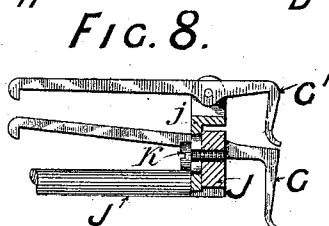
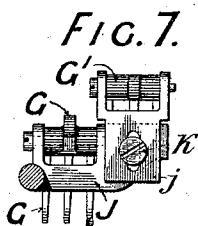
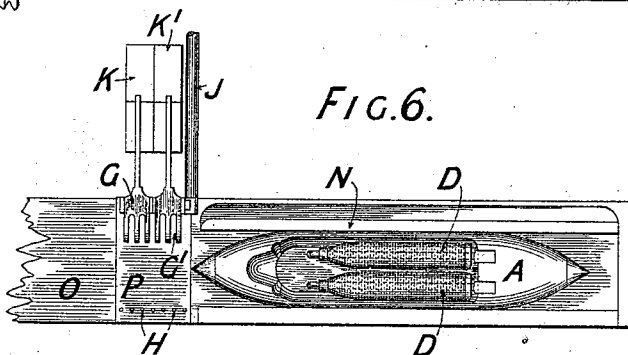
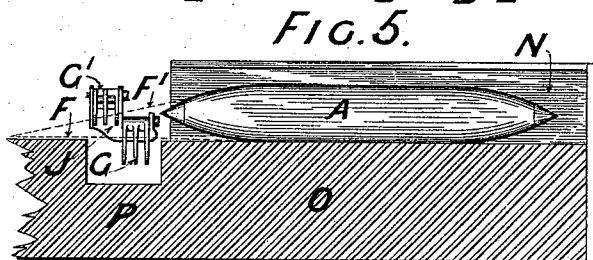
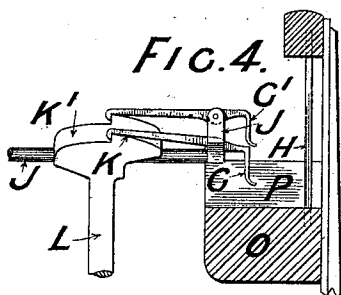
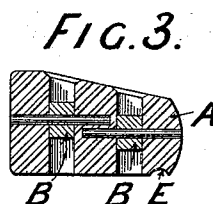
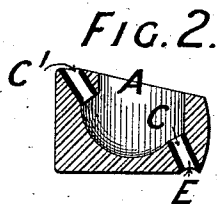
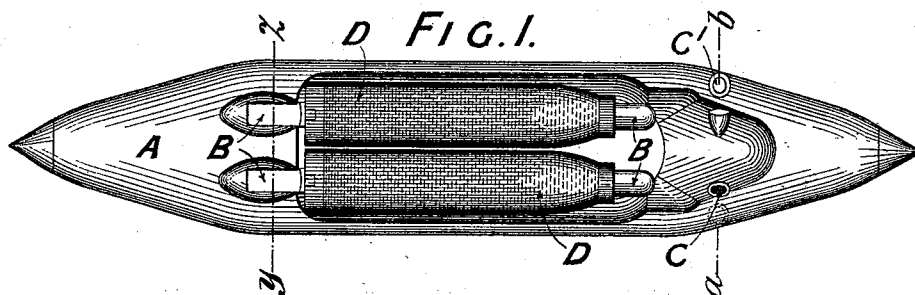


(No Model.)

J. N. D'ANDRIA & E. SLICER.
WEFT STOP MOTION FOR LOOMS.

No. 499,196.

Patented June 13, 1893.



WITNESSES.

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A. Kelly

INVENTORS.

Joseph N. d'Andria and
Edmund Slicer.
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their attys.

UNITED STATES PATENT OFFICE.

JOSEPH NICHOLAS D'ANDRIA AND EDMUND SLICER, OF BRADFORD, ENGLAND.

WEFT STOP-MOTION FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 499,196, dated June 13, 1893.

Application filed September 23, 1892. Serial No. 446,706. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH NICHOLAS D'ANDRIA and EDMUND SLICER, subjects of the Queen of England, residing at Bradford, England, have invented certain Improvements in Weft Stop-Motions for Looms, of which the following is a specification.

