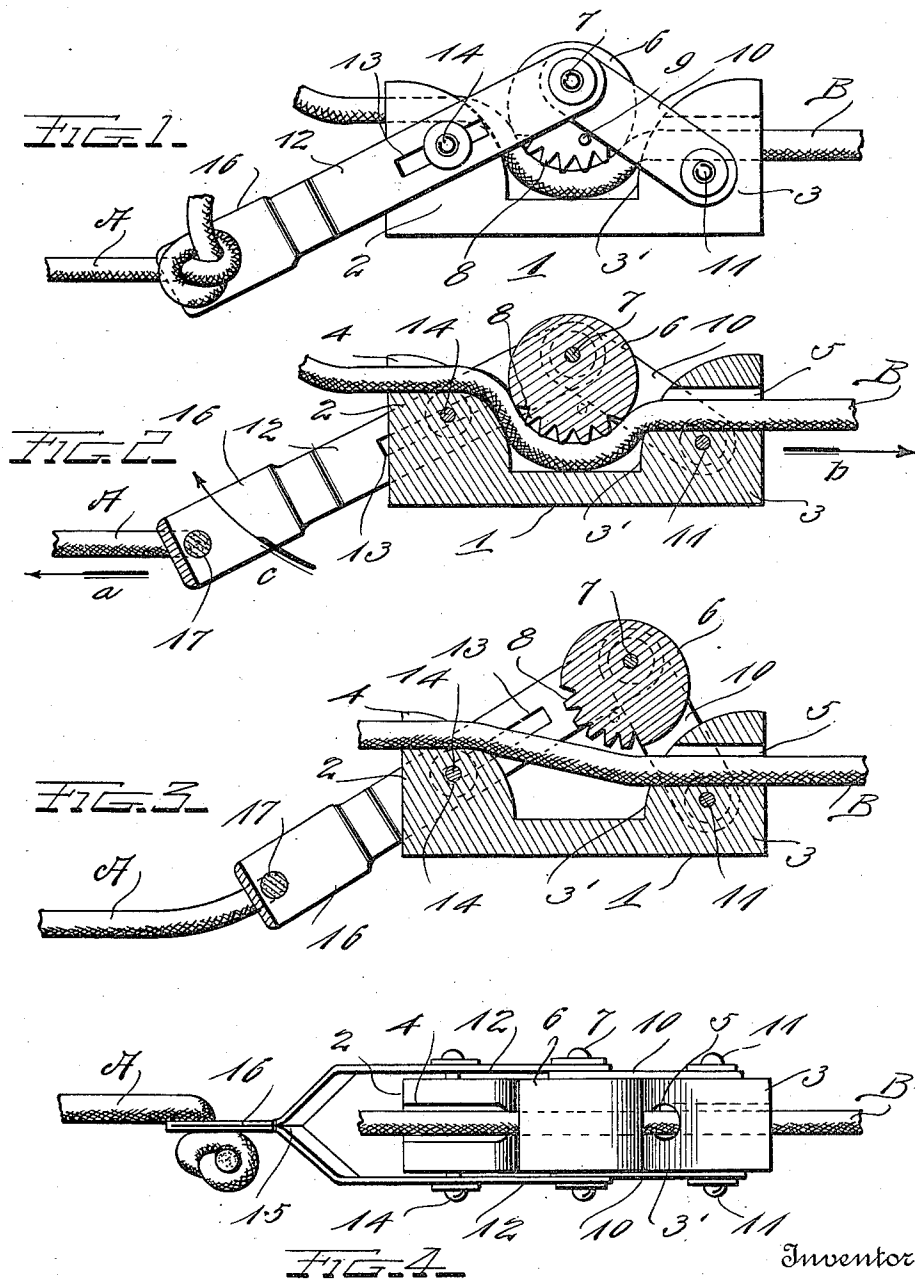


R. J. KIMLIN.
ROPE CLAMP.
APPLICATION FILED FEB. 8, 1912.

1,063,354.

Patented June 3, 1913.



Witnesses
J. R. Pierce

N. Hollander

R. J. Kimlin

by

J. Nathan Eisenberg Jr.
Attorney

UNITED STATES PATENT OFFICE.

ROBERT J. KIMLIN, OF POUGHKEEPSIE, NEW YORK.

ROPE-CLAMP.

1,063,354.

Specification of Letters Patent.

