No. 819,420. PATENTED MAY 1, 1906.

T. GARISIO.

SELVAGE ATTACHMENT FOR LOOMS.

APPLICATION FILED OCT. 18, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

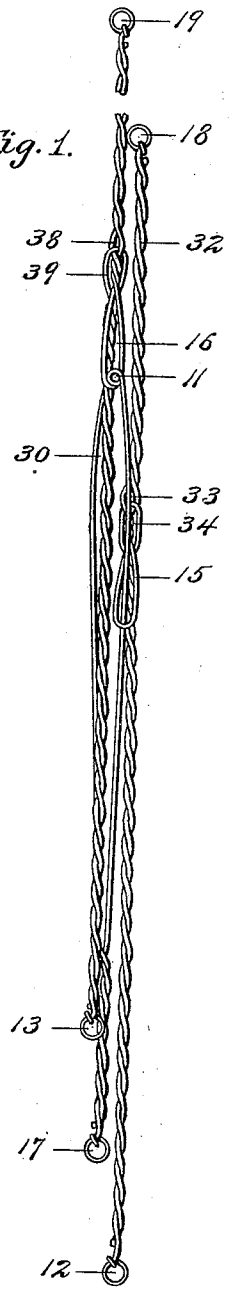


Fig. 2.

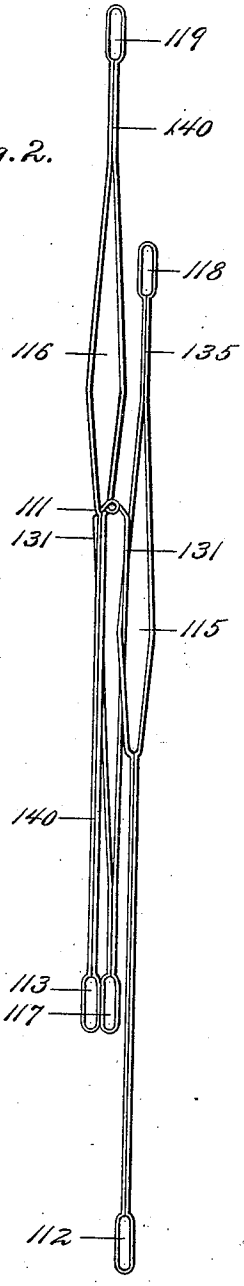
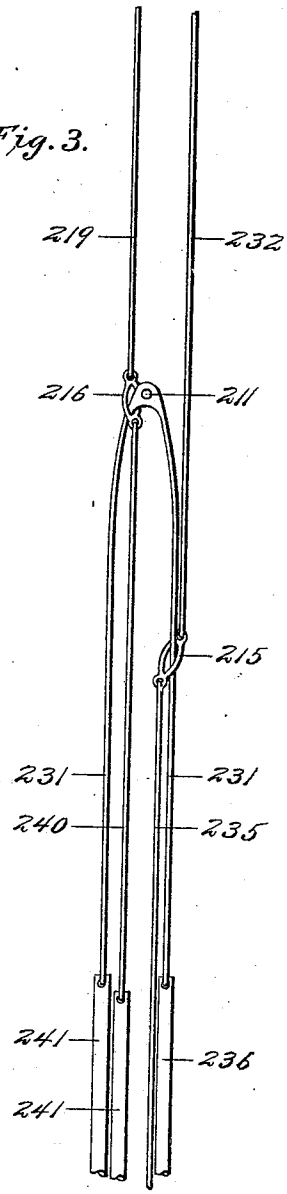


Fig. 3.



Witnesses.

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2 SHEETS—SHEET 2.

Fig. 4.

