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P. A. NELSON.

LOCKING PULLEY.

APPLICATION FILED OCT. 11, 1907.

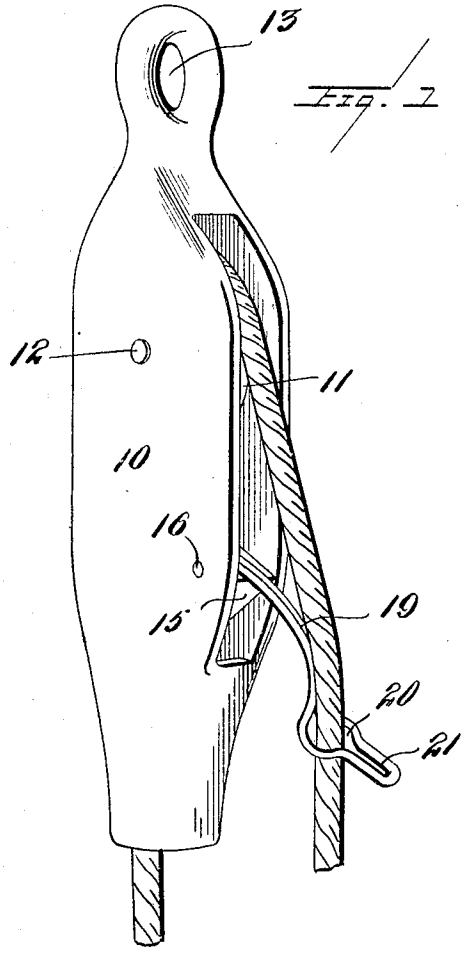


Fig. 1.

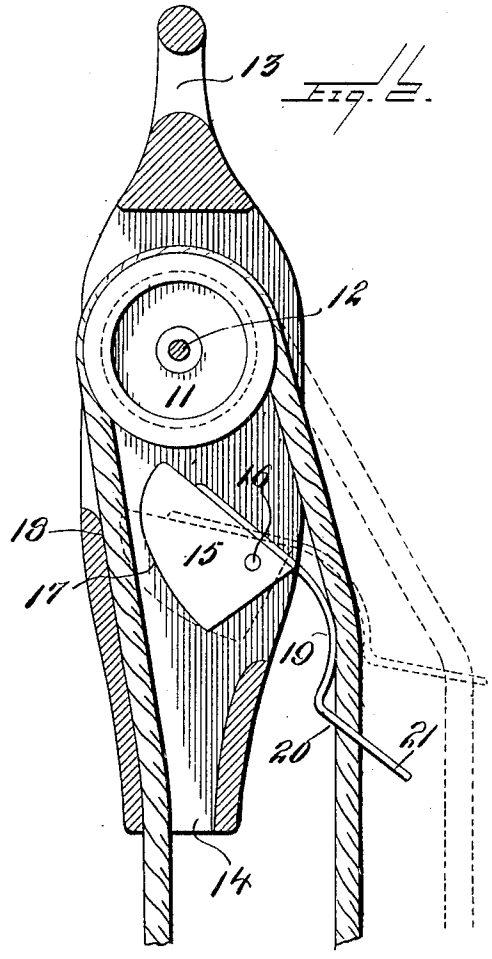


Fig. 2.

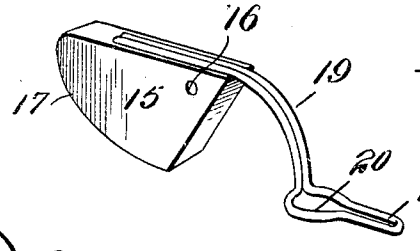


Fig. 3.

WITNESSES:

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UNITED STATES PATENT OFFICE.

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LOCKING-PULLEY.

No. 887,344. Specification of Letters Patent. Patented May 12, 1908.

Application filed October 11, 1907. Serial No. 396,962.

