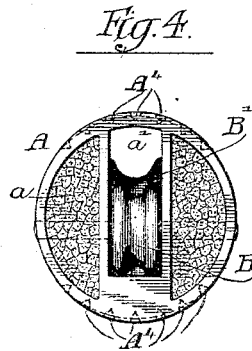
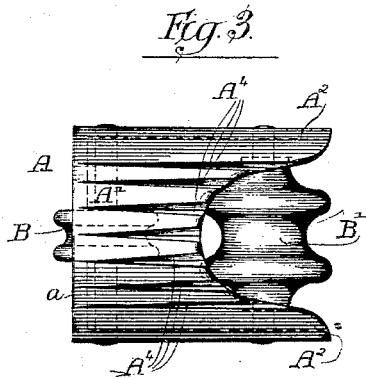
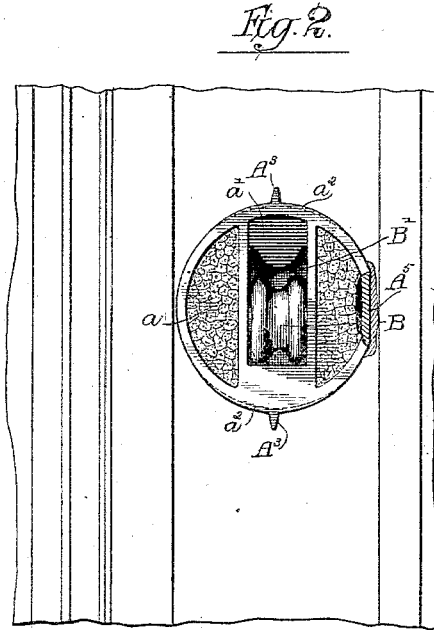
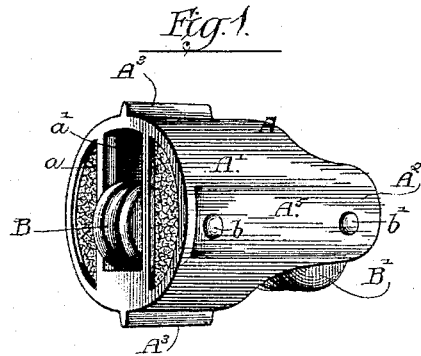


(No Model.)

G. L. THOMPSON.
SASH CORD FASTENER.

No. 381,728.

Patented Apr. 24, 1888.



Witnesses:-

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UNITED STATES PATENT OFFICE.

GEORGE L. THOMPSON, OF ENGLEWOOD, ILLINOIS.

SASH-CORD FASTENER.

SPECIFICATION forming part of Letters Patent No. 381,728, dated April 24, 1888.

Application filed December 6, 1887. Serial No. 257,075. (No model.)

To all whom it may concern:

Be it known that I, GEORGE L. THOMPSON, of Englewood, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sash-Cord Guides or Sash-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 relates to an improvement in sash-cord guides or sash-pulleys of that class comprising a round or cylindric shell, which is inserted in a round hole made in the stile by an auger or other boring implement. Its object is to provide a construction in the circular shell, whereby the latter will be held firmly in its horizontal position against the strain of the sash-weights without the use of screw-threads or other similar holding devices, and in such manner as to allow the shell to be inserted into the circular hole by simple pressure or hammering.

The invention consists in the matters hereinafter described, and pointed out in the appended claim.

In the drawings, Figure 1 is a perspective view of my improved sash-cord guide removed from its place in the window stile. Fig. 2 is a front view of the sash-cord guide when inserted in the stile. Fig. 3 is an exterior plan view of a sash-cord guide embodying my invention, wherein the shell is made somewhat different from that shown in Figs. 1 and 2. Fig. 4 is a face view of the sash-cord guide shown in Fig. 3.

In the said drawings, A is a round or cylindric shell cast in a single piece of metal and having a front end wall, *a*, provided with a vertical slot or opening, *a'*. The cylindric part A' of the shell is in length approximately equal to the thickness of the window-stile into which it is to be inserted. Within said shell are mounted two grooved pulleys, B and B'. The pulley B is located adjacent to the front end of the shell and protrudes through the slot *a'*. The pulley B' is supported between side extensions, A² A², upon the shell. As far as above described the device embodies features of construction heretofore used.

