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C. PETRIE.

CABLE CUTTING DEVICE.

APPLICATION FILED MAY 2, 1906.

Fig. 1.

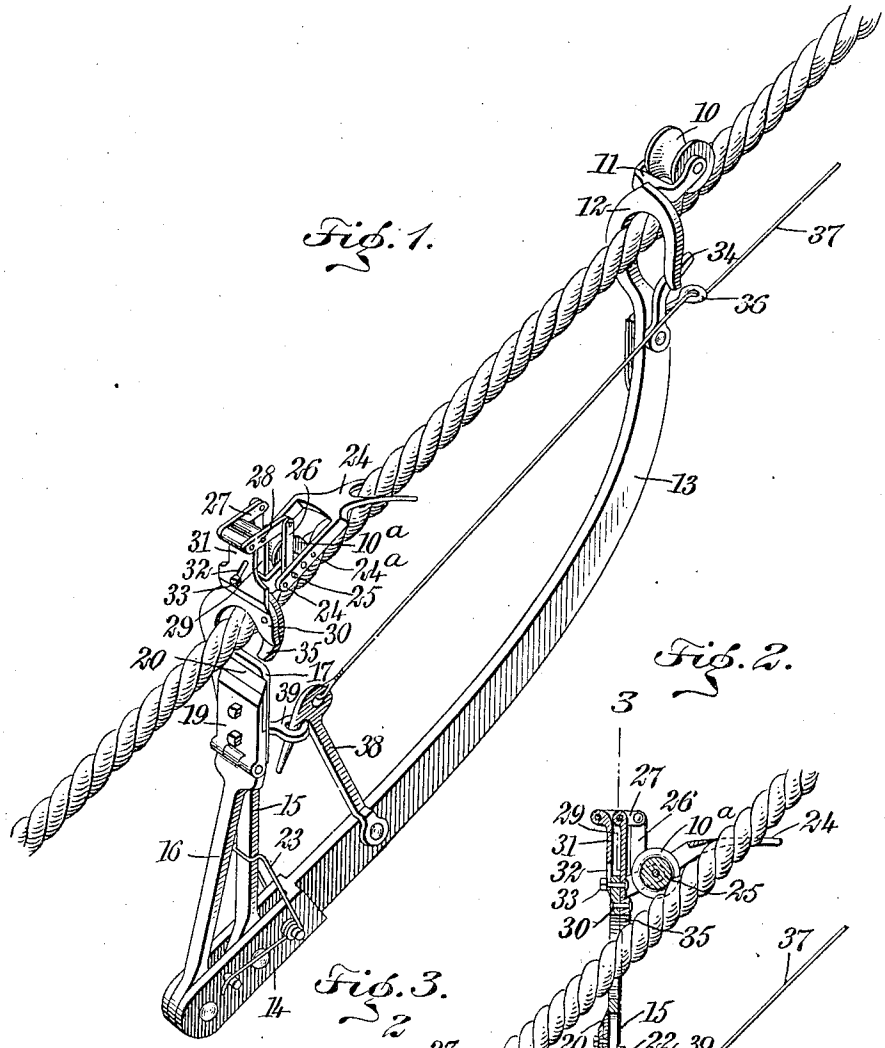
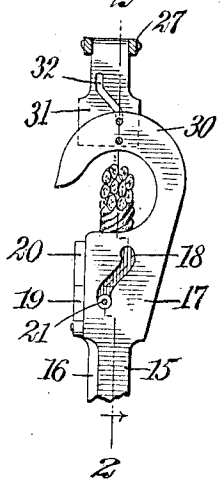


Fig. 2.

Fig. 3.



WITNESSES:

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CABLE-CUTTING DEVICE.

No. 843,359. Specification of Letters Patent. Patented Feb. 5, 1907.

Application filed May 2, 1906. Serial No. 314,848.

To all whom it may concern:

Be it known that I, CHARLES PETRIE, a subject of the King of Great Britain, and a resident of St. John's, Newfoundland, have invented a new and Improved Cable-Cutting Device, of which the following is a full, clear, and exact description.

My invention relates to a device for cutting cables and the like, the principal objects thereof being to increase the efficiency of operation of instruments of this character and to provide for certain adjustments and other improvements which will be described below.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view showing my invention in operation. Fig. 2 is a longitudinal sectional view of a portion of the same on the line 2 2 of Fig. 3, and Fig. 3 is a section on the line 3 3 of Fig. 2.

Instruments of this character constructed in accordance with a previous invention which I have made are provided with a pair of rollers, upon which a frame is supported, the rollers being adapted to pass down the cable, and a cord is attached to the instrument, which when pulled from above forces a pair of levers carrying a knife-blade into engagement with the cable in such a manner as to sever the cable. My present improvements are founded upon this general construction.

In the drawings I have represented a pair of rollers 10 and 10^a, adapted to run on a cable, the roller 10 being mounted in bearings on a fork 11, which is attached to a hook 12, passing over the cable, this hook constituting the upper end of the main frame 13 of the device. This frame carries a fork 14 at its lower end, in which are pivotally mounted two links 15 and 16. These two links are pivoted at some distance apart at their lower ends, and one of them carries a bearing-plate 17, having a sinuous passage 18 therethrough, while the other carries a plate 19, hinged to the link, and on this plate is removably mounted a knife-blade 20. A screw or bolt 21 passes through the plate 19 and engages a nut or locking-plate 22 on the upper side of the plate 17, whereby the swinging of the two links on their pivots will cause a relative motion between the knife-blade and the plate 17, this motion being directed by the passage of the bolt 21 along the slot 18. As this slot is preferably curved, the knife will have two motions, one in a forward direction and the other a sidewise motion in substantially the direction of its edge, and this provides for an efficient severing of the cable. The blades are normally urged into a non-cutting position by a spring or springs 23.

