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CABLE LOCK

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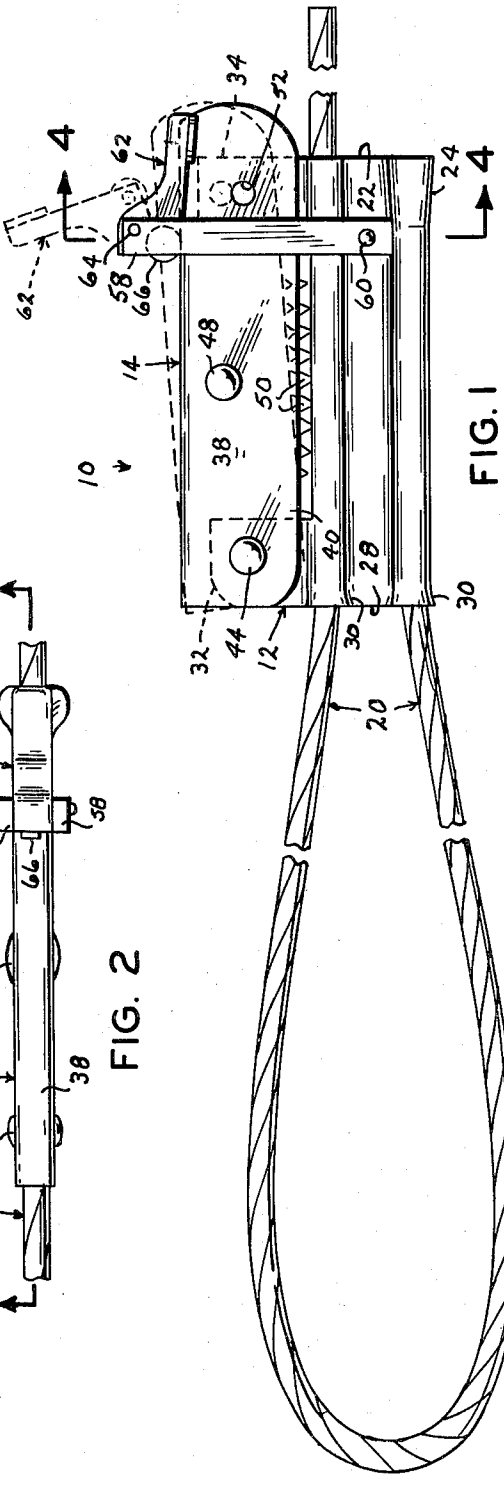


FIG. 1

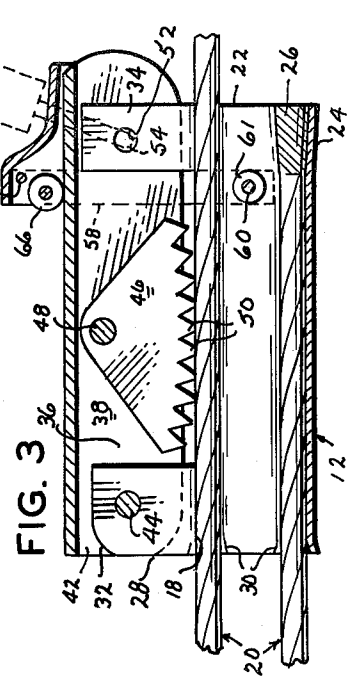


FIG. 3

FIG. 2

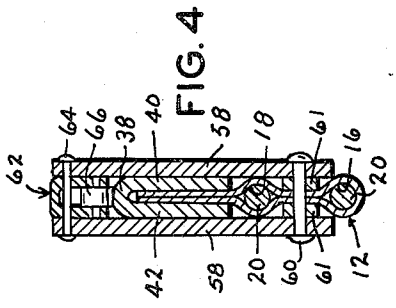


FIG. 4

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CABLE LOCK

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6 Claims. (Cl. 24—134)

The present invention relates to sporting goods and more particularly to a cable lock for mooring boats or securing a motor to a boat or the like.

The principal object of the instant invention is to provide a locking means for mooring a boat to a dock or for locking a motor to a boat.

Another object is to provide a relatively small locking member wherein a cable may be removably secured to the locking member.

Another object is to provide a locking device which adjustably secures a cable wherein a pull or strain on the removable end of the cable grips the cable more firmly.

A further object is to provide a cable lock having toggle linkage for easily releasing the cable.

Still another object is to provide a cable lock wherein the materials used are case hardened and which, therefore, can not be easily cut, as by the use of a hacksaw.

A still further object is to provide a cable locking device of simple construction formed of relatively few parts which may be manufactured and sold at a relatively low cost.

Yet another object is to provide a cable lock of this class wherein all parts are secured together with the exception of a conventional lock thereby eliminating any parts which may become misplaced or lost.

