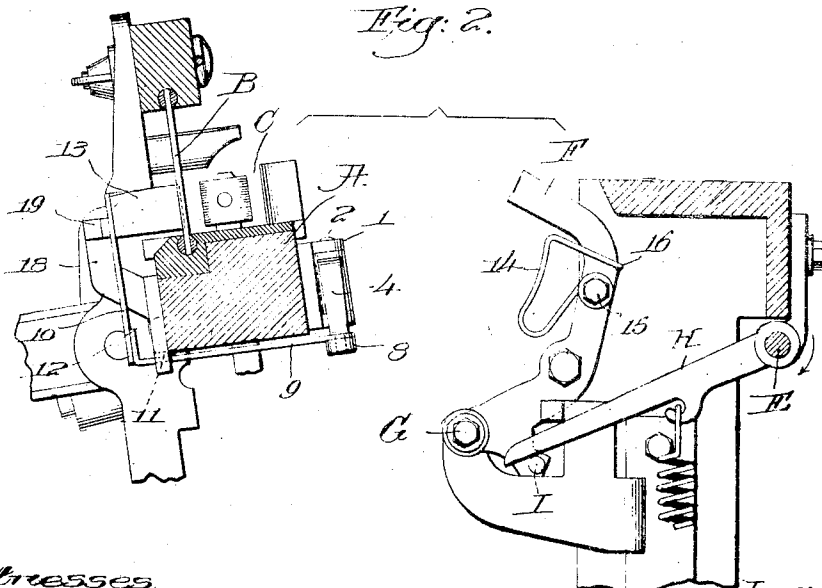
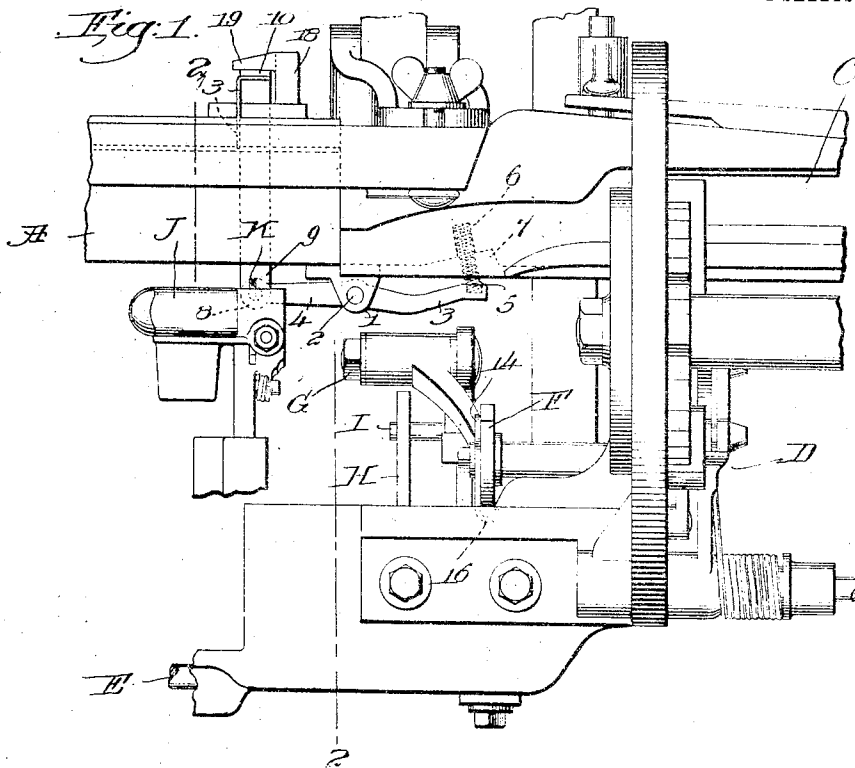


A. E. RHOADES.
 THREAD PARTING MECHANISM FOR LOOMS.
 APPLICATION FILED MAY 4, 1912.

1,045,437.

Patented Nov. 26, 1912.

