Sept. 21, 1948. C. B. JOHNSON 2,449,703

SNATCH BLOCK

Filed May 14, 1945

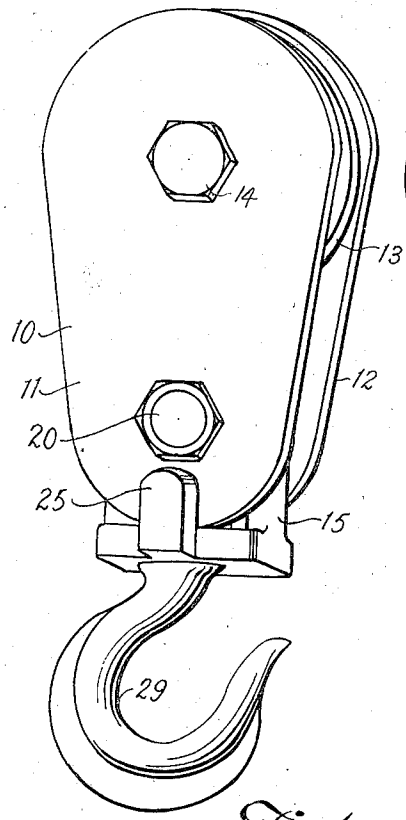


Fig. 1

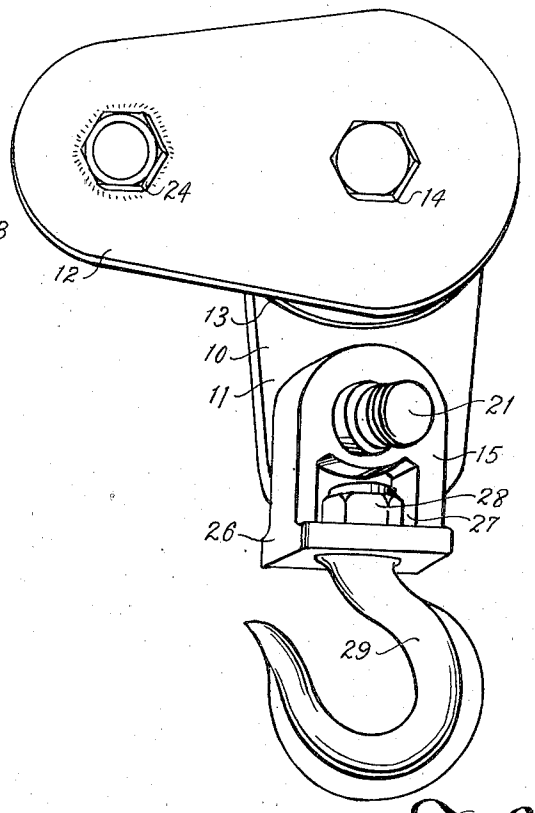


Fig. 2

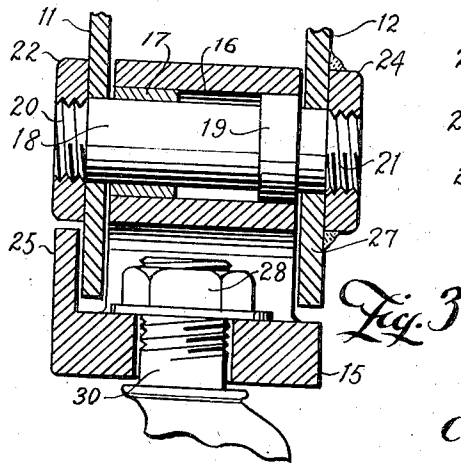


Fig. 3

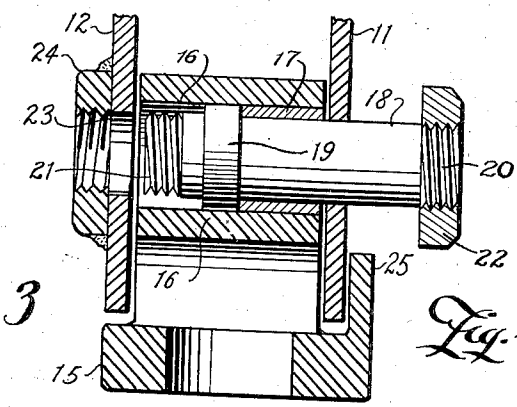


Fig. 4

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Patented Sept. 21, 1948

2,449,703

UNITED STATES PATENT OFFICE

2,449,703

SNATCH BLOCK

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Application May 14, 1945, Serial No. 593,654

5 Claims. (Cl. 254—193)

1

This invention relates to new and useful improvements in snatch blocks.

