April 10, 1956 F. L. LE BUS, SR 2,741,458

SNATCH BLOCK

Filed July 6, 1954

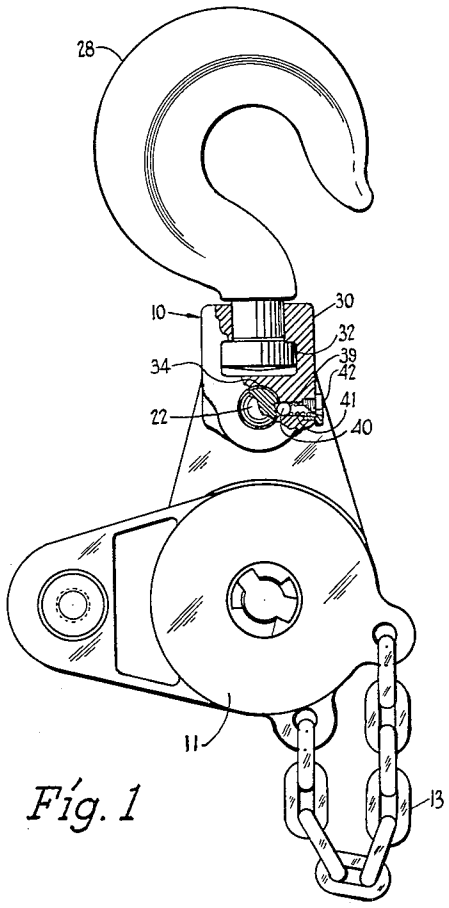

Fig. 1

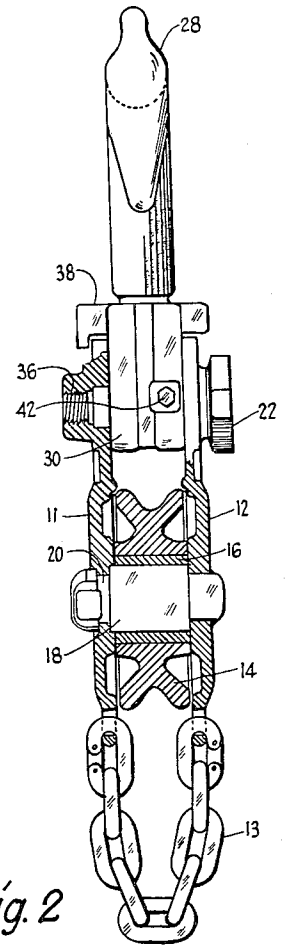

Fig. 2

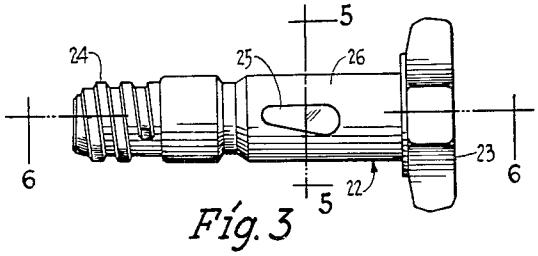

Fig. 3

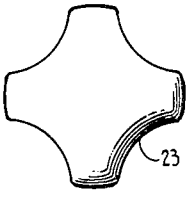

Fig. 4

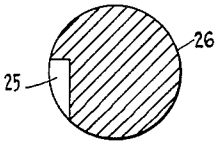

Fig. 5

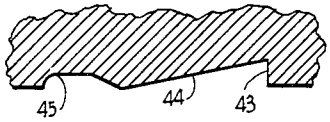

Fig. 6

INVENTOR.
F. L. Le Bus, Sr.
BY
ATTORNEY

United States Patent Office 2,741,458 Patented Apr. 10, 1956

2,741,458

SNATCH BLOCK

Franklin L. Le Bus, Sr., Longview, Tex.

Application July 6, 1954, Serial No. 441,476

4 Claims. (Cl. 254—193)

This invention relates to improvements in snatch blocks and more particularly, but not by way of limitation, to improved means for facilitating the opening and closing of snatch blocks for the handling of the cable.

The present invention contemplates an improvement of present day snatch blocks by providing a swivel latch bolt for the side plates, and having a cam recess adapted to cooperate in a novel manner with a latching ball member so that the ball will be disposed in a locking position of the recess when the latch bolt is unthreaded, thus preventing the loss of the bolt in use, and disposed in another position when the latch bolt is fully engaged to more securely engage the bolt, and thereby facilitating the opening and closing of the snatch block.