This invention relates to improvements in looms and shuttles for weaving fabrics with two picks or two weft threads introduced into the same shed or opening of the warp either to expedite the weaving process, modify the appearance or imparting a softer feeling to the fabric.

The said improvements consist in the particular construction of shuttle hereinafter described and also in the double or compound weft stop motion.

In the accompanying drawings forming a part of this specification Figure 1, is a plan view of our improved shuttle. Fig. 2, is a cross section of the same on the broken line *a, b* Fig. 1, and Fig. 3, is a similar section on the broken line *y, z*. Fig. 4, is a cross section of the "going part" or sley board of a loom through the grate of the weft stop motion illustrating the application of our double weft stop motion. Fig. 5, is a longitudinal section of said "going part" looking from the back of the loom, and Fig. 6, is a plan view of the same. Fig. 7, is a separate view on a larger scale, looking from the front of the loom, of the two weft forks we use, and Fig. 8, is a side view of the same.

The shuttle *A* has two shuttle pegs *B, B*. These pegs are not fitted on the same level but the front peg is placed a little lower than the back one as clearly shown in section Fig. 3. The shuttle is also provided with two weft eyes *C* and *C'* for guiding the weft from the two bobbins *D, D* mounted on pegs *B, B*. The eyes *C* and *C'* are respectively made in the top and bottom of the shuttle as shown in section Fig. 2 so as to leave as wide a vertical space as possible between the two threads leaving the shuttle as represented by the broken lines *F* and *F'* Fig. 5. A groove *E* is formed along the under side of the shuttle in which the weft leaving the eye *C* lies and is thus kept from being damaged by the shuttle resting directly upon it as it is traversed to and fro in the ordinary manner. The top face of

the shuttle is formed at an angle with the bottom face approximately corresponding to the angle formed by the warp when the shed is open. This particular construction leaves greater vertical space between the two weft eyes *C* and *C'* and also allows the distance between the shuttle pegs to be somewhat greater without necessitating the shedding or opening between the warp threads for the passage of the shuttle to be in any way increased.

The weft stop motion we employ is similar in principle to what is known as the "weft fork" stop motion but we employ two weft forks *G* and *G'* arranged one above the other and a wider grate or grid *H* than that commonly used. The said weft forks are both pivoted to the usual arm or weft fork attachment *J* shown broken off in the drawings but which in practice is connected in exactly the ordinary manner to the lever provided to release the starting lever and the brake lever when it is required to stop the loom, and a double head *K* and *K'* is formed on the "hammer" or vibrating lever *L* also shown broken off, but it is of the ordinary construction.

In Fig. 5, the two weft forks and the two weft threads are clearly shown in their relative working positions when the shuttle *A* has entered the shuttle box *N* and the shed is closed immediately previous to beating up the weft. It will be seen that owing to the two threads respectively leaving the shuttle from the top and bottom sides they lie across their respective forks without interfering with each other or the action of the forks. The going part *O* is cut away at *P* to leave the weft fork *G* free. The fork *G'* is preferably mounted in the adjustable piece *j* connected by the screw *k* to the support *J*.

We claim—

1. A weaving shuttle adapted to carry two bobbins of weft having the front shuttle peg lower than the back peg and two weft guide eyes formed close to the bottom and top of said shuttle respectively, substantially as herein shown and described.

2. The combination with a weaving shuttle, for carrying a number of weft threads, having the top formed at an angle to the bottom whereby one side is thicker than the other, of the bobbins arranged in the same transverse plane, the one on the thicker side of the shut-

tle being located in a higher horizontal plane than the one on the thinner side of the shuttle; substantially as described.

3. A weaving shuttle having two shuttle
5 pegs and weft guide eyes in the top and bottom of the shuttle respectively, the eye in the bottom being intersected by a groove running longitudinally of the shuttle for the reception of the thread to prevent wear thereon.

10 4. In a loom for weaving a plurality of weft threads between each crossing of the warp, the combination with the shuttle having a plurality of guide eyes separated from each other,

of the independent weft forks mounted in different planes corresponding to the position of 15 the guide eyes in the shuttle, whereby each fork is controlled by a single thread; substantially as described.

In testimony whereof we have hereunto set our hands in the presence of the two sub- 20 scribing witnesses.

JOSEPH NICHOLAS D'ANDRIA.

EDMUND SLICER.

Witnesses:

DAVID NOWELL,

SAMUEL A. DRACUP.