and its shell are applied thereto as a guide for the sash-cord. These flanges thus projecting from the face of the window-frame enter the groove in the sash which is provided for the cord, and which groove is therefore made larger than usual, or wider than the pulley alone, in order to admit them. The flanges thus located and constructed obviously protect the pulley-wheel from injury by contact with the walls of the cord-groove in the sash when the latter is loose between its stops, and is raised to the height of the pulley, which it would otherwise strike. Said flanges also protect the flanges of the pulley-wheel from injury in the handling or shipment of the completed sash-cord guides in quantities. The projections for this latter purpose may be identical with those previously described for the protection of the cord, as will hereinafter further appear.

Referring to the accompanying drawings, Figure 1 is a perspective view of a sash-cord pulley and its shell provided with my several improvements. Fig. 2 is a central longitudinal section of the shell, as shown in Fig. 1, transverse to the axis of the pulley, but showing the pulley in side elevation. Fig. 3 is a view similar to Fig. 1, but wanting the cord-flanges for the protection of the wheel or pulley, and having a rectangular face instead of one which is oval at the ends, as shown in Fig. 1. In Figs. 1, 2, and 3 the shell is shown as provided with two or more inclined ribs on the lateral external faces of the shell. Fig. 4 is a side view of the shell having but a single lateral rib thereon. Fig. 5 is an elevation of a sash, presenting an edge view of the latter and showing the cord-groove therein, and also the groove in the frame on the remote side of the sash, together with the pulley or sash-cord guide in place in the frame and provided with my several improvements. Fig. 6 is a horizontal transverse section through *xx* of Fig. 5. Fig. 7 is a vertical section in the indirect line *yy* of Fig. 5.

A represents the frame or jamb of a window.

B is the pulley-shell of a sash-cord guide, 100

oblong in form and having mounted therein a marginally-grooved pulley or wheel, C.

D D are inclined ribs on the lateral external faces of the pulley-shell, directed downwardly and backwardly with respect to the front face of said shell.

E E are guard-flanges for the protection of the pulley-wheel and sash-cord.

F represents the sash and G the cord-groove therein.

The invention being adapted to allow the application of the cord-guide or pulley-shell to a mortise which is cut straight through the frame and has its ends parallel, and this being the most convenient form of mortise to make in the frame, such a mortise is shown in the frame A of the drawings, at A'.

With respect to the devices for securing the shell in a window-frame, it is the intention of the invention that the shell B, when forced to its place in the frame, shall rest at its bottom upon the lower end wall of the mortise A', and, generally, the lower end of the shell will therefore be made to bear fairly and broadly upon the lower end of the mortise as a preferable construction.

To insert the shell, the latter is thrust into the mortise until the ends of the ribs D rest upon the frame and with the lower end of the shell as far from the lower end of the mortise as will allow the shell to strike said lower end of the mortise when the shell is forced inward flush with the frame in the direction of the inclined ribs. Obviously the inward pressure upon the shell will cause the ribs to form grooves for themselves in the side walls of the mortise, and said ribs will carry the shell endwise in the mortise as it enters, in proportion to the inclination of said ribs.

To facilitate the ready placing of the shell in the mortise preparatory to its being thus forced inward, and to insure bringing the shell firmly against the lower end of the mortise, the upper end of the shell is preferably inclined, as shown, at the same degree of inclination as the ribs, so that, if when the shell is placed in the mortise its upper end bears against the corresponding end of the mortise the proper position of the shell in the frame will be finally assured and the shell will entirely fill the mortise when said shell has been driven home. Obviously the shell may be rectangular or oval at its ends, to fit correspondingly-shaped mortises; and, if desired, the shell made generally oval on its ends, may be provided with thin end or corner projections, *b b*, (shown in Fig. 2,) by which the said shell may be made to fit and fill a square mortise, or may be equally well applied to a mortise having semicircular ends by forcing said thin projections into the wood. This construction of the shell, as shown in Fig. 2, is therefore desirable, as being universally applicable to either rectangular mortises or those having rounded ends.

