

No. 869,644.

PATENTED OCT. 29, 1907.

B. F. McGUINNESS.
WEFT REPLENISHING LOOM.

APPLICATION FILED DEC. 31, 1906.

2 SHEETS—SHEET 1.

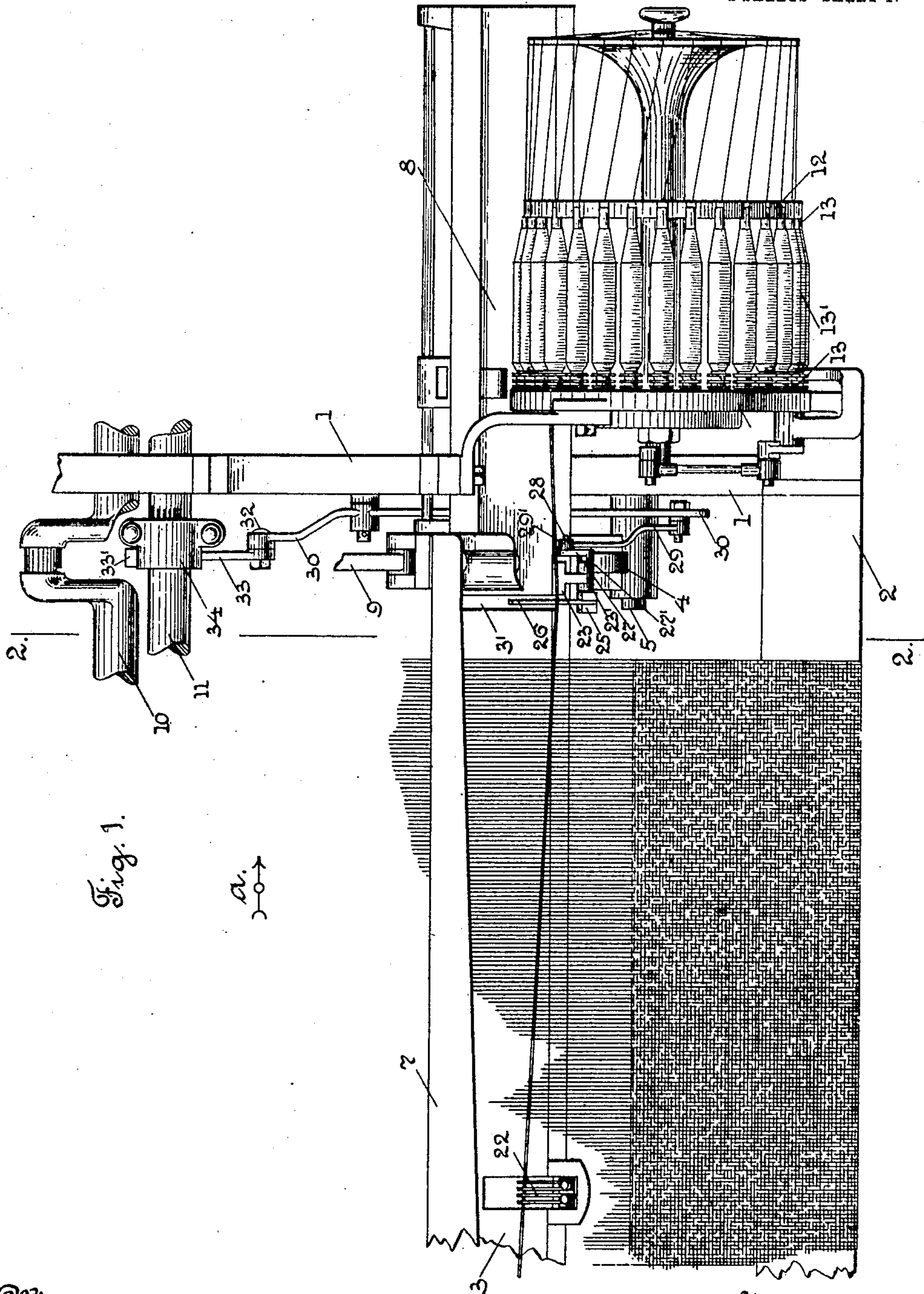


Fig. 1.