Patented June 3, 1913.

Application filed February 8, 1912. Serial No. 676,219.

To all whom it may concern:

Be it known that I, ROBERT J. KIMLIN, a citizen of the United States, residing at Poughkeepsie, in the county of Dutchess and State of New York, have invented certain new and useful Improvements in Rope-Clamps, of which the following is a specification.

This invention relates to the class of cord and rope holders, and more especially to those which have a pivoted part including a lever by means of which tension is applied to the rope; and the object of the same is to produce a rope clamp of this general character which in the ordinary position of parts may be moved freely both ways over the rope without clamping the same, and which can be manually adjusted at any time and at any point on the rope so that thereafter the tension of the clamp is automatically applied. This object is carried out by the construction hereinafter more fully described and claimed, and as shown in the drawings wherein—

Figure 1 is a side elevation, and Fig. 2 a central longitudinal section of this device with its parts in the clamping position. Fig. 3 is a central longitudinal section of the device with the parts in their open position in which the grip on the rope is released and the clamp may be moved freely either way thereon. Fig. 4 is a plan view of the device in the position of parts shown in Fig. 1.

In the drawings I have shown two ropes A and B, and the clamp attached to the former and running on the latter, these ropes being horizontal and parallel and the clamp being purposely illustrated with the cam at the top.

The principal feature of this invention lies in the fact that the clamp of my invention may be moved freely in either direction along what might be called the "fixed" rope B, and a draft or pull on the other or "tension" rope A will not actuate the parts of the clamp to bite the fixed rope B unless they have first been set manually.

The numeral 1 designates what might be called a body having lugs 2 and 3 upstanding from its ends, the former provided over its top with a groove 4 and the latter provided with a longitudinal hole 5, and the rope B strung through this hole, under the cam yet to be described, and over the groove 4. Said cam 6 is preferably in the form of a small roller pivoted at 7 off its center with-

in a double toggle-lever, the high side of the cam (here shown at the bottom) being roughened or toothed as at 8 and its extremities provided with pins 9 for a purpose to appear. Said toggle lever is made double so as to pass along both sides of the body and the cam as best seen in Fig. 4, and one member thereof comprises a pair of links 10 pivoted at 11 in the lug 3 and standing astride the same and astride the cam 6; while the other member of the toggle lever comprises a pair of longer links 12 having slots 13 in their bodies mounted slidably on a cross pin 14 in the lug 2, having their inner ends lapping the inner ends of the links 10 and mounted on the said pivot 7 through the cam, and having their outer ends joined as at 15 and projected as at 16 into the shank of a yoke which is pierced with an eye 17 for reception of the rope A or any rope fastening device. The parts are proportioned about as shown, and the links and pivots are of metal while the body and cam may well be of wood.

The free rope B is strung through the hole 5, under the cam 6, and over the groove 4, and the tension rope A is engaged with the eye 17. When the intermediate pivot 7 is thrown upward by manually lifting the cam 6 as seen in Fig. 3, the clamp stands in what I call its "open" position and may be moved freely along the fixed rope B in either direction, the parts now standing in such position that a gentle pull on the rope A (perhaps due to its weight) tending to turn the links 12 on their pivots 13, is resisted by the fact that their inner ends at the point 7 are held supported by the links 10 on which the thrust is nearly longitudinal. Thus there is quite a little resistance to the movement of the toggles, or in any event there is sufficient resistance to overcome such a gentle pull on the rope A as would not throw the parts to their "closed" position. If there be tension on the rope A at this time, the operator will be forced to grab the rope or the shank 16 and overcome the tension if he desires to move the clamp to the right; on the other hand if he desires that the clamp be moved to the left, all he has to do is to let go of it and tension on the rope A will pull it along the rope B. Assuming, however, that he has moved the clamp to the point where he desires it to engage the fixed rope B; he now depresses the intermediate pivot 7 by pushing downward

