No. 683,276. Patented Sept. 24, 1901.

C. W. HASSLER.

TENSION DEVICE FOR MACHINES FOR BRAIDING WHIPS.

(Application filed June 28, 1901.)

(No Model.)

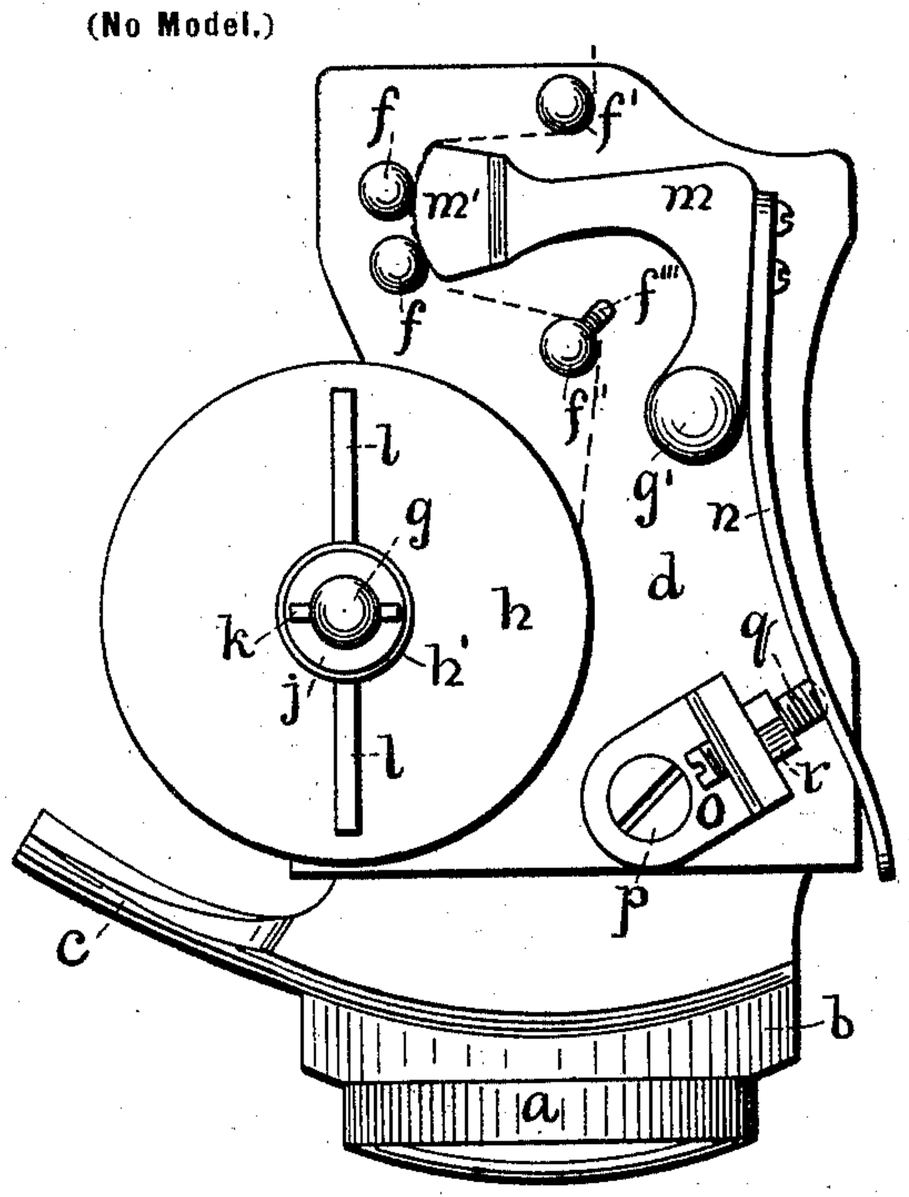

FIG. 1.

