

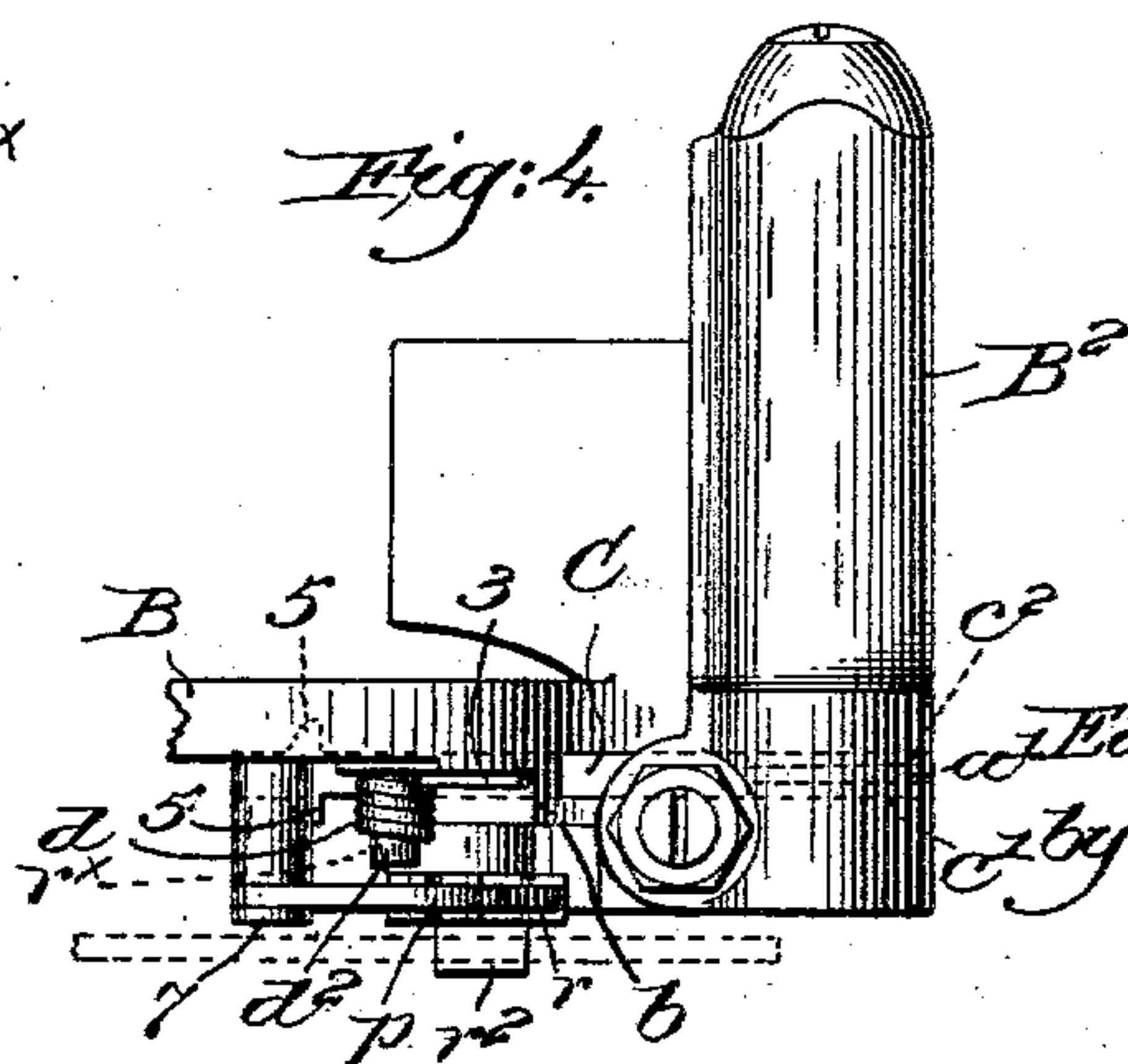