The parts so far described would operate to cut a cable, means being provided for pulling the frame 13 upwardly along the cable after it has been allowed to slide as far down as may be desired. The upward pull will cause a fork 24, connected with the plate 17, to engage the cable, as is indicated in Fig. 2, and result in the simultaneous swinging of the links 15 and 16 in a rearward direction to force the knife-blade against the cable. A more efficient operation, however, is obtained by the use of a second blade. For this purpose I have provided the following mechanism. The fork 24 is provided with a series of perforations 24^a, any pair of which may receive a shaft 25, on which a roller 10^a turns. Connected with the shaft 25 is a link 26, which extends upwardly and is pivoted to a lever 27, pivoted on a shaft 28, which has bearings in an extension 29 on a hook 30, which constitutes a part of the plate 17, the parts 29, 30, and 17 being rigidly mounted with respect to each other. The outer end of the lever 27 is pivotally connected with a knife-blade 31, which extends along the surface of the hook 30 and is adapted to assist in cutting the cable. The blade 31 is provided with a curved slot 32, through which a bolt 33 passes and which guides this blade in the same manner as the other blade is guided by the slot 18. It will be seen that when the fork 24 engages the cable, as is indicated in Fig. 2, and the frame 13 is pulled upwardly the result will be, through the operation of the links and levers connected with the fork, to force the knife-blade 31 down while the blade 20 is being forced up. The cable is then acted upon in both directions and the cutting operation greatly facilitated. On account of the plurality of perforations 24^a the extent of travel of the blade 31 can be regulated.

In order to hold the cable in the hooks 12 and 30, they are provided with retainers 34 and 35, respectively. Each of these retainers is pivoted on a stationary part of the frame or hook and can be moved out of the way and so manipulated as to assist in placing the cable in the hook and to thereafter

hold the cable in position therein until it is severed. The retainer 34 is provided with an eye 36, through which a cord 37 passes for manipulating a hook 38, pivoted on the frame 13. This hook passes through an eye 39 on the plate 17 to normally hold the parts in the position shown in Fig. 1 while the device is traveling on the cable. When the instrument is to be manipulated to cut the cable, the cord 37 is pulled to release the hook from the eye and accomplish the other results which have been above specified.

It will be observed that this apparatus can be used for cutting not only ships' cables, but all kinds of cables and ropes, being operable from a distance. In operation the carriage constituted by the frame 13 and the rollers connected therewith is applied to the cable, the hooks being passed over it and the retainers afterward put in place. The operation of the cord 37 to start the cutting operation has been above described.

Having thus described my invention, I claim—

1. A cable-cutting device, comprising a knife, a bearing-plate on which the knife moves, said bearing-plate having a hook for engaging the cable and coöperating with the knife, means for fixing the knife and the bearing-plate with respect to each other, means for moving the knife and the plate with respect to each other, and means in connection with said moving means for releasing the fixing means.

2. A cable-cutting device comprising a carriage adapted to slide along a cable, a pair of links pivotally mounted on the carriage near the lower end thereof, a knife-blade carried by one link, a bearing-plate carried by the other link and having a curved slot, a bolt passing through the curved slot and slidable therein, said bolt being fixed with respect to said blade, and means for normally retaining said links in inoperative position and means for releasing said retaining means.

3. A cable-cutting device comprising a carriage adapted to slide along a cable, a pair of links pivotally mounted on the carriage near the lower end thereof, a knife-blade carried by one link, a bearing-plate carried by the other link and having a curved slot, a bolt passing through the curved slot and slidable therein, said bolt being fixed with respect to said blade, means for normally retaining said links in operative position, said means comprising an eye connected with one of said links and a hook pivotally mounted on the carriage and adapted to pass through said eye, and means for disengaging the hook from the eye.

4. A cable-cutting device comprising a frame adapted to be supported by a cable, a pair of links pivoted to said frame, a plate connected with one link, a knife-blade removably mounted on said plate, a bearing-plate connected with the other link and having a curved slot, a bolt or screw passing through said slot and slidable therein and secured to the plate on the other link, and a second blade mounted opposite the first blade and movable toward it.

5. A cable-cutting device comprising two blades, means for guiding a cable between them, means for simultaneously forcing said blades toward each other, and means for guiding said blades to move sidewise as well as longitudinally to produce a sliding cut.

6. A cable-cutting device comprising a pair of plates, each having a sinuous slot, a blade mounted on each plate adjacent to said slots, and means for guiding said blades to move in a path corresponding to the curves of said slots.

7. A cable-cutting device comprising a hook for passing over a cable, a roller for running on the cable, a fork pivotally mounted on the axle of said roller, and means whereby the position of the fork with respect to said axle can be adjusted.

8. A cable-cutting device comprising a roller adapted to run on a cable, a fork pivoted on the axle of said roller, a link connected with said fork in adjusted positions, a lever connected with said link, and a knife-blade operated by said lever.

9. A cable-cutting device, comprising a frame, a pair of links pivoted thereto, one of said links having a bearing-plate and a hook for engaging the cable, a knife hinged to the other plate and movable on the bearing-plate, an eye on the bearing-plate, a hook on the frame normally engaging the eye whereby to prevent movement of the links with respect to each other, and means for releasing the hook.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES PETRIE.

Witnesses:

HERBERT KNIGHT,

ARTHUR GEO. HEATH.