April 19, 1932. B. C. HARVEY ET AL 1,855,049

LINE TIGHTENER

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Fig. 1.

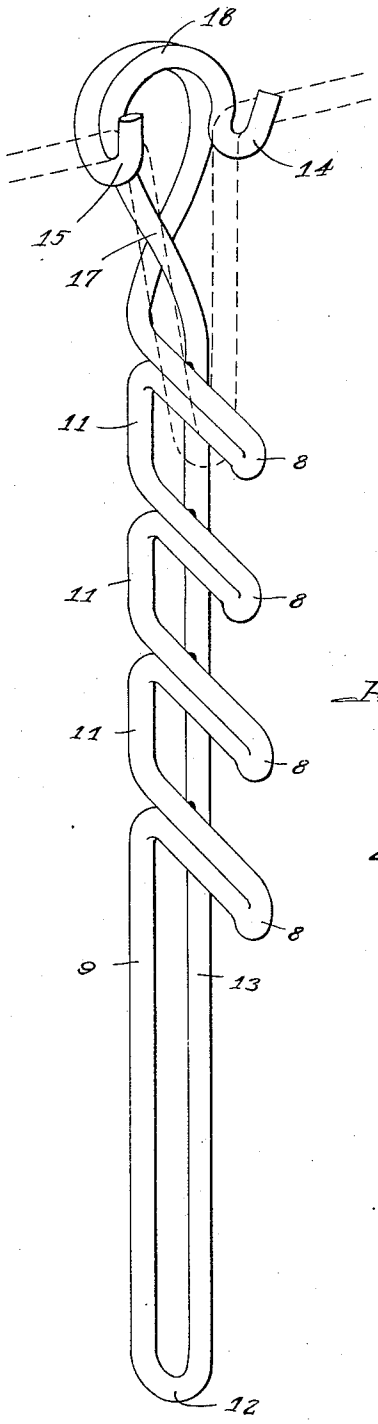

Fig. 2.

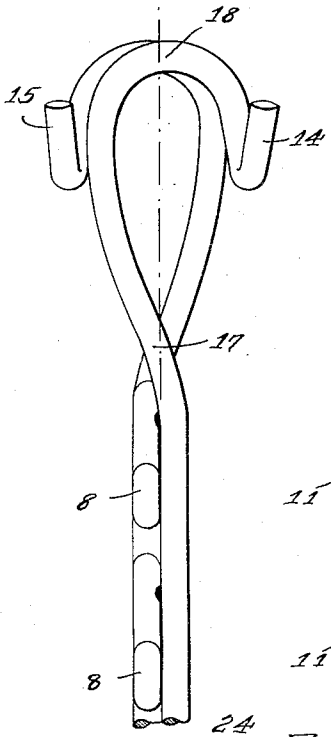

Fig. 3.

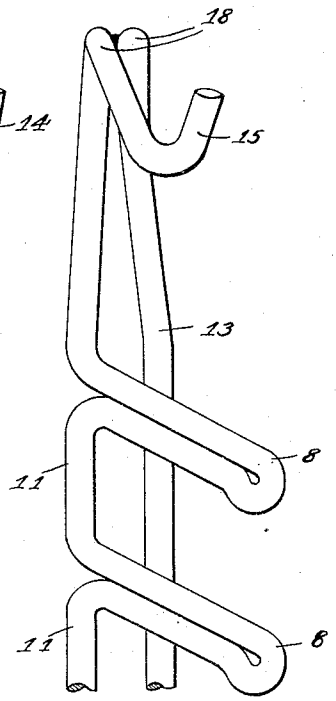

Fig. 4.

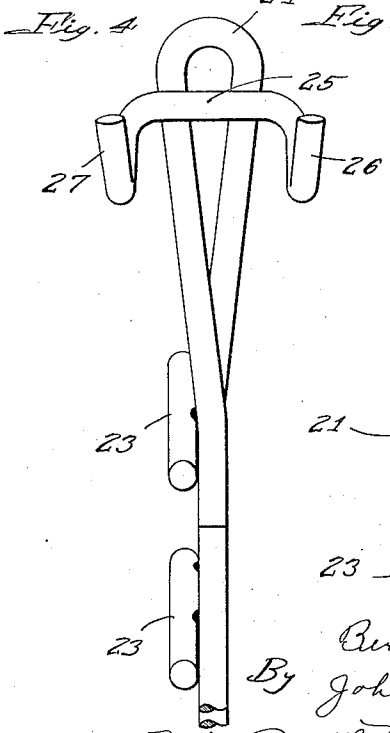

Fig. 5.

