

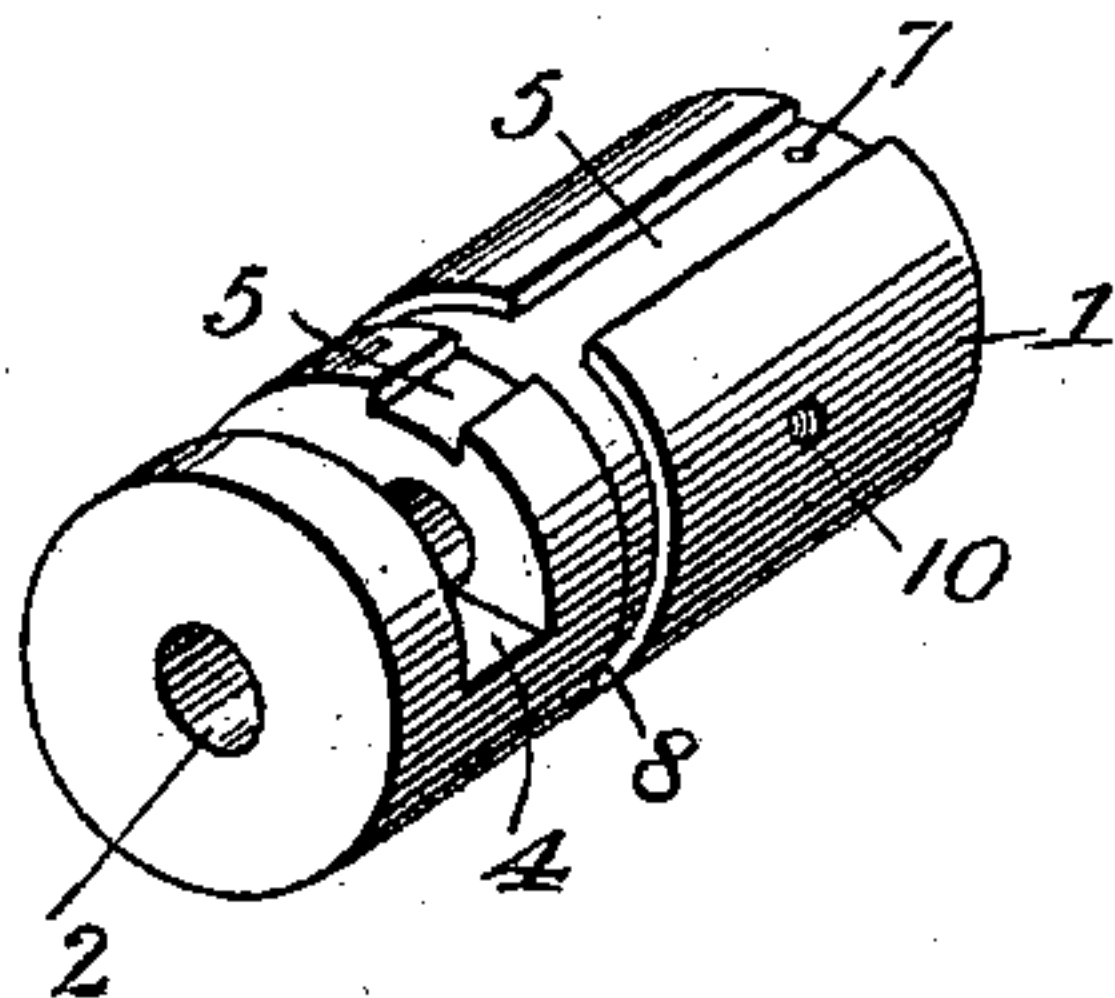
(No Model.)