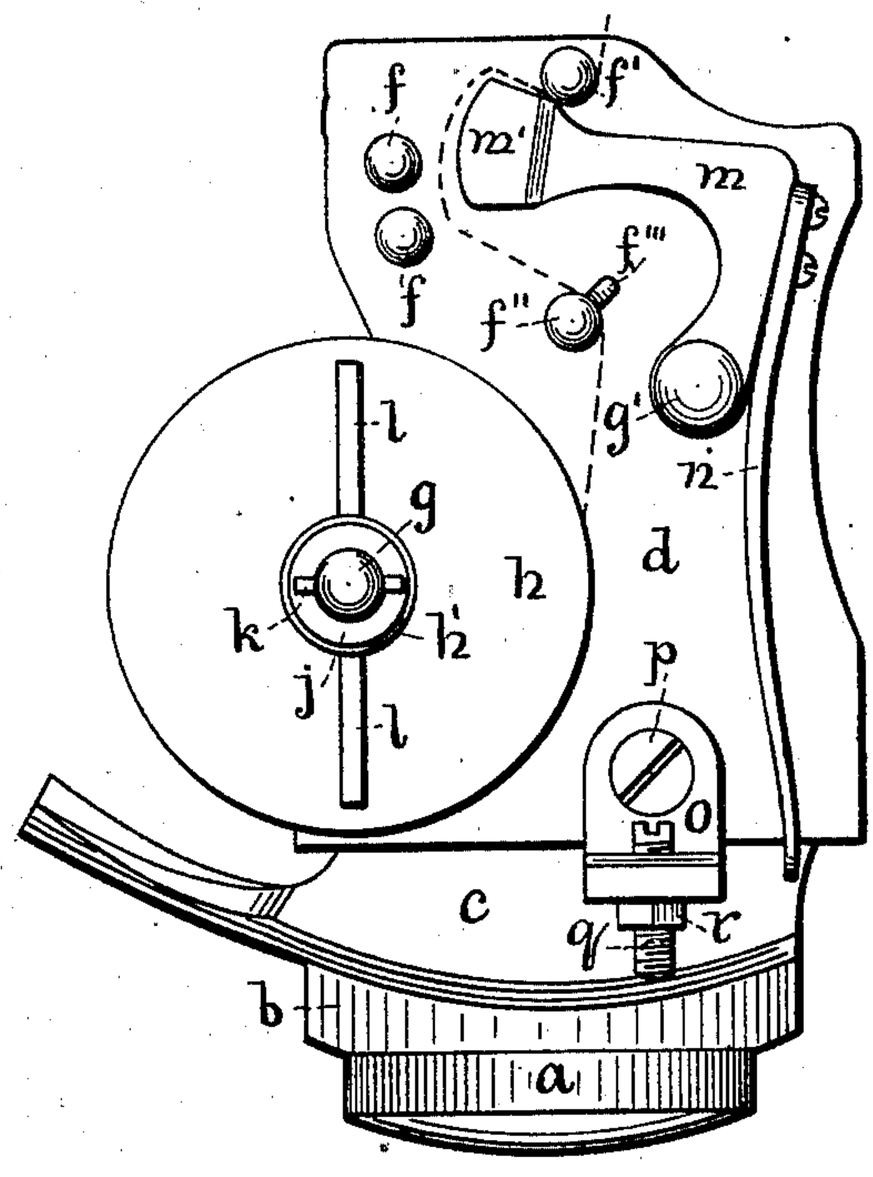

FIG. 2.

