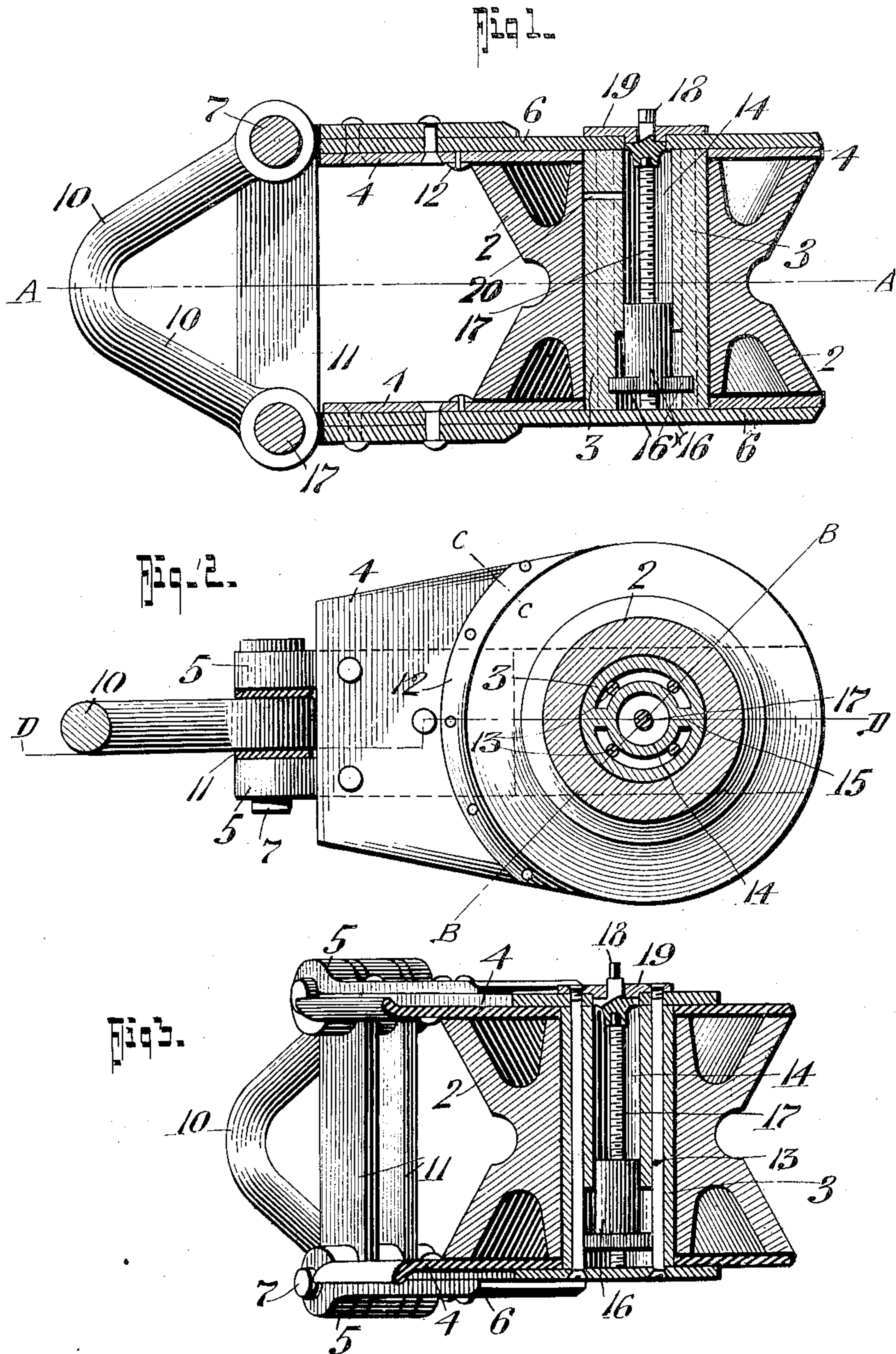


No. 898,121.

PATENTED SEPT. 8, 1908.

H. J. LITTLER.
LOGGER'S WIRE ROPE SHEAVE BLOCK.

APPLICATION FILED DEC. 19, 1907.



WITNESSES:

Charles H. Wagner
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Fig. 4.



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LOGGER'S WIRE-ROPE SHEAVE-BLOCK.

No. 898,121.

Specification of Letters Patent.

Patented Sept. 8, 1908.

Application filed December 19, 1907. Serial No. 407,251.

To all whom it may concern:

Be it known that I, HENRY JAMES LITTLER, citizen of the Dominion of Canada, residing at Vancouver, in the Province of British Columbia, Canada, have invented a new and useful Improvement in Loggers' Wire-Rope Sheave-Blocks, of which the following is a specification.

This invention relates to an improved sheave block particularly designed for use with the wire rope of heavy log hauls. The requirements of the work to which such a sheave block is exposed call for distinctive features in design. It requires to be strong to stand the heavy strain and rough usage to which such a block is subjected, while its weight must be kept within the smallest possible limits in order to satisfy the requirement of portability in rough bush country; the width between the sides of the block requires to be considerably in excess of the diameter of the wire rope, in order to permit the passage of the "choker hooks" by which the lengths of rope are connected together; and facility must be afforded for efficient lubrication while the block is lying on its flat and the lubricating means must be such as will not be subject to injury. These several requirements have been met in a satisfactory manner in the block which is the subject of this application, as will be seen from the following specification which fully describes the invention, reference being made to the drawings by which it is accompanied, in which:

Figure 1 is a vertical section through the center of the block, and Fig. 2, is a section on the line A—A of Fig. 1. Fig. 3, is a section on the line B—B of Fig. 2. Fig. 3^a, is a detail view hereinafter specifically referred to.