2 SHEETS—SHEET 1.



Witnesses,
 Edward F. Allen
 Walter O. Neil.

Inventor:
 George H. Rhoades,
 by Edmund H. Hearn & Son.

Attest

A. E. RHOADES.
 THREAD PARTING MECHANISM FOR LOOMS.
 APPLICATION FILED MAY 4, 1912.

1,045,437.

Patented Nov. 26, 1912.

2 SHEETS—SHEET 2.

Fig. 3.

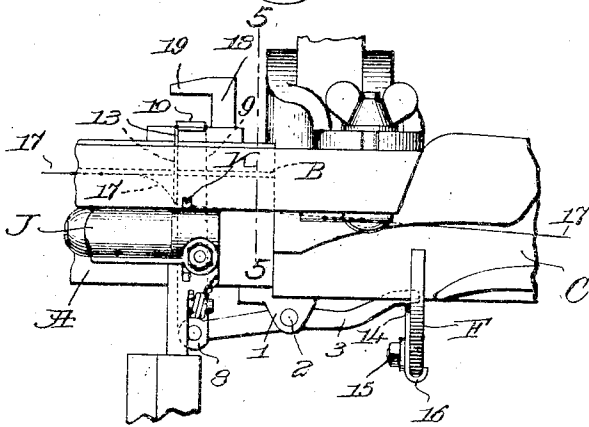


Fig. 4.

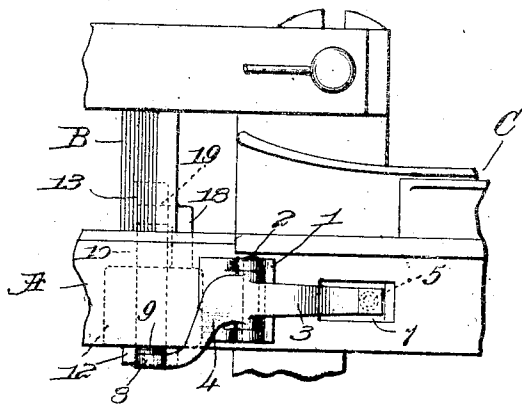
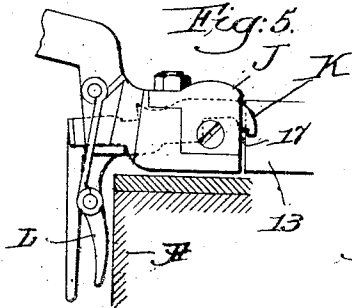


Fig. 5.



Witnesses,
 Edward F. Allen
 Warren C. Neil.

In witness whereof,
 A. E. Rhoades,
 by Edward F. Allen & Warren C. Neil.

Edwards

UNITED STATES PATENT OFFICE.

ALONZO E. RHOADES, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO DRAPER COMPANY, OF HOPEDALE, MASSACHUSETTS, A CORPORATION OF MAINE.

THREAD-PARTING MECHANISM FOR LOOMS.

1,045,437.

Specification of Letters Patent.

Patented Nov. 26, 1912.

Application filed May 4, 1912. Serial No. 825,017.

To all whom it may concern:

Be it known that I, ALONZO E. RHOADES, a citizen of the United States, and resident of Hopedale, county of Worcester, State of Massachusetts, have invented an Improvement in Thread-Parting Mechanism for Looms, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention relates to looms provided with mechanism for replenishing the working shuttle with a fresh supply of filling while the loom continues in operation, and it has for its particular object the production of novel and effective means for promptly parting the filling-end extending from the selvage of the cloth to the replenishing shuttle-box when filling replenishment is called for and the shuttle is properly boxed for replenishment. The filling end is parted adjacent the selvage of the cloth by a temple thread-cutter, such cutter being operated by or through the agency of the lay on the beat-up, as for instance in United States Patent No. 765,687, granted July 26, 1904 to Stimpson. At times the action of this temple thread-cutter upon the filling-end may be delayed unduly, from various causes, so that the filling-end is not parted as promptly as is desirable, the delay usually being due to the fact that the thread of filling is not brought at once into the field of action of the temple thread-cutter.

