

W. S. WELLS.
TENSION DEVICE.
APPLICATION FILED APR. 25, 1910.

1,055,108.

Patented Mar. 4, 1913.

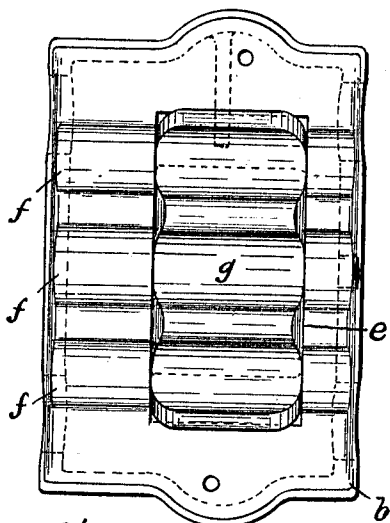


Fig. 3.

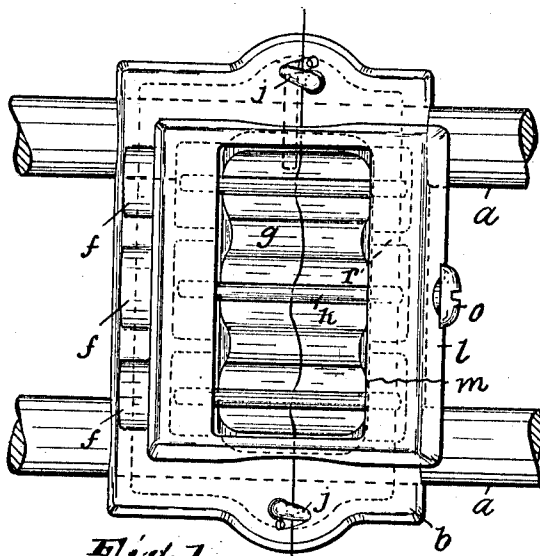


Fig. 1.

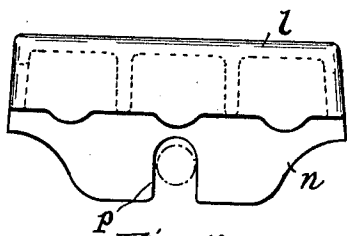


Fig. 4.

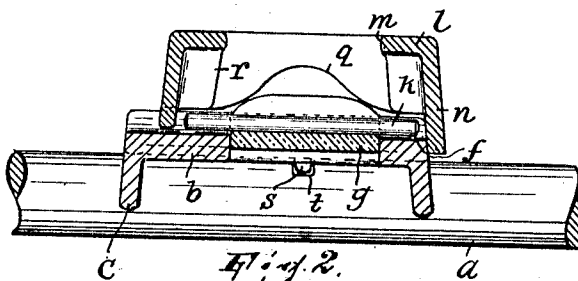


Fig. 2.

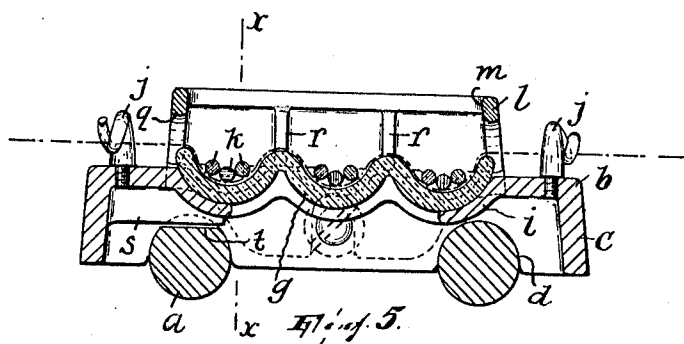


Fig. 5.

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TENSION DEVICE.

1,055,108.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM S. WELLS, a citizen of the United States, residing in borough of Fountain Hill, Lehigh county, and State of Pennsylvania, have invented a certain new and useful Improvement in Tension Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My present invention relates to tension devices of the nature of that set forth in my U. S. Letters Patent No. 739523, dated September 22nd, 1903, and it consists in certain features of construction and relative arrangement of parts having for their object to improve the control of the thread and perfect the device as a practical attachment for any organism in connection with which it may chance to be used.