As an improved construction in the tubular or cylindric shells of the character above described, I make the exterior surface of the shell substantially circular, but slightly greater in its vertical than in its horizontal diameter. By this construction, when the shell is driven into a circular hole of practically the same diameter as the shell, the side faces of the shell will closely fit the sides of the hole without binding very strongly thereon or compressing the wood at the sides of the shell to any great extent, while the upper and lower surfaces of the shell will be crowded against and brought into intimate and forcible contact with the wood at the top and bottom of the hole. The substantially circular or cylindric shell, slightly greater in vertical depth than in width, may be driven very tightly into the hole in the stile without liability of splitting the stile. A shell thus made, when forced into close and intimate contact with the ends of the grain or fiber of the wood at the top and bottom surfaces of the hole, will be firmly and strongly held, inasmuch as the wood at these points is most unyielding and possesses the greatest capacity for holding the shell rigidly in place.

It will of course be understood that under the term "round or cylindric shell" are included shells which are slightly tapered to facilitate their entrance into the hole and cause them to be tightly held when they are driven home, and in practice the shells will commonly be slightly tapered in the manner described; but I do not desire to restrict my invention to a construction in which the shells are externally tapered.

A circular or cylindric shell the diameter of which is slightly greater vertically than horizontally may be provided upon its top or bottom surface, or both, with longitudinally-arranged projections, ribs, or grooves, adapted to give a firmer or stronger hold upon the wood and thereby retain the shell more securely from tilting or displacement after the shell has been forced into place in the stile.

In Figs. 1 and 2, for instance, the main part A' of the shell is provided with a fin or fins, A³, cast externally upon the shell in the central vertical longitudinal plane thereof. Said fin or fins, when the shell is driven into the

circular hole, will be crowded into the wood at the top or bottom of the hole, or both, (when two are used,) and will thereby give an additional area of surface in frictional contact with the wood and thus aid in holding the shell immovably in place.

In Figs. 3 and 4 I have shown another construction in the shell, wherein the latter is provided in its top and bottom surfaces with a series of longitudinal grooves, $A^4 A^4$, which are preferably made tapering and narrower as they approach the front wall of the shell. Said grooves $A^4 A^4$, as shown and preferably constructed, terminate short of the front face of the shell, so that the said grooves will not be visible after the shell has been driven into place. The grooves $A^4 A^4$ obviously operate in the same manner as do the fins $A^3 A^3$ to produce additional frictional engagement between the shell and the wood at the top and bottom of the latter, with the effect of more firmly holding the shell in place.

The dotted lines $a^2 a^2 a^2$, Figs. 2 and 4, indicate the circular form of the auger-hole into which the shell is driven before the shell is inserted therein, said dotted lines serving also to illustrate clearly the slight divergence of the exterior surface of the shell from a true circle or cylinder. Such divergence is not sufficient to require any cutting away of the circular hole made by an auger at the top and bottom of the latter to admit the shell; but the difference between the diameter of the shell in a vertical and in a horizontal direction is such that the compression of the wood endwise of the grain, occurring as the shell is forcibly inserted, will be sufficient to allow the shell to be driven readily to place.

As a further and special improvement in sash-cord guides of the character herein shown, I provide at the sides of the shell, at the rear of the circular face thereof, vertical flat surfaces $A^6 A^6$, said surfaces being located at the parts of the walls of the shell in which the pivot-pins $b b'$ of the pulleys B and B' are secured. Such pivot-pins are most cheaply and conveniently secured in place by riveting, and

the flattening of the shells in the manner set forth enables the riveted heads to project slightly beyond or outside of the exterior surface of the shell without interfering with the driving of the shell. In other words, the flat surfaces $A^6 A^6$ afford spaces at the sides of the shell in which the slight projections or heads formed upon the pivot-pins in riveting may be located without the projection of said heads outside of the circular line of the shell. The outer face or wall of the shell being left in the form of a complete circle, the flat surfaces $A^6 A^6$ are entirely concealed when the shell is driven home.

The presence of the flat surfaces $A^6 A^6$ is of advantage, furthermore, for the reason that they enable the shell to be driven into the circular hole without bringing the shell into contact with the wood at the side of the hole, except where the circular front wall comes into contact with the wood. The contact with the wood of the sides of the shell is of no advantage as far as the holding of the shell in place is concerned, and such contact has the disadvantage of rendering the shell more difficult to drive, while at the same time increasing the liability of splitting the wood in the act of driving, a liability which is entirely avoided by the flattening of the sides of the shell in the manner set forth.

I claim as my invention—

A sash-pulley shell adapted for insertion into a round hole in the window-stile, said shell being substantially circular but slightly greater in its vertical diameter than in its horizontal diameter, whereby the shell may be firmly held in its horizontal position without the use of screw-threads or other similar means of attachment and may be inserted by simple pressure, substantially as described.

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

GEORGE L. THOMPSON.

Witnesses:

C. CLARENCE POOLE,
O. N. WILLIS.