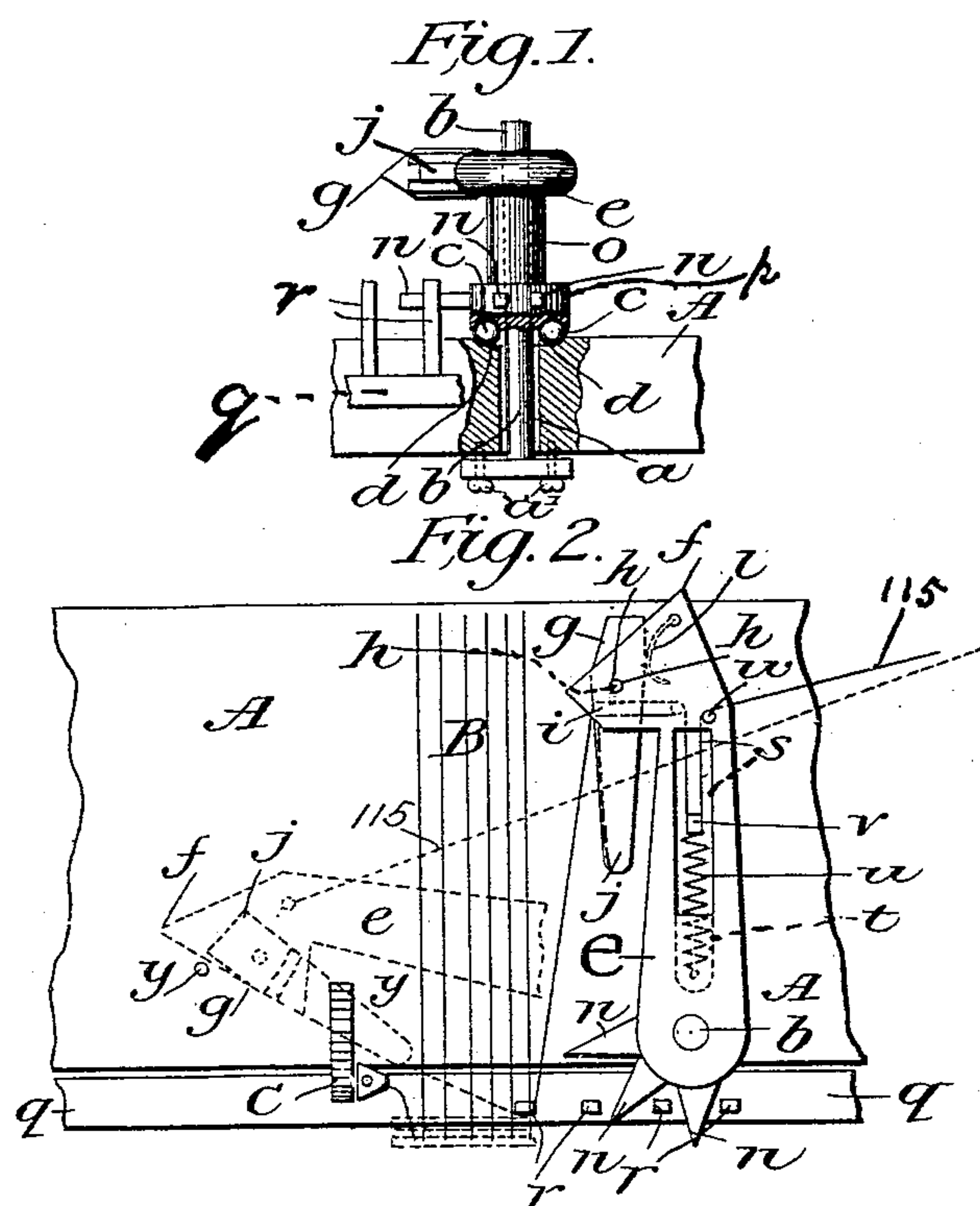


No. 704,295.

Patented July 8, 1902.

J. C. BROOKS.
NARROW WARE LOOM.
(Application filed July 9, 1900.)

(No Model.)



Witnesses:

Mortimer Hughes
Bessie O'Brien

Inventor:

John C. Brooks

UNITED STATES PATENT OFFICE.

JOHN C. BROOKS, OF PATERSON, NEW JERSEY, ASSIGNOR OF ONE-HALF
TO ROBERT H. STERRETT, OF PATERSON, NEW JERSEY.

NARROW-WARE LOOM.