One object of the invention is to provide an improved snatch block wherein a hook clevis is combined with a plate releasing means, whereby the block may be readily opened to remove or replace the cable and also whereby, the hook may be swiveled to the clevis, thus permitting the block to swing in opposite directions and the hook relieved of undue leverage or strain.

A further object of the invention is to provide an improved snatch block having a simple and sturdy means for detachably securing one of its side plates, whereby said plate may be quickly and simply released to permit the plate to be swung to open and close the block.

A further object of the invention is to provide an improved snatch block wherein one of the side plates, which is swingable, is held in place by a nut and bolt and said bolt is provided with means for limiting its withdrawal when it is detached, whereby it is retained in the block when said plate is swung, and also whereby, it is not necessary to mutilate or specially form either of the plates or to provide auxiliary supports; the block involving fewer parts, having fewer parts and being shorter in overall length than other devices of this type.

A construction designed to carry out the invention will be hereinafter described together with other features of the invention.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawings, wherein an example of the invention is shown, and wherein:

Fig. 1 is a perspective view of a snatch block constructed in accordance with the invention,

Fig. 2 is a side elevation showing the block in its open position,

Fig. 3 is a partial transverse sectional view taken on the line 3—3 of Fig. 1, and

Fig. 4 is a partial transverse sectional view taken on the line 4—4 of Fig. 2.

In the drawings, the numeral 10 designates a snatch block comprising a pair of vertical side plates 11 and 12, each of which has a general pear shape, although they may be of any suitable shape. Between the enlarged ends of the plates, a pulley 13 is journaled on an axle 14 mounted in said plates. The particular mounting or journalling of the pulley is unimportant, and forms no particular part of the invention, therefore, it will not be described in detail.

Between the reduced ends of the plates, a clevis 15 is mounted to swing transversely of the plates.

2

This clevis is an important feature of the invention, and has a general U shape. The lower rounded portion of the clevis has a bore 16 extending inwardly from the plate 12 and transversely of the clevis, as is shown in Figs. 3 and 4. The bore 16 terminates short of the opposite side of said clevis and has a counter bore 17 extending through the clevis wall. A cross bolt 18 extends through the bores 16 and 17 and is provided with an integral annular collar 19 which has a snug sliding fit in the bore 16 for limiting the longitudinal movement of the bolt. By observing Fig. 3, it will be seen that the clevis 15 is normally journalled on the collar 19 and by contact with the bolt at the reduced bore 17.

It will be observed that the bolt 18 is provided with screw threads 20 and 21, respectively, at its ends. Referring to Fig. 3, it will be seen that the bolt must be initially inserted into the bore 16 from the right-hand side, and for this reason, the threads 20 are provided so that a nut 22 screwed onto the threads 20 may be employed to confine the side plate 11 and to secure the bolt in position. After the nut 22 is screwed onto the threads 20, any suitable expedient is employed to fasten the nut so that in effect it becomes a bolt head, and may be used to rotate the bolt without loosening therefrom.

The plates are each formed with circular openings 23, through which the bolt 18 may pass. A nut 24 is welded on the outer face of the plate 12 around the opening 23 of said plate so as to receive the threads 21 of the bolt 18, as is shown in Fig. 3. It will be seen that when the threads 21 are screwed into the nut 24, as shown in Fig. 3, the snatch block will be closed and retained in the position shown in Fig. 1.

When it is desired to open the block, the nut 22 is rotated to unscrew the threads 21 of the bolt 18 from the fixed nut 24, which will permit the bolt to be pulled to the left-hand until the collar 19 engages the end of the counter bore 16, as is shown in Fig. 4, whereby the plate 12 will be released and may be swung to the open position shown in Fig. 2. To prevent lateral displacement of the clevis 15 when the block is open, as shown in Fig. 4, a lug 25 formed integral with the clevis, overhangs the reduced end of the plate 11 and acts as a keeper. When the block is opened, as shown in Fig. 2, it is obvious that a cable, not shown, may be placed in the block and looped around the pulley 13, or removed therefrom, as is the usual practice in this type of blocks.

