May 26, 1931. J. E. HOLDEN 1,807,038

LOGGING BLOCK

Filed Oct. 21, 1926

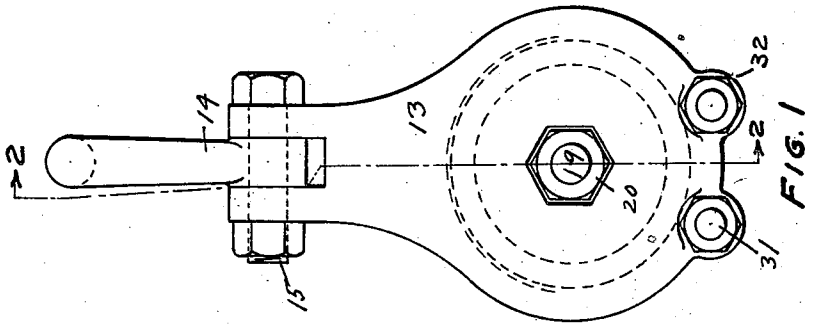


FIG. 1

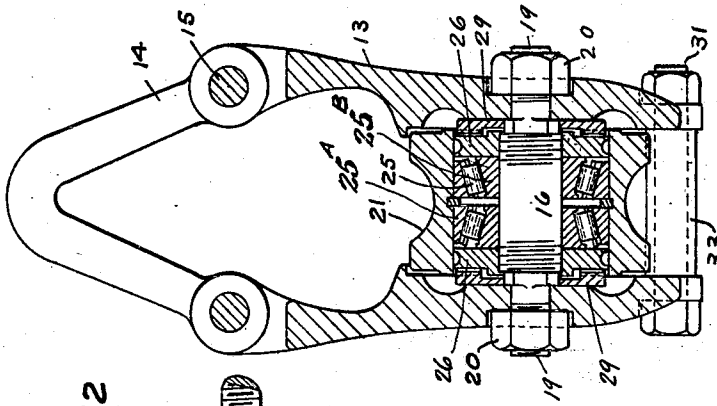


FIG. 2

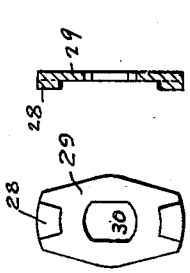


FIG. 11

FIG. 12

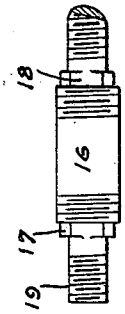


FIG. 7

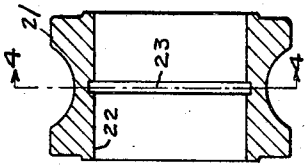


FIG. 3

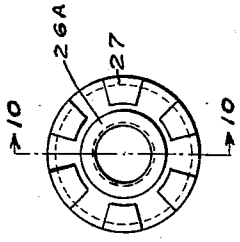


FIG. 9

FIG. 8



FIG. 6

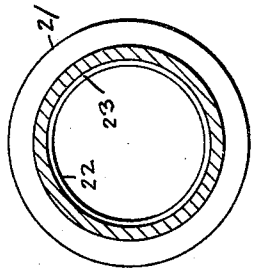


FIG. 4

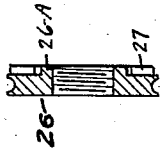


FIG. 10

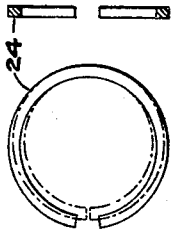


FIG. 5

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LOGGING BLOCK

Application filed October 21, 1926. Serial No. 143,029.

This invention relates generally to blocks for wire rope, and particularly to a special form of block in which roller bearings are employed.

The first object of this invention is to provide an exceedingly simple and efficient form of logging block which will be easy to manufacture and assemble, as well as to take down for replacement and repairs.

The second object is to so construct the block that suitable material, such as manganese steel can be employed without causing the manufacturing cost to be unduly high.

The third object is to provide a special form of adjustment for the roller bearings with a locking means therefor which, although capable of fine adjustments, is extremely rugged and has no fine or delicate parts to be lost in the woods or to get out of order.

