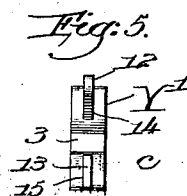
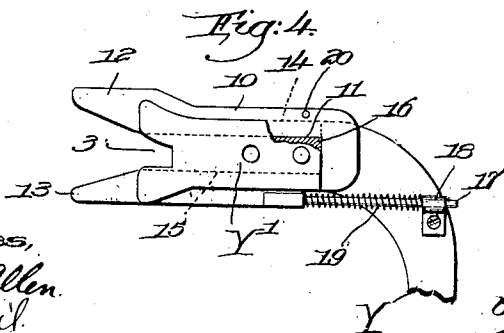
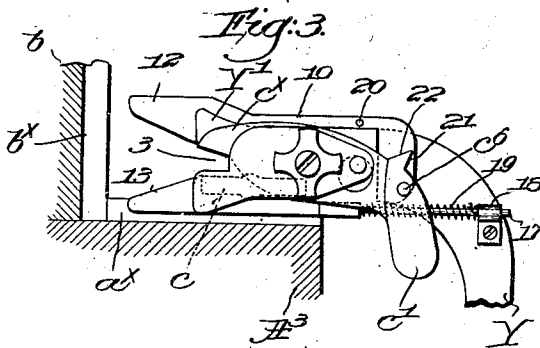
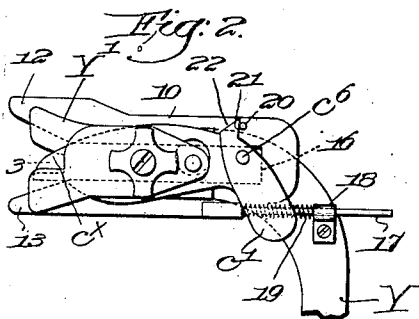
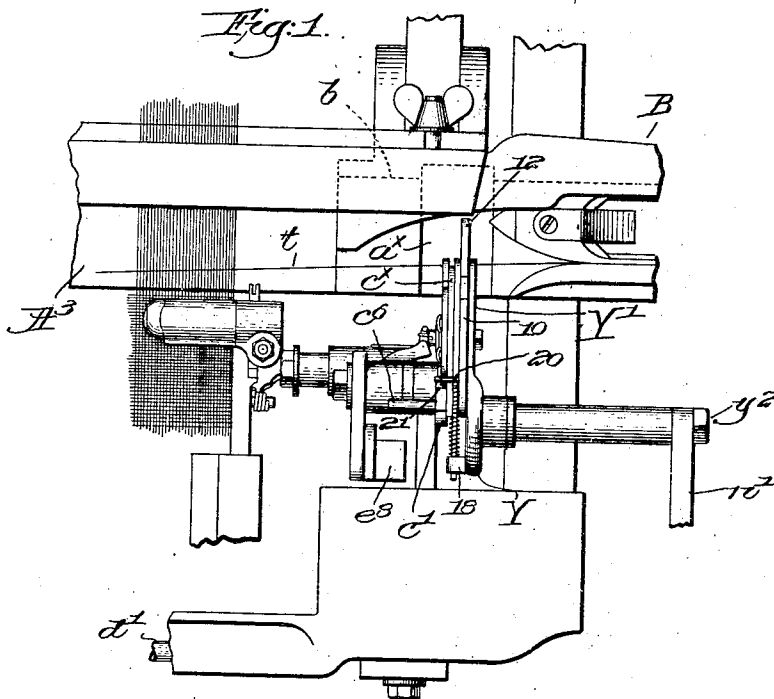


W. McCASLIN.
 THREAD PARTING MECHANISM FOR LOOMS.
 APPLICATION FILED JAN. 2, 1912.

1,035,213.

Patented Aug. 13, 1912.



Witnesses,
 Edward H. Allen.
 Warren O'Neil.

In witness whereof,
 William McCaslin,
 by Edward H. Allen & Warren O'Neil

Attest

UNITED STATES PATENT OFFICE.

WILLIAM McCASLIN, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO DRAPER COMPANY, OF HOPEDALE, MASSACHUSETTS, A CORPORATION OF MAINE.

THREAD-PARTING MECHANISM FOR LOOMS.

1,035,213.

Specification of Letters Patent.

Patented Aug. 13, 1912.

Application filed January 2, 1912. Serial No. 668,875.

To all whom it may concern:

Be it known that I, WILLIAM McCASLIN, 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 mechanism for parting the old filling end near the shuttle when filling is replenished in an automatic filling-replenishing loom of the "feeler" type, one form of mechanism of this character being shown in United States patent to Draper, No. 683,423, dated September 24, 1901. Therein the parting device comprises fixed and movable parting blades mounted on the shuttle-feeler, the blades being opened by a suitable device when said feeler is moved rearward to operative position, and said blades are closed by or through the agency of the lay as it moves forward on the beat up.