It is an important object of this invention to provide a snatch block permitting pivotal movement of one of the side plates to facilitate handling of the cable therebetween.

Another object of this invention is to provide a snatch block wherein the locking means permitting pivotal movement of the side plates is prevented from complete disassociation from the block upon an unthreading thereof.

And still another object of this invention is to provide a snatch block having a pair of side plates through which is disposed a locking bolt permitting pivotal movement of one of said plates in an unlocked position of the bolt in a manner that precludes disassociation of the bolt from the block.

And another object of this invention is to provide a latching means for a pivotal plate locking bolt of a snatch block which provides for two alternate positions of engagement of the bolt so that in one position the latching means assists the locking engagement of the bolt and in another position prevents complete disassociation from the bolt.

Other objects and advantages of the invention will be evident from the following detailed description, read in conjunction with the accompanying drawings, which illustrate my invention.

In the drawings:

Figure 1 is a side elevational view of a snatch block embodying the invention with certain portions cut away and shown in section for clarification.

Figure 2 is an end elevational view of a snatch block embodying the invention depicting certain portions in section for clarity.

Figure 3 is a side elevational detail view of a swivel latch bolt.

Figure 4 is an end view of a swivel latch bolt.

Figure 5 is a sectional view taken along line 5—5 of Fig. 3.

Figure 6 is a portion of a sectional view taken along line 6—6 of Fig. 3.

Referring to the drawings in detail, reference character **10** represents a snatch block comprising two side plates **11** and **12** with a tie chain **13** affixed thereto. A sheave or pulley **14** is interposed between the plates and is disposed on a bearing **16** in turn riding on a sheave pin **18**

to allow a rotatable movement of the cable receiving sheave **14**. The side plate **11** is a movable member utilizing a shaft **20** as a pivotal axis. A swivel latch bolt **22** cooperates with a threaded bore **36** provided in one end of plate **11**, for effecting a releasing and locking means of the plate **11**. A clevis hook **28** is secured to a swivel body **30** by any suitable means, such as flange **32** in the usual manner, and the swivel body **30** is interposed between the side plates **11** and **12** at the upper portion thereof (Figs. 1 and 2).

The upper portion of the stationary side plate **12** is provided with an aperture (not shown) for receiving the swivel latch bolt **22**. The swivel latch bolt **22** comprises a head **23** on one end, and a threaded shaft portion **24** on the other end with a non-threaded shaft body **26** therebetween provided with a grooved or slotted portion **25**. An aperture **34** in the swivel body **30** is maintained in alignment with the aperture (not shown) in the upper portion of the side plate **12**, and the threaded recess **36** by means of an alignment lug **38** thus allowing the swivel latch bolt **22** to be disposed through the apertures with bolt threads **24** engaging threads **36**. When the latch bolt **22** is in full threaded position, the body member **26** becomes an axis about which the swivel body **30** is free to pivot, thus allowing the clevis hook **28** to pivot independently of the snatch block **10**, thereby alleviating any possible strain during the use of the device.

The swivel body member **30** is provided with an aperture **39** in which is disposed a latching ball **40** and a helical spring **41** encircling a retaining stud **42**. The ball is adapted to cooperate with the shaft groove **25** which comprises an elongated cam recess **44** having a shouldered portion **43** at one end and an arcuately shaped recess portion **45** at the other end for a purpose as will be hereinafter set forth.

Operation

In operation, the latch bolt **22** during position of engagement and release cooperates with a latching ball **40** disposed in the shaft groove **25** and held therein by a helical spring **41** encircling a retaining stud **42** (Fig. 1) disposed in the swivel body **30** at a substantially right angle position to the bolt **22**. The latching ball **40** is forced into position against the substantially square shoulder **43** of the recess **25** (Fig. 6) when the latch bolt **22** is in a full threaded position thus preventing the bolt **22** from becoming unthreaded due to vibration. Retrograde movement of the bolt **22** during unthreading causes the ball **40** to move along the taper or cam surface **44** of the recess **25** in a direction away from the shoulder **43** for disposition in an arcuately shaped recess **45** provided conterminous with one end of the groove **25** as the threads **24** of the latch bolt **22** are disengaging from the threaded bore **36** of the side plate **11**. In this position of the ball **40**, the latch bolt **22** is prevented from being accidentally pulled all the way out and any possible loss thereof. As the bolt **22** is moved into a full threaded position, the ball **40** is forced out of the recess **45** and moves along the tapered surface **44** lodging once again against the shoulder **43** thus being prevented from coming out of the recess **25** and maintaining the bolt **22** in a full threaded position. The shape of the bolt head **23** (Fig. 4) is such as to facilitate the threading and unthreading operation of the bolt.