In my present invention I have provided a device which coöperates with and properly positions the filling-end with relation to the temple thread-cutter whenever operation of the replenishing mechanism is called for, so that the parting of the filling-end takes place immediately, and before the fresh filling is laid in the shed. Normally the positioning device is quiescent and in an inoperative position, so that it offers no obstacle to the working parts of the loom, but when filling replenishment is called for and the shuttle is properly boxed, said positioning device is moved, by or through an actuating member on the shuttle-feeler, into operative position to coöperate with the filling-end, presenting the latter positively and accurately to the temple thread-cutter, to be parted thereby as the lay beats up and operates such cutter.

The various novel features of my invention will be fully described in the subjoined specification and particularly pointed out in the following claims.

Figure 1 is a top plan view of a sufficient portion of an automatic filling replenishing loom, showing the temple provided with a thread-cutter, one practical embodiment of my present invention being illustrated in connection therewith, the various parts being shown in normal condition; Fig. 2 is a transverse sectional view on the line 2-2, Fig. 1, looking toward the right, but omitting the thread-cutting temple for the sake of clearness; Fig. 3 is a detail top plan view showing the thread positioning device in operation and presenting the filling-end to the temple thread-cutter to be parted thereby; Fig. 4 is a front elevation of a portion of the lay, the thread positioning device thereon, and adjuncts of the latter for controlling its operation; Fig. 5 is a detail partly in transverse section, on the line 5-5, Fig. 3, looking toward the left, showing the filling-end held by the positioning device in readiness to be parted by the temple thread-cutter as the forward beat of the lay is completed.

Referring to the drawing, the lay A having a reed B, replenishing shuttle-box C, automatic filling replenishing mechanism partly indicated at D, Fig. 1, the operation thereof being governed by the controlling rock-shaft E; and the shuttle-feeler F fulcrumed at G and normally held retracted in inoperative position by an arm H on the shaft E coöperating with a stud I on the shuttle-feeler, may be and are all of well known construction and operate in a manner familiar to those skilled in the art.

When filling replenishment is called for the rock-shaft E is turned in the direction of the arrow, Fig. 2, and the lifting of arm H permits the feeler F to swing rearward to feel for the shuttle as the lay beats up, so that if the shuttle is not properly positioned in the box C for replenishing the operation of the replenishing mechanism is prevented.

A thread-cutting temple J is shown, having a device to cut or part the old filling-end adjacent the selvage of the cloth, the movable blade K of the thread-cutter being shown in Figs. 1, 3 and 5 in its normal position, said blade being operated when the lay

on the beat-up strikes the heel L, Fig. 5, all substantially as in the Stimpson patent referred to.

In accordance with my present invention
 5 I attach a bracket 1 to the front of the lay adjacent the shuttle-box C, and on said bracket I pivot at 2 the hub of a lever having opposite arms 3, 4, the arm 3 extending laterally to the right, Figs. 1, 3 and 4,
 10 and being acted upon by a suitable spring 5 which is seated in a socket 6 in the lay, the latter being recessed at 7 to permit the proper movement of said lever arm. The other lever arm 4 is downturned in front
 15 of the lay and bent to the left at its lower extremity, and provided with a boss 8 below the bottom of the lay, to which boss is fixedly attached an L-shaped carrier 9, 10, the part 9 extending rearward beneath the
 20 lay and being slidable in an aperture 11 made in a bracket 12 attached to the back of the lay.

The carrier is preferably made as a resilient flat metal plate, the part 10 being up-
 25 turned behind the lay and so located as to be substantially opposite the temple thread-cutter, said part 10 having fixedly mounted at its upper end a thread-positioning device, made as a thin, flat metal blade 13 set
 30 upright and projecting frontward between two adjacent dents of the reed B, as clearly shown in Figs. 2 and 4. This blade-like positioning device or member is movable in a vertical plane toward and from the front
 35 of the lay and across the raceway thereof, when the lever 3, 4 is rocked upon its pivot 2, the spring 5 normally acting through said lever and the carrier 9, 10 to maintain the positioning member 13 retracted, with its
 40 front upright edge within the reed and out of the path of the shuttle, as shown in Figs. 1 and 2.

