No. 835,152. PATENTED NOV. 6, 1906.

F. W. CARTER.

AUTOMATIC SAFETY PULLEY BLOCK.

APPLICATION FILED MAR. 21, 1906.

Fig. 1.

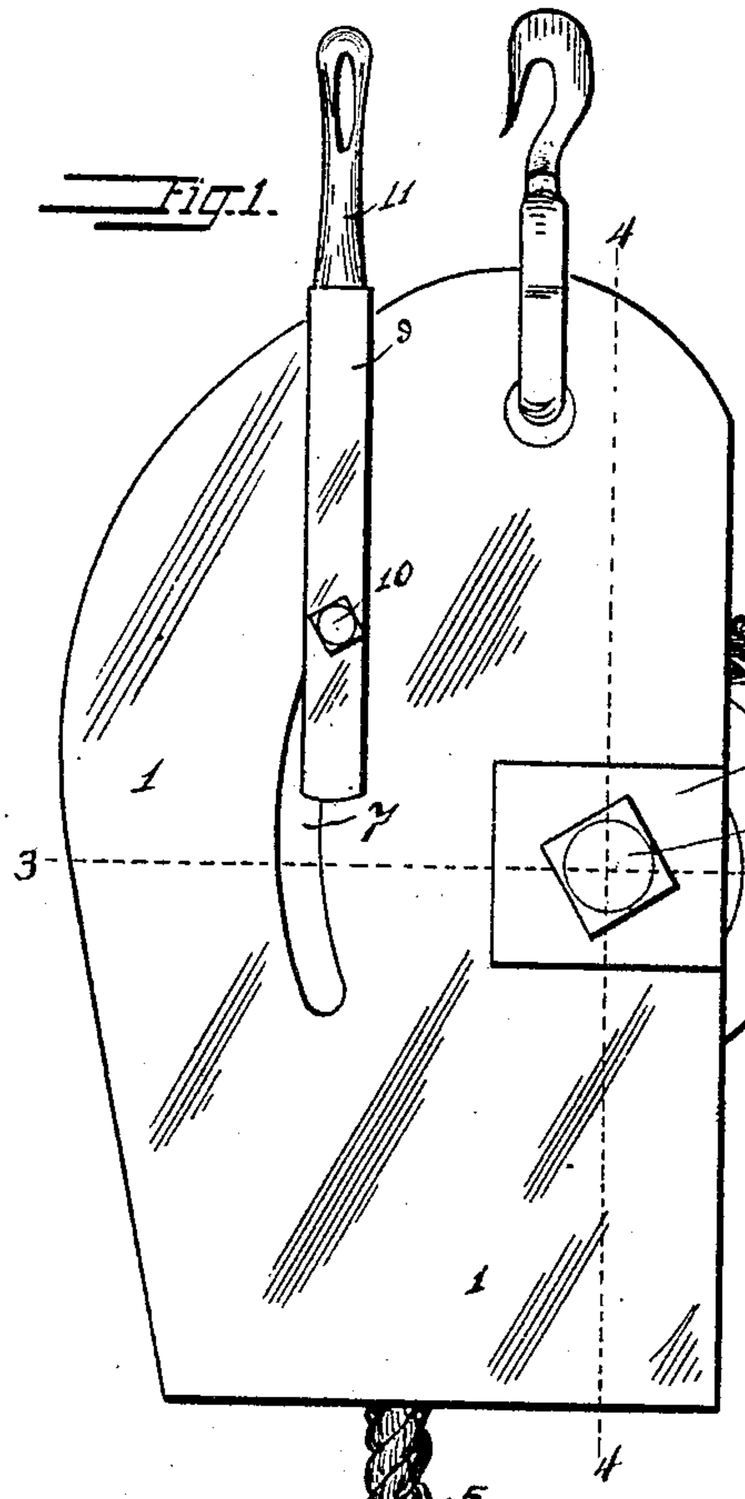


Fig. 2.

