

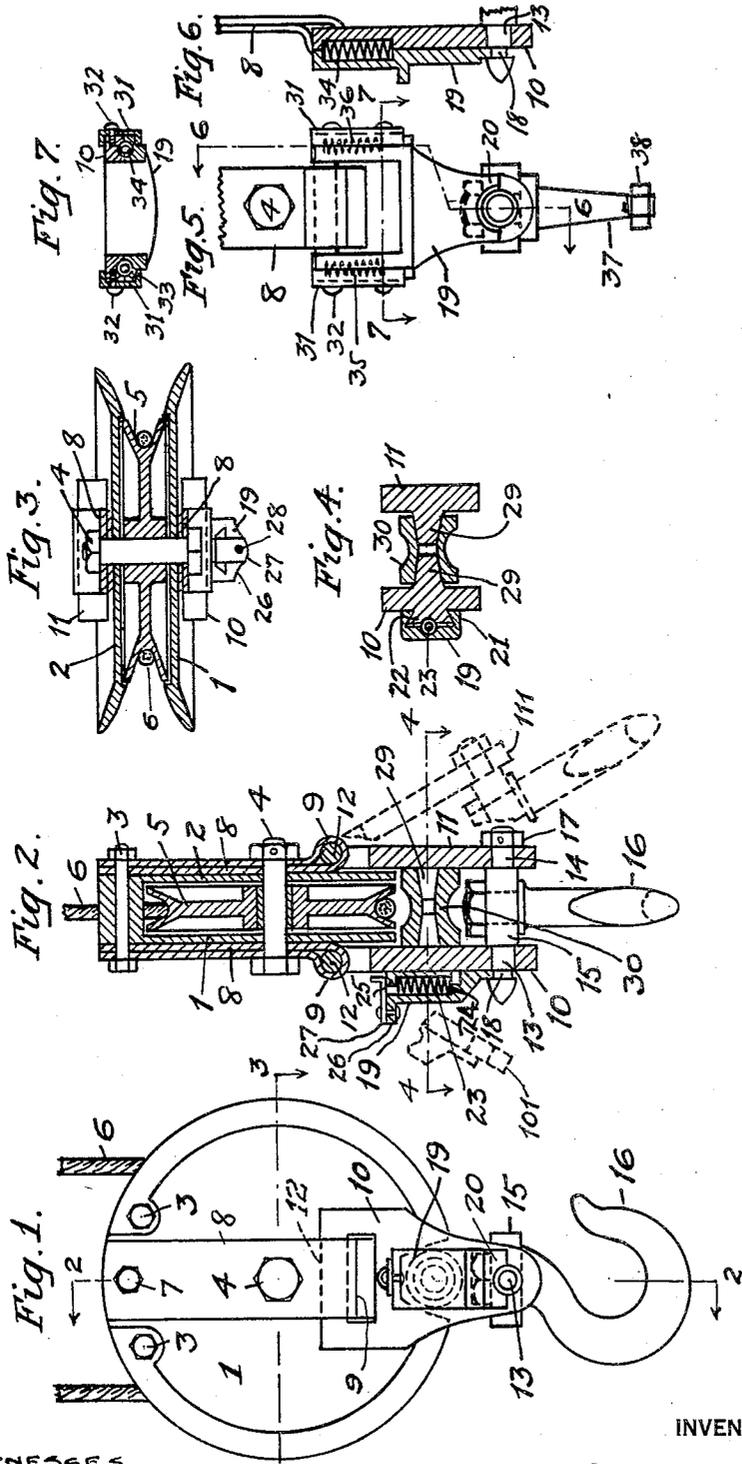
May 16, 1933.

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1,908,784

QUICK OPENING SNATCH BLOCK

Filed Nov. 13, 1931



WITNESSES.
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QUICK-OPENING SNATCH BLOCK

Application filed November 13, 1931. Serial No. 574,773.

This invention relates to quick-opening snatch blocks of the kind used by lumbermen, telegraph and telephone line-men, dock-workers and in various places where it is necessary to frequently disengage the block from its co-operating cable, and its principal object is to provide a block of the character specified in which removal and insertion of the cable may be quickly and easily effected.

Another object of my invention is to provide a block of the character specified in which the parts are securely locked in position at all times when the block is in use, thereby eliminating the possibility of accidents due to the opening of the block while under load.

A further object of my said invention is to provide a block of the character specified which is simple in construction and operation and at the same time economical to manufacture.

With these and other objects in view the invention consists in the improved construction, arrangement and combination of parts of a block of the character specified, which will be hereinafter fully described, reference being had to the accompanying drawing, in which—

Figure 1 is a side elevation.

Figure 2 is a vertical section on line 2—2 of Figure 1.

Figure 3 is a horizontal section on line 3—3 of Figure 1.

Figure 4 is a section on line 4—4 of Figure 2, showing further details of the locking mechanism.

Figure 5 illustrates a modification.

Figure 6 is a section on line 6—6 of Figure 5 and

Figure 7 is a section on line 7—7 of Figure 5.

Like characters designate corresponding parts throughout the several views.

