No. 647.795. Patented Apr. 17, 1900.

C. A. BERTRANG.

ROPE TIGHTENER.

(Application filed Sept. 27, 1899.)

(No Model.)

Fig. 1

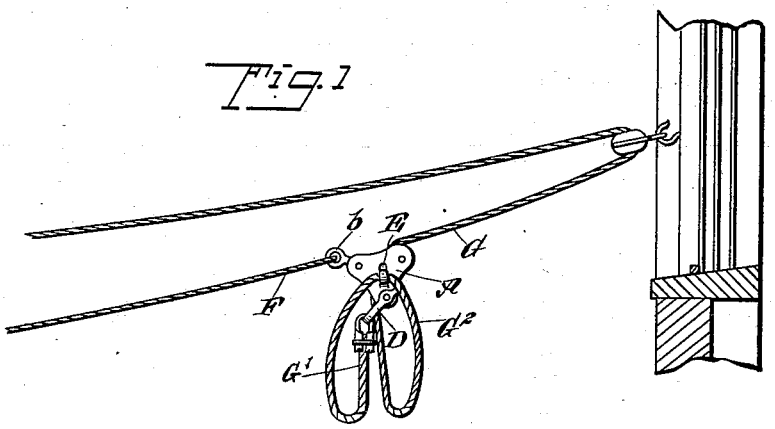

Fig. 2

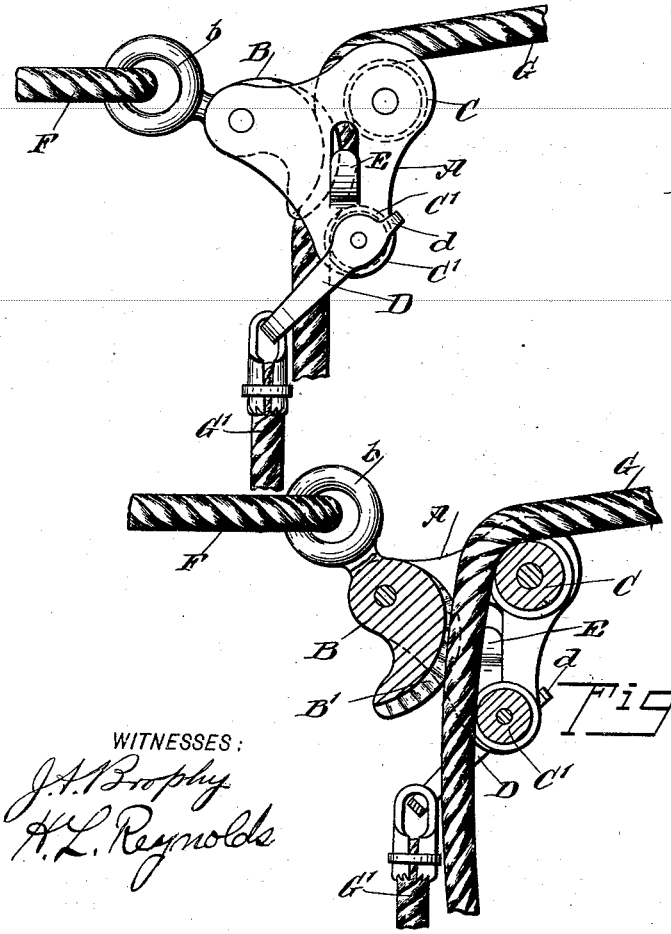

Fig. 3

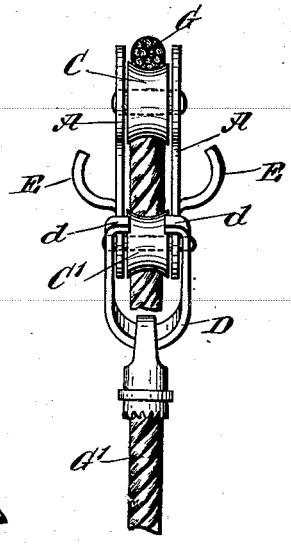

Fig. 4

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CARL A. BERTRANG, OF NEW YORK, N. Y.

ROPE-TIGHTENER.

SPECIFICATION forming part of Letters Patent No. 647,795, dated April 17, 1900.

Application filed September 27, 1899. Serial No. 731,814. (No model.)

To all whom it may concern:

Be it known that I, CARL A. BERTRANG, of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Rope-Tightener, of which the following is a full, clear, and exact description.

My invention relates to an improved rope-tightener or slack-adjuster and comprises the novel features which will be hereinafter described and claimed.

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 views.

Figure 1 shows my device in use upon a pulley clothes-line. Fig. 2 is a detail side elevation of my device, showing the ropes in place. Fig. 3 is an edge view of my device with the ropes in place. Fig. 4 is a sectional elevation of my device, taken upon a central plane.

The object of my invention is to provide a device which may be used in connection with ropes to take up and hold the slack or for tightening the ropes. It has been specially designed for use in connection with pulley clothes-lines and has been so illustrated in the drawings. It is evident, however, that it may be as well used for any purpose where it is desired to take up slack in a rope and be able to conveniently release it when desired.

The device is mounted upon a frame which is composed, essentially, of two plates A, which are approximately of a triangular form. Between these plates at one apex of the triangle is pivoted a clamping dog or lever B, which has one end extending outwardly from the frame and provided with means for securing a rope end thereto, the means herein shown consisting of an eye *b*, to which the end of the rope F is attached. The other end of this clamping lever or dog extends between the two plates of the frame and is curved, forming a cam or clamping surface B′, which is adapted to engage the rope and force the same against the clamping-pulleys C and C′, which are journaled in the other angles of the frame.