In the construction of the shell with inclined ribs it is evident that no screw or other

analogous fastening is requisite for holding the pulley permanent in the frame. The rib or ribs D being downwardly and backwardly inclined with respect to the face of the pulley-shell, draft on the sash-cord only tends to tighten the shell or to hold it firmly in place when once inserted in the frame. I prefer to make said inclined rib or ribs D shorter than the thickness of the window-jamb A, in order that they may not be forced through the jamb, and may themselves, therefore, at their ends give additional support to the shell. This is not strictly essential, however.

I do not wish to be restricted with respect to the number of the ribs D, as a single one on one side only of the shell will measurably do the work; but I prefer to employ such ribs on both sides of the shell, and two on each side.

The merits of wooden pulleys or wheels in sash-cord guides are well known; but after trial they have been abandoned, because the flanges of such pulleys are broken, either in handling and shipment or in use, the breaking of the flanges being due to the sash striking them when said sash, as is often the case, has lateral play between its stops. The flanges of brass and other metal pulleys are also frequently broken by rough handling in quantities, by reason of the projection of said flanges beyond the front face of the shell. The rear flanges of the shell have been extended to cover and protect the pulley; but, so far as I am aware, guards have not been heretofore provided on the front face of the pulley and projecting forwardly from the face of the window-frame when the guide is in place therein, so as to enter the cord-groove in the sash. I have, therefore, devised the face-flanges E preferably particircular and extending beyond the flanges of the wheel. By the use of these face-flanges the pulley is perfectly protected against breakage from either of the causes mentioned, and wooden pulleys are made practicable and durable, and their advantage of noiselessness is therefore rendered available in these structures.

To allow the passage of the projecting flanges E into the sash-groove G, said groove requires only to be made a little wider than formerly to accommodate them, as shown in Fig. 6, though not wider than said grooves become from wear when the sash is loose between its stops. Said flanges E have also another use, in preventing the cord from riding on the flanges of the pulley, owing to the lateral play of a loose sash, and therefore prevent the cord from being cut by compression between said flanges and sash. When provided for this purpose alone, said flanges may be located or extended below the pulley, as indicated, for example, by dotted lines in Fig. 2. The flanges serve in this case to guide the pulley into the cord-groove of the sash and to prevent the compression of the cord between the sash and pulley.

If desired, for greater strength and better

protection of the cord, the opposite flanges E may be bridged or connected by a cross-web, (indicated at E' of Fig. 2,) which may be more or less extended than that there shown.

5 Having disclosed the principle of my invention and set forth what I consider to be the best mode of applying the same in practice, I claim as my invention—

10 1. The combination, with a pulley-shell having its upper end inclined downwardly and rearwardly, of one or more correspondingly-inclined ribs on the lateral face or faces of the shell, substantially as and for the purpose set forth.

15 2. The combination, with a window-frame and its sash, of a pulley-shell, having a pulley mounted therein and projecting beyond the front face of the window-frame, and guides on the shell also projecting forward beyond
20 the window-frame and arranged in position to enter the cord-groove of the sash, whereby

the cord is prevented from riding the flanges of the pulley, substantially as specified.

3. The combination, with a pulley-shell, a pulley mounted therein and projecting be- 25 yond the front face of the shell, of flanges on the shell which project from its front face on opposite sides of the pulley and extend to or beyond the margin of the projecting pulley-flanges, and flanges on the rear part of the 30 shell, which also project to or beyond the margin of the pulley-flanges, whereby the pulley-wheel is guarded from injury to its flanges, substantially as described.

In testimony that I claim the foregoing as 35 my invention I affix my signature in presence of two witnesses.

FRANCIS V. PHILLIPS.

Witnesses:

M. E. DAYTON,
JESSE COX, Jr.