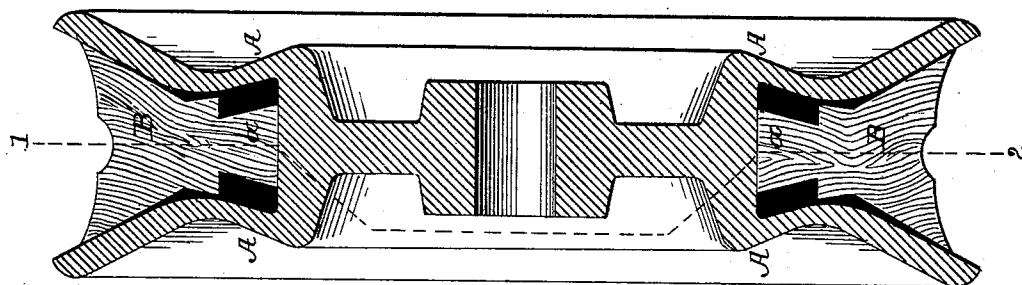
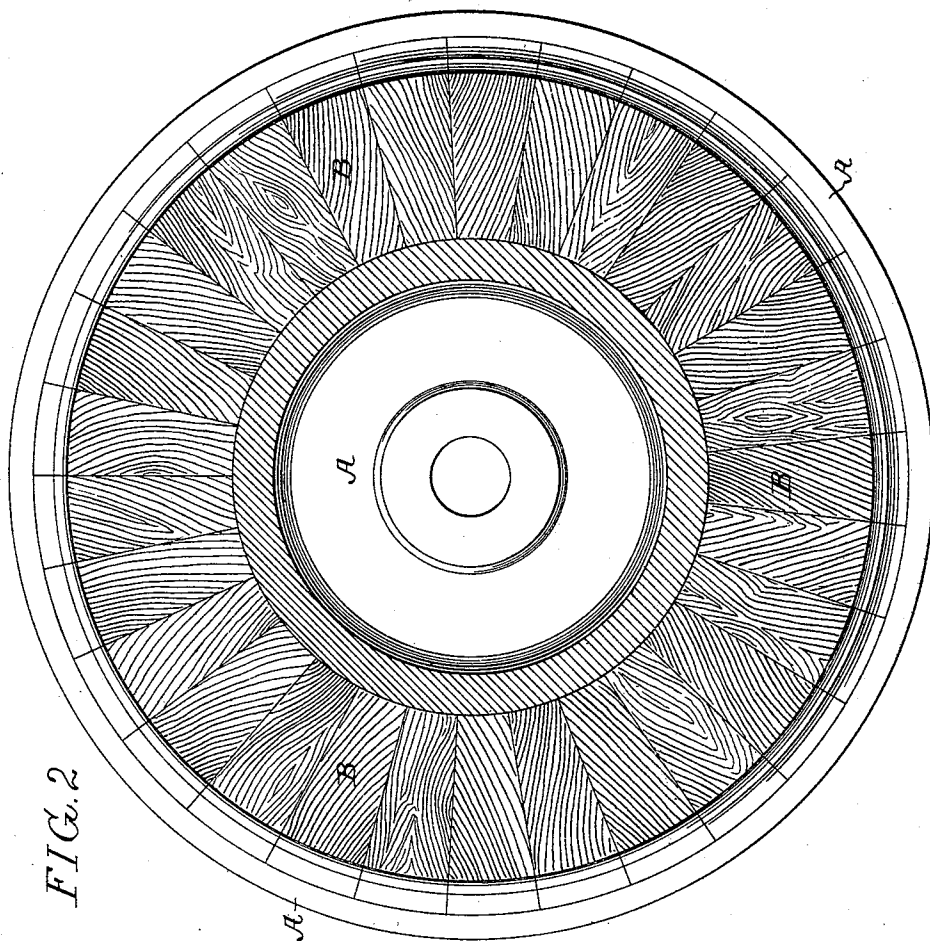


(No Model.)

W. GOYNE.
ROPE SHEAVE OR PULLEY.

No. 459,577.

Patented Sept. 15, 1891.



Witnesses:
Alex. Barkoff
Fred D. Goodwin.

FIG. 1

Inventor:
William Goyne
by his Attorneys
Howe & Howe

UNITED STATES PATENT OFFICE.

WILLIAM GOYNE, OF ASHLAND, PENNSYLVANIA.

ROPE SHEAVE OR PULLEY.

SPECIFICATION forming part of Letters Patent No. 459,577, dated September 15, 1891.