If the lever arm 3 is pushed rearward, toward the lay, compressing the spring, the
 45 carrier will be moved forward, as will be obvious, and the member 13 will thereby be moved frontward into the shuttle path and toward the front of the lay, as shown in Fig. 3, the plane of movement of said
 50 member 13 being at one side of but close to the plane of the movable cutting blade K on the temple and substantially parallel to the lay raceway. This movement of the thread positioning device 13 into active or
 55 operative position is effected by the movement of the shuttle-feeler F when filling replenishment is called for, and to this end I mount on the feeler a bunter 14, shown as a piece of stout wire bent into proper shape
 60 and held fixedly at 15, the upper free end of the wire being curved or hooked about the feeler at 16.

While the bunter normally will not have any movement relatively to the feeler it has
 65 sufficient resilience to yield should it engage

the lever arm 3 and the lever be, for any reason, held from rocking movement, this provision preventing breakage of parts.

The lever arm 3 extends laterally in front of the path of the bunter 14 when the feeler F is moved rearward, and if the shuttle is properly boxed for replenishment the bunter will engage said arm 3 and push it toward the lay A as the latter moves forward, compressing the spring 5, and the member 13
 70 will be moved frontward beyond the face of the reed, to engage the old filling-end 17, Fig. 3, and push the latter toward the front of the lay, as shown, against the temple J adjacent the blade K. Now while the filling-end is thus engaged and positioned, Figs. 3 and 5, the lay continues its forward movement and moves the heel L to cause the
 75 hooked blade K to hook over the filling-end and then draw it against the usual fixed blade as the lay completes the beat-up. Thereby the filling-end 17 is cut or parted by the temple thread-cutter on the beat-up of the lay on which filling replenishment is
 80 effected, and no curling, twisting or kinking of the filling can prevent the positive and accurate presentation of the filling-end into position to be cut, for the positioning or presenting member 13 will of necessity
 85 move the filling-end into position to be cut. Consequently there is no delay in the action of the temple thread-cutter, and the old filling-end is cut immediately whenever filling replenishment is called for and the shuttle is properly boxed for such replenishment.
 90 100

If the shuttle-feeler F detects improper positioning of the shuttle the bunter 14 will not be moved into engagement with the lever arm 3, and there will be no change in the normal position of the positioning and pre-
 105 senting device 13. After such device has operated as described the spring 5 returns said device and its adjuncts to normal position, shown in Figs. 1 and 2.

The positioning device and the means for
 110 operating it herein shown do not interfere in any way with the usual operation of the temple thread-cutter to part the new filling-end adjacent the cloth after filling replenishment has been accomplished.
 115

Bracket 12 has an upturned extension 18 provided with a lateral head 19 behind the part 10 of the carrier, to act as a stop there-
 120 for under normal conditions and prevent rearward movement of the positioning device 13 away from the reed, the spring 5 normally acting to maintain the part 10 against the stop, as shown clearly in Figs. 1 and 2.

Having fully described my invention, 125 what I claim as new and desire to secure by Letters Patent is:

1. In a loom provided with automatic filling replenishing mechanism, a thread-
 130 cutter to part the old filling-end by or

through the movement of the lay on its forward beat, and a shuttle-feeler to prevent the operation of said mechanism when the shuttle is improperly boxed, in combination, a thread-positioning device carried by the lay and movable transversely thereof across the shuttle path, means to move said device, and a bunter on the shuttle-feeler to engage and actuate said means when filling replenishment is to be effected, whereby the positioning device is caused to engage the filling-end and position it for action thereupon by the thread-cutter as the lay beats up.