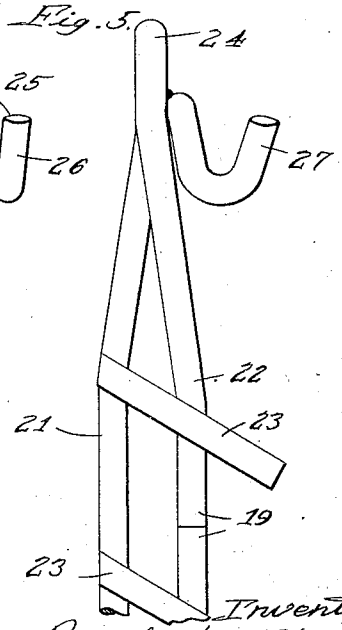

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Fig. 6.

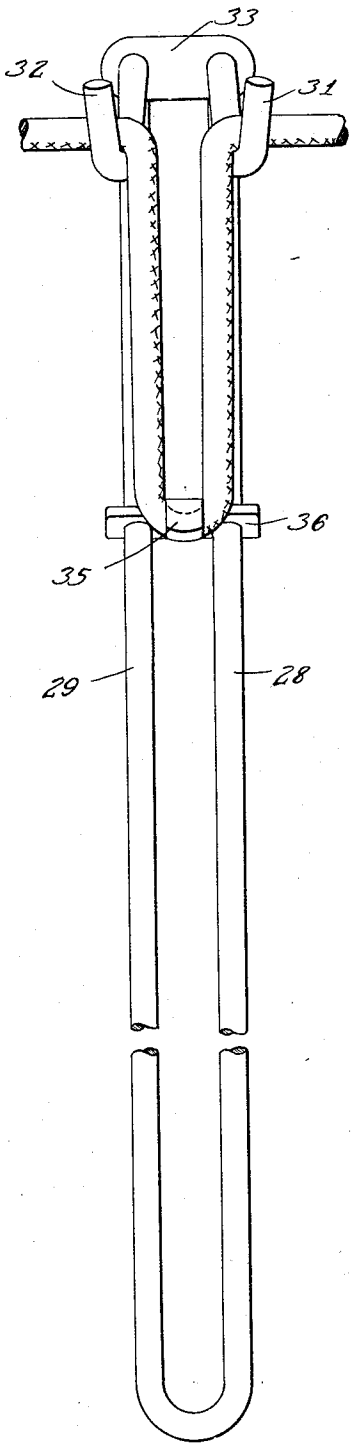
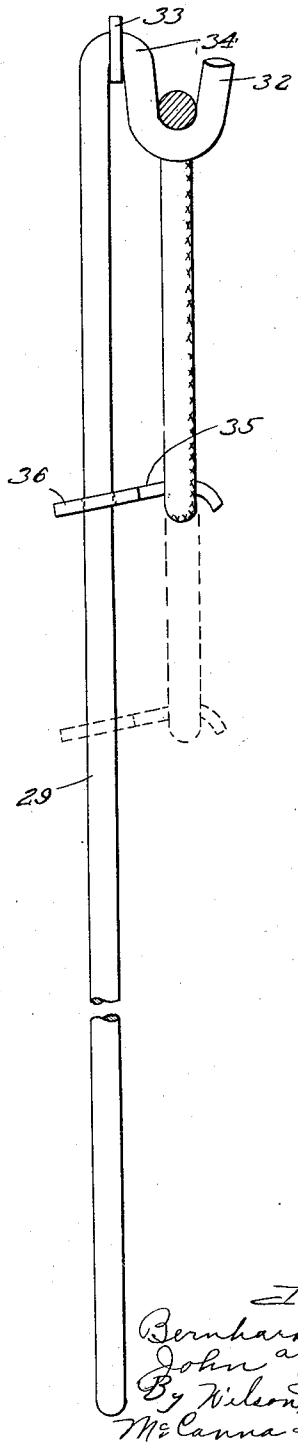


Fig. 7.



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Patented Apr. 19, 1932 1,855,049

UNITED STATES PATENT OFFICE

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LINE TIGHTENER

Application filed July 20, 1931. Serial No. 551,339.

This invention relates to line tighteners of the kind adapted for taking up slack at an intermediate point in a clothesline or any other line supported at its ends.

One of the objects of our invention is to provide an improved line tightener of this kind particularly in respect to the shape and location of a pair of line engaging hooks at one end of a handle, which hooks function in combination with one or more slack take-up hooks in such manner as to facilitate application of the line tightener to a line.

Another object of our invention is to improve the manufacture of a line tightener of this kind by utilizing comparatively heavy wire shaped in novel ways to provide a structure having the characteristics of our invention.

Still another object is to provide a wire tightener of the character described which may be produced economically and will be strong and durable for the purposes intended.