In these drawings 2 represents the sheave which is of white iron of ample width having a chilled groove at the middle for the wire rope and flared flanges extending conically outwardly from it to lead the rope into the groove and support the "choker hooks" during their passage round the sheave.

The sheave is supported on a hollow cast iron pin 3 fitted and secured into the side plates 4, which side plates are cut from sheet metal and conform to the outer edge of the sheave and are carried beyond that outer edge toward the yoke. The side plates 4 are flanged outward, as shown in Fig. 3^a, adjacent to the path of the rope round the sheave to facilitate the passage of the "choker hooks" etc.

Riveted or otherwise secured to the outside of each side plate 4 is a strap plate 6, each of which is bent over outward as shown in Fig. 2 to form an eye 5 for the yoke connecting pin 7, and the bent over end is riveted through side plate and strap plate, the eye being slotted to admit the eyes of the loop member 10 and the compression links 11 of the yoke. The design of this yoke is a distinctive feature of the block. The width of the sheave, and consequent distance apart of the side plates, necessitates a strong yoke to withstand the tendency of the upper edges of the side plates 4 to draw together when a heavy pull is imposed on the block. To withstand this tendency the yoke which connects the upper ends of the strap plates 6 and their attached side plates 4 is composed of a loop member 10 bent to an inverted V shape as shown, and having eyes for the reception of the pins 7 by which the yoke is connected to the eyes 5 of the strap plates, and extended directly between these eyes of the strap plates and yoke member 10 are compression links 11, which are preferably inserted within the slots in the strap plate eyes one on each side of the yoke loop 10. The yoke pins 7 pass therefore through the eyes of the strap plates 6, the compression links 11 and the eyes of the yoke loop 10. This design of the connecting yoke forms a triangular structure theoretically suitable to the strain imposed upon it and designed to transmit the pull applied through the sheave and its side plates 4 to the apex of the loop 10 where the sheave is connected to its support, while resisting the horizontal component of the diagonal pull of each side of the loop member.

To the inner side of each side plate 4 adjacent to the edge of the sheave flange is secured a lip 12 designed to prevent anything getting between the sheave flange and the side plate.

As previously stated the hollow pin 3 on which the sheave runs is fitted into the side plates 4 which are bored to receive it and the strap plates 6 to which the side plates 4 are secured are drawn up against the ends of the pin 3 by bolts 13 which pass through the hollow of the pin.

The pin 3 is cast with an inner cylinder 14 toward one end and connected to the outside shell by webs 15 and has an oil hole 20 to the sheave bearing toward the upper end and this cylinder 14 is bored to receive a plunger 16 into which is threaded as into a nut a

screw 17. The plunger 16 is prevented from rotation by lugs 16^x which as the screw 17 is turned will abut the webs 15 and prevent turning of the plunger. The screw 17 is rotated by means of a socketed key member 18 which passes through a cover plate 19 secured by screws to the outside of the strap plate 4 and being prevented from moving endwise by the end of the screw 17 bearing against the bottom side plate 4 and by a collar on the key member 18 bearing against the inner side of the cover plate 19, when the screw 17 is turned to the right the plunger 16 is drawn up within the cylinder 14 and grease therein will be forced out to the bearing through the oil hole 20, which is being toward the upper end of the bearing whence the lubricant will readily work down over the length of the bearing as these blocks are usually lying on their flat when in use.

The plate 19 may be removed to charge the cylinder 14 with grease and as the key member 18 may be removed with the cover the filling aperture is not restricted as would be the case if the key square and collar were integral with the screw 17. This is not only an efficient means for lubrication of the sheave bearing on the pin but is self-contained and is not exposed as a grease cup would be to the risk of injury.

The frame of the block being made of wrought metal is strong to resist the rough usage to which such blocks are subjected and the manner in which the yoke is constructed renders it rigid under a heavy pull, while the block is both lighter and cheaper than if the parts were constructed of cast steel which would otherwise be necessary.

Having now particularly described my invention and the manner of its operation, I hereby declare that what I claim as new and desire to be protected in by Letters Patent, is:

1. In a logging sheave block, the combination with a sheave rotatable on a pin secured in the side plates of the block and forming the distance-piece between them, side plates having eyes secured to them for the reception of the yoke pins, and a yoke composed of a loop member and two compression links the latter extending directly

between the eyes on the side plates and yoke pins through the eyes of the side plates and the yoke.

2. In a sheave block, the combination with a sheave rotatable on a hollow pin, side plates into apertures in which the hollow pin is fitted, strap plates secured to such side plates and having eyes for the reception of the yoke, bolts through the strap plates and hollow pin securing the sides together and to the pin, a yoke composed of a loop member and compression links each having eyes corresponding to those of the strap plates, and connecting pins through the strap plate eyes, loop member eyes and compression links.

3. In a sheave block, a hollow pin on which the sheave rotates said pin having a plunger fitting within the hollow thereof and a screw tapped into the plunger and having a key projecting through the side plate, means for preventing rotation of the plunger, means for preventing end movement of the screw, and an oil hole delivering from the hollow of the pin to the external bearing surface thereof.

4. In a sheave block, the combination with a sheave, of a hollow pin said pin having an internal grease chamber and a plunger endwise movable therein means external to the sheave block for drawing said plunger within said grease chamber on which the sheave rotates, side plates into which the ends of the pin fit said side plates having eyes secured to them for the reception of the yoke, loop bolts through the side plates and hollow pin securing the plates together on the pin, a yoke composed of a V shaped loop member having eyes corresponding to those secured to the side plates and compression links extending directly between such side plate eyes and pins through the eyes on the side plates the compression links and the link member.

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

HENRY JAMES LITTLER.

Witnesses:

ROWLAND BRITAIN,
CLIVE S. CARMAN.