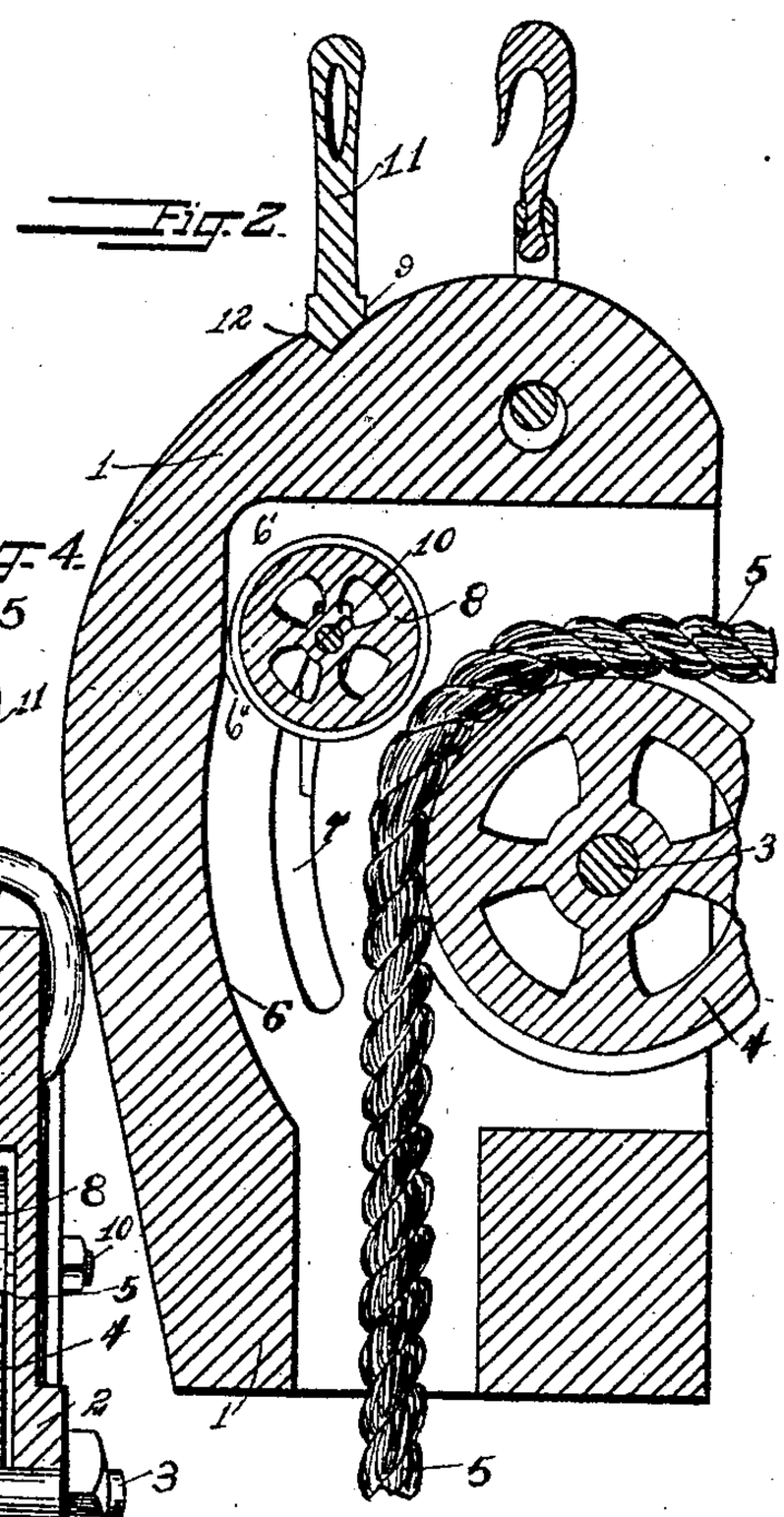


Fig. 4.