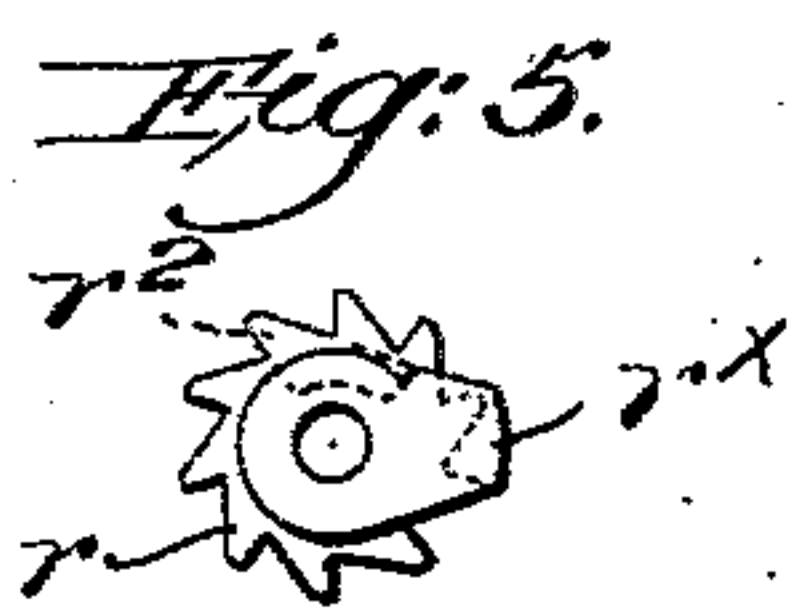
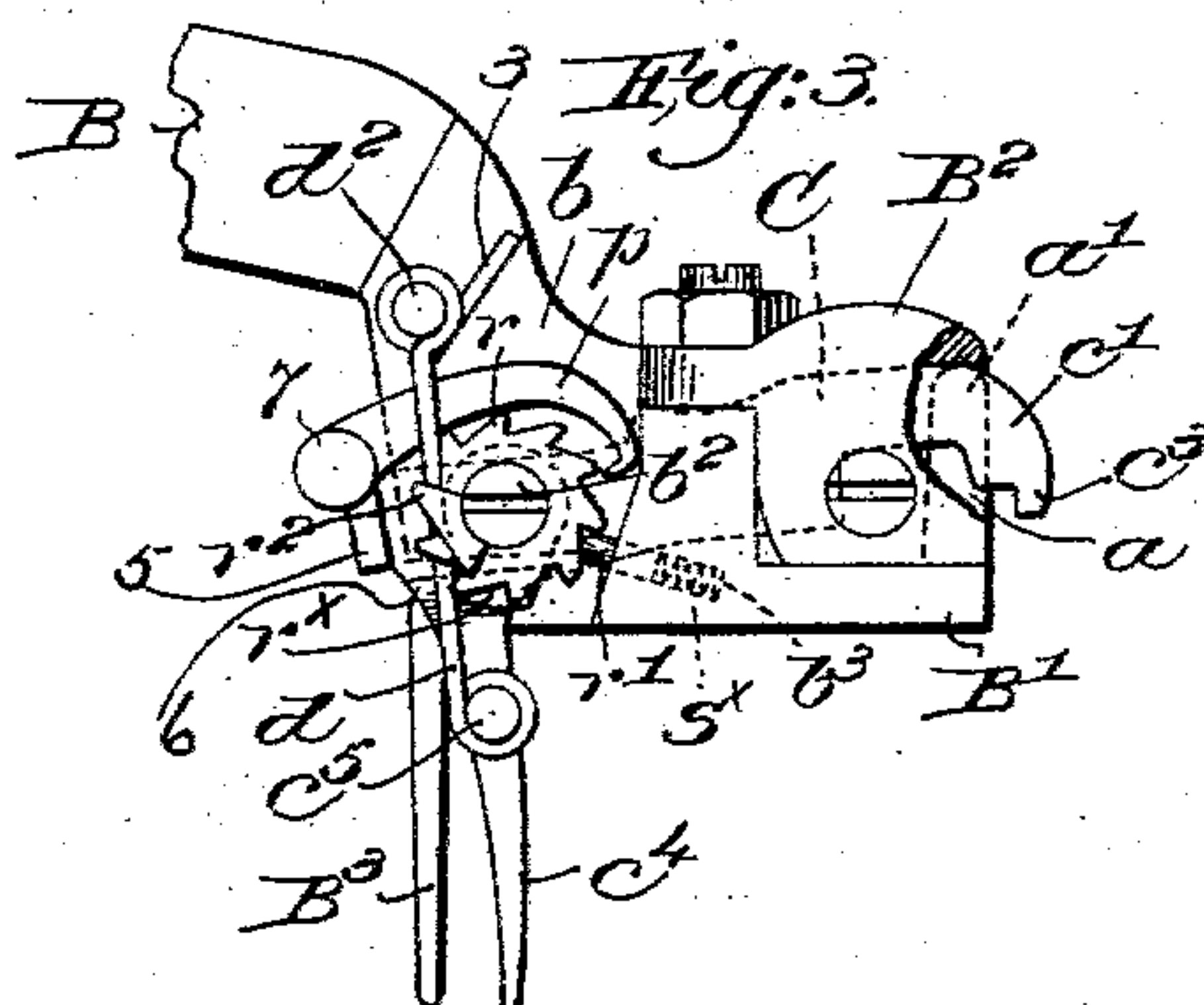