My present invention has for its object the production of simple and effective means to assist in guiding or directing the filling end into position to be parted when the shuttle-feeler moves the parting device into operative position.

Figure 1 is a top plan view of a portion of the replenishing side of an automatic loom, showing the shuttle-feeler and thread-parting device, with my present invention applied thereto; Fig. 2 is an inner-side elevation of the shuttle-feeler and parting device, the latter being in its normal, closed position, with my improved guiding means in retracted position; Fig. 3 is a similar view, enlarged, but showing the guiding means in its operative position and the parting device open, the parts being shown as they would be positioned just before the forwardly moving lay acts to close the parting device upon the filling end; Fig. 4 is a side elevation of the rear end of the shuttle-feeler, partly broken out, with the guiding means thereon, the parting blades being omitted; Fig. 5 is a left hand end view of the structure shown in Fig. 4.

In Fig. 1 the lay A^s , shuttle-box B thereon having a back wall $\bar{b}$, the controlling rock-shaft d' of the filling-replenishing mechanism (the replenishing mechanism being

omitted) the upturned arm Y bent rearwardly at its upper end at Y' to constitute a shuttle-feeler, and notched at 3, the stud y^2 on arm Y, having a finger n' , and the parting device mounted on the feeler and comprising the fixed and movable blades c, c^x are and may be all substantially as in the Draper patent except in such particulars as are hereinafter referred to.

When the shuttle-feeler is moved to operative position so as to extend across the lay as the latter beats up, as in Figs. 1 and 3, the old filling end t , Fig. 1, should enter the notch 3 between the blades c, c^x to be parted cleanly and with certainty when said blades are closed. Should the filling end be slack it would tend to hang down below the notch so that the blades could not act upon it. To overcome this I mount upon the feeler a longitudinally slidable guide having a flared or V-notched rear end to receive the filling end and guide it into the notch 3 when said guide is operatively positioned. This guide is herein shown as a thin, flat, metal plate 10, having a longitudinal slot 11 therein, Fig. 4, extending from its rear end frontward, the rear end of the plate being widened somewhat, and provided with a V-shaped notch, the divergent edges thereof constituting flaring jaws 12, 13. The opposed edges of the jaws meet the edges of the slot 11, as clearly shown in Fig. 4.

To support the guide plate the feeler Y' is longitudinally slotted at its upper and lower edges, at 14, 15, Fig. 5, leaving an elongated intermediate portion 16 which forms a bearing for the plate. By reference to Fig. 4 it will be clear that the guide plate 10 can slide longitudinally upon this bearing 16 and within the slots 14 and 15, the front end of said bearing acting as a stop or abutment to limit rearward movement of said plate. A small rod 17 fixed to the plate extends frontward loosely through a guide bearing 18 on the arm Y, and a projecting spring 19 is coiled about the rod between said bearing and the plate, the spring normally acting to project the guide plate rearward into the position shown in Figs. 1, 3 and 4. A laterally projecting pin or stud 20 on said plate constitutes a stop, for a purpose to be described.

When the guide plate is projected into operative position the jaws 12, 13 extend rearwardly beyond the notch 3 of the feeler,

as shown in Figs. 3 and 4, the jaw 13 entering the usual recess a^* in the raceway of the lay.

The movable blade c^* has the usual depending heel c' to be struck by the lay on the beat up, to close said blade and thereby part the filling end, and said blade also has the lateral setting pin c^b shown in the Draper patent. When the shuttle-feeler is moved rearward, when filling replenishment is called for, said pin c^b is engaged by the cam e^b , Fig. 1, as in said patent, and the blade c^* is moved from its pivot from the position shown in Fig. 2 to open position, Fig. 3. In my present invention I provide the front end of said blade c^* with a detent, shown as a lug 22 having a front face 21, the detent being so positioned that when the blade c^* is closed and the guide plate 10 retracted, as in Fig. 2, the face 21 will be upright and behind the stop 20, in engagement therewith. Consequently the guide plate is held retracted against the action of its projecting spring 19. Thus under normal conditions the jaws 12, 13 are retracted toward and close to the rear end of the shuttle-feeler, and positively held in such position by engagement of the detent with the stop 20, so that there is practically no rearward elongation of the shuttle-feeler at such time.