Application filed June 10, 1891. Serial No. 395,745. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GOYNE, a citizen of the United States, and a resident of Ashland, Schuylkill county, Pennsylvania, have invented certain Improvements in Rope Sheaves or Pulleys, of which the following is a specification.

The object of my invention is to so secure a wooden lining within the groove of a metal sheave or pulley for wire ropes that, while said lining is effectually retained, it can be readily applied or can be renewed without necessitating the taking down of the sheave or even the unshipping of the rope, the sheave, moreover, being, if desired, formed in one piece, so that no bolts or other confining devices are required, as in the case of ordinary two-part sheaves having the lining-blocks confined between said parts.

In the accompanying drawings, Figure 1 is a transverse section of a rope sheave or pulley having a lining applied thereto in accordance with my invention; and Fig. 2 is a section on the line 1 2, Fig. 1.

The sheave or pulley A is cast or otherwise formed with a groove for the reception of the lining-blocks B, this groove being as to its outer portion flared outwardly, as usual, and as to its inner portion being, by preference, also flared outwardly, so as to be undercut, as shown in Fig. 1. Each of the lining-blocks B has an outer flaring portion substantially like that of the outer flaring portion of the groove of the sheave, the inner portion of each block being of such width that it will pass freely through the contracted portion of the groove, as shown in Fig. 1, and this inner portion of each block being preferably recessed at each side, so as to form a dove-tailed or undercut tongue *a* at the base of each block. The blocks are secured in place in the groove of the sheave by means of cement of such a character that it can be introduced while in a fluid state, so as to completely fill all the interstices or spaces between the sides of the blocks and the walls of the groove. Hence when the cement cools or hardens the blocks will be rigidly secured in place in the groove. The cement which I prefer to use for the purpose is sulphur, which can be readily melted and poured and is not subject to expansion and contraction by any

variations in temperature to which the sheave may be subjected; nor is it so affected by moisture as to cause it to lose its hold upon the blocks. The blocks may be held in position on the pulley by any suitable means while the cement is being poured in the groove, one of the blocks being removed for this purpose, or a suitable opening being formed in one of the blocks through which to pour the cement. The sheave can be readily relined when the original lining becomes worn, this operation being effected without removing the sheave from its bearings, or even, if desired, without unshipping the rope, by cutting out the worn blocks from that portion of the pulley which is not covered by the rope, inserting new blocks in their places, cementing these blocks in position, and then turning the pulley, so that the blocks which were before covered by the rope are rendered accessible and can be removed in the same way and new blocks substituted therefor.

While the undercutting of both the groove and the lining-blocks is preferred, it is not absolutely essential to the main feature of my invention, as the inner portions of the walls of the groove, and also of the blocks, may be straight, if desired, the hold of the cement upon the sides of the blocks and upon the walls of the groove being relied upon to prevent any displacement of the blocks.

My invention effectually overcomes certain objections to the two-part sheaves now ordinarily employed, in which the lining-blocks are confined between the two parts of the sheave, the latter being secured together by transverse bolts. In sheaves of this class the lining-blocks must be very accurately made, in order that the flanges of the sheave will have an equal bearing upon all of the blocks, for if some of the blocks are slightly larger than the others the flanges will bind upon these blocks and the remaining blocks will be loose. The use of the bolts and nuts for securing the parts of such a sheave together is also objectionable, both on account of inconvenience and expense and because if the bolts pass through the blocks the wearing away of the latter will expose the bolts and cause the same to wear the rope.

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

1. A rope sheave or pulley having a grooved rim with lining-blocks having their inner portions of less width than the narrowest portion of the groove, so that they are capable of being fitted radially into said groove, said blocks being secured therein by cement filling the spaces between the blocks and the walls of the groove, substantially as specified.
2. A rope sheave or pulley having a grooved rim and lining-blocks having their inner portions of less width than the narrowest portion of the groove, so that they are capable of being fitted radially into said groove, said blocks being secured therein by cement filling the spaces between the blocks and the walls of the groove, one or other of said parts being undercut as to its inner portion, substantially as specified.

3. A rope sheave or pulley having a grooved rim and lining-blocks having their inner portions of less width than the narrowest portion of the groove, so that they are capable of being fitted radially into said groove, said blocks being secured therein by cement filling the spaces between the blocks and the walls of the groove, both the blocks and walls of the groove being undercut as to their inner portions, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM GOYNE.

Witnesses:

J. M. JAMES,

FRANCIS HENRY GOYNE.