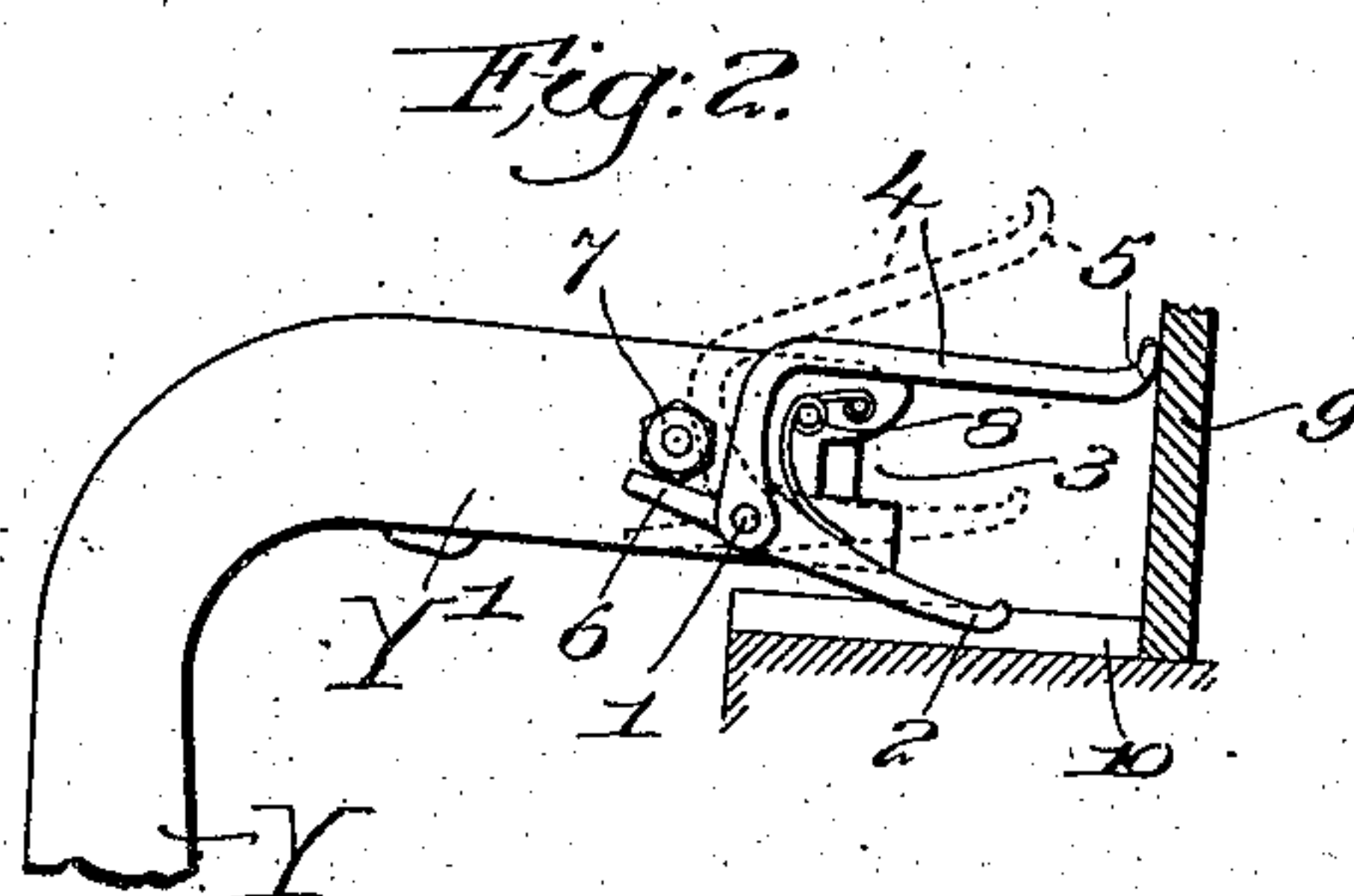