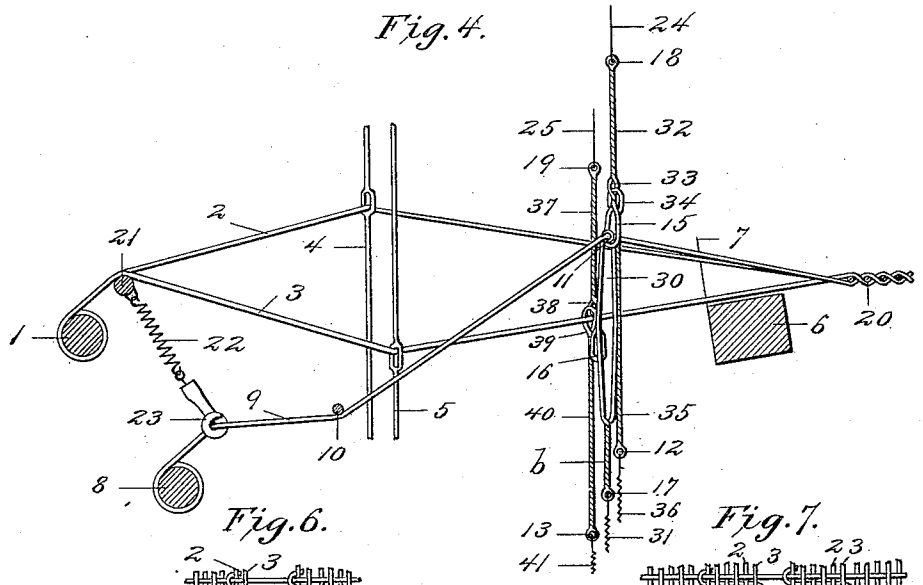


Fig. 6.

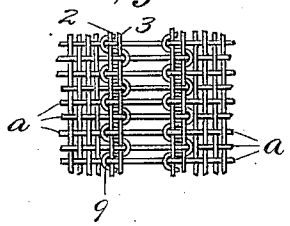


Fig. 7.

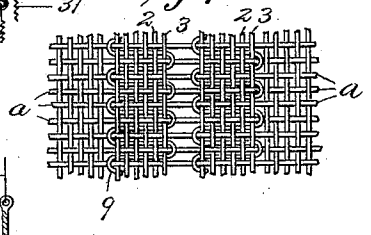
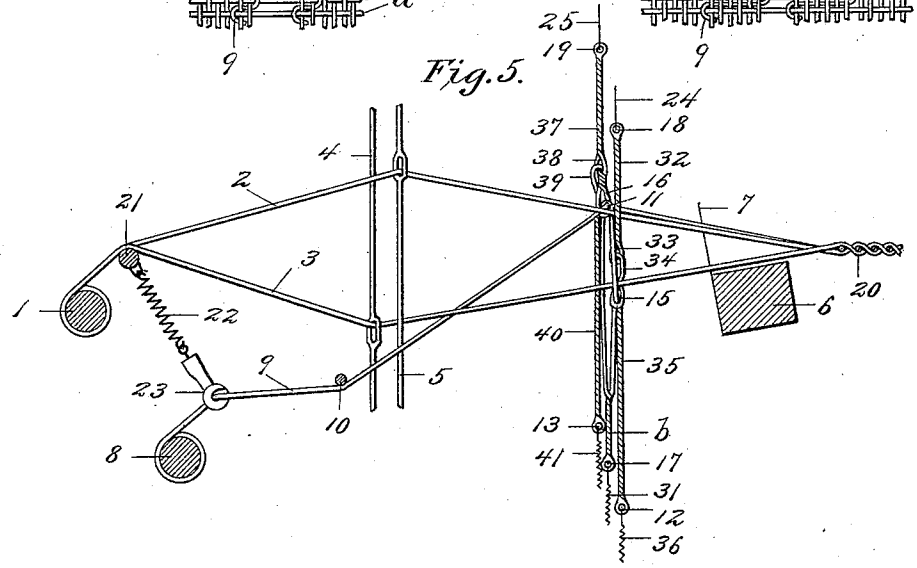


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

THEODORE GARISIO, OF SOUTH BETHLEHEM, PENNSYLVANIA.

SELVAGE ATTACHMENT FOR LOOMS.

No. 819,420. Specification of Letters Patent. Patented May 1, 1906.

Application filed October 18, 1904. Serial No. 229,041.

To all whom it may concern:

Be it known that I, THEODORE GARISIO, a citizen of the United States, residing at South Bethlehem, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in Selvage Attachments for Looms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to characters of reference marked thereon, which form a part of this specification.