2-0-7

Witnesses
W. Bredt.
W. Haas.

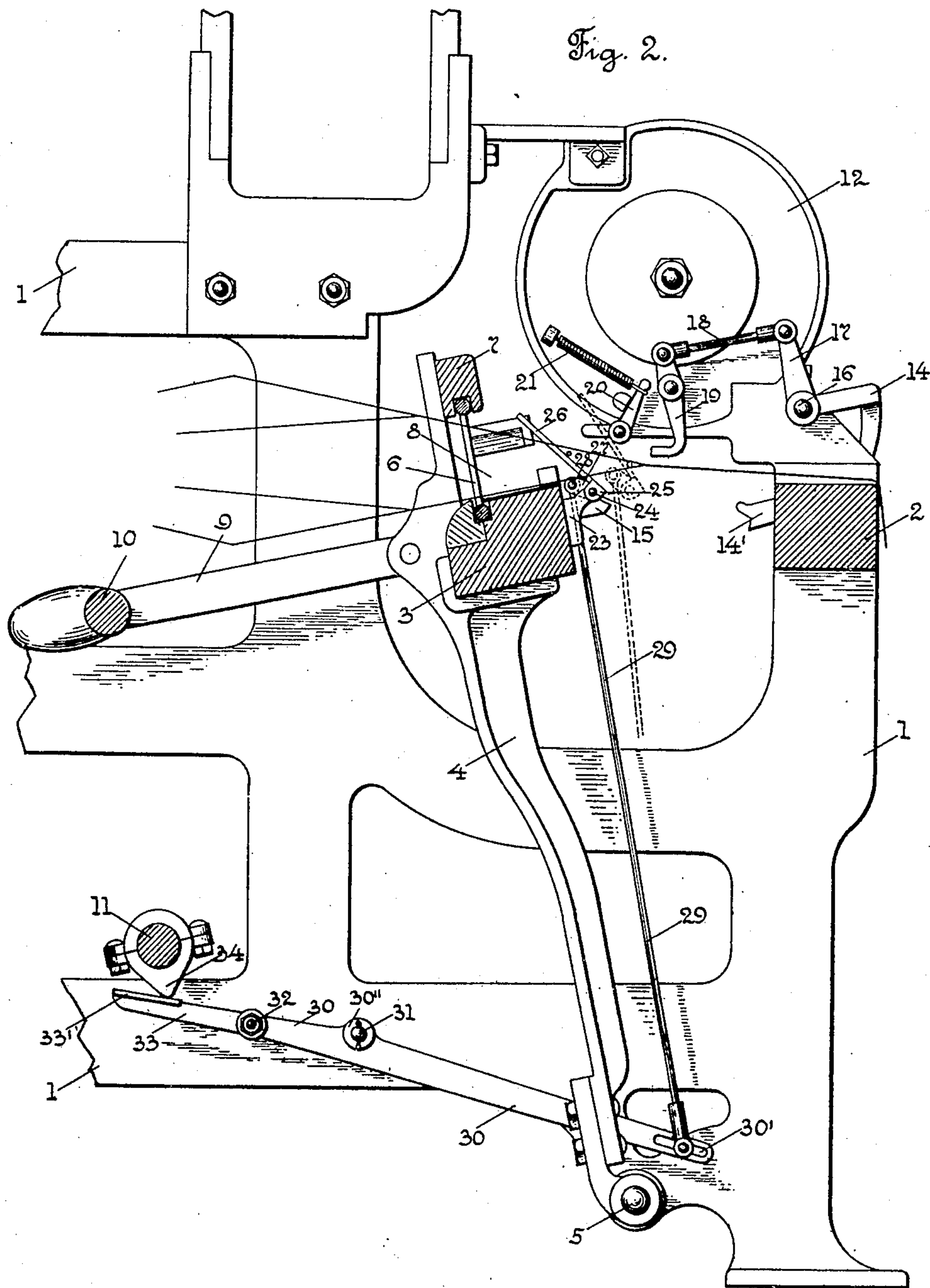
Inventor
B. F. McGuinness.
By John L. Dewey.
Attorney.

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2 SHEETS—SHEET 2.



Witnesses
M. Bredt.
W. Heas.

