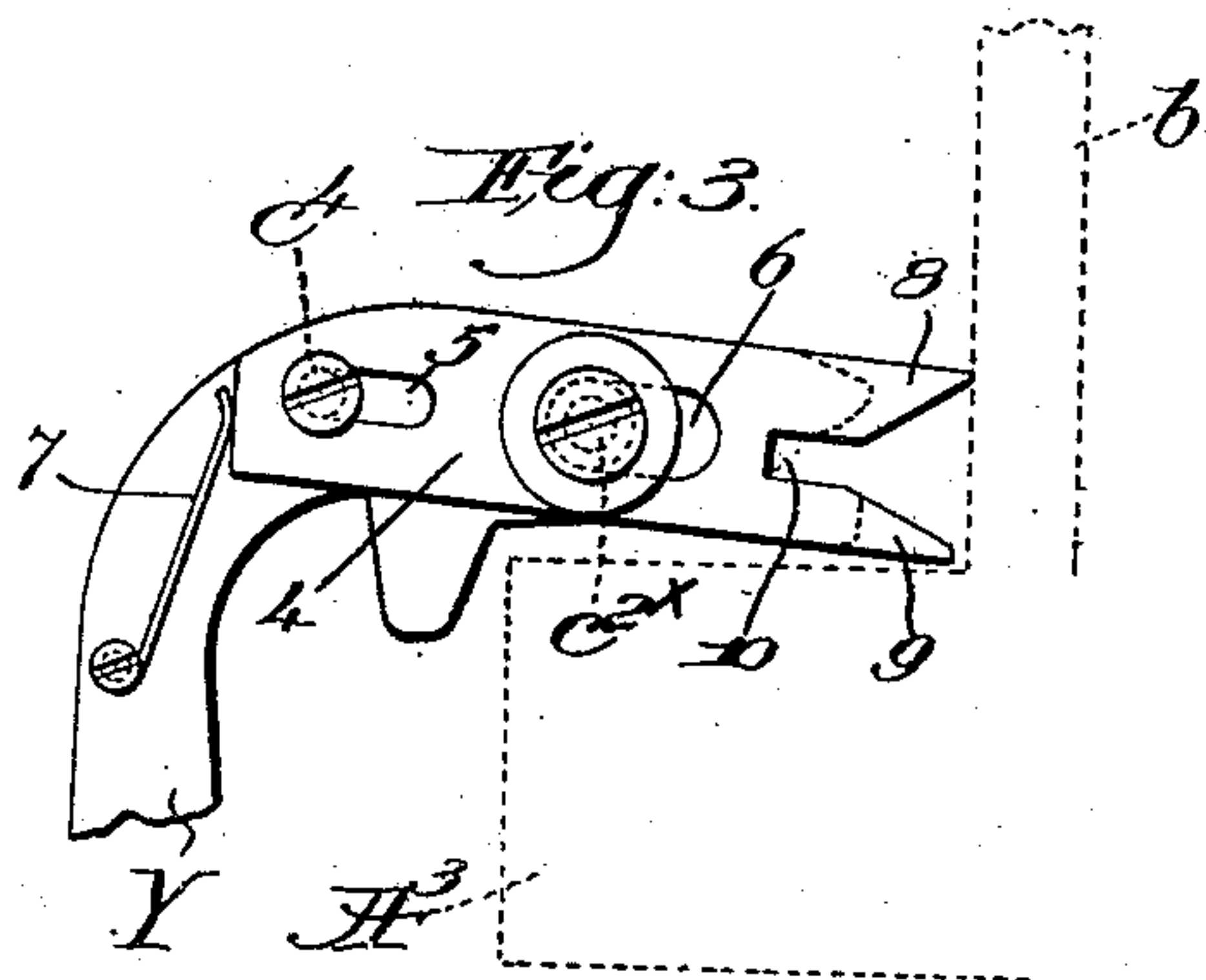
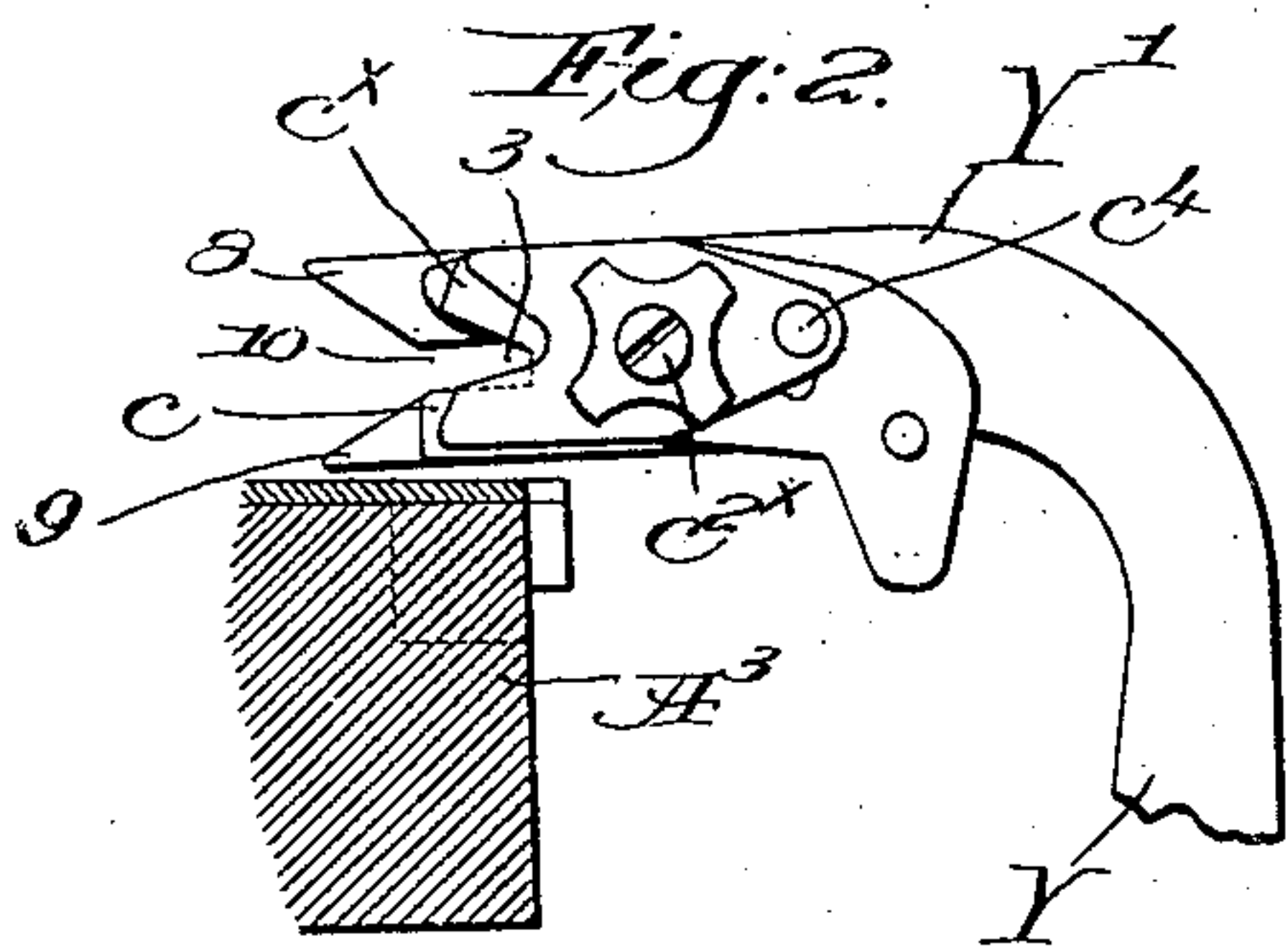