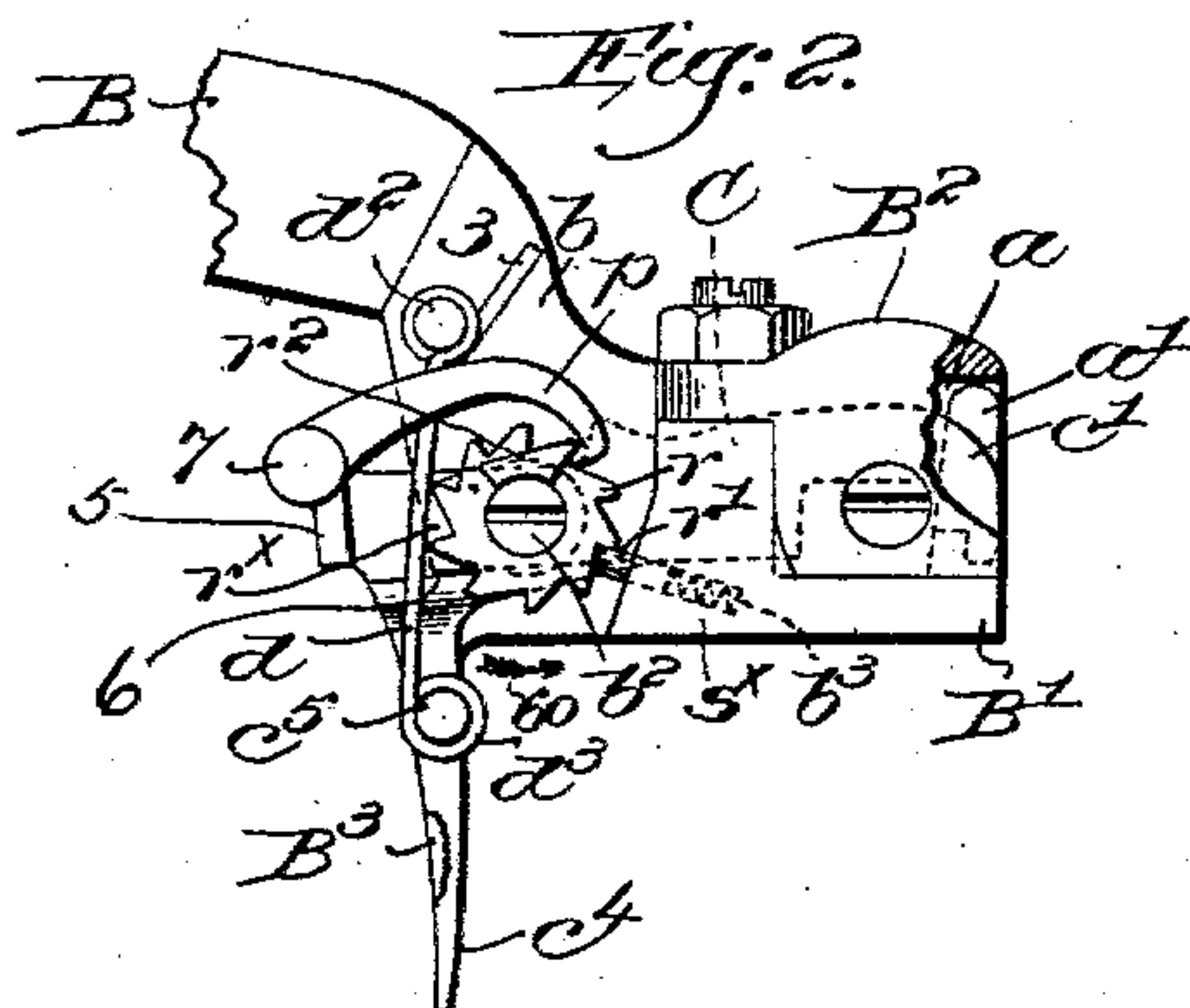
