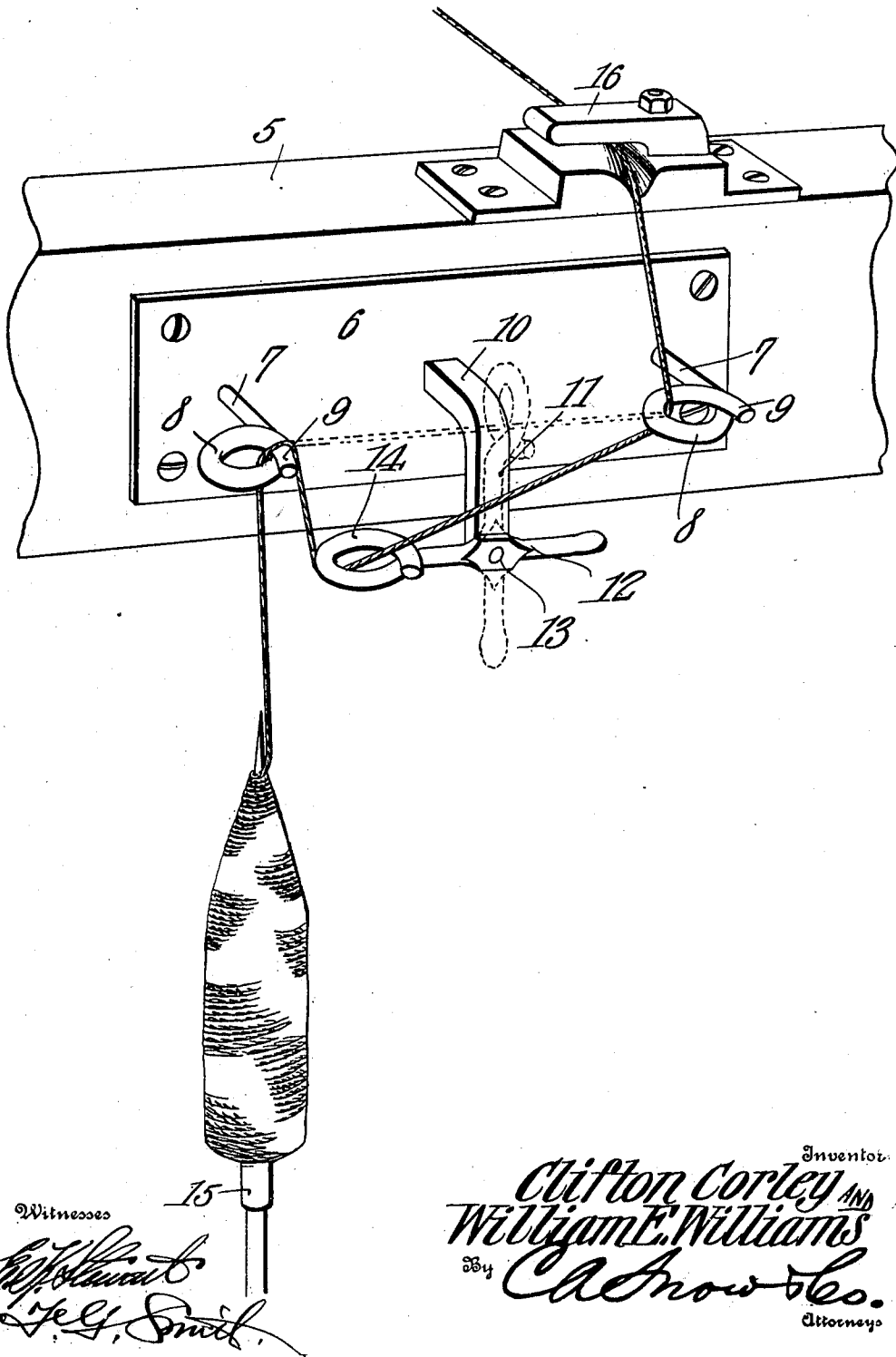


C. CORLEY & W. E. WILLIAMS.  
TENSIONING DEVICE.  
APPLICATION FILED JUNE 9, 1909.

988,444.

Patented Apr. 4, 1911.



# UNITED STATES PATENT OFFICE.

CLIFTON CORLEY AND WILLIAM E. WILLIAMS, OF TENNILLE, GEORGIA, ASSIGNORS, BY  
DIRECT AND MESNE ASSIGNMENTS, TO CORLEY TEXTILE SPECIALTY CO., OF  
ATLANTA, GEORGIA.

## TENSIONING DEVICE.

988,444.

Specification of Letters Patent.

Patented Apr. 4, 1911.

Application filed June 9, 1909. Serial No. 501,076.

### *To all whom it may concern:*

Be it known that we, CLIFTON CORLEY and WILLIAM E. WILLIAMS, citizens of the United States, residing at Tennille, in the county of Washington, State of Georgia, have invented a new and useful Tensioning Device, of which the following is a specification.