Inventor
Benj. F. McGuinness.
By John C. Dewey
Attorney.

UNITED STATES PATENT OFFICE.

BENJAMIN F. McGUINNESS, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO CROMPTON & KNOWLES LOOM WORKS, A CORPORATION OF MASSACHUSETTS.

WEFT-REPLENISHING LOOM.

No. 869,644.

Specification of Letters Patent.

Patented Oct. 29, 1907.

Application filed December 31, 1906. Serial No. 350,142.

To all whom it may concern:

Be it known that I, BENJAMIN F. McGUINNESS, 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 Weft-Replenishing Looms, of which the following is a specification.

My invention relates to weft replenishing looms which have a magazine for the bobbins or filling carriers, and filling detecting means to indicate, on the substantial or practical exhaustion of filling, for the insertion of a new bobbin into the running shuttle, and my invention particularly relates to looms of the class referred to having a center filling or weft stop motion, or a filling or weft stop motion at the central portion of the lay, which acts to stop the loom whenever a filling or weft thread breaks.

In weft replenishing looms of the class referred to, when a new bobbin is inserted in the running shuttle, and the shuttle is picked from the magazine end of the loom to the opposite end of the loom, and the end of the filling thread is held by any ordinary holding means connected with the magazine, to have the shuttle properly threaded, the new filling thread, in its passage through the shed, may take a position near, and parallel to the reed line of the lay, and near the upper part of the reed, so that although the lay and reed will beat up the filling in the proper way, the thread fork of the center filling stop motion ordinarily used, will not reach and touch the filling thread, but as the lay beats up, the filling fork will pass under the filling thread and not be engaged thereby, and will consequently drop down into its operative position, and act to stop the loom, in the same manner as if there had been no filling laid in the shed, or as if the filling was broken.

The object of my invention is to prevent the action of the filling fork of the center stop motion to stop the loom in the manner above described, and more particularly to provide means for moving the filling or weft thread ahead of the reed as the lay beats up, to carry it under the fingers of the filling fork, and prevent the dropping down of the filling fork into its operative position to stop the loom, in case the filling or weft thread remains intact, when a bobbin is inserted in the running shuttle, and the shuttle is picked from the magazine end of the loom to the opposite end of the loom.

In my improvements, I provide means for moving the filling or weft thread ahead of the reed as the lay beats up for the purpose stated, which means preferably consists of a blade or fork, located near the weft replenishing end of the lay, to positively engage the end of the filling thread after the shuttle, with a new inserted bobbin therein, has been picked from the shuttle-box at the magazine end of the lay, and carry

said thread toward the front of the loom, as the lay beats up, and under the fork or weft fingers of the center stop motion, to prevent the dropping down of said fingers and the operation thereof, to stop the loom.

I have only shown in the drawings a detached part of a weft replenishing loom, having a magazine of the Northrop type shown and described in U. S. Letters Patent No. 529,940, and a center filling stop motion, or a filling stop motion at the central portion of the lay, with my improvements applied thereto, sufficient to enable those skilled in the art to understand the construction and operation thereof.

Referring to the drawings:—Figure 1 is a plan view of detached parts of a weft replenishing loom of the class referred to, at the magazine end thereof, with my improvements applied thereto, and, Fig. 2 is a section, on line 2, 2, Fig. 1, looking in the direction of arrow *a*, same figure; the broken lines show a different position of some of the parts.

In the accompanying drawings, 1 is the loom side or end frame, 2 the breast beam, 3 the lay, 4 the lay sword pivotally mounted at its lower end on a stud 5, 6 is the reed carried on the lay, 7 the hand rail, 8 the stationary shuttle-box on the magazine end of the lay, 9 is the crank connector to the crank shaft 10, 11 is the bottom shaft driven from the crank shaft 10 in the usual way, through gears, not shown. 12 is the magazine, in this instance of the above mentioned Northrop type, and located at the right hand of the loom, 13 are the bobbins or filling carriers held in the magazine, and having filling thereon; 14 is the operating arm of the transfer mechanism, having the projecting end 14' adapted to be moved into the path of the dagger 15 on the lay. The operating arm 14 is fast on a rock shaft 16. An arm 17 fast on the rock shaft 16 is connected by a link 18 with an indicator lever 19. 20 is a holding lever for a bobbin or filling carrier, actuated by a spring 21. 22 is the center filling or weft fork of the center filling or weft stop motion. The fork 22 has in this instance four fingers, and is located at the central portion of the lay 3. All of the above mentioned parts may be of the usual and well known construction in the class of looms referred to.