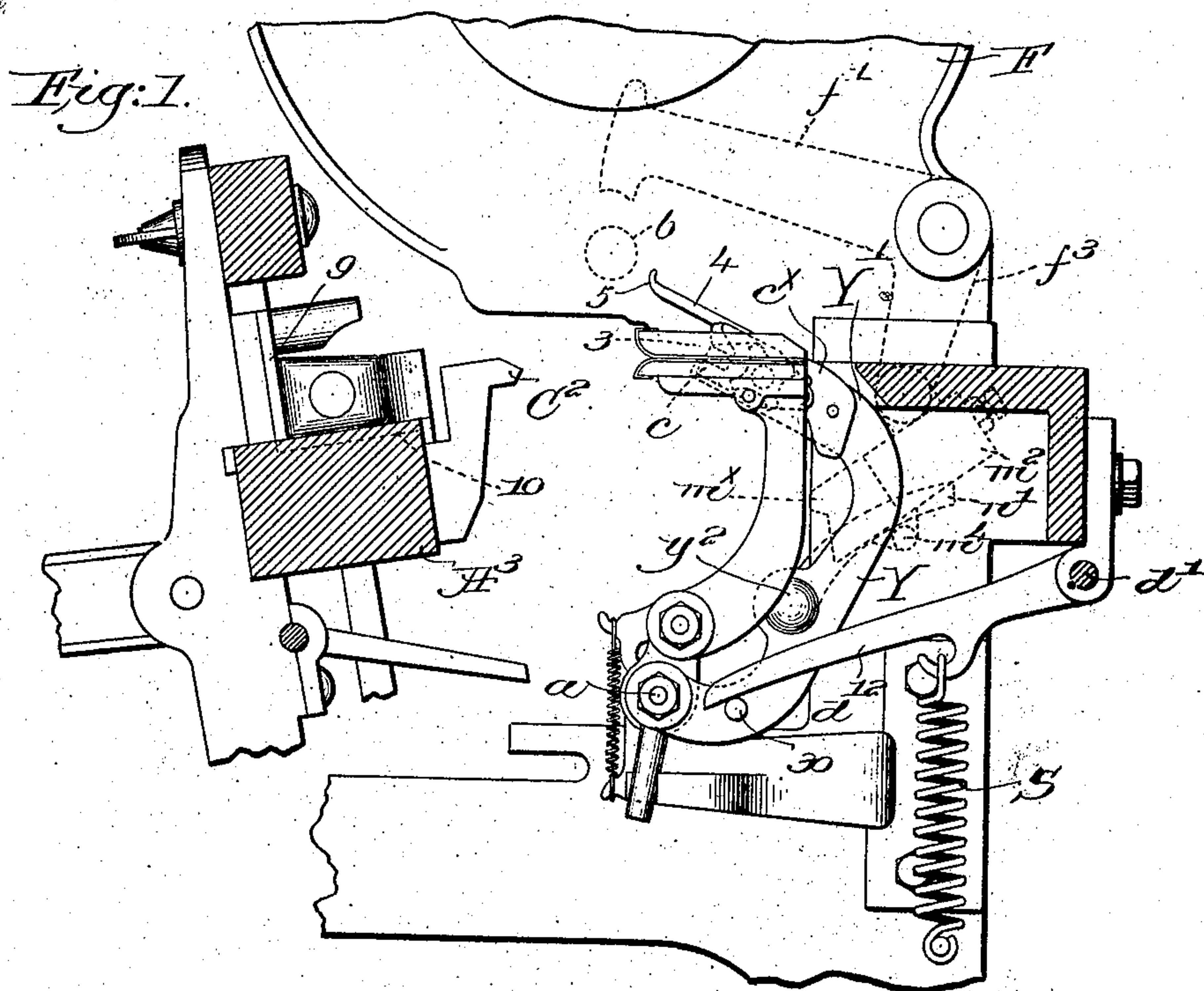