The roller C′ is journaled at such a distance from the pivot of the clamping-lever that the end of the said clamping-lever will swing free of the roller and permit the rope to lie between them. The other clamping pulley or roller C is journaled closer to the pivot of the clamping-lever, so that the lever will engage the same or swing close enough thereto to clamp and securely hold a very small rope or cord. The other end G of the rope is passed over both of the pulleys C and C′ or upon the inner sides thereof, extending first over the pulley C, so that when strain is brought upon the two parts F and G of the rope the tendency will be to swing the clamping dog or lever B within the frame and into engagement with the pulley C. In consequence of this the rope will be securely held between the end of the clamping-lever and the rope guides or pulleys C and C′.

Upon the pivot of the roller C′ is mounted a yoke-shaped lever D, which has arms or projections *d*, extending inward or toward the center of the frame, so as to engage the edges of the frame and limit the swinging of the yoke in one direction. These projections are so placed that the lever is prevented from swinging in the direction away from the pivot of the clamping-lever beyond a position which will make it extend substantially at right angles to the line connecting its pivot with the pivot of the said clamping-lever.

To the outer end of the yoke the end G′ of the rope G is attached, so that when it is desired to release the rope all that is necessary is to pull upon the end G′, which will result in swinging that portion of the frame in which the clamping-rollers are journaled upward until they free the rope from the clamping-lever B. The part G of the rope is then free to run backward through the device.

In order to take care of the slack of the rope, two hooks or arms E are provided, which extend outwardly and upwardly from the sides of the frames. These arms are preferably formed integral with the plates of the frame, and where said plates are formed of rolled or wrought metal the arms are formed by stamping the same from the metal of the plates, as is clearly shown in Fig. 2. These arms are used in the ordinary manner (shown in Fig. 1) by forming a loop G^2 in the slack of the rope and hooking the same over the arm. With this device it is possible to take up the slack in the rope and hold all that has been

gained in that way and yet to quickly free the rope when it is desired to slack off.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A slack-adjuster for ropes, &c., comprising a frame and a lever pivoted thereon, the lever having an eye upon one end for the reception of the rope end, and a gripping surface or dog upon its other end, the frame having a member adapted to coöperate with the dog of the lever to grip the rope between them, and an arm mounted to swing and extending to one side and adapted to have a rope end attached thereto, whereby the dog may be released by a pull thereon, substantially as described.

2. A slack-adjuster for ropes, comprising a frame having a lever pivoted thereon and adapted to have a rope end secured thereto, rope-guides extending transversely of the normal or locking position of the lever and adapted to coöperate with the lever to clamp the rope between them, and means for securing a rope end to the frame at the side toward which the lever swings to free the rope, said means comprising an arm mounted to swing and a stop for limiting its swinging movement, substantially as described.

3. A slack-adjuster for ropes, comprising a frame having two rope-guides or pulleys thereon, a lever pivoted in said frame the pivot thereof and the two rope guides being triangularly disposed, the lever having a rope-clamping end or dog adapted to swing clear of one rope-guide and to engage the other, and having means for securing a rope end thereto whereby the strain of the rope will hold the end of the lever upon the rope-guides, and means for securing a rope end to the frame upon that side toward which the dog swings to free the rope, substantially as described.

4. A slack-adjuster for ropes, comprising a frame having two rope guides or pulleys thereon, a lever pivoted in said frame, the pivot thereof and of the two rope-guides being triangularly disposed, the lever having a rope-clamping end or dog adapted to swing clear of one rope-guide and to engage the other, and having means for securing a rope end thereto whereby the strain of the rope will hold the end of the lever upon the rope-guides, means for securing a rope end to the frame upon that side toward which the dog swings to free the rope, and side-extending hooks or arms upon the frame adapted to hold a loop of the slack rope, substantially as described.

5. A slack-adjuster for ropes, comprising a frame having two rope-guiding pulleys journaled therein, a lever pivoted in said frame, the pivot thereof and of the two rope-guiding pulleys being triangularly disposed, the lever having a rope-clamping end or dog adapted to swing clear of one pulley and to engage the other, and having means for securing a rope end to its outer end whereby the strain of the rope will hold the end of the lever upon the pulleys, and side-extending hooks or arms upon the frame adapted to hold a loop of the slack rope, substantially as described.

6. A slack-adjuster for ropes, comprising a frame having two rope-guiding pulleys journaled therein, a lever pivoted in said frame, the pivot thereof and of the two rope-guiding pulleys being triangularly disposed, the lever having a rope-clamping end or dog adapted to swing clear of one pulley and to engage the other, and having means for securing a rope end to its outer end whereby the strain of the rope will hold the end of the lever upon the pulleys, a tripping-yoke for the attachment of a rope end, mounted upon the pivot of the pulley which is cleared by the end of the clamping-lever and having arms adapted to engage the edge of the frame to limit its swing away from the pivot of the clamping-lever, substantially as described.

7. In a device of the class described, an approximately triangular-shaped frame, a lever pivoted thereto at one angle of the frame, the said lever having one end extending outwardly and arranged for the attachment of a rope, the inner end of said lever forming a clamping end or dog, and clamping-pulleys journaled at the other angles of the frame, for the purpose set forth.

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Witnesses:
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