The fourth object is to provide a special form of sheave having a straight bore for the purpose of facilitating the finishing thereof.

These, and other objects, will become more apparent from the specification following as illustrated in the accompanying drawings, in which:

Figure 1 is a side elevation of the block of which Figure 2 is a vertical section taken along the line 2—2 in Section 1. Figure 3 is a longitudinal section through the sheave of which Figure 4 is a transverse section taken along the line 4—4 in Figure 3. Figure 5 is a side elevation of the split ring which fits into a groove in the sheave. Figure 6 is a vertical section through the ring shown in Figure 5. Figure 7 is an elevation of the sheave pin. Figure 8 is an end elevation of Figure 7. Figure 9 is an end elevation of one of the locking nuts of which Figure 10 is a section taken along the line 10—10 in Figure 9. Figure 11 is an end elevation of one of the locking plates of which Figure 12 is a vertical section.

Similar numbers of reference refer to similar parts throughout the several views.

Referring in detail to the drawings, the device will be seen to consist of a pair of block sides 13 which are joined by means of the shackle 14 and the bolts 15.

The pin 16 is provided on each side with a shouldered portion 17 each of which has two flat spots 18 formed thereon. Outside of the shouldered portions 17 are the threaded shanks 19 which pass through the sides 13 and are provided with nuts 20.

In connection with this device is used a sheave 21, preferably made of manganese steel on account of the hard wear to which such parts are subjected. The bore 22 of this sheave is ground to size and near the middle thereof is formed a groove 23, preferably by casting and then finishing the groove with a grinding wheel. Into the groove 23 is snapped a ring 24 which forms a shoulder in the middle of the sheave. On each side of the ring 24 is placed the roller bearing 25 and outside of each roller bearing 25 is placed an adjusting nut 26, each of which is threaded on to its end of the pin 16. It is preferable to groove the outer edge of the nut 26, as shown, for the purpose of forming a seal between the sheave and the nut to exclude dirt and to retain the lubricant.

On one face of the nut 26 are formed a plurality of lugs 27 which are adapted to receive the laterally projecting lugs 28 of the locking plate 29 whose elongated hole 30 fits over the flattened shouldered member 17.

The assembling of the device is as follows: The ring 24 is snapped into position in the sheave 21 and the bearings 25 with the pin 16 and nuts 26, as well as the locking plates 29, are now put into place. It is now a simple matter to slip the ends 19 of the pin 16 through their respective holes in the block sides 13 and after the separate nuts 26 have been rotated to give the desired amount of clearance the locking plates 29 are dropped into position and the block side 13 is closed down thereon and locked thereto by means of the nut 20. It is preferable, of course, to provide the usual bolts 31 which pass through the lugs 32 on the open end of the block. The bolts 31 have spacing pillars 33 thereon which hold the block sides uniformly in position.

It can readily be seen that when once an

adjustment has been made for the bearings in this block that it will be impossible for them to get out of adjustment without first releasing the block sides so that the locking plates can be free, and this cannot be accomplished unless the sides 13 are rotated with relation to each other which would tend to back off the nuts 20 and make it possible to turn the nut 26 which it confines.

It must be borne in mind that while I have shown a snap ring 24 as a convenient means for forming a shoulder between the roller bearings that this could be dispensed with if the sheave 21 were made of a material which would permit easy machining, in which event the shoulder would be incorporated with the body of the sheave. The roller bearings 25 include the usual cups 25—A and cones 25—B.

Again, in certain instances the locking member 29 could be made from plate stock by having its extreme ends formed into the shape of the space between the lugs 27, in which case it would be desirable to omit the hub 26—A, whose function it is to provide more threads for the nut.

I am aware that many forms of logging blocks have been constructed in the past; I therefore do not intend to cover such devices broadly, but I do intend to cover all such forms and modifications thereof as fall fairly within the appended claims.

I claim:

1. A logging block having, in combination, a pair of block sides; a shackle joining said sides; a pin projecting through both of said sides, said pin having shouldered flattened ends against the inner faces of said block sides; roller bearings on said pin; a sheave around said bearings; a nut near each end of said pin for adjusting said bearings; and a locking plate on each flattened portion of said pin for preventing the rotation of the adjacent nut after adjustment as long as said sides engage the ends of the flattened portions of said pin.