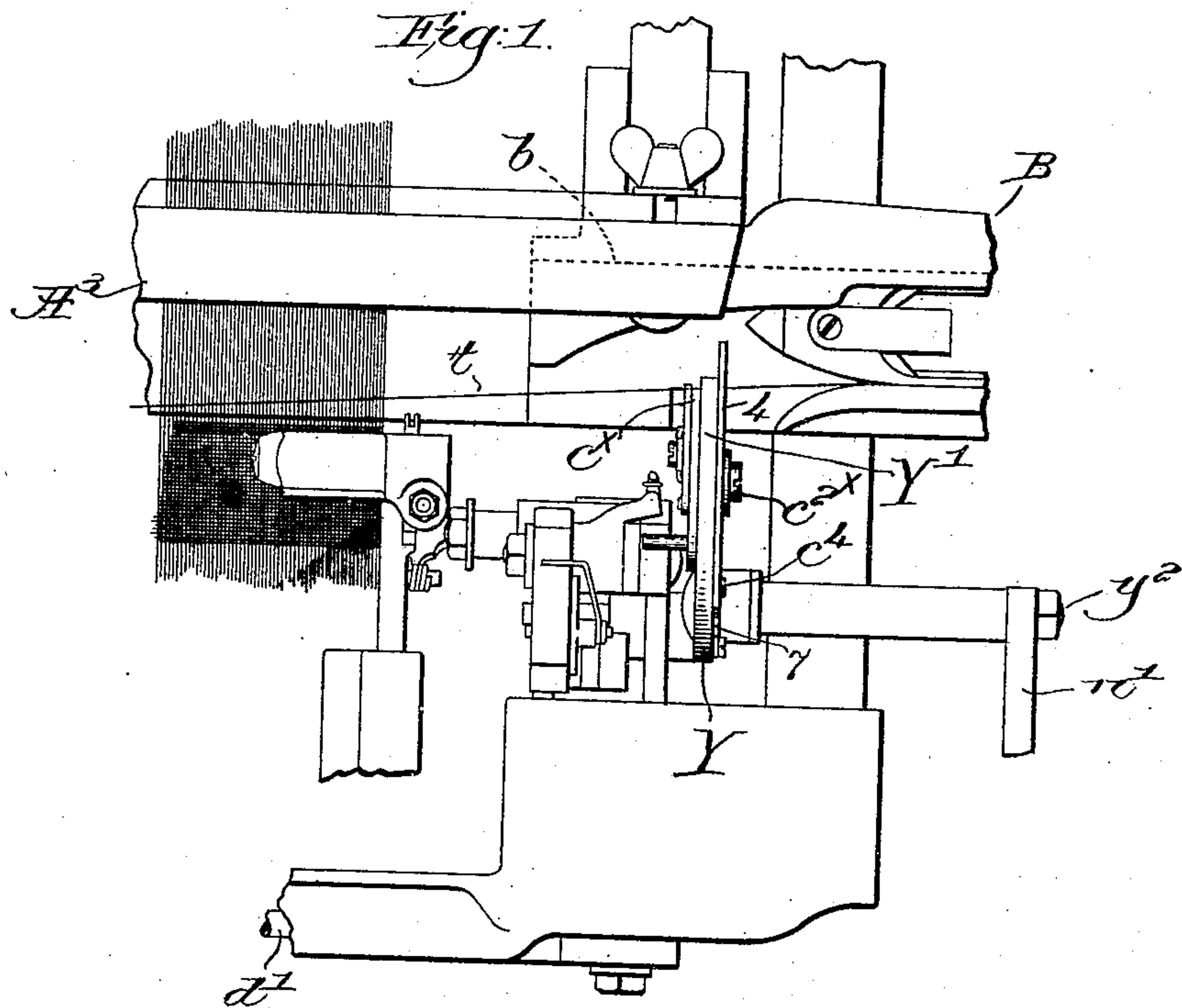