J. SWEENEY & G. STROBLE.  
TENSION DEVICE FOR LOOM SHUTTLES.

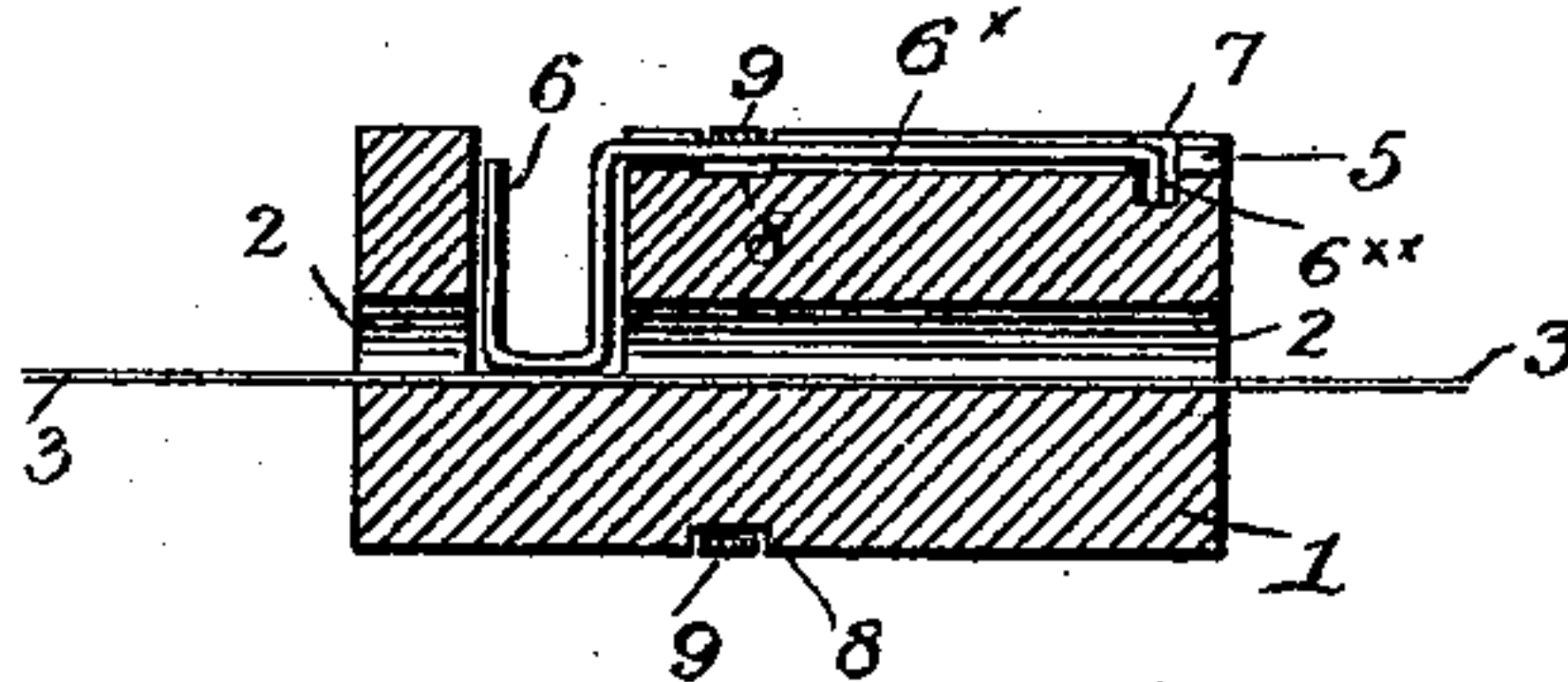
No. 528,895.

Patented Nov. 6, 1894.

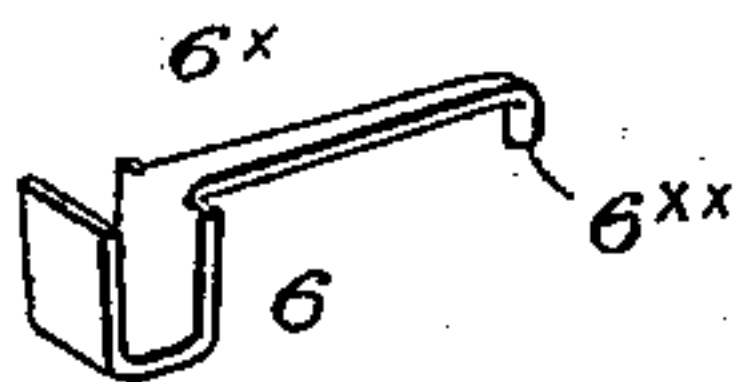
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses:  
R. D. Carlton  
W. L. Prizer

Inventors:  
George Stroble  
James Sweeney

# UNITED STATES PATENT OFFICE.

JAMES SWEENEY, OF POTTSTOWN, AND GEORGE STROBLE, OF PHILADELPHIA, ASSIGNORS OF ONE-THIRD TO JAMES W. LAUDERBACH, OF PHILADELPHIA, PENNSYLVANIA.

## TENSION DEVICE FOR LOOM-SHUTTLES.

SPECIFICATION forming part of Letters Patent No. 528,895, dated November 6, 1894.

Application filed March 7, 1894. Serial No. 502,639. (No model.)

*To all whom it may concern:*

Be it known that we, JAMES SWEENEY, of Pottstown, in the county of Montgomery, and GEORGE STROBLE, of Philadelphia, in the  
5 county of Philadelphia, State of Pennsylvania, citizens of the United States, have jointly invented certain new and useful Improvements in Tension Devices for Loom-Shuttles, of which the following is a specification, due  
10 reference being had to the accompanying drawings, forming a part hereof.

Our invention relates generally to the art of weaving, and specifically to the means employed in connection with a shuttle for ac-  
15 quiring a proper tension on the thread in the working of worsted or the like in the weaving of cloth, &c., and has for its object the provision to the end sought of a tension device cheap and simple in construction and  
20 automatic in operation, placed in the eye of a shuttle whereby the tension shall at all times be uniform and effectually avoid the breaking or cutting of the thread of worsted or the like in the weaving or working of the  
25 same into a finished product.

In the drawings illustrating our invention:—Figure 1 is a perspective view of a tension device embodying our invention with the tension lever or arm removed. Fig. 2 is  
30 a longitudinal sectional view with the lever or arm in position. Fig. 3 is a perspective view of the tension lever or arm removed from the tension device.

