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E. S. STIMPSON.

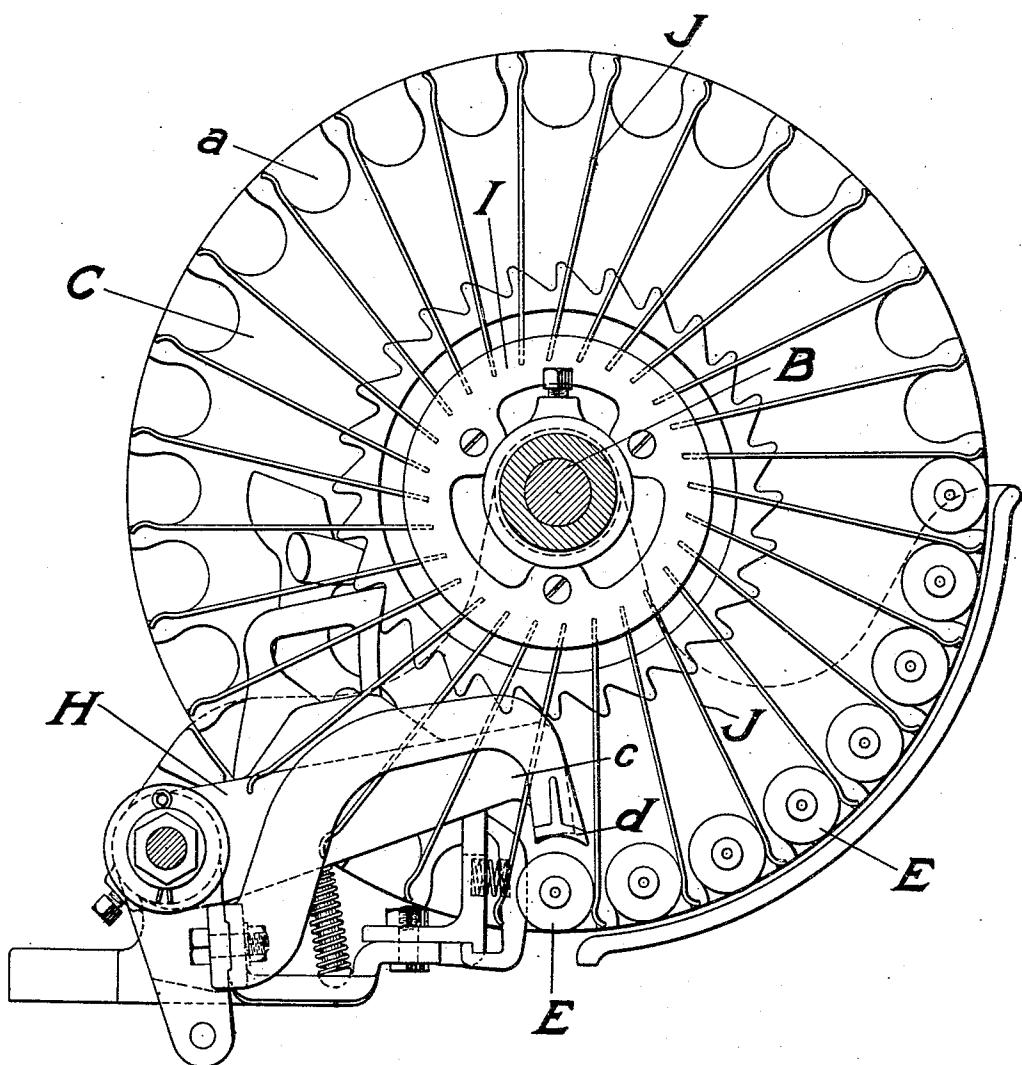
LOOM.

APPLICATION FILED MAY 18, 1908.

Patented July 25, 1911.

2 SHEETS—SHEET 1.

FIG. 1.



Witnesses:

Caroline Debowe

Eugene W. Bond.

Inventor:

Edward S. Stimpson
by Arthur S. Beaman
his attorney

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LOOM.