The present invention accomplishes these and other objects by providing a body member adapted to have one end of a cable secured therein and wherein the opposing free end of the cable is slidably received by an aperture in the body and firmly gripped by a lever and eccentric member pivoted toward an exposed portion of the free end of the cable.

Other objects will be apparent from the following description when taken in conjunction with the accompanying single sheet of drawings, wherein:

FIGURE 1 is a side elevational view of the device, illustrating, by dotted lines, the manner of releasing the free end of the cable;

FIGURE 2 is a top plan view of the device illustrating a fragment of the associated cable;

FIGURE 3 is a vertical cross-sectional view taken substantially along the line 3—3 of FIG. 2; and,

FIGURE 4 is a vertical cross-sectional view taken substantially along the line 4—4 of FIG. 1.

Like characters of reference designate like parts in those figures of the drawings in which they occur.

In the drawings:

The reference numeral 10 indicates the device, as a whole, comprising a housing or body 12 and clamping means 14. The housing 12 is substantially rectangular in side elevational view and preferably comprises a relatively thin walled case hardened sheet of metallic material, doubled back upon itself, and spot-welded together to form a pair of parallel spaced-apart openings or apertures 16 and 18, substantially circular in cross-section, and extending longitudinally through the housing for respectively receiving the opposing end portions of a flexible cable 20 of selected length. Adjacent the rearward end 22 of the device, the wall of the housing, defining the rearward end of the aperture 16, is tapered or beveled, approximately 7°, forwardly of the rearward end, as at 24, to provide an enlarged area for babbitting the cable strands to secure the latter; this babbitted area is

shown in cross-section as at 26 in FIG. 3. Adjacent the forward end 28 of the device, the wall of the housing surrounding the forward ends of the apertures 16 and 18 are each flared outwardly, as at 30, to prevent the forward end edge surface of the housing wall damaging the individual strands of the cable when in use. The housing material is extended laterally of the aperture 18 adjacent each end of the housing to form forward and rearward parallel arms 32 and 34, respectively, which define a recess 36 therebetween in the housing which opens to the aperture 18 and exposes the adjacent side of the free end portion of the cable 20 slidably received within the aperture 18.

The clamp means 14 comprises a lever member 38 of slightly greater length than the housing 12 and substantially U-shaped in cross-section with its legs 40 and 42 positioned on opposing sides of the arms 32 and 34. The lever 38 is pivotally connected at one end to the arm 32 by a rivet 44 transversely extended therethrough. A clamp member 46 is pivotally connected to the lever 38, intermediate its ends, by a pin 48. The clamp member 46 has one convex surface, opposite the pin 48, disposed toward the cable 20 and positioned within the aperture 18, for contacting the cable when the lever is pivoted toward the housing. The convex surface of the clamp member is provided with a plurality of teeth 50 which engage and grip the cable. The clamp member 46 is eccentrically mounted in that the convex tooth edged surface is formed on a large radius, for example, approximately four inches while the distance between the teeth medial the arc of the convex surface and the pin 48 is substantially less than four inches thereby causing the teeth to prevent longitudinal movement of the free end portion of the cable 20 through the aperture 18 in either direction as long as the lever 38 is positioned adjacent the cable. The lever is held in clamp engaging position with respect to the cable by line drilling an aperture 52 through the lever legs 40, 42 and the arm 34 whereby the shackle or bow 54 of the lock 56 may be inserted therethrough thus insuring that the free end portion of the cable will be maintained within the housing aperture 18 in a selected position.

With a strain on the cable 20, it is difficult to remove the shackle 54 from the apertures 52 and some means must be provided for forcing the lever 38 toward the housing to align the apertures 52. A pair of toggle links 58 are connected at one end to opposing sides of the housing 12 between the apertures 16 and 18 by a pin 60 and suitable spacers 61. The toggle links 58 extend outwardly beyond the bight portion of the lever 38 for receiving a toggle lever 62, substantially U-shaped in cross-section, which is pivotally connected by a transverse pin 64 to the toggle links. A roller 66 is positioned within the lever 62 and off-set with respect to the pin 64 so that the roller contacts the outer surface of the bight portion of the lever 38 and forces the latter toward the housing 12 when the toggle lever 62 is pivoted toward the lever 38. The off-set distance between the axes of the pin 64 and the roller 66 maintains the toggle lever 62 "locked" against the lever 38 until manually released by raising the free end of the toggle lever.

Operation

In operation one end of the cable 20 is secured within the aperture 16, as disclosed hereinabove, and the cable is looped around the desired article or articles and then the free end portion of the cable is slidably positioned within the aperture 18. The lever 38 is manually forced toward the housing for forcing the teeth 50 into contacting relation with the cable 20. This is accomplished by pivoting the toggle lever 62 from the dotted line po-

sition to the solid line position (FIG. 1) wherein the apertures **52** are aligned for receiving the shackle **54** of the lock **56**.