No. 875,461.

PATENTED DEC. 31, 1907.

A. E. RHOADES.  
 THREAD PARTING MECHANISM FOR LOOMS.  
 APPLICATION FILED JULY 24, 1907.



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# UNITED STATES PATENT OFFICE.

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## THREAD-PARTING MECHANISM FOR LOOMS.

No. 875,461.

Specification of Letters Patent.

Patented Dec. 31, 1907.

Application filed July 24, 1907. Serial No. 385,317.

*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 letters on the drawing representing like parts.

This invention relates to mechanism more especially used for parting the old filling end near the shuttle at the time of replenishment of filling, in automatic filling-replenishing looms of the "feeler" type.

A device of this general character is shown in United States patent to Draper, No. 683423 dated September 24, 1901.

It will be understood by those skilled in the art that the old filling end extends from the cloth to the shuttle-eye at the time it is to be parted, and sometimes the thread slackens so much that it is not properly engaged and parted by the parting device, which is an almost certain source of trouble.

My present invention has for its object the production, in thread-parting mechanism of the kind referred to, of simple and effective means for insuring the proper action of the parting device upon the filling end when the latter should be parted.

Figure 1 is a top plan view of a portion of the replenishing side of an automatic loom of the type referred to, showing the thread-parting device with my present invention applied thereto; Fig. 2 is an enlarged inner-side elevation of the shuttle-feeler, the parting device, and my improvement applied to it, the lay being shown in section; Fig. 3 is an opposite side elevation of the shuttle-feeler and parts carried thereby, the back wall of the shuttle-box being shown in dotted lines as just engaging the rear end of the thread-guiding device on the forward beat of the lay.

The lay  $A^3$ , shuttle-box B thereon (partly shown in Fig. 1) having a back wall  $b$ , see dotted lines Fig. 3, the controlling rock-shaft  $d'$  of the filling-replenishing mechanism, (omitted in Fig. 1 to avoid confusion); 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 the arm Y, provided with a finger  $n'$ , 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. 683423 referred to.

When the shuttle-feeler is moved to operative position so as to extend across the lay as the latter beats up, Figs. 2 and 3, the old filling-end  $t$ , Fig. 1, should enter the notch 3, in order to be parted cleanly and certainly when said blades are closed.