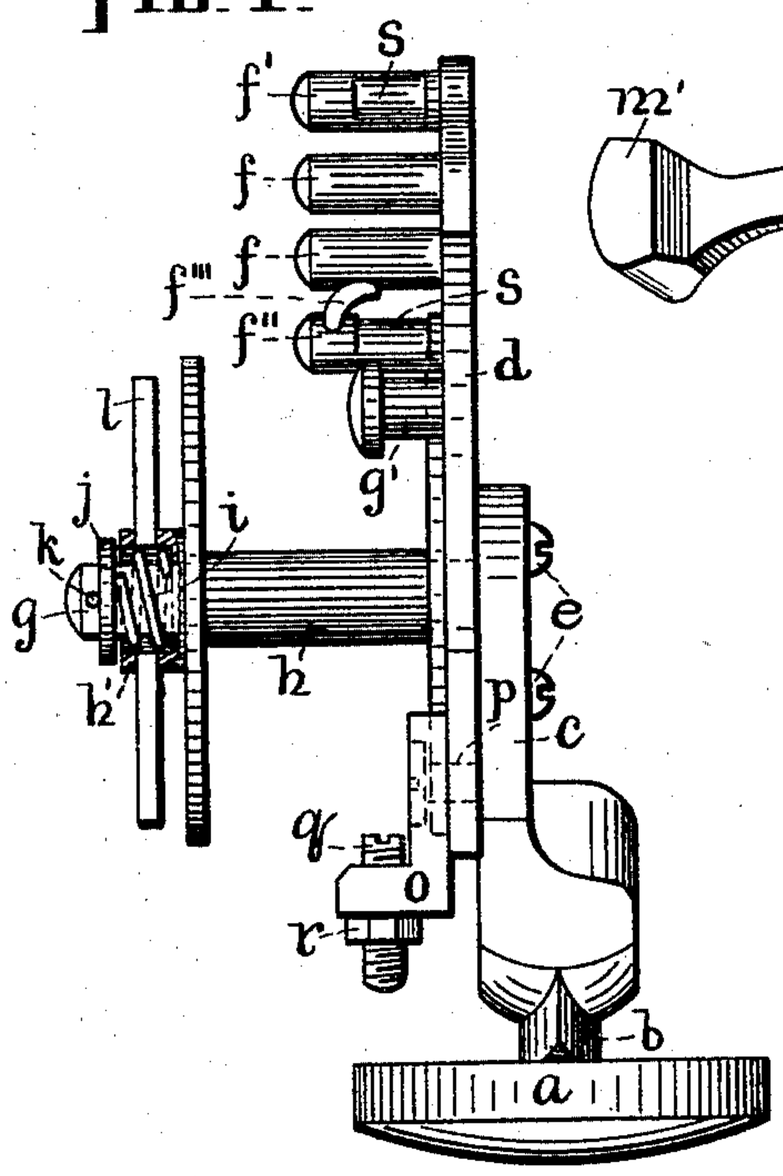

FIG. 3.

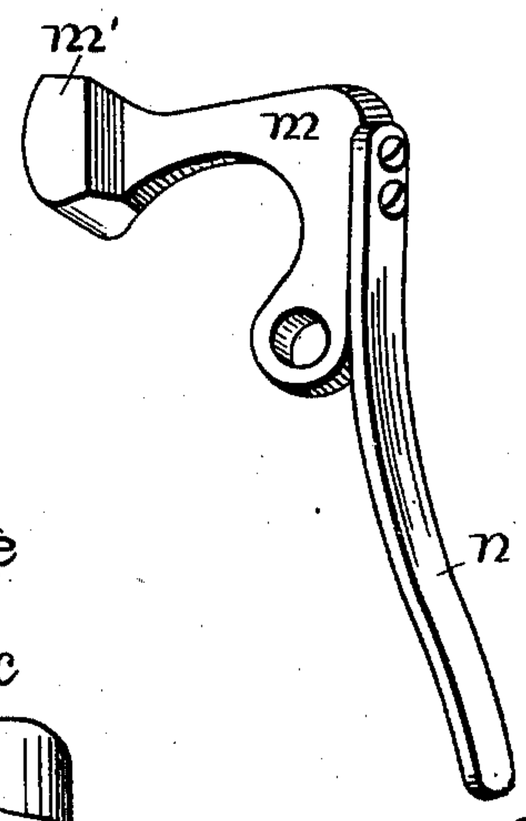

FIG. 4.

Fig. 5.

