(No Model.)

J. SPENCER.

SELF LOCKING PULLEY BLOCK.

No. 565,699. Patented Aug. 11, 1896.

Fig 4.

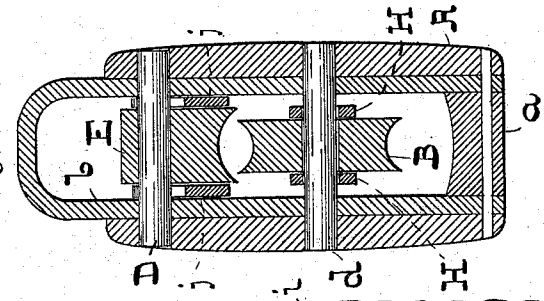


Fig 3.

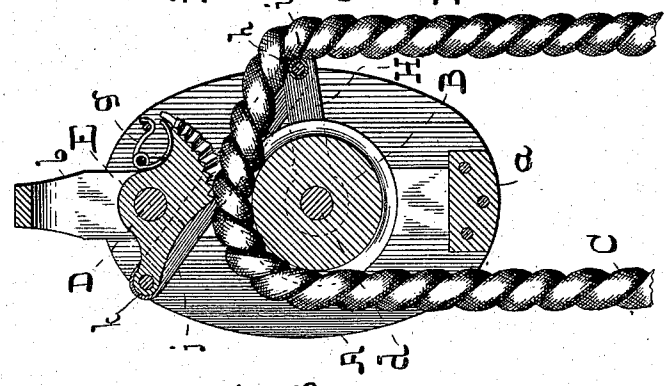


Fig 2.

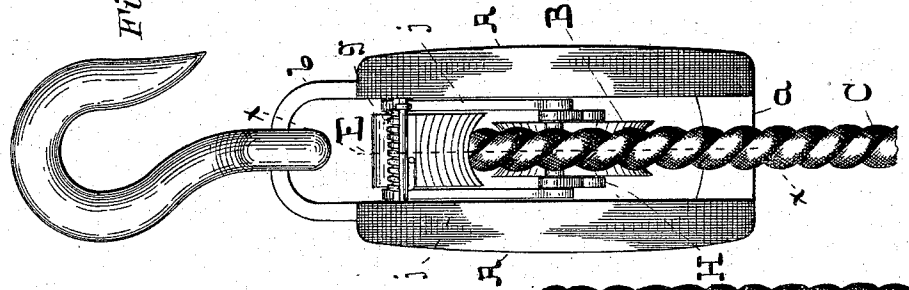
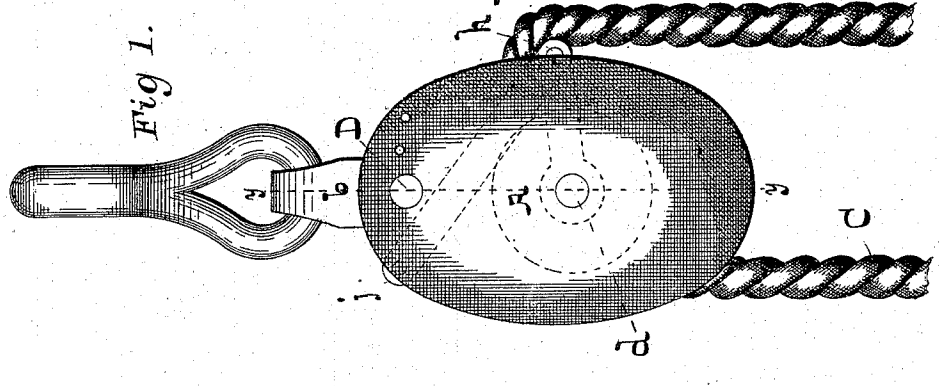


Fig 1.



WITNESSES

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SELF-LOCKING PULLEY-BLOCK.

SPECIFICATION forming part of Letters Patent No. 565,699, dated August 11, 1896.