Should the filling end be slack it would tend to sag below the notch so that the blades could not act upon it, to part it. In my present invention I overcome this fault by mounting a longitudinally movable, spring-controlled guide on the feeler. Herein this guide is shown as an elongated flat plate 4 having slots 5, 6, Fig. 3, to receive the shanks of the studs  $c^2$ ,  $c^4$  forming a portion of the parting device, the plate being thus held in a slidable manner against the outer side of the feeler  $Y'$ . A spring 7 is fixed at one end to the latter, Fig. 3, and at its free end bears against the front end of the plate, to normally project its rear end in the position shown in the drawings, the studs limiting the rearward movement of the plate. The rear end of the latter is bifurcated to present upper and lower jaws 8, 9, the latter being so located as to move across the shuttle-race and under the filling end when the latter is to be parted, the closed end of the opening between the jaws being preferably notched at 10, registering with the notch 3 of the feeler. As shown the jaws have flared, beveled edges, to direct the thread into the notches 10 and 3.

When the feeler  $Y'$  is operatively positioned and the lay beats up the jaw 9 will pass beneath the filling end, which will slide up the beveled edge of the jaw and into the notch, the upper, overhanging jaw 8 preventing any jumping up of the thread. The jaws normally project considerably beyond the notched end of the feeler, so as to always insure the entrance of the thread of filling between the jaws and its passage thence to the notch 3 in proper position to be parted.

As the lay is completing its forward movement the back-wall  $b$  of the shuttle-box B engages the tips of the jaws and pushes forward the plate, against the action of the spring 7, so that there will be no interference with the proper function of the arm  $Y'$  as a shuttle-feeler. If the shuttle is improperly boxed, as the feeler moves back the tips of the jaws 8 and 9 will impinge upon the shut-



tle and then will cause the spring 7 to be flexed as the feeler continues its operative stroke to the rear into engagement with the shuttle, as usual. The spring 7 is very light, and does not interfere in any way with the other parts of the mechanism.

It will be manifest that after the plate 4 has been pushed forward as described the spring will return the plate and guide-jaws 8, 9 to normal position, Figs. 1 and 2, as the lay moves back.

By making the deep notch 10 between the jaws I insure the retention of the filling in the shallower notch 3 in the end of the feeler.

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

1. In a loom, a shuttle-feeler having a notch in its end, a device on the feeler to part the filling end, and spring-controlled means slidably mounted on the feeler and normally projecting beyond its notched end to insure the guidance of the filling end into the notch in position to be acted upon by the parting device.

2. In a loom, a shuttle-feeler having a notch in its end, a filling parting device on the feeler to part the filling when positioned in the notch, a plate slidably mounted on the feeler and having its rear end bifurcated to receive the filling and direct it into the notch in the feeler, a slot and pin connection between the latter and said plate, and a spring to yieldingly maintain the bifurcated end of the plate normally projected beyond the notched end of the feeler.

3. In thread-parting mechanism for filling-replenishing looms, the lay having a shuttle-box thereon, a shuttle-feeler, an instrumentality bodily movable therewith into position to part the old filling end, and a bifurcated, spring-controlled guide mounted on the feeler to insure the positioning of the filling end to be parted, the rear end of the guide

being engaged and slid forward on the feeler by the back of the shuttle-box as the lay beats up.

4. In thread-parting mechanism for filling-replenishing looms, a shuttle-feeler, a device mounted thereon to act upon and part the old filling end, a member longitudinally movable on the feeler and having a bevel-edged jaw adapted to extend under the filling end, to direct the latter into position to be acted upon by the parting device, and means to move said member forward on the feeler as the lay beats up.

5. In a loom, a shuttle-feeler having a notch in its end, a device on the feeler to part the filling end, when introduced into the notch, and a spring-projected, longitudinally movable member slidably mounted on the feeler and having its rear end bifurcated to present bevel-edged jaws at the side of and normally extended beyond the notched end of the feeler, to insure the guidance of the filling end into the notch in position to be acted upon by the parting device.

6. In a loom, a shuttle-feeler having a notch in its end, a filling-parting device on the feeler to part the filling when positioned in the notch, a plate slidably mounted on the feeler and having its rear end bifurcated to present bevel-edged jaws and a deep notch at the closed end of the opening between them, to receive and direct the filling into the feeler notch, the deep notch retaining the filling in the feeler notch in position to be parted, and a spring to normally maintain the plate in operative position.

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

ALONZO E. RHOADES.

Witnesses:

GEORGE OTIS DRAPER,  
ERNEST W. WOOD.