Witnesses
F. A. Cutter.
S. Sweeney.

Inventor
Charles W. Hassler
By Webster, Taft & Tilly
Attorneys

UNITED STATES PATENT OFFICE.

CHARLES W. HASSLER, OF WESTFIELD, MASSACHUSETTS.

TENSION DEVICE FOR MACHINES FOR BRAIDING WHIPS.

SPECIFICATION forming part of Letters Patent No. 683,276, dated September 24, 1901.

Application filed June 28, 1901. Serial No. 66,388. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. HASSLER, a citizen of the United States, residing at Westfield, in the county of Hampden and State of Massachusetts, have invented a new and useful Tension Device for Machines for Braiding Whips, &c., of which the following is a specification.

My invention relates to improvements in racers for braiding-machines, and more particularly to the tension device in which certain fixed and movable parts are arranged and employed in the manner and for the purpose hereinafter fully described, and particularly pointed out in the claims. This device is intended for use on machines for braiding whips or other articles similar in character, and is particularly adapted for successfully handling strands of leather or other braiding material, each of which is larger at one end than at the other and tapered between, but is equally serviceable when a strand of uniform size throughout its entire length is employed.

The objects of my improvement are to provide a device of the class designated above which is strong and positive in action, capable of adjustment to different sizes of strands, and adapted to successfully handle either tapering strands or strands of uniform size throughout. This device furthermore insures an even feed without injury to the material acted upon and can be easily and quickly manipulated for the introduction of the strand. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side view of my invention closed; Fig. 2, a similar view open; Fig. 3, an edge view, the pressure-arm, with its spring, being omitted and the spool-head in section; Fig. 4, an isometric view of the pressure-arm and spring, and Fig. 5 an isometric view of a modified form of stop.

Similar letters refer to similar parts throughout the several views.

I make use of the ordinary foot *a*, shank *b*, and guide *c*, to an upwardly-extending portion of which latter the plate *d* is firmly attached by the screws *e* or in any other convenient manner. The stop-pins *f f* and the guide-pins *f'* and *f''* project from the face of the plate *d;* also, the studs *g* and *g'*. The spool *h* for the strands is journaled on the stud *g*, and some suitable means, as the spring *i*, may be employed to slightly tension said spool to prevent the same from turning during the operation of the machine except as the material thereon is drawn off; otherwise too much of said material might unwind, and thus interfere with the proper operation of the mechanism. The spiral spring *i* is held in the chambered head *h'* of the spool by the washer *j* on the stud *g* between the stud-pin *k* and said head. This spring encircles the stud and produces sufficient frictional contact between the parts to properly retard the rotation of the spool. The pins *l l* extend from the head *h'* to afford convenient means for winding the strands upon the spool. The lower end of the pressure-arm *m* turns upon the stud *g'*, and the front of said arm is provided with the head *m'*, having a rounded face adapted to bear against a strand passing between it and the pins *f*. Screwed or otherwise fastened securely to the back edge of the arm *m* is the resilient tailpiece or stiff spring *n*, which descends into the path of the locking and adjusting member, hereinafter described. The movement of the arm *m* is limited in one direction by the pins *f*, which constitute a stop therefor, and in the other direction by the pin *f'*. The pin *f''* is preferably located below the horizontal part of the arm *m* and is provided with the hook *f'''*. The locking and adjusting means consists of the angular block *o*, pivoted by a screw *p* on the face of the plate *d*, the male screw *q* engaging a female screw in the forwardly-extending part of said block and a set-nut *r* on the screw *q* beyond the block. The outer end of the screw *q* is adapted to bear against the spring *n*, which may be provided with a small recess for its reception, as indicated by dotted lines in Fig. 1.

