R. CROMPTON.

FILLING CARRIER FOR WEFT REPLENISHING LOOMS.

APPLICATION FILED JULY 18, 1907.

908,209. Patented Dec. 29, 1908.

Fig. 1.

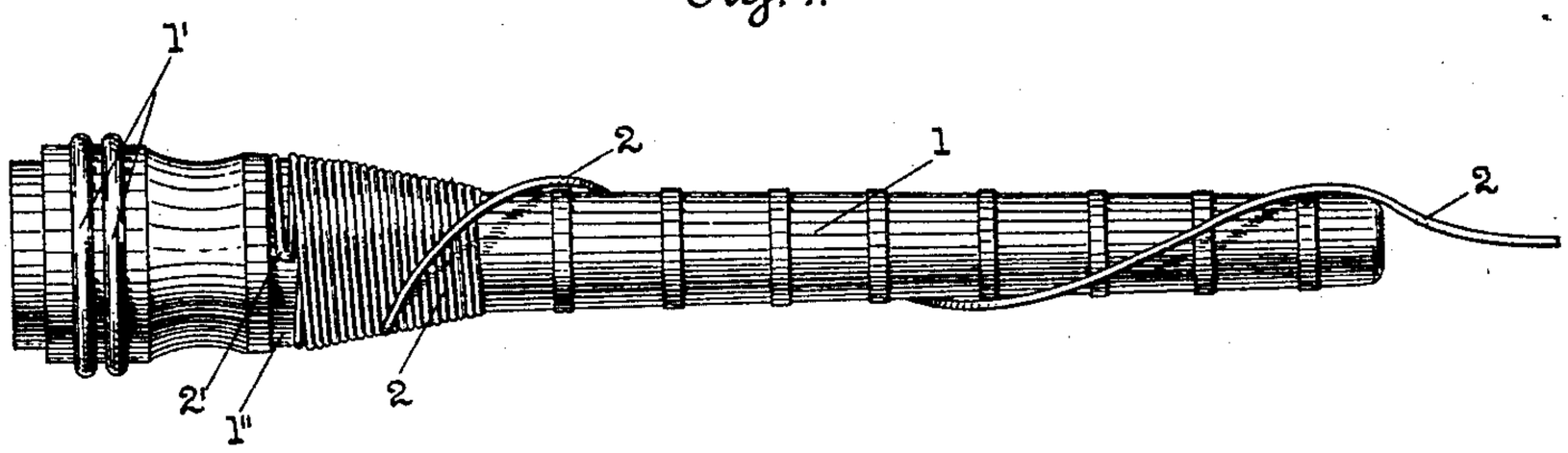
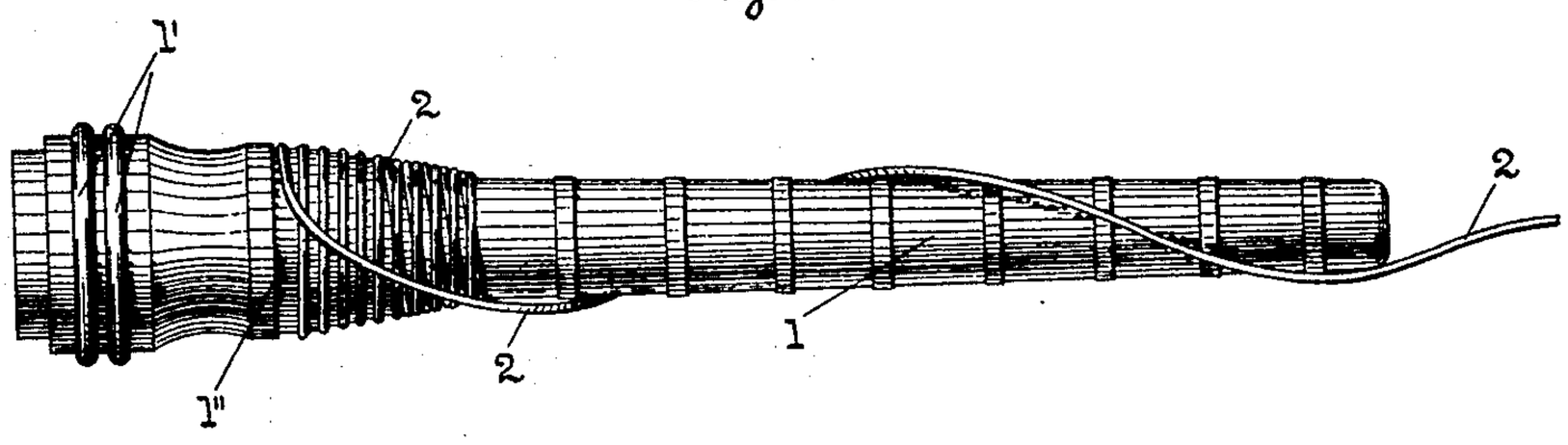


Fig. 2.



Witnesses
M. Bredt.
W. Haas.

Inventor
Randolph Crompton.
By John C. Dewey
Attorney.

UNITED STATES PATENT OFFICE.

RANDOLPH CROMPTON, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO CROMPTON & KNOWLES LOOM WORKS, A CORPORATION OF MASSACHUSETTS.

FILLING-CARRIER FOR WEFT-REPLENISHING LOOMS.

No. 908,209. Specification of Letters Patent. Patented Dec. 29, 1908.

Application filed July 18, 1907. Serial No. 384,375.