The clevis 15 is provided at its lower end with a transverse head or enlargement 26, which car-

ries the lug 25, and also overhangs the reduced ends of the plates 11 and 12. Between the plates, the clevis is provided with a transverse opening 27, in which the head 28 of the usual hook 29 is confined. This head surmounts a reduced shank 30, which is rotatably confined in the hanger 26. From the foregoing, it will be seen that the hook 29 is free to rotate in the clevis and the clevis is freely hinged on the bolt 18. The vertical axis of the hook is at right angles to the longitudinal axis of the bolt, and therefore, the hook is swiveled and may freely swing and turn in the block.

It is pointed out that by utilizing the bolt 18 as a means of mounting the clevis, as well as detachably securing the plate 12, a more simple and compact arrangement is provided and it is thus possible to reduce the overall length of the block. While the block has been illustrated with the hook depending therefrom, it is obvious that the block may be inverted and the hook employed as a support for the block. When the block is opened, there is no danger of either the bolt or the clevis dropping out or becoming misplaced. The block is very flexible. The bolt serves as an axis on which the clevis swings, or upon which the block proper may swing when the hook is under a load. This arrangement eliminates undue leverage and strain on the hook proper, as well as providing a means whereby the device adjusts itself to various positions without twisting or wrenching.

The foregoing description of the invention is explanatory thereof and various changes in the size, shape and materials, as well as in the details of the illustrated construction may be made, within the scope of the appended claims, without departing from the spirit of the invention.

What I claim and desire to secure by Letters Patent is:

1. A snatch block including a pair of side plates having a pulley journalled therebetween, a cross bolt passing transversely through the plates, a clevis journalled on the bolt between the plates, a nut fixed to one of the plates receiving one end of said bolt, the clevis having a reduced bore in which the bolt is slidable and an enlarged bore, and means on the bolt disposed in the enlarged bore of the clevis for limiting the sliding movement of said bolt in the clevis.

2. A snatch block including, a pair of side plates having a pulley journalled therebetween, a cross bolt passing transversely through the plates, a clevis journalled on the bolt between the plates, a nut fixed to one of the plates receiving one end of said bolt, the clevis having a reduced bore in which the bolt is slidable and an enlarged bore, means on the bolt disposed in the enlarged bore of the clevis for limiting the sliding movement of said bolt in the clevis, and a keeper on the clevis overhanging the plate opposite the plate to which the nut is fixed.

3. A snatch block including, a pair of side plates having a pulley journalled therebetween, a cross bolt passing transversely through the plates, a clevis journalled on the bolt between the plates, a nut fixed to one of the plates receiving one end of said bolt, the clevis having a reduced bore in which the bolt is slidable and an enlarged bore, and a collar on the bolt slidable in the enlarged bore of the clevis for limiting the sliding movement of said bolt in the clevis.

4. A snatch block including side plates, an axle mounted between the plates, a pulley mounted on the axle between the plates, at least one of said plates being rotatable around the axle, said plates having opposed openings at their end portions spaced from the pulley, a cross-bolt having its ends extending through the plate openings, a member between the plates having a bore of larger diameter than at least one of the plate openings through which the bolt extends, an annular enlargement on the bolt and slidable in the bore of said member, said enlargement being less in width than the space between the plates, retaining means secured on one of the plates and detachably receiving one end of the bolt, and a member secured on the opposite end of said bolt engaging the other plate.

5. A snatch block including side plates, an axle mounted between the plates, a pulley mounted on the axle between the plates, at least one of said plates being rotatable around the axle, said plates having opposed openings at their end portions spaced from the pulley, a cross-bolt having its ends extending through the plate openings, a member between the plates having a bore of larger diameter than at least one of the plate openings through which the bolt extends, an annular enlargement surrounding and carried by the bolt slidable in the bore of said member, said enlargement being less in width than the space between the plates, a nut secured to the outer face of one of the plates at the opening thereof, the bolt having screw-threads at one end engaging in said nut, and a member on the other end of the bolt abutting the other plate when the bolt is screwed into said nut.

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