May 29, 1934. H. ZÜNDORF 1,960,426

MANUFACTURE OF WIRE ROPES

Filed March 31, 1932

Fig. 1.

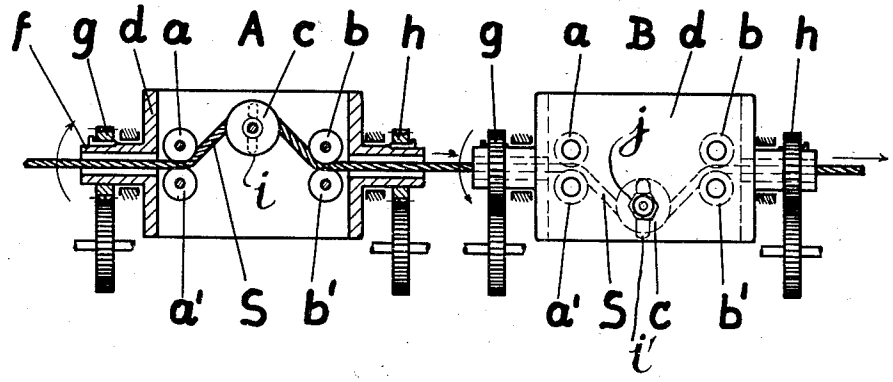
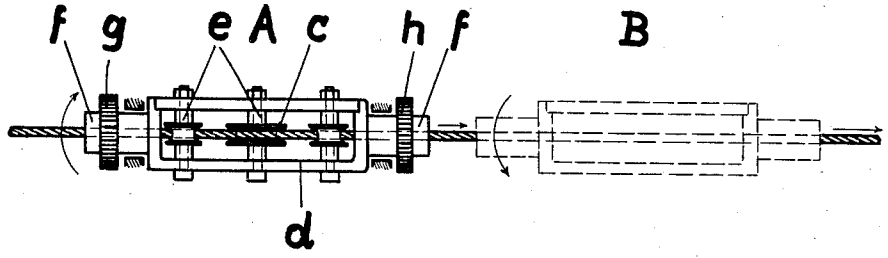


Fig. 2.



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UNITED STATES PATENT OFFICE

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MANUFACTURE OF WIRE ROPES

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In Germany April 4, 1931

1 Claim. (Cl. 117—16)

Methods of and devices for removing the strains in wire ropes by a subsequent treatment (post-forming) have already been proposed. This is effected by bending the rope as it leaves the laying machine so as to deflect it considerably out of the direction in which it is stretched, the rope being for instance drawn through a device rotating about the rope axis. Such a device has the disadvantage that the ropes passed through this device do not emerge in a stretched state. The ropes have more or less strong undulations according to the direction of turning. It has also been proposed for providing a guide and for reforming the rope to arrange a plurality of stationary sets of rollers in different planes one behind the other. In this arrangement, however, the space required is very great, if the rope is to be bent for instance in more than two planes. In another arrangement the ropes are twisted by means of oppositely rotating, coupled guiding discs. Owing to the arrangement of the guides, however, there is the danger of the rope being twisted to pieces. All these devices have the common disadvantage that they cannot be easily regulated.

For removing the strain in a wire rope especially which has been made without previous treatment, according to the present invention a device is used which consists of two sets of rollers disposed one behind the other, but separate from one another, and separately driven, which are rotatable about the axis of the rope and the rollers of which are adjustable in a known manner as hereinafter described for the purpose of deflecting the rope. The employment of these independently driven devices makes it possible to let them rotate in opposite directions at any different speeds, so that by selecting the speed of revolution of each separate set of rollers and by setting the rollers of each set of rollers differently, there is a wide range of regulability. By using this easily operated device the strains in the finished rope are removed in a simple manner and the untwisting or twisting effect of each separate rotating device is counteracted by the other and the rope is prevented from becoming wavy.

In the accompanying drawing the arrangement according to the invention is illustrated, Fig. 1 showing the device in elevation and Fig. 2 in plan view. A and B are the sets of rollers which rotate independently of one another in opposite directions of rotation, as shown by the curved arrows, about the wire rope S which travels in the direction indicated by the straight arrows. These sets of rollers consist of the pairs of guiding rollers *a*, *a'*, *b*, *b'* and the deflecting rollers *c*, which are journalled in the supporting frame *d* by means of bolts *e*. Adjustment of the rollers *c* for varying the extent of deflection of the rope may be effected by mounting the bolts which serve as shafts for these rollers in slots *i* and *i'* as shown in Fig. 1. The shafts may be held in position by clamp nuts such as are indicated by *j* in Fig. 1. On the gudgeons *f* of the supporting frames toothed wheels *g* and *h* are fixed for driving the device.

What I claim is:

A device for removing the strains in wire ropes by postforming, comprising two bending devices mounted one behind the other so as to be capable of rotating independently of each other about the axis of the finished rope, each bending device consisting of a supporting frame, and guide rollers and deflecting rollers mounted in the said frames for deflecting the rope out of its stretched position, and means for causing rotation of the bending devices in opposite directions.

HELLMUTH ZÜNDORF.