To all whom it may concern:

Be it known that I, PETER A. NELSON, a citizen of the United States, residing at Wyanet, county of Bureau, and State of Illinois, have invented certain new and useful Improvements in Locking-Pulleys, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a locking pulley, and particularly to an improved construction of the locking block.

The invention has for an object to provide a novel and improved construction of locking block and operating arm therefrom provided with a curved face over which the rope rides, and an engaging socket into which the rope may be drawn for positively actuating the block if the latter becomes too firmly engaged with the rope.

Other and further objects and advantages of the invention will be hereinafter fully set forth and the novel features thereof defined by the appended claims.

In the drawing:—Figure 1 is a perspective showing the pulley; Fig. 2 is a vertical section therethrough; Fig. 3 is a detail of the locking block and arm therefrom.

Like numerals refer to like parts in the several figures of the drawing.

The numeral 10 designates the pulley casing which may be of any desired construction or configuration and is provided with the slot or passage therethrough within which the wheel or sheave 11 is pivotally mounted by means of the journal 12 extending through the casing. The upper part of the casing is provided with the connecting eye 13 and the lower part with the contracted tubular passage 14 through which one end of the rope passes, as indicated in Fig. 2. Within the lower portion of the casing the locking block 15 is mounted by means of the pivot 16 disposed at one end of the block. The block is provided with the curved contact face 17 adapted to contact with the straight inner face 18 of the casing so as to secure a positive locking contact upon the rope passing between these parts.

For the purpose of operating the locking block the curved arm 19 extends from the upper face thereof and is provided at its outer end with the eye 20 through which the rope may pass, and the gripping socket 21 disposed at one side thereof into which the rope may be drawn laterally in order to frictionally engage it with the arm for the positive operation thereof when desired.

In the operation of the invention it will be seen that the rope passes through the eye of the arm from the locking block in contact with the curved face of said arm, thence over the sheave and between the block and the side of the pulley casing, as shown in Fig. 2. When in this position the pulley will automatically lock itself when the lifting tension upon the right end of the rope is relieved and the block rests in firm contact with the rope so as to secure a positive gripping upon the rope without danger of cutting or injuring the same. When it be desired to lower the object from the pulley, the right end of the rope may be drawn toward the pulley and into contact with the curved face of the arm so as to lift the block out of locking contact and by riding upon this face of the arm hold the block in this position so that the weight may be lowered to the desired extent. The structure of the engaging socket at the end of the arm is such that the rope may be drawn laterally into frictional engagement therewith and so held to positively actuate the arm and block in any movement of the rope. This is important under numerous conditions, particularly when owing to the strain of the weight the block has been drawn or jammed into such firm contact with the rope that it cannot be readily released therefrom. Under such conditions the rope is drawn outward or away from the pulley into the socket of the arm and by its frictional engagement therewith secures the necessary hold and leverage to release the block. It will also be observed that the construction of the pulley casing is especially adapted for the operation of these parts and guiding the rope thereto so as to form a simple, very efficient and economically constructed locking pulley.

Having described my invention and set forth its merits, what I claim and desire to secure by Letters Patent is:—

1. A locking pulley comprising a casing having a locking wall with an aperture opposite thereto, a sheave pivoted within said casing, a locking block pivotally mounted opposite said wall, an operating arm extended laterally through said aperture for a distance from the block pivot and provided at its free end with a guiding eye beyond said casing, and a curved lever face upon said arm intermediate the block pivot and eye.

2. A locking pulley comprising a casing having a passage extending therethrough, a sheave pivoted therein, a contracted tubular lower end to said casing having a locking wall, a locking block opposite said wall, an operating arm from said block having a curved face in contact with which a rope is adapted to travel and a guiding eye at the outer end of said face, and a gripping socket disposed laterally at one side of said eye and in communication therewith.

3. A locking casing comprising a casing having a passage therein, a locking block pivotally mounted in said casing, an operating arm extended from said block beyond said casing and provided with a guiding eye at its free end, and a laterally disposed gripping socket communicating with said eye.

In testimony whereof I affix my signature in presence of two witnesses.

PETER A. NELSON.

Witnesses:
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