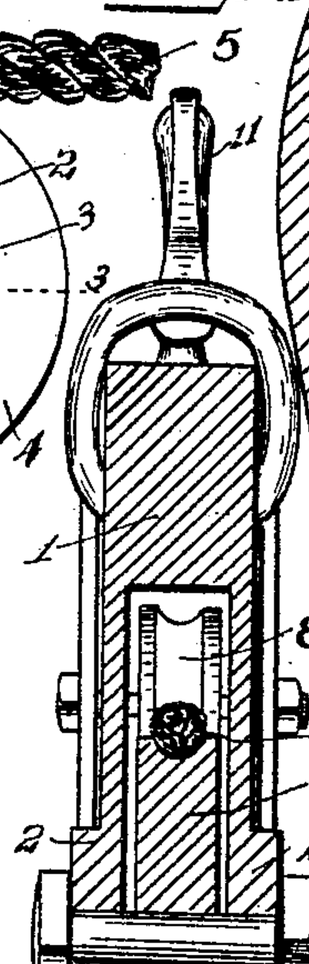


Fig. 3.

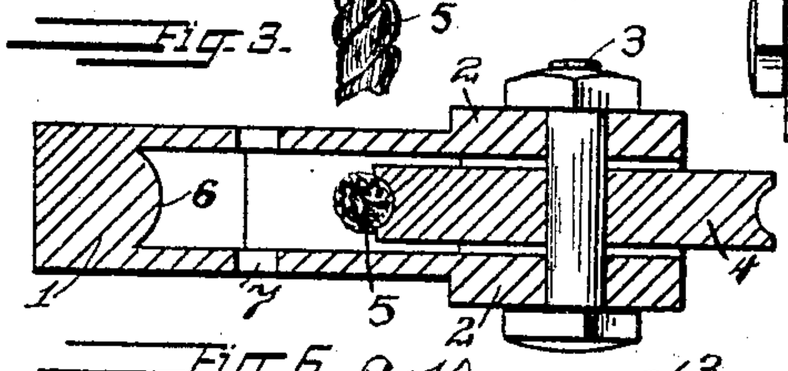


Fig. 5.

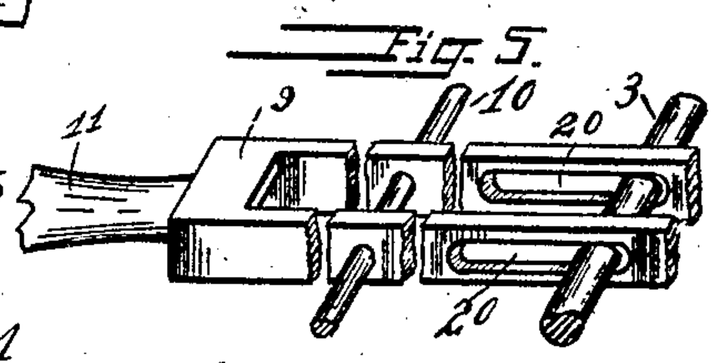


Fig. 6.

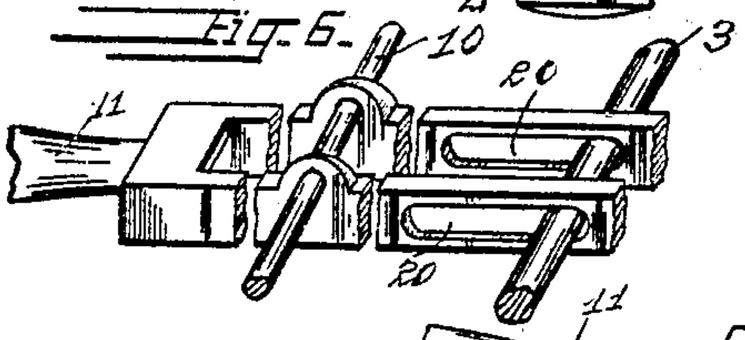
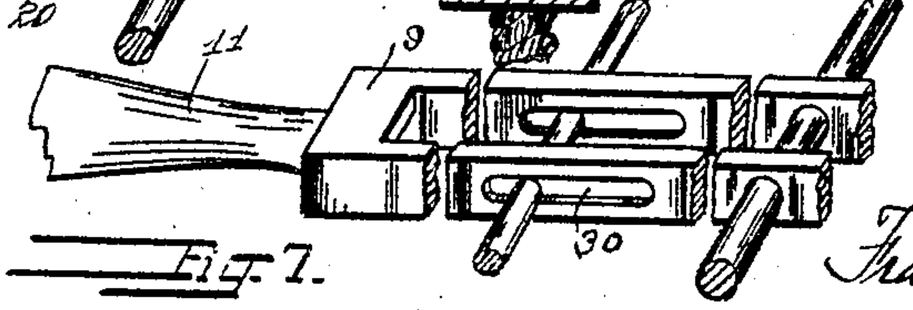