Referring further to the drawings in which  
35 the several parts are represented by numerals, similar numerals indicating like parts wherever used,—1 is the tension device *per se*, the same preferably consisting of an elongated cylinder of metal, china or other suitable ma-  
40 terial provided with a central opening or passage-way 2 as to its entire longitudinal axis for the passing of the thread 3 of worsted or the like.

The cylinder 1 near one end thereof is pro-  
45 vided with a recess 4 extending into the opening 2 and also with a longitudinal groove 5 on its outer surface extending from the recess 4 to the opposite end of the cylinder; the recess and groove combined adapted to  
50 receive a tension lever or arm 6. This ten-

sion lever or arm 6, as in the preferred construction best shown in Fig. 3 in the drawings,—consists of a piece of steel or other desired suitable material broad and U-shaped at one end at right angle with its shank or  
55 extension 6<sup>x</sup>; and its opposite end provided with a bent or downward projection 6<sup>xx</sup>, the U-shaped end of the lever or arm adapted to be seated in the recess 4 and the shank portion 6<sup>x</sup> adapted to be seated in the groove  
60 5 of the cylinder 1—while the bent end 6<sup>xx</sup> of the lever or arm takes into a hole 7 formed in the cylinder 1 near the outer end of the groove 5 (see Fig. 1) to prevent endwise or lateral movement of said lever or arm. 65

The cylinder 1, in juxtaposition to its recess 4 is further provided with a circumferential groove 8, which receives, after the placing of the lever or arm 6, a band of rubber  
9 or other resilient means adapted to retain  
70 the lever or arm 6 in normal working position; that is to say: permit vertical movement of the lever or arm only that the latter may accommodate itself to inequalities in the thread, at the same time preserving a steady  
75 uniform tension.

The tension device, as usual, is preferably mounted within the eye of a shuttle and we preferably secure the same in place by a set-screw passing from the outer side of the shut-  
80 tle and takes into a bearing 10 (Fig. 1) for the same conveniently located on the outer surface of the cylinder 1 for either a right or left hand shuttle.

A tension device of the construction de-  
85 scribed permits the passing or feeding of the thread from the cop in an easy and uniform manner without damage to or cutting of the same as is so frequently resultant in other forms of tension devices for like purposes,—  
90 the thread 3 passing into and being guided in the first place by the opening 2 in the cylinder 1, and thence passing under the U-head of the lever or arm 6,—the latter accommodating itself as to its tension properties to  
95 the irregularities or inequalities in the thread, and this by reason of the resilient means 9 employed for retaining the lever or arm in position and operation and permitting ver-  
100 tical movement only while at all times pre-



serving the tension, and encounters no rough, sharp, uneven or other cutting edges or contacts to cut or damage the thread.

We wish it understood that we do not desire to limit our invention to the exact construction and arrangement of parts as shown and described but may vary the same in any manner the better to carry out the spirit of our invention without departing from the true scope thereof.

We claim—

1. A tension device for loom shuttles or the like of the character described consisting of a body portion provided with a central opening through its longitudinal axis, a recess at or near one end thereof extending into said central opening, a tension lever or arm within said recess and resilient means for retaining said lever or arm in normal working position, as and for the purposes set forth.

2. A tension device of the character described, consisting of a body portion provided with a central opening through its longitudinal axis, a recess at or near one end thereof extending into said central opening, a longitudinal groove on the surface of said body portion extending from said recess to the opposite end of said body portion, a lever or arm of the character described seated in said recess and groove jointly and resilient means for retaining said lever or arm in normal working position, as described and for the purposes set forth.

3. An automatic, self-adjusting tension device of the character described consisting of a body portion provided with a central opening through its entire longitudinal axis, a recess at or near one end thereof extending into said central opening, a longitudinal groove on the surface of said body-portion extending

from said recess to the opposite end of the body portion, a hole in said groove near said opposite end of the body portion, a lever or arm of the character described seated in said recess and groove jointly one end of the same being bent and projected into said hole in the longitudinal groove; a circumferential groove on said body portion adjacent to said recess, and resilient means in said groove for retaining said lever or arm in normal working position as described and for the purposes set forth.

4. In a loom or other shuttle, a tension device of the character described mounted in the same and consisting of an elongated body-portion provided with a central opening through its longitudinal axis, a recess at or near one end thereof extending into said central opening, a tension lever or arm of the character described within said recess and retained against lateral displacement and resilient means for retaining said lever or arm in normal working position and permitting vertical movement of the same as described and for the purposes set forth.

In testimony whereof I have hereunto set my hand and seal this 1st day of March, A. D. 1894.

JAMES SWEENEY. [L. S.]

In presence of—

E. E. ELLIS,

WM. L. PRIZER.

In testimony whereof I have hereunto set my hand and seal this 27th day of February, A. D. 1894.

GEORGE STROBLE. [L. S.]

In presence of—

R. D. CARLTON,

F. C. DYMLING.