Application filed November 14, 1895. Serial No. 568,919. (No model.)

To all whom it may concern:

Be it known that I, JERVIS SPENCER, of Garrison, in the county of Baltimore and State of Maryland, and at present United States consul at Curaçao, in the Dutch West Indies, have invented certain Improvements in Self-Locking Pulley-Blocks, of which the following is a specification.

This invention relates to certain improvements in that class of self-locking pulley-blocks in which the hoisting-rope is locked by being jammed between a swinging pawl and the sheave or pulley-wheel of the block; and it consists in a peculiar construction of the locking mechanism whereby the locking-pawl is lifted so as to release the hoisting-rope by merely tightening its slack or loose portion or end, and that without raising the weight which is suspended from the other, as will hereinafter fully appear.

In the further description of the said invention which follows reference is made to the accompanying drawings, forming a part hereof, in which—

Figure 1 is an exterior side view of the improved self-locking pulley-block, and Fig. 2 an edge view of the same. Fig. 3 is a section of Fig. 2, taken on the dotted line *x x*. Fig. 4 is a section of Fig. 1, taken on the dotted line *y y*.

Referring now to the drawings, A A are the cheek-pieces of the block, connected at their lower ends by the bridge *a*. The upper ends of the cheek-pieces are connected by the stirrup *b*, the sides of which are let into the inner faces of the cheek-pieces, as shown in Fig. 4.

B is the sheave, over which the hoisting-rope C is rove, and it runs or revolves loosely on the spindle *d*, which is supported by the stirrup *b*. (See Fig. 4.)

D is a second spindle, which, like the one *d*, passes through the stirrup *b*, on which is placed loosely the pawl E. The under side of the pawl is curved and provided with teeth or corrugations, which, as the slack section of the hoisting-rope C is released, bite into the rope and stop its movement, and thereby hold the weight attached to the end. The pawl E has, preferably, a spring *g* to make it bear on the rope.

H H are levers hung loosely on the spindle *d*, and connected at their outer ends by a pin or stud *h*, having a revoluble sleeve *i*, on which the slack end of the hoisting-rope C rests. These levers are connected by links *j* to the tail end *k* of the pawl E, and the weight of the slack end of the hoisting-rope therefore has a tendency to draw down the tail of the pawl and lift the pawl so as to release it from the rope and allow the weight to descend. The strength of the spring *g*, however, is such as to overcome the weight of the slack rope, so that when the slack end is released the pawl comes into action and the rope is jammed by the pawl so as to lock it.

In hoisting, the slack end of the rope is of course subjected to a strain equal to the weight to be lifted, and under such circumstances the pawl is lifted from the rope and does not interfere with the free movement of the rope in either direction. In other words, the weight can be either lifted or slowly lowered without the rope being touched by the pawl, but the moment the strain on the arms H is removed by slackening the slack end of the hoisting rope the pawl comes into play and prevents any further lowering of the weight.

In the drawings I have shown a pulley or block of the simplest form, and it is evident that other blocks or pulleys may be employed in connection therewith to give greater hoisting power, but the addition of more pulleys or blocks does not in any manner affect the operation of the invention as described.

I claim as my invention—

1. In a self-locking pulley-block, the combination of a sheave, a spring-held pawl situated over the sheave having a tailpiece, a yielding support for the slack section of the hoisting-rope, and devices to unite the said yielding support for the rope to the said tailpiece of the locking-pawl, substantially as specified.

2. In a self-locking pulley-block, the combination of a sheave over which the hoisting-rope is rove, a loosely-hung pawl having teeth on its surface next to the hoisting-rope, a spring to press the teeth of the pawl into contact with the rope, a pair of arms hung loosely on the spindle or shaft of the sheave connected at their outer ends by a pin, and links which connect the said arms with a tailpiece of the pawl, substantially as, and for the purpose specified.

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Witnesses:
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