It is the object of the present invention to provide an improved tensioning device for use on yarn-winding machines, and the invention aims, primarily, to provide a simple device which will act automatically to relieve the yarn, being wound, of strain in the event that it is suddenly placed under tension, such, for example, as when it becomes accidentally knotted, or when there is but little yarn on the cop.

The invention resides, broadly speaking, in the provision, in a device of this class, of aligned fixed guide members and a guide member which is arranged between the fixed guide members and is gravity-actuated, thereby to normally exert a tension on the yarn being wound. This gravity-actuated guide member is normally out of alinement with the other two guide members, but is automatically thrown into alinement therewith upon the yarn becoming taut, whereupon the yarn will be relieved of the tension normally exerted upon it by the weight of the said intermediate guide member.

In the accompanying drawings there is shown a perspective view of the device embodying the present invention, and in the said view the numeral 5 indicates some portion of the frame-work of a yarn-winding or other cotton-mill machine, upon which portion of the frame-work the device embodying the present invention is mounted; it being understood that this portion 5 may represent any convenient part of the machine upon which the device could be arranged.

The device embodies, among other elements, a base or attaching plate, which is indicated by the numeral 6, this plate being secured to the frame member 5, as is clearly shown in the said figure of the drawings. Upon the attaching plate 6, adjacent each end thereof, there is riveted or otherwise secured, removably or permanently, a guide eye which is preferably of wire, and which has a shank portion 7, bent to form a single terminal convolution 8, through which the yarn to be wound is passed, as will presently be explained. It is preferable that the ex-

tremity of the shank, beyond the convolution 8, be extended substantially tangentially from the convolution and that it be uppermost, such extremity being indicated by the numeral 9 in the said figure of the drawings.

In addition to the guide eyes or members 7, there is provided a member which is supported between the two first described members and is so arranged as to normally exert a tension upon the yarn passed therethrough and being wound upon the cone in the machine, and this intermediate guide member is supported upon a bracket arm, which is indicated by the numeral 10 and is secured at one end to the plate 6 at a point substantially midway of the ends thereof and extends directly forwardly at right angles from this plate and is then bent to extend downwardly at right angles and parallel to the plate, as indicated by the numeral 11. Pivoted to the lower end of the downbent portion 11 of the bracket arm 10 is the intermediate guide member just referred to, and this member comprises a shank which is indicated by the numeral 12 and through the mid portion of which is passed a pivot, which serves to connect the member with the lower end of the bracket arm, such pivot being indicated by the numeral 13.

As will be readily understood, the shank 85 of the intermediate guide member has portions extending to both sides of the pivot 13 and one of these portions is of greater length than the other and is bent to form a terminal convolution, indicated by the numeral 14, such convolution being identical in form with the convolution 8 of the fixed guide members heretofore described.

It will be readily understood from the foregoing that, inasmuch as that portion of the shank which is bent to form the convolution 14, is of greater length than the portion of the shank which lies to the other side of the pivot 13, there will be a tendency for the same to drop, and it will normally assume a position substantially as shown in full lines in the figure of the drawing.

The yarn which is unwound from the usual form of cop, indicated by the numeral 15, is threaded through the fixed eye members, and through the intermediate eye member, and the normal tendency had by this intermediate eye member to drop, guide end first, exerts, normally, a tension on the yarn, which, while not of any considerable degree,

is yet sufficient to secure the result aimed at and now to be explained.

It will be observed, from an inspection of the drawing, that the intermediate or gravity-actuated guide member of the device is normally out of alinement, as far as its convoluted guide eye is concerned, with the fixed guide members, but should the yarn, by accident, become knotted and not unwind freely from the cop, and suddenly become taut, the additional strain will result in the intermediate guide member being swung to a substantially vertical position, such, for example, as illustrated by dotted lines in the said figure of the drawing, in which position the convoluted guide eye 14 will be in alinement with, or in other words in a horizontal plane with the fixed guide eyes, whereby the yarn will be relieved of the tension normally exerted upon it by this intermediate guide member, and hence will not become broken or stretched. As soon as the knot has passed through the guide eyes and through the knotter, as shown generally and indicated by the numeral 16, the intermediate guide member will again drop to full line position due to the momentary sagging of the yarn and the yarn will be placed under the normal tension.

From the foregoing description of the invention it will be understood that the device

embodied in the same may be employed on any cotton mill machinery where yarn is to be wound and may be positioned at any convenient point so long as the yarn may be threaded through the guide eyes. It will further be understood that the device requires no attention, it being entirely automatic in its operation.

What is claimed is:—

In a tensioning device of the class described, yarn-guide members, and a gravity member having a guide eye normally out of alinement with the yarn-engaged portions of the said guide members, one of said guide members being centrally over the spindle from which the yarn is being unwound, and the said gravity member being adapted to be swung to position with its guide eye in alinement with the said yarn-engaged portions of the said guide members when the yarn guided thereby is placed under increased tension.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

CLIFTON CORLEY.  
WILLIAM E. WILLIAMS.

Witnesses:

R. C. BARGE,  
F. C. U. KRAMER, Jr.