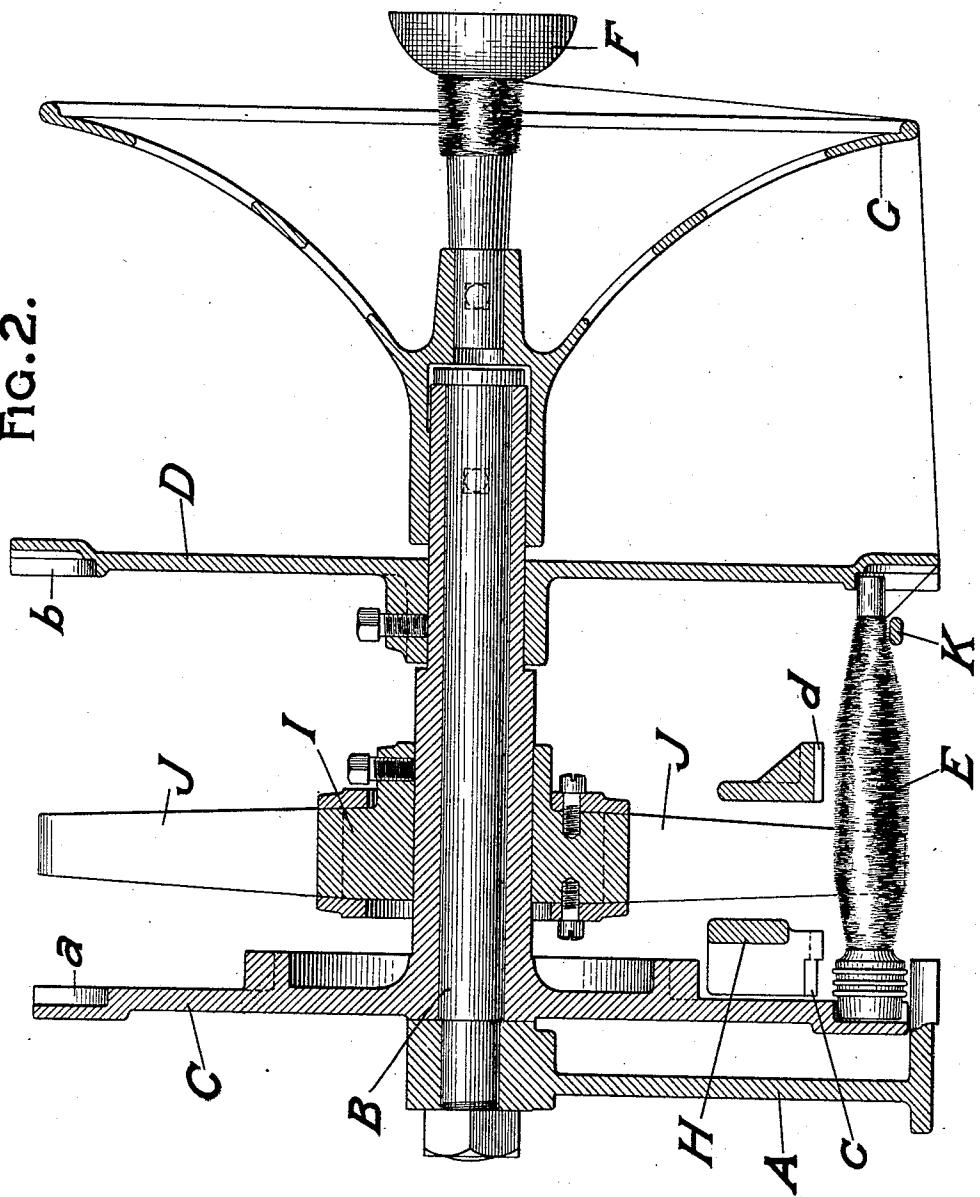
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2 SHEETS-SHEET 2.

FIG. 2.



Witnesses:

Caroline Detom.