We have also aimed to provide more than one species of our invention, the details of which are described hereinafter.

Referring to the drawings—

Figures 1, 2 and 3 show one species of our invention, Figure 1 showing the line tightener in perspective, and Figs. 2 and 3 being front and side views, respectively, on an enlarged scale;

Figs. 4 and 5 are front and side views, respectively, of another species of our invention, and

Figs. 6 and 7 show front and side views, respectively, of still another species of our invention.

In the form of our invention shown in Figures 1, 2 and 3 the line tightener is made up entirely of a single piece of comparatively heavy wire. This piece of wire is shaped to provide a series of line engaging elements 8 in parallel spaced relation at one side of a handle member 9 of the wire. Each element 8 is formed, as shown, by bending the wire back upon itself and these elements are held in spaced relation by the intermediate connecting portions 11 which are disposed in alignment with the handle member 9. The line engaging elements 8 are disposed in angular relation to the handle member 9 so that each serves, in effect, as a hook over which to engage and hold a slack portion of a line, as will be presently described. The main strip of wire is bent upon itself at 12 to provide a handle member 13 in spaced parallel relation with the handle member 9 and crossing the elements 8 intermediate their ends. Said elements 8 are each welded to the handle member 13, thus uniting the spaced handle members into a rigid structure. The terminal end portions of the wire are shaped to provide line engaging hooks 14 and 15 disposed in rigid, laterally spaced relation at opposite sides of a center major axis of the handle designated by 16 in Fig. 2. According to our invention these line engaging hooks 14 and 15 are disposed in substantially parallel relation with said major axis 16 and are arranged so as to be open at the end opposite from the hand grasp end of the handle, the latter obviously being the lower end of the handle shown in Figure 1. In the species of our invention here shown the end portions of the wire members are crossed at 17 and are again crossed at 18, in the latter instance these end portions being shaped to describe substantially 180°, as shown in Fig. 2, and being disposed substantially in a common plane at right angles to the plane of the handle members 19 and 13. The crossed portions 18 are united by welding, thus holding the hook members 14 and 15 in rigid spaced relation as well as rigid with respect to the handle proper.

Our improved line tightener may be easily manipulated with one hand, for application to a line, such for example as a clothesline, for the purpose of taking up slack at a point intermediate the ends which are attached to supporting structures. In such case, the handle would be grasped, say, in the right hand, with the thumb uppermost, that is, toward the double hook end. The hook 14 would then be engaged beneath the line, the handle would be swung to the left sufficiently to engage one of the elements 8 (depending on the amount of slack to be taken up)

over the line, and the handle would then be swung back to the right about the hook 14 as a fulcrum sufficiently to engage the hook 15 beneath the opposite stretch of the line, and, when so engaged, the handle is released and allowed to drop to the upright position shown in Figure 1, or in case the resistance set up by the line is too great the handle is used as a lever and is forcibly swung to the upright position. It will be manifest that with this construction the line is securely engaged by the hooks 14 so that there is no chance of the line slipping off of these hooks. Furthermore, by arranging the hooks 14 and 15 in this manner they may be engaged with the line by an easy manipulation of the handle and with the use of merely the one hand grasping the handle. It will also be manifest that in case sufficient slack is not taken up by engaging the line over the first hook element 8 the handle may be swung to the right to disengage the line from the hook 15 and to permit engagement of the line over the next hook element 8 or whichever of these elements is suitable for the amount of slack to be taken up, whereupon the handle is again manipulated to engage the hook 15. In the latter operation it will be noted that in case the line offers any considerable resistance in taking up the final slack, as for example where a line is loaded with clothes, the handle is used as a lever and is swung on the fulcrum 14 downwardly in a clockwise direction viewing Figure 1, to the upright position therein shown.

In Figs. 4 and 5 we have shown another species of our invention in which the heavy wire body member is bent upon itself to provide two closed ends with the terminal ends 19 located at any suitable point and being united by welding. Here, two spaced parallel handle members 21 and 22 are united and reenforced by cross-members 23 which project beyond one of the handle members and provide line engaging take-up elements similar to the elements 8. In this case, the combined handle reenforcing and line take-up elements 23 are each welded to the handle members 21 and 22, respectively. Suitable line engaging hooks may be provided at the end of the handle to serve the same purpose as the hooks 14 and 15. In this connection our invention contemplates twisting the end portion 24 at right angles to the plane of the handle members 21—22 and welding to this end portion 24 a cross-member 25, the terminal portions of which are shaped to provide hooks 26 and 27 similar to the hooks 14 and 15.

