J. T. WRIGHT
ANTITWISTING DEVICE
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1,178,566. Patented Apr. 11, 1916.

Witnesses:

James T. Wright, Inventor.

By his Attorney

N. B. Hutchinson.
To all whom it may concern:

Be it known that I, JAMES T. WRIGHT, a citizen of the United States, and a resident of Metuchen, county of Middlesex, and State of New Jersey, have invented a new and useful Improvement in Antitwisting Devices, of which the following is a full, clear, and exact description.

My invention relates to improvements in means for preventing a tape, cord, wire, or other analogous thing which usually comes in lengths and is wound or may be rolled, from twisting so as to render it hard to use the material or so as to injure the material in any way.

The particular application of my invention which I have shown relates to flat goods or tape. In practice this is drawn from a roll and cut up and used in various ways, or is sometimes rewound, and in using it the stock will frequently twist so that it is difficult to keep it flat and work it to advantage. My invention is intended to remove this difficulty and provide a very simple means by which as the stock twists it will be turned in such a way as to remove the twist, thus leaving it flat and capable of being worked on to advantage. From the description which follows it will be seen that my invention is applicable to any goods or stock of this nature.

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

Figure 1 is a side elevation partly diagrammatic, of a preferable embodiment of my invention. Fig. 2 is a view taken at right angles to that shown in Fig. 1, and Fig. 3 is a broken detail illustrating a common shape of the stock which is being operated on.

Assuming that the stock being operated on is a flat tape, it will be represented by the strip 10, and this usually comes in rolls 11 which are connected together as shown at 12 in Fig. 3, the inner end of one roll merging in the next at the outer circumference of the latter. Obviously, however, the particular arrangement or shape of the stock has nothing to do with my invention. The stock when in the form of rolls is carried in a casing 13 which is mounted on the table 14, and the latter is turned by a pulley 15 on the shaft 16, which is secured to a base 17. The pulley 15 and casing 13 can be turned by means of a belt 18 connecting with a motor 19, which is an ordinary electric motor. This motor operates only at intervals, however, to take the twist out of the stock, as presently described, and it will be clear that the casing 13 or the stock which is being operated on can be turned in very many different ways, without affecting the principle of this invention.

The tape as it is used passes over the horizontal portion 21 of a shaft which is preferably provided with guides 20 to keep the tape from running off, and this guide thus formed is suspended so as to turn readily under pressure. The shaft 21 has an upwardly extending portion 22 which is again bent laterally as at 23, and the upturned part 24 connects by means of an insulating coupling 25 with an extension 24a, this merging into a yoke 26. The yoke 26 is pivoted on a pin or screw 27 which is secured in the lower fork of a forked bracket 28, this being supported on a housing 30 and insulated therefrom as shown at 29. It will thus be seen that the guide or stock guide hangs practically like a pendulum, though instead of swinging it turns on its pivot under pressure, as will be presently described.

The shaft extension 24a has a laterally extending contact 31 which is spaced from but adapted to contact with a stationary contact 32 which is supported on the disk 33, this being preferably of insulation and mounted on an insulating hub 34 which is secured in the bottom of the housing 30. It will thus be seen that the disk or member 33 can be adjusted on its hub 34 so as to space the contact 32 the desired distance from the contact 31.

The electrical connections are as follows: From a cable A or other source of electrical supply, leads a wire "a" to the contact 32. The other wire b leads from the source of supply to one pole of the motor 19, and the return wire a' leads from the motor to the binding post 35 on the bracket 28.

The operation of the machine is as follows: As long as the stock 10 is drawn flatwise and with normal tension over the suspended guide comprising the parts 20 and 21, no action takes place, but if the stock begins to twist as shown in Figs. 1 and 2, it...
makes an additional tension on the stock, and this causes the guide to turn on its supporting pivot 27, thus bringing the two contacts 31 and 32 together and closing the circuit through the motor. Said circuit is as follows; from the source A through the wire \(a_1\), the contact 32, the contact 31, the yoke 26, the bracket 28, the wire \(a_1\), the motor, and the wire \(b_1\) back to the source. As soon as this contact is closed the motor turns the stock comprising the rolls 11 in the present case, slightly but in a direction to untwist the stock so that the latter will run smoothly. As soon as the stock is untwisted and the tension removed, the guide turns back to normal position, thus opening the circuit and stopping the movement of the motor.

It will be seen that many different devices might be used for closing the circuit through the motor, said devices being operated by the increase of tension in the stock being operated on, without departing from the principle of the invention, and that the particular construction which I have shown, while important and especially adapted for the purpose, can be changed without affecting the invention, as I claim broadly to be the first to utilize this principle of increased tension in stock caused by twisting to start in motion mechanical means for untwisting the stock so as to permit it to run smoothly. I find, however, that the construction shown works very easily, and all that is required to close the circuit is to have the shaft 24a turn in the hub 34, and a very slight movement closes the circuit so that no attention need be paid by the operator to keeping the stock flat.

From the description given it will be also evident that the particular character of the stock is not important and that this invention can be used on many different kinds of stock to regulate the amount of twist permissible therein.

I claim:

1. A support and guide for stock capable of twisting, means for untwisting the stock, and means set in motion by the increased tension in the stock, as by twisting, to start the untwisting device.

2. Means for supporting and guiding running stock, a rotatable untwisting device carrying the stock, and means actuated by the increased tension of the stock, as by twisting, to start the untwisting device.

3. An apparatus of the kind described comprising a rotatable stock support, a movable member over which the stock runs, and means started by the movement of said movable member to rotate the stock in a direction to untwist the stock.

4. An apparatus of the kind described comprising a movable member acting as a support and guide for running stock, a rotatable holder for the stock, an electric circuit closed by the movement of the movable member, and means actuated by the closing of the circuit for rotating the stock support.

5. An apparatus of the kind described comprising a rotatable support for running stock, a movable member acting as a guide for the stock as it is drawn from the support, said member being moved by increased tension on the stock as by twisting, an electric motor for turning the stock support to untwist the stock, and means for closing the circuit through the motor by the movement of the aforesaid movable member.

6. An apparatus of the kind described comprising means for rotating a body of stock capable of running off in elongated form, a suspended member and connected guide for the stock as it is withdrawn from the body portion thereof, an electric motor, means operatively connecting the motor and stock support whereby the movement of the motor turns the support, and an electric circuit including the motor and closed by the movement of the aforesaid member.

7. An apparatus of the kind described comprising a rotatable stock support, a suspended movable member over which the stock runs, a contact turning with the said member, a second stationary contact adapted to be struck by the first contact, an electric motor in a circuit including the two above mentioned contacts, and an operative connection between the motor and the rotatable stock support for turning the support in a direction to unwind any twist in the stock.

8. An apparatus of the kind described comprising a rotatable stock support, an electric motor connected with the support in a way to untwist stock which is being withdrawn therefrom, a movable member and guide for the stock which is being withdrawn, said guide being pivoted, a contact turning with the guide, a second stationary but adjustable contact to be struck by the first contact, and an electric circuit including the two contacts and the aforesaid electric motor.

JAMES T. WRIGHT.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."