(No Model.)

S. PALMER.

SASH CORD GUIDE.

No. 412,658. Patented Oct. 8, 1889.

Fig. 1.

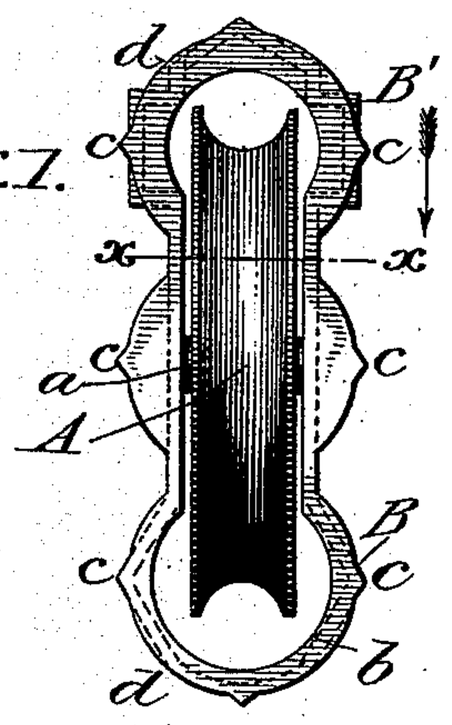


Fig. 2.

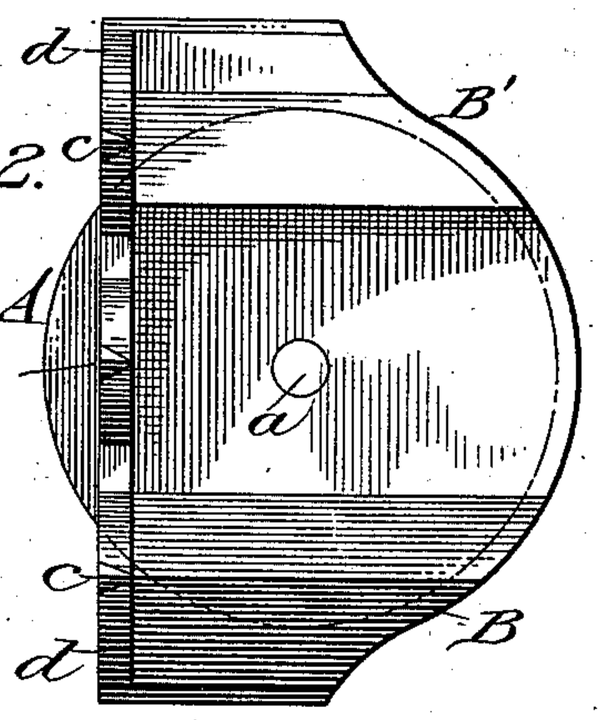


Fig. 3.

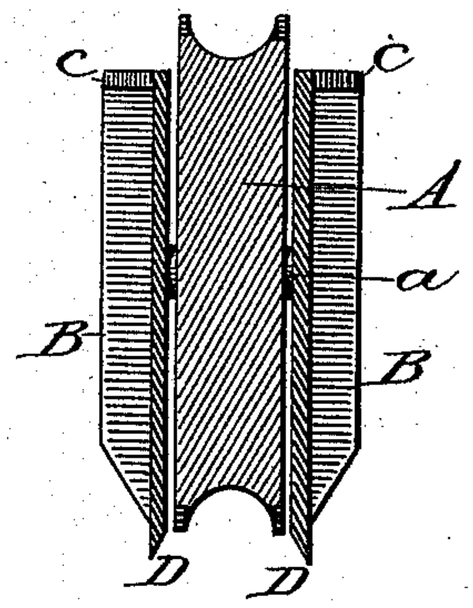
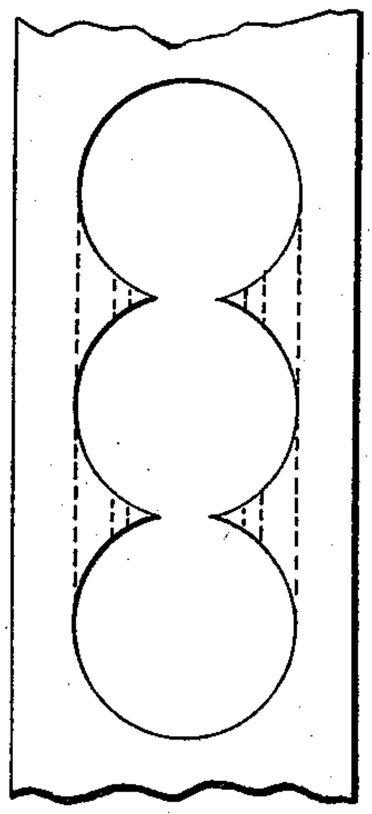


Fig. 4.



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STEPHEN PALMER, OF LANSINGBURG, NEW YORK.

SASH-CORD GUIDE.

SPECIFICATION forming part of Letters Patent No. 412,658, dated October 8, 1889.

Application filed June 9, 1888. Serial No. 276,647. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN PALMER, of Lansingburg, county of Rensselaer, State of New York, have invented a new and useful Improvement in Sash-Pulley Cases, of which the following is a specification.