This invention relates to selvage-forming mechanism for looms, and more particularly to an attachment that may be placed on either dobby or Jacquard looms to form a selvage intermediate the edges of the warp, whereby double or multiple width fabrics can be woven.

Referring to the drawings, in which like parts are similarly designated, Figure 1 shows my attachment in its preferred form. Fig. 2 is a modification. Fig. 3 is a second modification. Fig. 4 shows an open shed with a selvage-forming thread on one side of the warp. Fig. 5 shows the same thread carried to the opposite side of the warp-threads. Fig. 6 shows a center selvage in which two warp-threads form part of the selvage. Fig. 7 is a similar view of the fabric, illustrating how more than two warp-threads can form part of the selvage to make a wider selvage.

Referring more particularly to Figs. 4 and 5, 1 is the warp-beam, 2 and 3 a pair of warp-threads, 4 and 5 heddles that lift them, 6 is the lay, and 7 the reed, all of usual construction, either of a dobby or Jacquard loom. 8 is a selvage-thread spool from which the selvage-thread 9 passes through the eye 11 of the selvage-forming mechanism and through the reed with the warp-threads. In some cases it is necessary, depending upon the structure of the loom, to insert a selvage-thread guide 10 to keep this thread as much as possible clear of the shed.

At the proper place in the width of the warp—say at the center—when weaving double-width fabric having a center selvage this thread is started through the eye 11 of the selvage-thread carrier through the reed to the goods-beam. (Not shown.) The selvage-thread eye 11 is at the upper end of the selvage-thread carrier comprising the eye 11, loop 30, shank *b*, and eye 17, all formed of a single piece of wire, the lower end of the loop 30 being a straight twisted shank portion *b*, ending in an eye 17, that is connected to the retracting-spring 31 or weight, as the case may be, to always pull the loop and selvage-thread down below the shed.

On the right-hand portion or member of the loop 30—that is, that portion of the loop to the right of eye 11—there is a selvage-thread lifter comprising a twisted wire 32, having a loop 15 at its lower end and just above this loop a loop or open twist 33, above which is the twisted shank 32, terminating in an eye 18, to which is attached the harness-cord 24 going to the dobby or to the Jacquard, as the case may be.

Through the open twist 33 of the selvage-thread lifter passes the loop 34 of the selvage-thread retractor, terminating in a downwardly-extending twisted wire shank 35, having an eye 12 at its lower end, to which is attached a retracting-spring 36 or a weight, as the case may be.

To the left-hand side of the loop is attached similar mechanism, but working oppositely to that of the right-hand mechanism just described and consists of a loop 16 at the lower end of the twisted wire shank 37, having at its upper end an eye 19, to which is attached a lifting-harness cord 25, connected to the dobby or jacquard mechanism, as the case may be. Just above the loop 16 is an eye or open twist 38, and into this takes a loop 39 of a twisted wire shank 40, terminating in an eye 13, retracted by a spring 41 or a weight, as the case may be. It will then be seen that there are two selvage-thread lifters operating alternately, one for each opening of the shed, as well as their retractors.

Between the selvage-thread spool and the eye 11 or in the case where a guide-rod 10 is used between the spool 8 and the guide-rod 10 is the porcelain eye 23, connected by the spring 22 to the warp-thread guide-rod 21.

The operation of the device is as follows: At or before the time that the shed has been formed, Fig. 4, the parts will be in the position shown, the selvage-thread 9 being on this side of the warp-threads 2 and 3. When the shed is closed and opened in the opposite direction, the loop 30 has been free to be pulled down by its spring 31 upon the releasing of the harness-cord 24. When in its lowermost position and the shed is completed

or nearly completed, the cord 25 is pulled, wire 37 is raised, sliding along the left-hand side of the loop 30 to the eye 11 and then lifting the loop 30 to the other side of the two warp-threads to the position shown in Fig. 5.