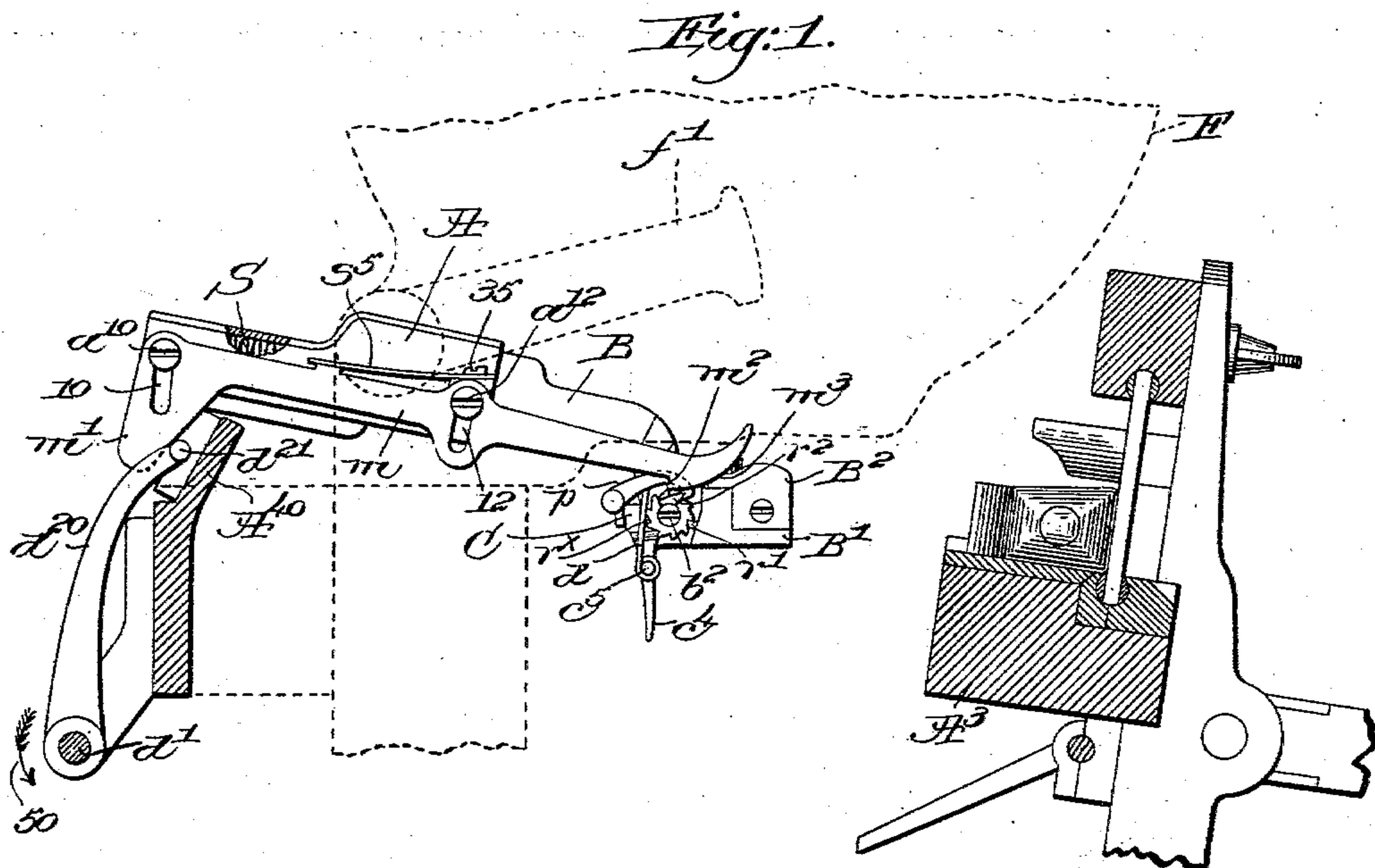
No. 704,715.

