Sept. 24, 1963 S. S. C. FLEISCHER 3,104,449

METHOD TO DRAW THE THREADS OF A WARP THROUGH THE EYE OF HEDDLES

Filed Dec. 15, 1961

Fig. 1.

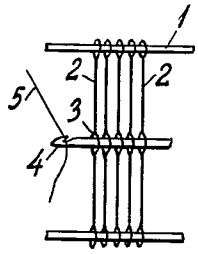


Fig. 2.

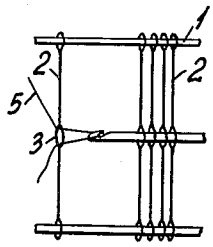


Fig. 3.

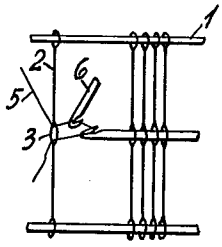


Fig. 4.

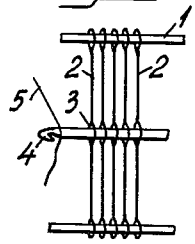


Fig. 5.

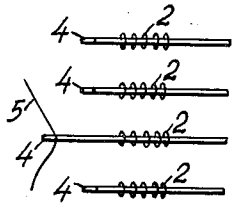
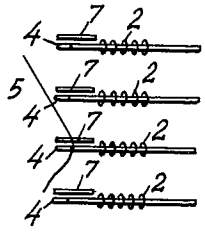


Fig. 6.



INVENTOR.
SVEND SIGURD CHRISTIE FLEISCHER
BY
N. B. Wilkinson & Co.
Attorney

United States Patent Office 3,104,449 Patented Sept. 24, 1963

3,104,449

METHOD TO DRAW THE THREADS OF A WARP THROUGH THE EYE OF HEDDLES

Svend Sigurd Christie Fleischer, 14 Kroyersvej, Charlottenlund, Denmark

Filed Dec. 15, 1961, Ser. No. 159,527
5 Claims. (Cl. 28—72)

The present invention relates to a new method to draw the threads of a warp through the eyes of heddles in a loom. Various methods and means are known in this field, some of these incurring the removal of the heddle harnesses from the loom, and others demanding the use of special heddles. One procedure common to all methods in the art is that the heddles have to be brought forward one by one and held in a certain position to enable a moving needle to pass through each heddle's eye so that a warp thread may be placed in the needle's hook, said thread then being drawn through the eye when the needle is withdrawn. In order to maintain an acceptable productivity the various organs in such an arrangement must function speedily and yet with great accuracy which can only be expected of complicated and expensive machines.

In order to overcome these drawbacks the present invention provides a new method of drawing warp threads through the eyes of heddles in a loom. According to the method the heddles of a harness are threaded by their eyes on a common threading needle with a hook thus eliminating the need for hitting the eye time after time with a moving needle. Following this preparatory step the threads will be placed one after the other on the needle's hook moving the foremost heddle off the needle correspondingly, and thus drawing the thread through the heddle's eye. This method is applicable to all kinds of heddles and does not demand the removal of the harness from the loom.

Another feature of the invention is that each of the several harnesses in a loom has a needle with hook threaded through the eyes of the healds with only one of the needles being in a position to permit the placement of a warp thread in its hook while all the other needles are positioned otherwise.

Other objects and advantages of the invention will be stated in the detailed description in connection with the accompanying drawing which illustrates means by which the method may be practiced.

In the drawing:

FIGURES 1, 2, 3 and 4 each shows schematically a fragmental side elevation of a harness with heddles, a threading needle and a warp thread;

FIGURE 5 shows a schematic view of a number of harnesses with heddles and threading needles, one of the needles being in a special position; and

FIGURE 6 shows a view similar to FIG. 5 with all the needles in the same position but furnished with guards.

In FIG. 1 a harness 1 carries an indefinite number of heddles 2 with eyes 3 in which there is a common thread needle with hook 4 which latter is engaged with a warp thread 5. In FIG. 2 the foremost of the heddles 2 is moved off the thread needle and hook 4 causing thread 5 to be drawn through eye 3. In FIG. 3 a pull hook 6 removes thread 5 from hook 4 drawing simultaneously the loose ends of thread 5 through eye 3. This hook 6 need only be employed if heddles 2 cannot be moved far enough from hook 4 to remove thread 5 off of it. Thread 5 can (without the use of the pull hook 6) be shed from hook 4 by axially turning the needle as shown in FIG. 4. In FIG. 5 one of several threading needles with hook 4 is shown in advanced position so that only this hook 4 will receive a thread 5. In FIG. 6 the hooks 4 are provided with guards 7 so that no thread 5 can be placed in any of the heddles without making a special effort.

I declare that what I claim is:

1. A method of drawing warp threads through the eyes of heddles in a loom harness comprising the steps of threading the heddles by their eyes on a common threading needle with hook, whereafter the warp threads are placed one by one in the needle's hook and following each placement a heddle is moved out over the hook thus drawing the thread through the heddle's eye and then releasing the thread from the hook.

2. A method of drawing warp threads through the eyes of heddles in the harness of a loom comprising the steps of threading the heddles of each harness by their eyes on a common needle with hook, there being a needle for each harness, thereafter positioning one of the needles in a way which permits the placement of a warp thread on its hook and, following each placement, moving a heddle off the hook, thus drawing the thread through the heddle's eye and then releasing the thread from the hook while all the other needles in the other harnesses in the loom are positioned to reject the placement of a thread.

3. The method as claimed in claim 2 characterised in turning one needle axially into a position which permits the placement of a thread in its hook while the other needles in the other harnesses in the loom are turned out of said position.

4. The method as claimed in claim 2 characterised in advancing one threading needle into a position which permits the placement of a thread in its hook while the other needles in the other harnesses in the loom remain withdrawn.

5. The method as claimed in claim 2 characterised in furnishing the hooks of all the needles in the harnesses in a loom with guards that will require a special effort for the placement of a thread on a hook.

References Cited in the file of this patent

UNITED STATES PATENTS

1,482,648 Hathaway et al. ---------- Feb. 5, 1924
2,447,274 Peterson ---------- Aug. 17, 1948