In the accompanying drawing, Figure 1 is a plan view of the improved device and a part of its supporting means; Fig. 2 is a sectional view on the line $x-x$ of Fig. 5; Fig. 3 is a plan view of the device with its top or cover removed; Fig. 4 is a front elevation of the cover; and, Fig. 5 is a central longitudinal sectional view of what is shown in Fig. 1.

a designates two rods forming a part of a suitable support which may be included in the machine in connection with which the tension device is used.

b is a base member formed substantially rectangular in plan and having the downwardly depending flange c , the two longer sides of which are recessed, as at d , to seat and fit upon the bars a . The member b is formed with a rectangular opening e and its upper surface is formed with the transversely extending channels f which are relatively wide and curved in cross-section.

In the opening e fits a thread contact member g preferably of glass, said member in plan being rectangular. The member g is fluted or corrugate, being composed of a plurality of part-cylinders (in the adaptation shown integral with each other) all lying in the same plane and having their concave sides faced upwardly. The member

g may be supported in the opening e by the concave flanges or seats i projecting inwardly from member b at the ends of opening e .

Substantially in alinement with the longitudinal central axis of member g are disposed pig-tails or thread-guides j , the same being screwed into the member b . These form guides for the thread, which extends over the thread contact member as shown in Figs. 1 and 5. One or more cross-sectionally round elongated weights k , each movable longitudinally of the thread, is or are arranged in each of the channels formed in the member g , resting upon the thread, the ends of such weights being received in the channels f . It should be remarked that the surface of each channel in the member g is a trifle higher than the surface of the corresponding channel f , allowing a teetering movement of the weights when the tension device is in action.

A hollow rectangular cover l is designed to be supported upon the member b , the same being open at the bottom and also having a substantially rectangular opening m in the top thereof. One long side n of the cover l is extended somewhat below the edge of the other long side and bears against the outer face of the corresponding long side of the base b , the cover being secured to the member b by a screw o which is tapped into member b and is received by a slot p in the side n of member l . This arrangement permits the cover to be readily removed upon loosening the screw o . The short sides of member l are recessed, as at q , so as not to produce wear upon the thread.

r designates vertical ribs projecting from the inner face of each side n of member l and coinciding with the elevations in the member g , their function being to prevent the weight or weights in one of the recesses of member g from working over into the next adjoining recess.

The opening m is made of such size, that, while it will perfectly prevent the weights from being ejected therethrough as they are agitated by the thread, it will permit their manual removal, one after the other, upon turning them to the proper angle.

It will be noted that the ends of the member g lie under the recessed end walls of the cover, so that the cover acts to retain not only the weights in their proper relation to

the member *g* but within the opening *e* in which it is, in effect, countersunk; thus the device may be removed and its parts made to keep their proper relation to each other in handling. The device rests loosely on the bars *a* and in order to gage its position with respect to the medium which is advancing the thread, it has a lug or lugs *s* engageable in a recess or recesses *t* in the bars *a*.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a tension device, the combination of a supporting member having in its top surface a channel formed with its sides converging downwardly toward each other, means for guiding the thread across said channel, and a cylindrical roller adapted to bear on the thread from above and resting in said recess, the diameter of the roller being limited relatively to the width of said channel, whereby the roller will have appreciable movement under the draft of the

thread crosswise of the channel, substantially as described.

2. In a tension device, the combination of a supporting member having in its top surface a recess formed with two opposed sides thereof converging downwardly toward each other, means for guiding the thread across said recess and crosswise of each of said sides, and a plurality of weights adapted to bear on the thread from above and resting in said recess in contact with said sides and being free to move in said recess and relatively to each other in the direction of the line of thread travel and from substantially side to side of said recess, said recess being wide relatively to the weight, substantially as described.

In testimony, that I claim the foregoing I have hereunto set my hand this 7th day of April, 1910.

WILLIAM S. WELLS.

Witnesses:

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J. A. TITLOW.

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