Fig. 2 shows a selvage-thread lifter comprising a loop 131, made of flat wire and of a slightly-different form from the loop 30, being substantially triangular in shape. The eye 111 is made, as before, at the upper end of the loop and there is a somewhat elongated eye 117 at the lower end.

In place of having two wires 37 and 40 connected by the eyes 38 and 39 I use a single wire 140, having a loop 116 with an eye 119 at its upper end and a second eye 113 at its lower end, thus making the retractor and lifter in a single piece. A similar wire 135 acts on the right-hand side of loop 131. This wire 135 has an upper eye 118, a lower eye 112, and a loop-elongated eye 115. These loops or wires may be double, as shown, by doubling the flat wire upon itself over a suitable form, or they may be made solid and stamped from sheet metal.

In Fig. 3 I have shown the structure somewhat modified. The thread-carrying eye 211 is formed in a yoke or open-ended loop 231, either made of wire or stamped from sheet metal. Each leg of the yoke carries at its lower end a weight 241 and 236. On the right-hand leg slides an eye 215, loosely connected to a lifting-wire 232, and to the retracting-wire 235 is also attached a weight at its lower end, but not shown, a similar weight being shown in connection with the left-hand wire 240. On the left-hand leg is an eye 216, loosely connected to a lifting-wire 219 and a retracting-wire 240, carrying on its lower end a retracting-weight 241.

Referring to Fig. 6, it will be seen that the warp-threads 2 and 3 have a sinuous selvage-thread 9, passing below them, and through each convolution of the sinuous thread 9 passes a weft-thread *a*, said weft-thread passing under the convolutions of the sinuous thread.

In Fig. 7 there are six warp-threads embraced in the selvage, the weft-threads *a* passing under all of the convolutions of the sinuous selvage-thread and the selvage-thread passing under all of the warp-threads back and forth between adjacent weft-threads.

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

1. A selvage-forming mechanism comprising a selvage-thread carrier and means slidable on the carrier to alternately lift said carrier and selvage-thread, substantially as and for the purpose set forth.

2. A selvage-forming mechanism, comprising a selvage-thread carrier and a pair of alternately-operating selvage-thread lifters each to lift the carrier independent of the other, substantially as and for the purpose set forth.

3. A selvage-forming mechanism, comprising a selvage-thread carrier, and a pair of alternately-operating selvage-thread lifters sliding on the selvage-thread carrier, substantially as described.

4. A selvage-forming attachment for looms, comprising a wire selvage-thread carrier and wire selvage-thread lifters coöperating with the carrier to move the selvage-thread back and forth across the desired number of warp-threads at each formation of the shed, substantially as described.

5. A selvage-forming attachment for looms, comprising a loop having a selvage-thread eye at one end, and a selvage-thread lifter slidable on each member of said loop, substantially as described.

6. A selvage-forming attachment for looms, comprising a wire loop having a selvage-thread eye at its upper end and a wire selvage-thread lifter on each member of the loop, substantially as described.

7. A selvage-forming attachment for looms, comprising a selvage-thread carrier, two selvage-thread lifters loosely connected to and slidable on the carrier, and a retractor for each lifter, substantially as described.

8. A selvage-forming attachment for looms, comprising a wire selvage-thread carrier, two wire selvage-thread-lifters slidable on the carrier and a wire retractor connected to each lifter, substantially as described.

9. A selvage-forming attachment for looms, comprising a selvage-thread carrier, a selvage-thread lifter and a retractor for the lifter, said lifter and retractor formed in a single piece, substantially as described.

10. A selvage-forming attachment for looms, comprising a loop having a selvage-thread eye at its upper end, and a shank terminating in an eye at its lower end, means engaging the latter eye to retract the loop, a wire selvage-thread lifter having an eye and open twist, slidable on each member of the loop, a retractor connected in the open twist of each lifter, and means to draw down each retractor, substantially as described.

11. A center selvage-forming attachment, comprising an eye for the crossing selvage warp-thread, and two extensions from said eye, each extension passing through an eye or opening in a wire or cord, and said wires or cords adapted to have an alternate vertical motion, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

THEO. GARISIO.

Witnesses:
E. E. ELWOOD,
WM. WOOD.