No. 815,786.

PATENTED MAR. 20, 1906.

O. BENSON.  
 THREAD PARTING MECHANISM FOR LOOMS.  
 APPLICATION FILED JULY 31, 1905.



Witnesses,  
 Edward F. Allen.  
 S. Wm. Lutton.

Inventor;  
 Omar Benson,  
 by Harry Gregory  
 atty's



# UNITED STATES PATENT OFFICE.

OMAR BENSON, OF NEW BEDFORD, MASSACHUSETTS, ASSIGNOR TO  
DRAPER COMPANY, OF HOPEDALE, MASSACHUSETTS, A CORPO-  
RATION OF MAINE.

## THREAD-PARTING MECHANISM FOR LOOMS.

No. 815,786.

Specification of Letters Patent.

Patented March 20, 1906.

Application filed July 31, 1905. Serial No. 271,925.

*To all whom it may concern:*

Be it known that I, OMAR BENSON, a citizen of the United States, and a resident of New Bedford, county of Bristol, State of Massachusetts, have invented an Improvement in Thread-Parting Mechanism for Looms, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

In automatic "feeler-loom," wherein the running filling is automatically replenished prior to complete exhaustion, means have been devised to sever the old filling end close to the shuttle at the time filling replenishment is effected and also to sever such filling end adjacent the edge of the cloth. This latter severance is usually effected by a severing device on the temple, a number of different forms of successful thread-cutting temples being in practical use at the present time. The severing or parting near the shuttle is most conveniently effected by a parting device mounted on the shuttle-feeder, the full movement of the latter when the shuttle is properly boxed at the replenishing side of the loom carrying the parting device into position to act upon and sever the old filling end. A device of this character is shown in United States Patent to Draper, No. 683,423, dated September 24, 1901, to which reference may be had. Inasmuch as the old filling end extends from the edge of the cloth to the shuttle-eye at the time the parting device acts, sometimes it will slacken sufficiently to drop below the parting device, so that the latter fails to act, and the filling end is then apt to give trouble, either by catching and tangling with the new filling or by snapping back and getting into the cloth.

My present invention relates to thread-parting mechanism of the character specified; and it has for its particular object the production of simple and effective means for insuring the proper coöperation of the old filling end with the device designed to part or sever it near the shuttle.

I have shown my invention as applied to a loom provided with mechanism for automatically providing the running shuttle with fresh filling at the proper time and in connection with a shuttle-feeler-parting device of

the character shown and described in the patent hereinbefore referred to; but I desire it to be understood that my invention is not thereby restricted in its application merely to the two particular mechanisms shown.

Figure 1 is a transverse sectional view of a portion of a loom provided with automatic filling-replenishing mechanism and a shuttle-feeler-parting device with one embodiment of my invention applied thereto, the apparatus being shown in normal position; and Fig. 2 is an opposite side elevation of the upper end of the shuttle-feeler in operative position and with the filling-positioning device thereon, the dotted-line position of said device showing the manner in which it operates.

The lay  $A^3$ , the filling feeder or hopper  $F$ , Fig. 1, to hold the reserve filling-supplies  $b$ , the transferrer  $f'$ , having a depending end  $f^3$ , the controlling rock-shaft  $d'$ , having an attached arm  $d^{12}$ , held down by the spring  $S^x$ , the arm  $m^2$  on the transferrer end  $f^3$ , having a lateral lug  $m^4$ , the notched dog  $m^x$  on said arm, and the bunter  $C^2$  on the lay to engage the dog and operate the replenishing mechanism may be and are all of well-known construction and operation.

The upturned arm  $Y$ , fulcrumed at  $a$  and bent rearwardly at its upper end at  $Y'$  to constitute a shuttle-feeler and notched at 3, the stud  $y^2$  on the arm  $Y$  and provided with a finger  $n'$  to rest upon the lug  $m^4$ , as shown in Fig. 1, and the parting device mounted on the feeler and comprising the fixed and movable blades  $c c^x$  and the means for operating the same may be and are all substantially as in Patent No. 683,423, referred to.