My invention relates to sash-pulley cases, and especially to that class of them which are so made as to be adapted to be driven into an opening produced in the wood by boring two or more auger-holes; and my invention consists in forming chisels on the rear or inner edges of the case, and also in the novel construction and combination of parts hereinafter more fully described, and pointed out in the claims.

The most approved forms of pulley-cases now made are adapted to fit a series of conjoined auger-holes, some having a face-plate fitting such a mortise, and by means of which the case is firmly fastened in the mortise by screws passing through the end projecting parts of the face-plate, while other forms depend on a close contact of the case and mortise walls to hold it in place and dispense with the face-plate or attaching-ears. Those of this type now in use are provided with tubular swellings formed on the sides of the case to fit the auger-holes closely at all points. This construction is objectionable on account of the great care and attention to details necessary in boring the holes forming the mortise, as it is obvious that any deviation in location, alignment, or inclination of the holes forming the mortise causes the case to act as a wedge, spreading and splitting the wood in which the mortise is made. Another objection to cases of these types, and which augments the difficulties enumerated, is the difficulty found in making them of the desired proportions. The requirements in this respect are wheels of maximum diameter and width and cases requiring mortises of minimum width. This necessitates auger-holes of minimum diameter bored as far into each other as possible to make the narrowest part of the mortise of sufficient width to receive the case. It is obvious that these conditions make it very difficult to bore a sufficient number of such holes to receive a case of the required proportions in their proper positions and perfectly parallel with each other, as in boring one hole the center screw of the auger must be started so near the edge of the hole previously bored as to cause in many cases the screw to lead the auger into it, and thus make a mortise not adapted to receive the case desired. To remedy these difficulties I make the rear or inner edges of the case serve as chisels by making them as shown, which not only, when the form of the case requires, widen the mortise at its narrow points by cutting away the inwardly-projecting points, but cuts away any other obstructions that may be caused by imperfect boring. To further provide for possible imperfect boring, and to reduce the transverse strain on the walls of the mortise without materially lessening the contact of the case with the mortise-walls, I form on the sides of the case angular swellings, which embed themselves into the mortise-walls at the points of the angles, while there will be no great transverse strain at other points.

Accompanying this specification, to form a part of it, is a sheet of drawings illustrating my invention, with the same designation of parts by letter references used in all of them.

Figure 1 shows a front or face view of my improvement; Fig. 2, a side view; Fig. 3, a cross-section taken on the line *x x* of Fig. 1, and Fig. 4 a mortise formed by boring connected auger-holes.

The letter *b* shows the general form of the case inclosed between the dotted and heavy lines in Fig. 1 formed into angular swellings, one form being shown at B and another form at B′.

A is the pulley, revoluble on spindle or trunnions *a*.

d is a face-plate, preferably made integral with the case, by means of which the front of the case makes a perfect finish. It is curved on its outer edges to form arcs of circles, which fill and conceal the parts of the mortise not filled by the angular swellings. On the center of each arc are formed projecting points or marking-spurs C, which are for the purpose of indicating the precise location of the centers of the holes to be bored, and are fully described in a patent granted me September 27, 1887, numbered 370,647.

D D show the rear or inner edges of the case, made in the form of and to serve as chisels, by means of which all obstructions to

the entrance of the pulley into the mortise are cut away.

In Fig. 4 are shown by dotted lines points that may be cut away by the chisels D, by means of which the use of a separate chisel is avoided, saving time in the operation, and the cutting away of precisely the required material and a consequent perfect fit of the case in the mortise assured.

To insert this case, the requisite number of holes of the proper diameter are bored at the center-points, (indicated by indentations in the wood made by the marking-spurs,) after which the case is driven into the mortise thus formed. The chisels on the inner edges of the case, going before, cut away the projecting points left by the auger-holes and any other obstructions such as would result from imperfect boring. The angular swellings, which at their extreme angular points slightly project beyond the outer edge of the face-plate, are embedded into the mortise-walls, while they are at other points free from contact with the mortise-walls, except in case of imperfect boring and where the chisels on the rear of the case have cut away obstructions and have thus become fitted.

While I have shown and described one form only of a pulley-case with the rear edges of the case made to perform the function of chisels, I in no wise restrict myself to such particular form, as the form of case may be widely varied without departing from the spirit and scope of my invention, and I am the first to employ this feature in any article adapted to be inserted in a mortise, and it is applicable to any oblong mechanism-inclosing case, a great variety of which are now in use, and in which it would perform the same functions as I have herein described this specific form.

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

1. A sash-pulley case having formed on its sides angular swellings, on its rear or inner edges chisels or cutters, and on its front or face edges arcs of circles, each arc having formed on its outer periphery a marking-spur, substantially as and for the purposes set forth.

2. A sash-pulley case having formed on its sides angular swellings, its front or face edges curved to form a series of arcs of circles, each arc being provided with a marking-spur located centrally thereof, the apexes of the angular swellings projecting outwardly beyond the curved lines of the face-plate, substantially as and for the purposes set forth.

3. A sash-pulley case having its rearwardly-extending pulley-supporting flanges beveled on their rear edges from their inner to their outer surfaces, forming acute angles at their rear outer edges to serve as chisels, substantially as set forth.

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