Assuming that the parts stand as shown in Fig. 2 and that the spool *h* is provided with braiding material, the operation of my device is as follows: Pass the end of a strand from the spool around the guide or pin *f''*, under the hook *f'''*, upward between the pins *f* and the face of the head *m'*, beneath and around the right side of the guide or pin *f'*, and thence away from the racer, as indicated

by broken lines in Fig. 2. Now rock the arm *m* to the left with its head pressed against the strand which is against the stop-pins *f* and turn the block *o* until the screw *q* engages the spring *n* to lock said arm in place. The strand is now held, as indicated by broken lines in Fig. 1, firmly yet with the required amount of yielding pressure afforded by the spring *n*, so that the tension is maintained during the passage of the same from the racer, the grip between the pins *f* and head *m'* not being so great, of course, as to prevent this passage when the drawing force of the machine is applied to the strand. When it is necessary to vary the tension in order to accommodate the device to strands of greater or less size or to meet the requirements of the machine in regard to drawing force, simply loosen the nut *r*, turn the screw *q* in or out, as required, and reseat the nut against the block.

The parts arranged as shown and described constitute a strong, durable, and simple as well as a practical and effectual device, and this is the preferred construction; but it is obvious that modifications and changes in construction and location may be made without departing from the nature of my invention—as, for example, by substituting a single stop-piece similar to the block shown in Fig. 5 for the two pins *f*. This block may be secured to the upwardly-extending portion of the guide *c* by means of a screw passing through said guide into said block, or otherwise.

I prefer to cut away the pins *f'* and *f''*, as shown at *s* in Fig. 3, so that they will afford better guide facilities for the strand and lessen the liability of the same to slip off.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A tension device of the class hereinbefore named, comprising a plate, a pressure-arm pivotally hung on said plate and provided with a resilient tailpiece, a stop fixed to the plate adjacent to the head of said arm, and locking means for the arm, adapted to engage said tailpiece.

2. A tension device of the class hereinbefore named, comprising a plate, a pressure-arm pivotally hung on said plate and provided with a resilient tailpiece, a stop fixed to the plate adjacent to the head of said arm, and locking and adjusting means for the arm, adapted to engage said tailpiece.

3. A tension device of the class hereinbefore named, comprising a plate, a pressure-arm pivotally hung on said plate and provided with a resilient tailpiece, a stop fixed to the plate adjacent to the head of said arm, and a locking member pivotally hung on the plate, adapted to engage said tailpiece.

4. A tension device of the class hereinbefore named, comprising a plate, a pressure-arm pivotally hung on said plate and provided with a resilient tailpiece, a stop fixed to the plate adjacent to the head of said arm, and locking and adjusting means for the arm, consisting of a block with a screw adapted to engage said tailpiece, said block being pivotally hung on the plate.

5. A tension device of the class hereinbefore named, comprising a plate carrying a stud having a spool thereon, a pressure-arm pivotally hung on said plate and provided with a resilient tailpiece, a stop fixed to the plate adjacent to the head of said arm, and locking means for the arm, adapted to engage said tailpiece.

6. In a tension device of the class hereinbefore named, in combination with a plate carrying a stud having a spool thereon and means to retard the rotation of said spool, a pressure-arm pivotally hung on said plate and provided with a resilient tailpiece, a stop fixed to the plate adjacent to the head of said arm, and locking means for the arm, adapted to engage said tailpiece, substantially as set forth.

7. The combination, in a tension device of the class hereinbefore named, of a plate carrying a stud having a spool and washer thereon, a spring bearing against said spool and washer, a pressure-arm pivotally hung on said plate and provided with a resilient tailpiece, a stop fixed to the plate adjacent to the head of said arm, and locking means for the arm, adapted to engage said tailpiece, substantially as set forth.

8. The combination, in a tension device of the class hereinbefore named, of a plate carrying a stud having a spool thereon, a pressure-arm pivotally hung on said plate and provided with a resilient tailpiece, a stop fixed to the plate adjacent to the head of said arm, guides suitably arranged relative to the arm, and locking means for the arm, adapted to engage said tailpiece, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CHARLES W. HASSLER.

Witnesses:
F. A. CUTTER,
STEPHEN S. TAFT, Jr.