Fig. 7.



Witnesses

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UNITED STATES PATENT OFFICE.

FRANK W. CARTER, OF SAN DIEGO, CALIFORNIA.

AUTOMATIC SAFETY PULLEY-BLOCK.

No. 835,152. Specification of Letters Patent. Patented Nov. 6, 1906.

Application filed March 21, 1906. Serial No. 307,188.

To all whom it may concern:

Be it known that I, FRANK W. CARTER, a citizen of the United States, residing at San Diego, county of San Diego, and State of California, have invented certain new and useful Improvements in Automatic Safety Pulley-Blocks, of which the following is a specification.

My invention relates to automatic safety pulley-blocks.

The present invention has for its objects the provision in a pulley-block of an improved automatically-acting choke-sheave to choke or bind the cable when it tends to draw in the direction opposite to its usual draw, an improved mounting for said choke-sheave, a novel conformation of the pulley-block itself to coöperate with the choke-sheave, an improved releasing-lever for the choke-sheave, together with a catch for holding the said lever up and the choke-sheave inoperative when desired, and an improved conformation of the pulley-block to coöperate with the lever in releasing the choke-sheave.

Other objects of the invention are the provision of an automatic safety pulley-block of simple and inexpensive construction which will be reliable in action and durable.

The invention is set forth fully hereinafter and the novel features are recited in the appended claims.

In the accompanying drawings, Figure 1 is a side view; Fig. 2, a vertical section; Fig. 3, a section on line 3 3 of Fig. 1; Fig. 4, a section on line 4 4 of Fig. 1, and Figs. 5, 6, and 7 illustrate different ways in which the lifter may be fulcrumed.

The pulley-block 1 is preferably cast in a single piece, and on its sides are integral cast hubs or flashings 2, in which the bolt-axle 3 of the usual pulley or sheave 4 for the rope or cable 5 is secured. The back interior wall of the pulley-block 1 is curved at 6, so as to lie eccentrically to the pivot-bolt 3, the lower portion of said curved part 6 being nearer the pivot-bolt 3 than the upper portion thereof. This curved wall 6 is preferably convexed to fit in the groove of the choke-sheave. The wall is continued straight upwardly at 6″ and then on a curve at 6′ to constitute a pocket for the choke-sheave. In the sides of the pulley-block 1 are slots 7, whose formation is that of the wall 6 6″. The choke-sheave is shown at 8, and it preferably has a groove in its periphery to bear on the cable 5. This groove may be corrugated, milled, or perfectly smooth, the latter form being the preferred one. The lifter 9 has legs which straddle the pulley-block 1, and through these legs passes a removable bolt-axle 10, which passes through slots 7 and through the choke-sheave 8. The lifter has a handle 11, and the cross-piece of the lifter is adapted to be engaged in a catch or notch 12, formed on the pulley-block to thereby hold the lifter and the choke-sheave 8 in raised position, with the choke-sheave free from the cable 5, so that the latter may be drawn freely back and forth without being choked in any manner. The lifter 9 has sufficient weight to assist the force of gravity and the pull of the cable 5 in drawing the choke-sheave 8 downwardly to choke the cable. The bolt-axle 10 is preferably disposed in a more or less offset manner in relation to the sides of the legs of the lifter 9, so that when the choke-sheave 8 and the cable 5 become worn the lifter can be turned around and thus the strength of the bite of the sheave 8 increased.