To all whom it may concern:

Be it known that I, RANDOLPH CROMPTON, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Filling-Carriers for Weft-Replenishing Looms, of which the following is a specification.

My invention relates to a filling carrier for a weft replenishing loom, and to that class of weft replenishing looms in which, on the practical or substantial exhaustion of filling in the running shuttle, a new filling carrier with a new supply of filling is automatically supplied to the running shuttle, to take the place of the substantially exhausted filling carrier.

In the class of looms referred to, automatic filling detecting mechanism is employed, either mechanical, electrical, or magnetic, to detect when the filling on the filling carrier in the running shuttle is practically or substantially exhausted, and put into operation mechanism connected with the weft replenishing mechanism, to supply fresh filling. The filling detecting mechanism, to detect practical or substantial exhaustion of filling on the filling carrier in the running shuttle, as ordinarily used, is independent of the shuttle, and adapted to enter through an opening in the shuttle and engage the filling on the filling carrier in the shuttle. The filling carrier has all the filling thereon wound in one direction, and when the last few winds of filling are reached, as the filling is drawn off from the filling carrier by the movement of the shuttle through the shed, and before the filling is entirely drawn off from the filling carrier, the filling detecting mechanism detects the practical or substantial exhaustion of filling on the filling carrier, and puts into operation the weft replenishing mechanism, to supply a fresh filling carrier with a full supply of filling to the running shuttle.

The object of my invention is to provide a filling carrier for a weft replenishing loom of the class referred to, and adapted to be used in ordinary shuttles, and with which the use of the ordinary filling detecting mechanism is dispensed with.

My filling carrier, which may be a bobbin of ordinary construction usually employed in weft replenishing looms, or may be a cop or tube on which the filling is wound, has the first few winds of the filling, preferably near the base of the filling carrier, wound in one direction, for instance a right hand wind; the amount of this wind on the filling carrier being sufficient for one or more picks of the shuttle carrying the filling carrier, and the rest of the filling on the filling carrier is wound in a reverse direction to the first few winds of the filling, for instance a left hand wind. This left hand wind filling is preferably first wound over the filling with the right hand wind, near the base of the filling carrier, and is then wound over the rest of the filling carrier in the usual way.

I have shown in the drawing a filling carrier embodying my improvements in the form of a bobbin, but it will be understood that a cop or tube, or other form of filling carrier may be used, if preferred.

Referring to the drawing:—Figure 1 shows a bobbin embodying my improvements with the filling wound in reverse directions thereon, near the base of the bobbin. Fig. 2 corresponds to Fig. 1, but shows the filling wound in one direction only, near the base of the bobbin.

In the accompanying drawing, 1 is a bobbin of ordinary construction, and adapted to be used as a filling carrier in shuttles ordinarily employed in weft replenishing looms. The bobbin 1 has two rings or annular projections 1′ thereon, at its enlarged end or head, as is customary, and the conical shaped portion 1″ above the head portion, as is customary.

2 is the filling which is carried by the bobbin 1. The filling 2 is first wound on the bobbin 1, preferably around the conical shaped part 1″, in one direction for a number of winds, which winds may be parallel to each other, or cross each other, as shown in Fig. 2. The amount of filling is sufficient for one or more picks of the shuttle through the shed, before the filling is entirely drawn off from the bobbin.

After the filling 2 has been wound a number of winds on the bobbin 1 in one direction, as shown in Fig. 2, the direction of wind of the filling is then reversed, forming a loop 2′, see Fig. 1, and the filling is wound in said reversed direction preferably over the first winds of filling, as shown in Fig. 2, and then over the rest of the bobbin in the usual way, until the bobbin has thereon the required amount of filling.

In using my filling carrier in a weft re-

plenishing loom, the filling 2 is drawn off from the bobbin 1 in the usual way, and all the filling wound last on the bobbin in one direction is unwound or drawn off from the bobbin, unless the filling breaks in the operation of the loom, and then the filling wound in the reverse direction is begun to be unwound or drawn off from the bobbin.

The unwinding of the main body of filling from the bobbin, all wound in one direction, causes the filling to have a circular movement in one direction, and when the filling wound in the reverse direction is reached, then said filling will have a circular movement in the opposite direction.

In connection with the circular movement in the reverse direction of the last few winds of the filling on the bobbin, I employ mechanism combined with the shuttle carrying the bobbin, for cutting or severing the filling and putting into operation the weft replenishing mechanism for supplying a fresh filling carrier in place of the substantially or practically exhausted filling carrier in the running shuttle, said filling cutting or severing mechanism combined with the shuttle, forms the subject-matter of another application, and is not included herein.

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

1. A filling carrier having the first few winds thereon wound in one direction, and the remaining winds of filling wound thereon in a reverse direction.

2. A filling carrier for a weft replenishing loom having the first few winds thereon in one direction, and the remaining winds of filling thereon in a reverse direction.

3. As a new article of manufacture, a filling carrier having the first few winds of filling wound thereon in one direction, and the remaining winds of filling wound thereon in a reverse direction.

4. The combination with a filling carrier, of filling having the first few winds thereof wound on the filling carrier in one direction, and the balance winds wound in a reverse direction.

5. The combination with a filling carrier, of filling having the first few winds on the base portion of the filling carrier wound in one direction, and the rest of the filling wound in a reverse direction.

RANDOLPH CROMPTON.

Witnesses:

JOHN C. DEWEY,

M. HAAS.