Eugene W. Bond.

Inventor:

Edward S. Stimpson
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UNITED STATES PATENT OFFICE.

EDWARD S. STIMPSON, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO DRAPER COMPANY, OF HOPEDALE, MASSACHUSETTS, AND PORTLAND, MAINE, A CORPORATION OF MAINE.

LOOM.

999,064.

Specification of Letters Patent. Patented July 25, 1911.

Application filed May 18, 1908. Serial No. 433,452.

To all whom it may concern:

Be it known that I, EDWARD S. STIMPSON, of Hopedale, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Looms, of which the following is a specification.

The present invention consists in improvements upon the rotary magazines of weft-replenishing looms, which magazines are adapted to hold a large number of weft-carriers which are transferred, one by one, into the working shuttle; and the improvements relate to the means for yieldingly holding the weft-carriers within the magazine, and to the transerrer employed therewith. Heretofore such magazines have been provided with yielding holders for the weft-carriers, but the tendency of such yielding holders has been to press endwise upon the weft-carriers during the transferring action so that the weft-carrier is caused to move endwise after leaving the magazine and before entering the shuttle. The effect, therefore, has been to disturb the correct register which should exist between the active weft-carrier and the shuttle at the time when the transfer takes place.

In accordance with the present improvements, the rotary magazine is provided with yielding retainers which are carried by and rotate with the magazine and which bear upon the mass of weft carried by each weft-carrier so that the elastic pressure which holds each weft-carrier in place is in a direction at right angles to the length of the weft-carrier. Hence, during the transfer of a weft-carrier there is no displacement of the weft-carrier endwise by reason of the yielding retainer which holds it in position in the magazine.

The present improvements are illustrated in the accompanying drawings in which—

Figure 1 is a vertical section through the magazine, and Fig. 2 is a longitudinal section of the magazine.

In its general features the rotary magazine and its coöperative relation with the other features of the weft-replenishing loom are similar to the now well-known Draper or Northrop loom, as illustrated, for example, by Letters Patent of the United States No. 529,940 November 27, 1894.

As shown in the accompanying drawings, A, is a stand or bracket fixed to a stationary part of the loom; B, is a horizontally fixed

stud carried thereby; C, and D, are the circularly separated plates of the rotary magazine which turn on said stud, the inner plate C having sockets *a* for the reception of the butt ends of weft-carriers E, and the outer plate D having sockets *b* for the reception of the tips of the weft-carriers; F, is a rotary thread holder carried by and turning with the rotary magazine; G, is a thread-guide; and H is the transerrer which transfers the lowermost or active weft-carrier from the magazine into the working shuttle when replenishment of weft is required.

The hub of the magazine has a sleeve I, secured thereto which carries a plurality of outwardly radially extending yielding retainers J. There is one of these yielding retainers J for each of a pair of sockets *a* and *b* of the magazine so that there is a retainer for each weft-carrier mounted in the rotary magazine. Each retainer extends outwardly to the periphery of the rotary magazine between two adjacent weft-carriers, and bears yieldingly upon the body of weft carried by one of the weft-carriers.

As clearly indicated in the drawings, each yielding retainer presses upon one of the weft-carriers in a direction at right angles to the length of the weft-carrier thereby holding the butt and tip of the weft-carrier against the walls of the corresponding sockets *a* and *b* so that each weft-carrier is frictionally but yieldingly held in the magazine with sufficient force to prevent displacement but so as to allow the descent of each weft-carrier in turn by the action of the transerrer H. On account of the direction in which each retainer presses on its weft-carrier it exerts no pressure tending to move the weft-carrier endwise. As shown in the drawings each retainer presses on its weft-carrier at a point somewhat nearer the butt than the tip, the place of pressure being approximately opposite the center of gravity of the weft-carrier.