When filling replenishment is called for the shuttle-feeler is moved rearward bodily, and during such movement the cam e^b engages the setting pin c^b , thereby opening the blade c^* , but such opening movement of the blade disengages the detent from the stop 20, and the guide plate is quickly projected rearward toward the advancing lay, bringing the flaring jaws 12, 13 with a sudden jump into operative position across the lay to insure the guidance of the filling end into the feeler notch 3 and between the blades c, c^* . It is found in practice that this quick rearward jump of the guide jaws will always effect the proper engagement thereof with the filling end, for as the lower guide jaw is thus thrust rapidly beneath the filling end the latter is lifted quickly and surely into position to enter the feeler notch, obviating the possibility of the filling end being pushed toward the back of the raceway, and away from the notch, by the guide jaw. As the lay continues to advance the back wall b of the shuttle-box B will engage the flared jaws and will move the guide plate 10 frontward on the feeler to bring the stop 20 into position in front of the detent, but the jump of the guide jaws has by this time insured the entrance of the filling end into the notch 3, and finally the lay hits the heel c' and closes the blade c^* , thereby parting the filling end. This movement of the blade moves the detent 22 upward so that its face 21 will be in position to engage the stop 20 as the lay swings back and the

spring 19 expands somewhat. It will now be seen that the parts are restored to their relative positions shown in Fig. 2, and they so remain when the shuttle-feeler returns to its normal position ready for the next operation. 70

To prevent the re-setting of the guide-plate too soon on the beat-up, that is, in order that the jump of the guide jaws shall have time enough to engage and lift the filling end, I provide the box wall b with a recess b^* for the reception of the tips of the jaws 12, 13. This recessing of the box-wall also permits the jaws of the guide to extend completely across the raceway of the lay, so that the picking up of a slack filling end and its guidance to the feeler notch 3 is insured, even should the filling end be located toward the back of the raceway, as sometimes happens. 85

If the shuttle should be improperly boxed the jaws 12, 13, either or both, would engage it and thereby the guide plate 10 would be moved frontward along the feeler as the latter continues its operative or rearward stroke to feel the shuttle, so that there is no interference with the proper function of the feeler. The spring 19 gives the rearward jump to the guide jaws at a speed in excess of that of the shuttle-feeler as it moves rearward to feeling position, and this accelerated speed of the jaws is the primary factor in providing for the quick and certain lifting of the filling end and its guidance into the notch before the filling end has an opportunity to move rearward with the engaging jaw. 95

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is: 105

1. In a loom, a shuttle-feeler having a notch in its end, a filling-parting device on the feeler, including a blade movable across the notch to part the filling when positioned therein, a plate slidably mounted on the feeler and having at its rear end flaring jaws to guide and direct the filling-end into the feeler notch, a spring to project the plate rearward at an accelerated speed with the jaws thereof extended beyond the notched end of the feeler, a stop on the plate, and a detent carried by the movable parting blade to co-operate with said stop and retain the plate retracted when the said blade is in closed position, movement of the blade to open position causing the detent to disengage the stop and permit the plate to be projected by its spring with a quick jump when the shuttle-feeler is moved to operative position, the quick rearward jump of said plate causing the lower jaw to lift the filling end suddenly and position it for entrance into the feeler notch. 110 115 120 125

2. In a loom, a shuttle-feeler having a notch in its end, a blade pivoted on the feeler 130

to part the filling end when in the notch, a guide having a V-shaped rear end and longitudinally slidable on the feeler, a spring to project said guide at an accelerated speed with its rear end extended beyond the notched end of the feeler, to lift with a sudden, quick movement the filling end and thereby insure proper guidance of the same into the notch, members carried by said guide and blade, respectively, to cooperate when the blade is in closed position, and retain the guide retracted, movement of said blade to open position causing release of the guide as the shuttle-feeler moves rearward, and a moving member of the loom to engage the operatively positioned guide and retract it on the beat up after the filling end has been lifted to enter the feeler notch.

3. In a loom, a shuttle-feeler, fixed and movable parting blades thereon to part the filling end, and normally retracted, spring-projected means on the feeler to extend rearward when projected with a quick jump and effect sudden uplift and guidance of the filling-end into position to be parted by the blades, combined with means controlled by the movable blade to hold said guide means retracted when the parting blades are closed and to release the guide means for accelerated rearward movement relatively to the feeler when said blades are opened to receive the filling end.

4. The combination with a lay having a shuttle-box thereon, a shuttle-feeler, and a device movable bodily therewith into position to part the old filling end, said device including a movable parting blade, of a guide slidably mounted upon and movable longitudinally of the feeler and having a flared rear end, to direct the filling end into position to be parted, a spring to move said guide rearward with a quick jump relatively to and upon the feeler into operative position, a stop on the guide, and a detent on the movable blade, said detent having an upright front face to engage the stop and retain the guide retracted, movement of the blade to open position on the rearward swing of the feeler to operative position causing the detent to release the stop, whereby the guide is operatively positioned at an accelerated speed to effect a sudden uplift of and to direct the filling end into position to be parted, the back of the shuttle-box thereafter engaging the rear end of and moving said guide forward to retracted position on the feeler as the lay beats up.

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

WILLIAM McCASLIN.

Witnesses:

WM. SALMOND,
E. D. OSGOOD.