The handle 11 may be connected to the tackle which suspends the pulley-block when it is desired to hold the choke-sheave raised, although the locking catch or notch 12 is intended to properly hold the lifter in its raised position.

To choke the downward pull of the cable and only permit it to pull outwardly, the operator releases the lifter 9 from catch 12, and on any downward pull of the cable 5 choke-sheave 8 is drawn in between the cable and the wall 6 and becomes firmly wedged, thus choking the downward pull of the cable, but permitting its outward pull. This operation can be supplemented by hand-pressure on the lifter 9. It is possible to dispense with the wall 6 and merely utilize the action of the bolt-axle 10 in connection with the slots 7 in choking the cable; but it is preferable to use both the slots and the wall 6. When it is desired to break the choke by hand, the free end of the lifter is placed on the flashings or boxings 2 and the operator lifts on the handle 11, using the flashings or boxings 2 as a fulcrum.

In Fig. 5 the legs of the lifter 9 are provided with slots 20, which straddle the ends of bolt-axle 3. In Fig. 6 a similar construction is used; but instead of the bolt-axle 10 passing through the lifter it merely rests on top of the latter. In Fig. 7 the ends of the legs of lifter 9 are directly pivoted to the bolt-axle 3, and slots 30 are provided which receive the bolt-axle 10.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an automatic safety pulley-block, the combination with a pulley-block having a pivot and provided with curved slots arranged eccentrically in relation to said pivot, of a cable-sheave mounted on said pivot, a bodily shiftable or displaceable choke-sheave adapted to bear on the cable, a lifter, a pivot for the choke-sheave which passes through the slots and is connected to the lifter, whereby the choke-sheave may shift bodily and means for holding the lifter with the choke-sheave out of choking position.

2. In an automatic safety pulley-block, the combination with a pulley-block having a cable-sheave pivot and a cam-surface disposed eccentrically to said pivot, of a cable-sheave on said pivot, a bodily shiftable or displaceable choke-sheave having means cooperating with the cam-surface, and a combined lifter and choke-breaker coöperating with said choke-sheave for shifting said choke-sheave bodily and adapted for fulcruming on the pulley-block.

3. In an automatic safety pulley-block, the combination with a pulley-block having a cable-sheave pivot and a cam-surface arranged eccentrically to said pivot and also provided with slots of corresponding contour to the cam-surface, of a cable-sheave on said pivot, a choke-sheave adapted to bear on the cam-surface and the cable, a combined lifter and choke-breaker adapted for fulcruming on the pulley-block, and a pivotal connection between the lifter and the choke-sheave, said pivotal connection passing through the slots aforesaid.

4. In an automatic safety pulley-block, the combination with a pulley-block having a cable-sheave pivot or fulcrum and provided with a cam-surface eccentrically arranged in relation to said pivot, of a lifter, a choke-sheave connected to said lifter and adapted to be wedged or crowded against the cable by the cam-surface, and a catch for holding the lifter raised with the choke-sheave out of operative contact with the cable.

5. In an automatic safety pulley-block, the combination with a pulley-block having a cable-sheave pivot or fulcrum and provided with a cam-surface arranged eccentrically to said pivot or fulcrum, of a lifter having legs which straddle the pulley-block and which is provided with a handle, a choke-sheave connected to and lying between the legs of the lifter and adapted to be wedged or urged against the cable by the cam-surface aforesaid, and a catch on the pulley-block to engage the lifter and hold it and the choke-sheave raised with the latter out of operative contact with the cable.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

FRANK W. CARTER.

Witnesses:
R. Fred. Blemkenburg,
Alice G. Norris.