It will be apparent that the movable side plate **11** is free to pivot about the shaft **20** when the bolt **22** is in an unthreaded position and will rotate downwardly to permit access to the sheave **14** and the cable thereupon. The side plate **11** may be easily restored to a substantially vertical position and with the cooperation of the alignment lug **38** will be held in position to receive the threads

24 of the latching bolt 22 and thus be held securely in a closed position.

From the foregoing, it will be apparent that the present invention provides a snatch block wherein pivotal movement of one of the plates for operation on the sheave and the cable members thereof can be easily accomplished without any danger of losing the locking bolt normally holding the pivotal plate in locked position. Furthermore, it will be apparent the latchnig means prevents disassociation of the plate locking bolt from the block itself and also assists the locking action of the bolt when in full threaded engagement with the pivotal side plate.

Changes may be made in the combination and arrangement of parts as heretofore set forth in the specification and shown in the drawings, it being understood that any modification in the precise embodiment of the invention may be made within the scope of the following claims without departing from the spirit of the invention.

I claim:

1. In a snatch block including a pair of side plates having a pulley member journaled therebetween, a bolt member extending through the side plates and threadedly engageable with one of the plates, a clevis body journaled on the bolt between the plates, a cam recess provided on the outer periphery of the bolt, said recess terminating at one end in a shoulder portion and at the opposite end in an arcuately shaped recess, an aperture in the clevis body disposed substantially perpendicular to the bolt, a ball disposed in the aperture and engaging with the recess, spring means cooperating with the ball for resiliently maintaining the ball in engagement with the recess, said ball normally engaging the cam recess adjacent said shoulder portion in a locked position of the bolt, said spring permitting movement of the ball away from the shoulder upon disengagement of the bolt from the plate until lodged in the arcuate recess to prevent complete disassociation of the bolt from the body.

2. In a snatch block comprising a pair of side plates having a sheave journaled therebetween, a bolt member extending through the said plates and threadedly engageable with one of the plates, one of said plates being pivotal to permit threading of the sheave, a swivel body journaled to the bolt extending through the plate, said pivotal plate having a threaded recess, one end of the bolt engageable with the recess for maintaining the plate in locked position, an elongated cam recess provided in the outer periphery of the bolt and latching means provided in the swivel body and cooperating with the elongated cam recess to assist threaded engagement of the bolt with the plate recess, said latching means preventing loss of the bolt from the block body in a non-engaging position of the bolt with the plate recess.

3. In a snatch block comprising a pair of side plates having a sheave journaled therebetween, a bolt member extending through the said plates and threadedly engageable with one of the plates, one of said plates being pivotal to permit threading of the sheave, a swivel body journaled to the bolt extending through the plate, said pivotal plate having a threaded recess, one end of the bolt engageable with the recess for maintaining the plate in locked position, an elongated cam recess provided in the outer periphery of the bolt, and latching means disposed in the swivel body perpendicular to the bolt shank, said latching means including a spring pressed ball detent which travels along the elongated cam recess in alternate positions of the engagement and disengagement of the bolt with the plate recess.

4. In a snatch block comprising a pair of side plates having a sheave journaled therebetween, a bolt member extending through the said plates and threadedly engageable with one of the plates, one of said plates being pivotal to permit threading of the sheave, a swivel body journaled to the bolt extending through the plate, said pivotal plate having a threaded recess, one end of the bolt engageable with the recess for maintaining the plate in locked position, an elongated cam recess provided in the outer periphery of the bolt, and latching means disposed in the swivel body perpendicular to the bolt shank, said latching means including a spring pressed ball detent which travels along the elongated cam recess in alternate positions of the engagement and disengagement of the bolt with the plate recess, said elongated cam recess having an arcuate portion at one end thereof for receiving the spring pressed ball detent in a non-engaging position of the bolt to prevent loss of the bolt from the swivel body.

References Cited in the file of this patent

UNITED STATES PATENTS

2,474,433 McKissick ---------- June 28, 1949