2. In a logging sheave, the combination of a stationary pin having its central portion enlarged and threaded on each end and having its outermost ends reduced in diameter and threaded and having the intermediate portions only slightly reduced and flattened; a sheave on said pin having a bearing spacing shoulder in its bore; a roller bearing in each end of said sheave around said pin; a nut threaded on each end of said enlarged central portion of said pin for adjusting its adjacent bearing; a locking plate on each flattened portion of the pin adapted to engage the adjusting nut in a manner to prevent rotation thereof; block sides for receiving the extreme ends of said pin having nut recesses formed in their outer faces; and nuts in said recesses for holding said block sides against said locking plates.

3. A logging block having a pair of block sides with a shackle hinged between same and having a pair of spacing pillars at the opposite sides of the block, in combination with a stationary pin having an enlarged middle portion the ends of which are threaded and having smaller shouldered portions against said middle portions whose surfaces are flattened for holding purposes, said pin having smaller threaded outer ends which are supported in said block sides; a pair of roller bearings including a cup and cone on said enlarged portion; a sheave around said bearings having a bearing separating shoulder within same; a circular nut on each end of said pin closing the bore of said sheave and touching the cone of its bearing, said nuts having lugs formed on their outer faces and each flattened portion of said pin having a locking plate thereon which engages the lugs of its nearest nut in a manner to prevent the nut from turning when said locking plate is held in place by the sides of said block.

4. In a logging block the combination of a sheave having a cylindrical bore and having a shoulder formed near the middle portion of the bore, roller bearings within said bore on opposite sides of said shoulder, a pin passing through said bearings having an enlarged central portion, the outer ends of which are threaded and protrude from said bearings, a circular nut on each threaded portion within the outermost portion of the bore, each circular nut having recesses formed in its outer face, said pin having a double shoulder formed at each end thereof, the outermost shoulder being threaded and the innermost shoulder being flattened on the sides thereof, a locking plate on each innermost shoulder having a somewhat flattened opening formed therein and laterally projecting lugs formed thereon adapted to occupy certain of the recesses in said circular nuts, said locking plates being non-rotatable with relation to said pin when mounted on said shoulders, supports for the outermost portions of said pins through which same project and nuts on the outermost ends of said pins for holding said supports against said locking plates in a manner that they may be held in position on said innermost shoulders and prevent the relative rotation of said circular nuts.

5. In a logging block the combination of a shackle with a pair of spaced block sides hinged to said shackle, each of said block sides having an opening formed therein for the reception of a sheave pin, the outer end of each opening having a hexagonal counterbore adapted to receive a nut, a sheave pin having threaded ends adapted to project through said block sides, and a nut on each pin end whereby said block sides may be held in spaced relation, an adjustment of said spaced relation being secured by a relative

rotation of said block sides either of which must first be freed from said shackle.

6. In a logging block the combination of a shackle having hinged to each end thereof a block side, each of said block sides having a pin opening formed therein, each of said pin openings having its outer end provided with a flat sided recess, a pin having an enlarged middle portion and reduced end portions, said end portions projecting through said pin openings, and having threads formed therein for the reception of a flat sided nut adapted to occupy said pin openings flattened recess, each of said block sides forming a wrench for its respective nut.

7. In a logging block the combination of a shackle having hinged to each end thereof a block side, each of said block sides having a pin opening formed therein, each of said pin openings having its outer end provided with a flat sided recess, a pin having an enlarged middle portion and reduced end portions, said end portions projecting through said pin openings, and having threads formed therein for the reception of a flat sided nut adapted to occupy said pin opening's flattened recess, each of said block sides forming a wrench for its respective nut, said pin having the outer ends of its enlarged portion threaded, an anti-friction bearing mounted on said enlarged portion, an adjusting nut on each threaded end of said enlarged portion of the pin, a locking plate nonrotatably mounted on said pin on the outer side of each nut and on the inner side of each block side, said locking plate engaging its respective nut to prevent its rotation, means for spacing the ends of said block sides opposite said shackle, and a sheave between said block sides supported by said anti-friction bearing.

JAMES E. HOLDEN.