2. In a loom provided with automatic filling replenishing mechanism, and with a temple having a thread-cutter actuated by or through the lay on the beat up to part the old filling-end adjacent the cloth when filling replenishment is to take place, in combination, a blade-like thread-positioning device movable frontward through the reed and transversely of the lay at a point nearly opposite the thread-cutter, a resilient carrier for said device, a spring-controlled lever mounted on the front of the lay and attached to said carrier, normally maintaining the positioning device inoperative, and means to act upon and move said lever to position said device operatively in front of the reed when filling replenishment is to be effected.

3. In an automatic filling replenishing loom having a temple thread-cutter, and a shuttle-feeler operatively positioned when filling replenishment is called for and the shuttle is properly boxed, in combination, means comprising a positioning device slidably mounted on the lay and movable transversely thereof substantially parallel to the shuttle race, and a connected transmitting member fulcrumed on the lay and operated by or through cooperation with the shuttle-feeler to engage and position the old filling-end at one side of and to be acted upon by the thread-cutter, when said feeler is operatively positioned just prior to filling replenishment, and a spring to return said means to normal, inoperative position when the shuttle-feeler resumes its normal position.

4. In an automatic filling replenishing loom having a temple thread-cutter, and the lay adapted to operate said cutter, in combination, a normally inoperative device carried by the lay and adapted to engage the old filling-end and present it positively to and at one side of said thread-cutter to be cut thereby, a shuttle-feeler, and a resilient bunter on the shuttle-feeler to cooperate directly with and effect the actuation of said device only when the shuttle is properly positioned for filling replenishment to be effected.

5. In an automatic filling replenishing

loom having a temple thread-cutter, the lay adapted to operate said cutter, and the reed on the lay, in combination, a blade-like member movable through the reed at a point nearly opposite the thread-cutter, to engage and position the filling-end to be acted upon by the thread-cutter, means, including a lever fulcrumed on the front of the lay, to support the said member and to move it transversely of the lay into and out of operative position at the front of the reed, a spring cooperating with said lever to retract the thread-positioning member, a stop to limit retractive movement thereof, and a shuttle-feeler provided with means to engage and rock the lever, to thereby actuate said supporting means and render said member operative when filling replenishment is called for and is to be effected.

6. In an automatic filling replenishing loom having a temple thread-cutter, and the lay adapted to operate said cutter on the beat up, in combination, a normally inoperative device to engage the old filling-end and present it to the thread-cutter, a spring-retracted lever on the lay, operatively connected with said device, a shuttle-feeler, and a resilient member thereon to engage said lever and move it against its spring when filling replenishment is called for and the shuttle is properly boxed therefor, to thereby effect the actuation of the thread-positioning device.

7. In a loom provided with automatic filling replenishing mechanism, and with a temple having a thread-cutter actuated by or through the lay on the beat up to part the old filling-end adjacent the cloth when filling replenishment is to take place, in combination, a blade-like thread-positioning device movable frontward through the reed and transversely of the lay at a point nearly opposite the thread-cutter, a resilient L-shaped carrier extended under the lay and upturned behind it, the upturned part of the carrier having said positioning device attached to it, means to guide and support slidably that part of said carrier under the lay, a spring-controlled lever on the lay, attached to the front end of the lower part of the carrier, said lever normally acting through the carrier to maintain the positioning device inoperative, and means to act upon and move the lever to project the positioning device in advance of the reed when filling replenishment is to be effected.

8. In an automatic filling replenishing loom having a temple thread-cutter, and the lay adapted to operate said cutter on the beat up, in combination, an upright, blade-like device movable with the lay, and relatively thereto to engage the old filling-end and present it to the thread-cutter, a resilient carrier for said device, a spring-controlled lever fulcrumed on the lay and piv-

otally connected with the carrier, to govern the positioning of said blade-like device, a shuttle-feeder, and a bunter thereon to engage and rock the lever to actuate the thread-positioning device when filling replenishment is called for and the shuttle is boxed properly.

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

ALONZO E. RHOADES.

Witnesses:

ROBERT JAMIESON,
E. D. OSGOOD.