on the cam 6 so that the latter assumes the position shown in Figs. 1 and 2, and the rope is clamped between the high face of the cam 6 and the rounded face 3' of the lug 3. Immediately there is set up a certain resistance to the movement of the device to the left so that in effect the rope B is drawing in the direction of the arrow *b* in Fig. 2 which is opposed to the tension on the rope A that is in the direction of the arrow *a* in that view, and the result is that the entire yoke has a tendency to slip downward along its slots 13 and to swing upward at its outer end as indicated by the arrow *c* so that the intermediate pivot 7 is pushed downward within the space between the two lugs. This throws the active face of the cam 6 yet more firmly toward the base or body 1, and bites the teeth 8 into the rope if teeth are employed; and further tension on the rope A will but cause the clamp to still more tightly engage the rope B. The obvious purpose of the pins 9 is to cause the active face of the cam 6 to be presented always toward the body 1 and the rounded face of the lug 3, and this pin must have a little movement along the lower edges of the links 10 and 12 as will be clear. It frequently occurs that, after a rope clamp has been engaged with the rope as just described, occasion arises necessitating its adjustment thereon. With the parts standing as shown in Fig. 2, if it be desired to move the clamp farther to the right along the rope B, all that is necessary is to overcome the tension on the rope A as by pulling it by one hand and to grasp the body of the clamp with the other hand and move it along the rope B, and then when both ropes are released the parts will resume the position shown in this view and the clamp will engage the rope B at a point farther to the right. If under the same conditions it is desired to set the clamp farther to the left on the rope B, the operator will overcome the tension of the rope A with one hand and simultaneously elevate the intermediate pivot 7 by lifting the cam 6 with the other hand, then move the entire device to the left and let go with the left hand and meanwhile depress the cam 6 so that the parts resume the position shown in Fig. 2; after which the tension on the rope A will hold them in this position and the tension on the rope B in the opposite direction will draw the cam against the curved face of the lug 3 as above described.

Thus it will be seen that I have produced a rope clamp in which the biting or gripping action of the cam upon the lug is occasioned by the tension on the lever, but in which the links of the latter may be so set that the gripping action is nullified and the tension will not restore it automatically.

What is claimed as new is:

65 1. In a rope clamp, the combination with

a body having upstanding lugs at its extremities; of a toggle lever comprising two pivotally connected links whereof one link is longitudinally slotted, a pivot connecting the other link with one lug, a pin in the opposite lug engaging said slot, and a cam pivoted off its center on the intermediate pivot of the toggle and having its high face adapted to coact with the face of one lug.

2. In a rope clamp, the combination with a body having upstanding lugs at its extremities, one of them being pierced with a longitudinal hole; of a toggle lever comprising two pivotally connected links whereof one link is longitudinally slotted, a pivot connecting the other link with the perforated lug, a pin in the opposite lug engaging said slot, and a roller on the intermediate pivot of the toggle and adapted to be moved toward the body between said lugs as the toggle is straightened out or to be raised away from said body and lugs by the rope which passes under said roller.

3. In a rope clamp, the combination with a body having upstanding spaced lugs, one of them being pierced with a longitudinal hole and the other grooved for the passage of a rope; of a two-link toggle lever at each side of said body, a single pin forming the intermediate pivots for both levers, the outer end of one link of each lever being pivoted to one lug and the other links being provided with longitudinal slots, a pin through the opposite lug and on which said slots are slidably mounted, the outer ends of these links being connected, a rope attached to such ends, and a roller on the intermediate pivot pin and drawn toward said lugs when tension is applied to said rope.

4. In a rope clamp, the combination with a body having upstanding lugs at its extremities, one of them being pierced with a longitudinal hole; of a double toggle lever comprising two pairs of links and an intermediate pivot pin connecting them, one pair being pivoted to one lug and the other pair longitudinally slotted, a pin through the opposite lug engaging said slots, a cam pivoted on said intermediate pivot pin and adapted to coact with the face of the perforate lug, and pins in the extremities of the cam projecting under the lower edges of said links.

5. In a rope clamp, the combination with a body having upstanding lugs at its extremities provided with openings for the passage of the rope; of a double toggle lever comprising two pairs of links and an intermediate pivot pin connecting them, one pair being pivoted to one lug and the other pair being longitudinally slotted where they pass astride the opposite lug and connected at their outer ends, a rope attached to such connected ends, a pin through the last-

named lug engaging said slots, a cam pivoted off its center on the intermediate pivot pin of the toggles and having its high face adapted to coact with the face of one lug
5 when said rope is put under tension, and a pin in the extremity of the cam projecting under the lower edges of certain of said links.

In testimony whereof I have hereunto set my hand in presence of two subscribing 10 witnesses.

ROBERT J. KIMLIN.

Witnesses:

C. W. H. ARNOLD,
JOSEPH C. ALVERSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."