Referring more particularly to Figures 1 to 4, inclusive, 1 and 2 are the side plates or cheeks, substantially circular in elevation connected together at their upper ends by bolts 3 and at their center by the bolt 4. The bolt 4 serves as an axle for the sheave 5

which is normally held in a bight of the cable 6 as shown in Figure 1. Secured to the cheeks 1, 2 by the bolt 7 and the central bolt 4 are the loops 8 formed of flat bars and bent to form at their lower ends eyes 9 through which pass the cylindrical horizontal portions 12 of the hangers 10 and 11, which are thereby suspended from the said loops and are bored at their lower extremities to receive the trunnions 13, 14 of the crosshead 15, the latter having a central opening to receive the shank of the hook 16 in the manner well known in the art.

The trunnion 14 of the crosshead is secured permanently in position in its bearing in the hanger 11 by the collar 17, but the trunnion 13 is loosely fitted in the hanger 10 and provided with a conoidal end as shown, which facilitates its insertion into and withdrawal from its bearing in the said hanger. The trunnion 13 is further provided with the annular groove 18 in which engages the lower end 20 of the sliding block 19, so as to hold the trunnion in its place within the hanger 10, as shown in Figure 2.

Upon the block 19 are provided the external dovetailed portions 21 adapted to engage an internal dovetailed projection 22 upon the face of the hanger 10, and within a cavity formed half in the block 19 and half in the projection 21 is a helical compression spring 23 which abuts upon the projection 24 on the block 19 and the projection 25 on the hanger 10 so as normally to press the block downwards and lock the trunnion 13 in place, as shown in Figure 2.

At the upper extremity of the block 19 is the projecting ledge 26 and to the upper surface of this ledge is the locking plate 27 secured to the ledge 26 by rivet 28 and adapted to bear on the projection 25 and limit the movement of the block 19, as will be understood.

Upon the inner faces of the hangers 10 and 11 are the frusto-conical projections 29 upon which is rotatably supported the guide roller 30 which serves to keep the cable within the groove of the sheave 5.

Assuming that the parts are in their normal positions as illustrated in Figure 2 and

that it is desired to disengage the block from the bight of the cable 6, pressure is applied to the projecting ledge 26, raising the block 19 against the pressure of the spring 23 and withdrawing the lower portion 20 of the block 19 from the groove 18 of the trunnion 13, and the hanger 10 is then swung outwards into the position shown in broken lines at 101. The hanger 11 is then swung outwards into the position shown in broken lines at 111 carrying with it the crosshead 15 and hook 16 and the guide roller 30 is then removed which allows of the free passage of the cable 6 out of or into the groove of the sheave 5 as desired.

When it is desired to close the block the hanger 11 is moved inwards until the hook assumes a vertical position and the hanger 10 is then brought into engagement with the trunnion 13, the part 20 of the block 19 sliding over the conoidal end of said trunnion and snapping into engagement with the groove 18, as will be understood.

While in the foregoing I have referred to a single compression spring 23 as being employed for holding the block 19 in the locking position, I may sometimes employ two springs, one coiled within the other, so that in case of failure of one of the said springs safety will be assured by the other.

Similarly, as shown in Figures 5, 6 and 7, I may employ two independent springs for this purpose. In this modification the sliding block 19 is retained in position by the channel-shaped members 31, secured by screws 32 to the hanger 10, which slidably engage the flanges 33 of the block 19.

Within the adjoining faces of the block 19 and the hanger 10 are the cylindrical cavities 34 in which are contained the springs 35, 36, which serve to keep the lower portion 20 of the block 19 in engagement with the groove 18 of the trunnion 13 in a similar manner to that hereinbefore described in reference to Figures 1 to 4 of the drawing.

In Figure 5 there is shown in place of the hook 16 a tapered shank 37 terminating in a nut 38, which may be used for various purposes when special loads are to be handled.

While I have described and illustrated in the foregoing a preferred embodiment of my invention, it will be obvious to those skilled in the art that the same may be modified in various ways to meet any particular or peculiar requirement without departing from the spirit and scope of the invention as hereinafter claimed. For example, my improved construction may be readily applied to a block in which two or more sheaves are employed instead of the single sheave as described above.

Having described my invention, what I

claim and desire to secure by Letters Patent of the United States is:

1. The combination with a flexible hoisting element, of a block comprising a pair of spaced complementary side members, an axle supported in said side members, a sheave mounted on said axle and engaging in a bight of said hoisting element, load-engaging means including a crosshead having a pair of opposed trunnions, a pair of suspensory members hinged to said side members and adapted to engage said trunnions, one of said trunnions being permanently connected to its associated suspensory member while the other trunnion is detachable therefrom, means for securing said detachable trunnion in operative position, a guide roller intermediate of said sheave and said crosshead rotatably mounted upon said suspensory members, and means for releasing said roller when said block is opened to disengage said hoisting element.

2. The combination with a flexible hoisting element, of a block comprising a pair of spaced complementary side members, an axle supported in said side members, a sheave mounted on said axle and engaging in a bight of said hoisting element, load-engaging means including a crosshead having a pair of opposed trunnions, a pair of suspensory members hinged to said side members and adapted to engage said trunnions, one of said trunnions being permanently connected to its associated suspensory member while the other trunnion is detachable therefrom, a guide roller intermediate of said sheave and said crosshead, projections on said suspensory members for rotatably supporting said guide roller and means for disengaging said roller from said projections when the block is opened.

In testimony whereof I affix my signature.
JOSEPH PETERSON.