In Figs. 6 and 7 we have shown still another species of our invention in which a single wire is bent upon itself to provide spaced parallel handle members 28 and 29, the terminal ends of which are shaped to provide hooks 31 and 32 similar to the hooks 14 and 15 above described. In this case, an apertured spacing member 33 is slipped over the ends of the wire before the bend 34 is made and the latter is brought around sufficiently to clamp the member 33 in position and hold it against displacement. In this form of our invention we prefer to employ a slack take-up hook 35 slidably mounted on the handle members 28 and 29 so that it is capable of being moved to any position throughout the length of said handle or throughout any given portion thereof for the purpose of taking up a variable amount of slack and for permitting quick adjustment of slack from one position to another. The hook element proper is fixed to a crosshead 36 having openings to receive the handle members. This crosshead 36 is normally loose on the handle members and may be freely slid lengthwise thereon, but when the hook end 35 thereof is engaged by a line under tension it will be canted into binding engagement with the handle members and thus locked in position on the handle. The operation of applying this species of our line tightener to a line is the same as in the previous cases except, however, that adjustments of slack take up may be more quickly effected by proper manipulation of the adjustable take-up hook 35—36. This hook may be slid upwardly on the handle by means of the thumb of the hand grasping the handle or it may be slid downwardly by means of the index finger of the same hand acting against the crosshead 36. However, adjustment of this take-up hook may be effected in any suitable manner as the matter of making an adjustment of this kind with the construction provided would be simple and apparent to the average person.

It will be manifest from the foregoing that our invention contemplates the provision of a novel line tightener capable of embodiment in different forms, of which three species are here shown, and that changes may be made in details of construction without departing from the spirit and scope of the invention as expressed in the appended claims.

We claim:

1. A line tightener comprising a handle of comparatively heavy wire bent to provide spaced handle members terminating at one end in laterally spaced hooks in rigid relative relation, and line engaging means on the handle for taking up a variable length of a slack portion of a line engaged over said laterally spaced hooks.

2. A line tightener of the character described comprising a handle provided at one end with a pair of line engaging hooks in fixed, laterally spaced relation opening toward said end so as to receive a line brought over the hooks from said end, said hooks being fixed with respect to the handle, and line engaging means on the handle for holding

an intermediate portion of the line at any of different distances from the hooks whereby to take up slack in the line.

3. A line tightener comprising a handle of comparatively heavy wire bent to provide spaced handle members terminating at one end in laterally spaced hooks in rigid relative relation, one of said members being bent intermediate its ends to provide a series of line engaging hooks spaced longitudinally of the handle.

4. A line tightener of the character described comprising a handle formed of a single piece of comparatively heavy wire bent upon itself to provide two spaced handle members in substantially parallel relation, the terminal end of each handle member being bent to provide a hook disposed in a plane laterally offset from the center major axis of the handle and substantially parallel therewith and opening toward the adjacent end of the handle to receive a line brought into the hook recess from said end of the handle and to permit disposal of a slack portion of the line intermediate the spaced hooks, and means on the handle for engaging and holding said slack portion of the line at any of different distances from said hooks whereby to take up variable slack in the line.

5. A line tightener of the character described comprising a handle formed of wire bent upon itself to provide spaced handle members, a wire member medially welded to the handle adjacent to and extending crosswise of one end thereof, the terminal ends of said wire member being bent to provide line engaging hooks, and means on the handle for engaging and holding different lengths of slack line intermediate the said hooks.

6. A line tightener of the character described comprising a handle formed of wire bent upon itself to provide spaced handle members, laterally spaced line engaging hooks fixed on the handle at one end thereof, and a series of wire members welded onto the spaced handle members in substantially parallel relation and spaced apart longitudinally of said handle members and projecting beyond the handle at the side thereof common to the first mentioned hooks, said projecting members providing line engaging elements for holding slack line.

7. A line tightener of the character described comprising a handle formed of wire bent upon itself to provide spaced handle members, a pair of fixed, laterally spaced line engaging hooks rigid on the handle at one end thereof, and a slack take-up hook mounted to slide lengthwise upon the handle members and adapted to lock in any of a number of different positions thereon to take up different lengths of slack of line engaged over said hooks.

8. A line tighter comprising spaced longitudinal members forming a handle and reenforced by a series of cross-members projecting beyond the handle and serving as line engaging elements, and a pair of line engaging elements fixed on one end of the handle in laterally spaced relation at opposite sides of the center major axis of the handle.

9. A line tightener comprising an elongated handle, a slack take-up hook mounted on the handle with capacity for adjustment longitudinally thereon, and a pair of line engaging elements fixed on one end of the handle and spaced apart laterally at opposite sides of the center major axis of the handle.

In witness whereof we have hereunto affixed our signatures.

BERNHARD C. HARVEY.
JOHN A. SHERN.