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# UNITED STATES PATENT OFFICE.

JOHN H. BOWERS, OF HARTFORD, CONNECTICUT.

## PULLEY-LINE TIGHTENER.

No. 894,584.

Specification of Letters Patent.

Patented July 28, 1908.

Application filed March 15, 1907. Serial No. 362,468.

*To all whom it may concern:*

Be it known that I, JOHN H. BOWERS, citizen of the United States, residing at Hartford, in the county of Hartford, State of Connecticut, have invented certain new and useful Improvements in Pulley-Line Tighteners, of which the following is a specification.

My invention relates to devices for tightening lines passing over pulleys, and more particularly to a device for tightening clothes lines.

The object of my invention is to provide a device of this character whereby the meeting ends of such a line shall be connected to each other; wherein the slack of the line may be easily taken up or increased; and wherein the end of the line may be quickly and securely fastened and held against any slip.

My invention consists in the arrangement and combination of parts set forth in the accompanying drawings, wherein

Figure 1 is a general view of a clothes line showing my tightening device in place. Fig. 2 is a side elevation of the tightener and the attached ends of the rope, the lower portion or rope-grip being broken away. Fig. 3 is a top plan view of the rope grip, the pulley-supporting standard or side pieces being in section. Figs. 4 and 5 are fragmentary opposite end views of the rope grip.

Like reference characters refer to like parts in the several views.

A designates a clothes line running over two pulleys *b* which are supported on posts B. One end of the clothes line A is attached as at *a* in any suitable manner as by tying the line to the tightening device. The tightener comprises what might be termed a base portion 2 forming a rope grip and standards 3, spaced apart and extending upwardly from the base portion 2 to support a pulley 4. This pulley is preferably in the form of a freely rotating pulley 4 mounted on a shaft 4'. The standards are inclined towards one end of the base portion and are there provided with any suitable arrangement for engaging the end *a* of the rope A. Preferably, I form the side pieces or standards 3 and the base 2 in one piece, of cast metal, the projecting portions 3' of the standards being closed or joined together, thus forming a loop or eye through which the end *a* of rope A may be passed.

The base 2 has projecting arms 5, 6 extending in opposite directions from the upwardly projecting standards and thus each one of

the arms extends outwardly in the direction of the rope. These are slotted longitudinally from the ends thereof towards the middle for the insertion of the free end *a'* of rope A after it has been passed around the pulley 4. Preferably these slots are, as shown in Fig. 3, wedge-shaped in plan but in addition to this I prefer to make them wedge-shaped in cross section as shown in Figs. 4 and 5. In order that the rope may be passed into the slots easily and yet may become tightly jammed therein, I preferably make the slot 5' in the projecting arm 5 wider at its top than at its bottom. In other words, at its top the slot is of the full width of the arm 5 along the whole extent of said arm, while at its bottom the slot is V-shaped. The opposite arm 6 is slotted reversely to the arm 5 as shown in Fig. 4, the slot being the full width of the arm on the under side of the arm and extending then inward and upward. At the upper side of the arm the slot is V-shaped as before described. The rope A after passing around the pulley 4 is very easily passed into the slot 5', the vertical V-shape of the slot aiding in this and the reverse V-shape of the slot and arm 6 allowing of the quick insertion of the end of the rope into said slot 6', thus holding it securely. It will be seen from Fig. 2 that the rope A is thus not only bent in S-shape upon itself but is always tightly jammed in the two V-shaped slots 5' 6'. It will also be seen that when the end of the rope is fastened in the slots 5' 6', the strain on the rope A will hold the device in the position shown in Fig. 2, that is, with its base horizontal.

While the device may be used wherever the ends of two ropes may be connected, and I do not wish to limit myself to any particular use, yet it is peculiarly applicable to connecting the ends of clothes lines passing over pulleys. Ropes used for clothes lines are usually stiff and hard to tie and it is very difficult for women to tighten them, particularly when the ropes are set at any height above the head or where the ropes are held out by pulleys on fire escapes or projecting brackets as in the case of apartment houses. With my device it is only necessary to pull upon the end of the rope and to catch it into the slot in one or both arms. The device is simple, can be very cheaply made quickly applied and is thoroughly effective in operation. It is obvious that it may be cast in one piece or made in separate pieces.



Having described my invention what I claim is:

1. A device for tightening lines comprising a horizontal base piece, spaced standards 5 formed thereon, an eye attached to the standards and adapted for the attachment of one end of the line, and a rotatable pulley mounted between the standards and sufficiently above the upper surface of the base 10 piece to allow the said line to be passed between the pulley and the base piece, said base piece having a projecting portion behind said pulley and below the lowest portion thereof, provided with a V shaped slot for 15 engagement with the end of the line after it has passed around said pulley.

2. A device for tightening lines comprising a horizontal base piece having oppositely projecting slotted arms, upwardly projecting 20 standards located between the inner ends of the slotted arms and projecting at right

angles to the base piece, the ends of said standards being joined to form an eye adapted for the attachment of one end of the line, and a rotatable pulley mounted 25 between the standards, the rearwardly projecting arm being provided with a slot V-shaped in plan on the under side of the arms and expanding upward and outward the full width of the arm on its upper face, the oppo- 30 sitely projecting arm being provided with a slot V-shaped in plan on its upper face and expanding outward and downward the full width of the arm on its lower face.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses, this twelfth day of March 1907.

JOHN H. BOWERS.

Witnesses:

R. A. WHEELER,  
GEO. F. BENNETT.