When the feeler is moved into operative position (see Fig. 2) adjacent the inner end of the replenishing shuttle-box, the old filling end should enter the notch 3 and between the blades of the parting instrumentality to be severed when said blades are closed. If the filling end is slack, it tends to sag below the notch, and hence sometimes will not be so positioned that the parting device can coöperate with it and part it. To overcome this fault, I have provided means to insure operative positioning of the filling end, even if the same be slack or sags. As best shown in Fig. 2, I have mounted on a pin or stud 1, projecting from the outer side of the feeler, a



rearwardly-extended finger 2, normally located below and beyond the notched end of the feeler. Said finger is long enough to pass under the old filling end when the feeler is operatively positioned and the lay beats up, and secured to or forming a part of the finger adjacent its fulcrum 1 I have provided an upturned and rearwardly-extended branch or actuator 4, terminating in a cam-face 5. A forward extension 6 on the finger is normally adapted to rest against a nut 7 on a portion of the parting device to limit downward movement of the finger and actuator, a spring 8 acting to retain said parts in full line or normal position with relation to the feeler.

The feeler is moved into operative position prior to change of filling by rocking of the rock-shaft  $d'$ , thereby elevating the arm  $d^{12}$  and removing the pressure on the pin 30 on arm Y, so that the arm  $m^2$  can swing the dog  $m^x$  up into the bunter-path and at the same time act through finger  $n'$  to position the feeler. The feeler and the parting instrumentality being in operative position, the lay beats up, and a part on the lay, as the back wall 9 of the replenishing shuttle-box, engages the cam-face 5 and swings the actuator 4 upward. This causes the finger 2, which has passed under the old filling end, to rise, and if the filling end is sagging the rise of the finger lifts it so that it is bound to enter the notch 3 and be positioned to be parted when the parting-blades  $c$  and  $c^x$  are closed. Preferably a transverse groove, as 10, Fig. 2, is made in the lay to receive the finger 2, so that the latter passes below the raceway on the lay before it is lifted by the actuator. When the lay swings back, the actuator 4 and finger 2 swing down on the fulcrum 1 to normal position relatively to the feeler, and the latter is swung forward to normal inoperative position, as is usual, the filling-replenishing mechanism having been operated to replenish the filling. Thus the old filling end is necessarily parted at the proper time and place, as its position for coöperation with the parting instrumentality is insured by the means described.

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

1. In a loom provided with filling-replenishing mechanism, a shuttle-feeler having a notch in its end, a device on the feeler to part the old filling end when the latter enters the notch, and means to insure the entrance of such filling end into the notch in position to be acted upon by the parting device.

2. In an automatic filling - replenishing loom, an instrumentality to part the old filling end, and means to automatically insure

the positioning of the filling end to be acted upon by said instrumentality.

3. In an automatic filling - replenishing loom, a shuttle-feeler movable into operative position prior to filling change, a device mounted on the feeler and movable therewith into position to act upon and part the old filling end, and means also mounted on the feeler to engage and automatically position the filling end to insure action thereupon by the parting device.

4. In an automatic filling - replenishing loom, a shuttle-feeler movable into operative position prior to filling change, a device mounted on the feeler and movable therewith into position to act upon and part the old filling end, and means to extend under and lift the filling end into proper position to be acted upon by the parting device.

5. In an automatic filling-replenishing loom, a shuttle-feeler movable into operative position prior to filling change, a device mounted on the feeler and movable therewith into position to act upon and part the old filling end, a finger angularly movable on the feeler and adapted to extend under the filling end, and means to swing the finger upward to lift the filling end into position to insure action thereon by the parting device.

6. In a loom provided with mechanism to automatically replenish the running filling prior to complete exhaustion thereof, a shuttle-feeler, a parting device to part the old filling end near the shuttle, and an automatically-operated finger on the feeler to pass under and lift the filling end and thereby insure the coöperation therewith of the parting device.

7. In a loom provided with automatic filling-replenishing mechanism, a shuttle-feeler, an instrumentality bodily movable therewith into position to part the old filling end upon filling replenishment, a positioning-finger to engage and lift the filling end into position to be parted, and an actuator for the finger operated by engagement with a part on the lay.

8. In an automatic filling-replenishing loom, an instrumentality bodily movable upon replenishment of filling into position to act upon and part the old filling end near the shuttle, and means to automatically insure the positioning of the filling end to be acted upon by said instrumentality.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

OMAR BENSON.

Witnesses:

ROBERT COOKE,  
ARTHUR E. BENSON.