Obviously the invention is susceptible to some change or alteration without defeating its practicability, and I therefore do not wish to be confined to the preferred embodiment shown in the drawings and described herein, further than I am limited by the scope of the appended claims.

I claim:

1. A cable lock, comprising: a thin walled body doubled back upon itself to form a pair of spaced-apart cable receiving apertures and a pair of arms extending laterally of one said aperture defining a recess in communication with one said aperture, the other said aperture being enlarged adjacent one end of said body for anchoring a cable end; a cable secured at one end portion in the aperture having the enlarged end and slidably received by its opposite free end portion through the other said aperture; a lever member pivotally connected at one end to one of said arms and releasably connected at its other end to the other one of said arms; and a clamp member pivotally connected to said lever intermediate its ends, said clamp member having a convex surface formed on a radius substantially greater than the radial distance between the pivotal connection of said clamp member and the medial portion of the convex surface and engageable with that portion of said cable between said arms for preventing movement of the latter in either direction through said body when said lever is pivoted toward said body.

2. A cable lock, comprising: a body member having a pair of parallel longitudinally extending cable receiving apertures open to its forward and rearward ends, said body having a tapered cable securing wall forming the rearward end portion of one said aperture, said body having a laterally projecting arm adjacent its forward and rearward ends, respectively, forming a recess therebetween in communication with one said cable receiving aperture; a flexible cable having one end portion extending rearwardly through the aperture opposite the recess and secured within said tapered cable securing wall and having its other end portion slidably received by the other said aperture; a lever pivotally connected at one end to the arm adjacent the forward end of said body; an eccentric clamp member pivotally connected to said lever, said clamp member having a convex surface, formed on a radius substantially greater than the radial distance between the pivotal connection of said clamp member and the adjacent surface of said cable when said lever is positioned parallel with the axis of the aperture open to the recess in said body, engageable with the free end portion of said cable; and clamp means surrounding the free end portion of said lever and holding said convex surface in contact with said cable.

3. A cable lock, comprising: a thin walled body member doubled back upon itself to form a pair of parallel open ended spaced-apart cable receiving apertures and a pair of laterally extending arms defining a recess in the body therebetween in communication with one of the apertures; an elongated flexible cable having one end portion secured to said body within said aperture opposite the recess and having its opposite free end portion slidably received by the other said aperture; an elongated

U-shaped lever enveloping and pivotally connected at one end portion to one said arm, said lever extending beyond the other said arm on opposing sides thereof; a clamp member within and pivotally connected to said lever, said clamp member having a toothed convex surface, formed on a radius substantially greater than the distance between the pivotal connection of said clamp member with said lever and the adjacent surface of said cable when said lever is positioned parallel with the axis of the aperture open to the recess in said body, removably contacting said cable within the aperture in communication with the recess; and toggle means connected with said body and engageable with the free end portion of said lever for holding the latter pivoted toward said body and maintaining the teeth of said clamp member in contact with said cable.

4. Structure as specified in claim 3 in which said means includes a pair of links secured to opposing sides of said body adjacent the free end of said lever; and a toggle lever connected with the free end portions of said links and contacting the free end portion of said lever for forcing the latter toward said body.

5. A cable lock, comprising: a housing having a pair of parallel open ended apertures extending therethrough, said housing having a recess in communication with one said aperture, said recess defined by a pair of parallel arms extending laterally of the housing adjacent its respective ends; a cable having one of its end portions secured within the aperture opposite the recess and having its opposite free end portion slidably received within the other said aperture; a lever, U-shaped in cross-section, enveloping and pivotally connected by one end portion to one said arm and extending beyond the other said arm on opposing sides thereof, the free end portion of said lever having a transverse pin receiving aperture co-operatively positioned with respect to a transverse aperture formed in the adjacent said arm; and a jaw member pivotally mounted intermediate the ends and between the walls forming the U-shaped lever and adjacent the bight thereof, said jaw member having a convex toothed surface, formed on a radius substantially greater than the distance between the pivotal connection of said jaw member and the free edges of the walls forming the U-shaped lever, engageable with the free end portion of said cable when said lever is pivoted toward said housing.

6. Structure as specified in claim 5 and toggle means for forcing the toothed surface of said jaw member into engagement with said cable, said toggle means including a pair of links secured to opposing sides of said housing adjacent the cable connected end and projecting laterally beyond said lever on opposing sides thereof, and a toggle lever pivotally connected between the free end portions of said links and frictionally contacting the outer surface of the bight portion of said U-shaped lever.

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