I will now describe my improvements.

At the front of the lay 3, near the magazine end of the loom, and near the inner open end of the stationary shuttle-box 8, is in this instance secured, on the front of the lay beam, a stand 23, having in this instance at its upper end the hub or bearing 23' for a rocking pin or stud 24, which is loosely mounted in said hub. On one end of said rocking pin or stud 24 is secured, in this instance a small block or collar 25, to which is attached one end of a blade or finger 26, which in its lowered position is adapted to enter a transverse recess 3' in the upper surface of the lay beam 3, see Fig. 1, leaving the

upper surface of the lay beam clear when the shuttle is picked.

Fast on the pin or stud 24 to rock therewith, is, in this instance, the hub 27' on one end of an arm or link 27; the other arm of said arm or link 27 has a pin 28 thereon, to loosely receive the hub 29' on the upper end of a connector or rod 29, see Fig. 2. The lower end of the rod or connector 29 is adjustably connected with an elongated slot 30' in one end of a lever 30, which has the hub 30'' pivotally mounted on a stud 31 secured to the loom frame. The other end of the lever 30 has in this instance secured thereto, by a bolt 32, one end of an arm or lever 33, having a foot or engaging surface 33' thereon, which extends in the path of and is adapted to be engaged by a cam 34 fast on the bottom shaft 11, see Fig. 2. The arm 33 may be vertically adjusted.

Through the rotation of the bottom shaft 11 and the cam 34 thereon, and connections to the pivotally mounted blade or finger 26, a pivotal movement is communicated to said finger at regular predetermined intervals, to move said blade or finger 26 down into the recess 3' in the upper surface of the lay beam 3 on the backward movement of the lay, and hold it there while the shuttle with a new inserted filling is being picked from the shuttle-box under the magazine, and after the shuttle has been picked from said shuttle box, and as the lay beats up, said blade or finger 26 is raised to engage the filling or weft 13, and move it towards the front of the loom, ahead of the reed 6, as shown by dotted lines in Fig. 2, and consequently carry it under the fork or fingers 22 of the center filling stop motion, to prevent said fork or fingers from dropping down and putting into operation the stop motion to stop the loom.

It will be understood that the details of construction of my improvements may be varied if desired, and they may be adapted to be used on weft replenishing looms

having center filling or weft stop motions, with magazines, or weft replenishing means of different constructions.

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

1. In a weft replenishing loom having a center filling stop motion, means located at one end of the lay, and carried on and moving with the lay, to move the filling ahead of the reed as the lay beats up, and carry the filling under the fork of the center filling stop motion.

2. In a weft replenishing loom having a center filling stop motion, means for moving the filling ahead of the reed as the lay beats up, to carry the filling under the fork of the center filling stop motion, said means comprising a blade or fork mounted on the lay at the weft replenishing end thereof, and moving with the lay, and means for moving said blade or fork.

3. In a weft replenishing loom having a center filling stop motion, the combination with the lay, of means at one end of the lay and carried on the lay, to engage the filling near the end of the lay, and move the filling ahead of the reed as the lay beats up, to carry the filling under the fork of the center filling stop motion.

4. In a weft replenishing loom having a center filling stop motion, the combination with the lay, of a blade or fork carried on the lay at the weft replenishing end thereof, and means for moving said blade or fork to cause it to engage and move the filling or weft thread to carry it under the fork of the center filling stop motion as the lay beats up.

5. In a weft replenishing loom having a center filling or weft stop motion, the combination with the lay having a transverse recess therein for a blade or fork, of said blade or fork carried on the lay at the weft replenishing end thereof, and means for moving said blade or fork to cause it to engage and move the filling or weft thread to carry it under the fork or fingers of the filling stop motion as the lay beats up.

BENJ. F. MCGUINNESS.

Witnesses:

JOHN C. DEWEX,
MINNA HAAS.