SPECIFICATION forming part of Letters Patent No. 704,295, dated July 8, 1902.

Application filed July 9, 1900. Serial No. 23,283. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. BROOKS, a citizen of the United States, residing at Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Narrow-Ware Looms, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to the needle-motion or the mechanism for inserting the loop of weft or filling in looms used for weaving narrow fabrics; and the invention consists in certain improvements in the construction of such mechanism, as hereinafter described and claimed.

Figure 1 of the drawings is a view in elevation, partly broken out, showing the manner of mounting upon the baton or lay of a loom the sleeve which carries the weft-inserting needle. Fig. 2 is a plan view of a section of the baton or lay, showing my improvements applied thereto.

A post *b* passes through an opening *a* in the baton A and is secured to the baton by means of screws *a'*. Mounted so as to oscillate freely on this post is a sleeve *o*, having at its lower end a hub *p*. The lower face of this hub and the corresponding part of the baton are provided with circular grooves for the reception of a ball-bearing *c*, whereby an easy motion of the said sleeve is secured. The said hub *p* is provided at the front thereof with radial pins or projections *n*. Reciprocating longitudinally at the front of the baton is a rack *q*, which is provided with upright pins *r*, adapted to engage the radial pins *n*, carried by the hub *p*.

Reciprocation longitudinally of the rack *q* by any desired means will give an oscillating movement to the sleeve *o*. Attached at the upper end of the sleeve *o* is an arm *e*, extending a short distance inward or toward the rear of the loom. This arm constitutes the needle of the loom and is provided with devices by means of which the weft-thread is laid in the shed formed in the warps B. Extending longitudinally of the arm is a vertical slot *s*, and in this slot is located a take-up and tension device for the weft-thread, such device consisting of an eye *v*, through which the weft

passes in the manner hereinafter described, and a spring *u*, connected at one end to the eye *v* and at the other end to the arm or needle *e* in a recess *t*, extending from the slot *s* toward the axis of the arm *e*. The outer end of the arm or needle *e* is provided with a slot in which is pivoted at *h* a finger *j*. A spring *l*, attached to the arm or needle *e* near its extreme end *f*, bears upon the finger *j* beyond the pivotal point thereof and serves to hold the said finger normally in a position approximately parallel to the arm *e*. The part *e* is provided with a duct or guide *w*, through which is drawn the weft or filling from any suitable source of supply. The finger *j* is provided with a corresponding opening *i*. Through the duct *w* the weft passes, thence through the eye *v* of the tension device, and out through opening *i* of the finger *j*. The filling rests against the outer side of the finger *j* after passing through the eye therein and is by this device properly laid in the shed.

In looms employing needle-motions it is necessary in order to produce perfect fabrics that the loop of thread inserted by the needle be held at one selvage of the fabric, so as to prevent such loop of thread being retracted when once laid, and it is customary to use a selvage-shuttle to lock the looped thread at the selvage opposite from the side of insertion. Attached to the baton A and in position to be struck by the rear end *g* of the finger *j* when the arm or needle is passed through the shed is a stop *y*. This stop serves to rock the finger *j* against the force of the spring *l* and by that means widens the space between the two parts of the weft-thread forming the loop, so as to facilitate the passage thereof through of the selvage-thread shuttle or other selvage mechanism, (indicated by the letter *c*.)

It is obvious that the face of the finger *j* might be provided with a longitudinal groove extending from the eye *i* therein to better guide the weft-thread as the same is laid in the shed.

Having thus described my invention, what I desire to secure by Letters Patent is—

1. In a needle-motion for looms, the combination of an oscillating arm or needle having a weft-tension device, of a weft-delivering-finger pivoted at the end of the said arm

or needle, a spring attached within the arm
or needle, and acting normally to hold the
finger in parallelism with the arm or needle,
and a stop against which one end of the fin-
5 ger is brought in the oscillation of the arm or
needle, whereby the finger is rocked against
the force of the spring and the loop of weft
or filling thread widened so as to facilitate
the passage therethrough of the selvage-shut-
10 tle, substantially as shown and described.

2. In a loom, a filling-controlling device
comprising a filling-inserting needle, a thread-

engaging device, and a spring inclosed with-
in said needle, one end of the spring being se-
cured to the needle and the other to the thread- 15
engaging device.

In testimony whereof I have affixed my
signature, in the presence of two attesting
witnesses, this 15th day of June, 1900.

JOHN C. BROOKS.

Witnesses:

JOHN R. BEAM,
C. FRANK KRIEGER.