Each pair of sockets *a* and *b* serves as resisting abutments for the butt and tip of one weft-carrier to resist the force of the corresponding yielding retainer so that each weft-carrier is held accurately in place and parallel with the length of the working weft-carrier occupying its weaving position in the loom. Hence, there need be but a single yielding retainer, as shown, for each weft-carrier. Each retainer extends substan-

tially radially from the hub of the rotary magazine so that it stands (when holding the active weft-carrier in transferring position) in practically the line of movement of 5 the acting end of the transferrer, and hence in line with the path of movement of the weft-carrier when being transferred into weaving position; so that it yields readily while being amply competent to hold the 10 weft-carrier normally in place.

The transferrer H at its active inner end is forked as shown in Fig. 2 so as to straddle the yielding retainers J thus furnishing pushers c and d to act upon the active weft- 15 carrier on both sides of its yielding retainer, thereby insuring the square downward descent of the weft-carriers. The drawings illustrate the usual yielding tip guide K.

I claim:—

20 1. A weft-replenishing loom having, in combination, a rotary magazine provided with butt and tip sockets for a plurality of weft-carriers; a plurality of yielding retainers carried by and rotating with the magazine, there being a retainer for each pair of weft-carrier sockets, and each retainer pressing upon the mass of weft on the weft-carrier in a direction at right angles to the length of the weft-carrier; and a forked 25 transferrer straddling the yielding retainers so as to contact with the active weft-carrier on both sides of its retainer.

2. A weft-replenishing loom having, in combination, a rotary magazine holding a 35 plurality of weft-carriers; a plurality of yielding retainers carried by and rotating with the magazine, there being a retainer for each weft-carrier, each retainer pressing upon the body of a weft-carrier in a direction at right angles to the length of the weft-carrier; and a forked transferrer straddling the yielding retainer so as to contact with the active weft-carrier on both sides of its retainer.

40 3. A weft-replenishing loom having, in combination, a magazine for a weft-carrier; a yielding retainer pressing upon the body of the weft-carrier; and a forked transferrer straddling the yielding retainer so as to contact with the weft-carrier on both sides of the retainer.

45 4. A weft-replenishing loom having a rotary magazine provided with sockets constituting resisting abutments for both the butts 55 and tips of a plurality of spare weft-carriers; and a plurality of substantially radially extending yielding retainers carried by and rotating with the magazine, there

being a single retainer for each weft-carrier, and each retainer pressing upon the body of its weft-carrier and pressing its butt and tip against the resisting abutments therefor.

5. A weft-replenishing loom having a rotary magazine provided with resisting abutments for both the butts and tips of a plurality of spare weft-carriers; and a plurality of yielding retainers carried by and rotating with the magazine, there being a retainer for each weft-carrier, and each retainer pressing upon the body of its weft-carrier and pressing its butt and tip against the resisting abutments therefor.

6. A weft-replenishing loom having a magazine provided with resisting abutments for both the butts and tips of a plurality of spare weft-carriers; and a plurality of yielding retainers carried by the magazine, there being a retainer for each weft-carrier, and each retainer pressing upon the body of its weft-carrier and pressing its butt and tip against the resisting abutments therefor.

7. A weft-replenishing loom having a magazine provided with resisting abutments for both the butt and tip of a spare weft-carrier; and a yielding retainer pressing upon the body of the weft-carrier and pressing its butt and tip against the resisting abutment.

8. A weft-replenishing loom having a magazine provided with resisting abutments for both the butts and tips of a plurality of spare weft-carriers; and a plurality of yielding retainers, each retainer pressing upon the body of one weft-carrier and pressing its butt and tip against the restraining abutments therefor, and each retainer when holding its weft-carrier in transferring position extending substantially in line with the path of movement of the weft-carrier 100 when being transferred into weaving position.

9. A weft-replenishing loom having a magazine for a spare weft-carrier; and a retainer pressing upon the body of the weft-carrier, said retainer extending substantially in line with the path of movement of the weft-carrier when being transferred into weaving position.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

EDWARD S. STIMPSON.

Witnesses:

GEORGE E. CHANDLER,
EDWARD DAVID OSGOOD.