Patented July 15, 1902.

E. S. STIMPSON.
THREAD PARTER FOR LOOMS.

(Application filed Jan. 16, 1902.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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THREAD-PARTER FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 704,715, dated July 15, 1902.

Application filed January 16, 1902. Serial No. 90,014. (No model.)

To all whom it may concern:

Be it known that I, EDWARD S. STIMPSON, a citizen of the United States, residing at Hopedale, in the county of Worcester and State of Massachusetts, have invented an Improvement in Thread-Parters for Looms, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention has for its object the production of a novel thread-parter for looms provided with automatic filling-replenishing mechanism, the function of the thread-parter being to part the filling end between the cloth and the replenishing mechanism on the first pick after replenishment.

In United States Patent No. 630,236, dated August 1, 1899, a thread-parter is shown mounted on the temple and so arranged that its action is limited to each filling replenishment, and my present invention relates more particularly to that type of thread-parter, as will more fully appear hereinafter.

Figure 1 is a transverse sectional view of a portion of a loom, taken between the replenishing mechanism and the temple on which the thread-parter is mounted, one embodiment of my invention being illustrated in normal condition. Fig. 2 is an enlarged detail, in side elevation, of the novel parting means shown in Fig. 1 locked in normal inoperative position, the releasing device being omitted. Fig. 3 is a similar view, but showing the parting means unlocked and in position to operate upon the filling end. Fig. 4 is a top or plan view of the same, but with the thread-parter retracted; and Fig. 5 is an inner side view of the locking and setting ratchet to be described.

The lay A^3 , breast-beam A^{40} , filling-feeder F , (see dotted lines, Fig. 1,) and the transfer f' , and the controlling or operating rock-shaft d' are and may be substantially as in United States Patent No. 529,940. The temple-stand A , slide bar or shank B , its spring S , the pod B' , slotted at a to receive the steel blade a' , the cap B^2 , heel B^3 on the pod, the slotted ear b on the shank B , and the

thread parter or cutter C , inserted in the slotted part of pod and ear, are and may be substantially as in Patent No. 360,236. As therein shown, the parter C is slotted at its front end at 2 to straddle blade a' , presenting two arms c' c^2 , each having a downturned hook-like end c^3 , Fig. 3, a spring d normally tending to project the hooked end through the slot a and to elevate it. One end 3 of the spring bears against the bar B , the latter having a stud d^2 to receive the coil of the spring, while a projection c^5 on the depending heel c^4 of the parter C is engaged by the free end d^3 of the spring, the spring moving the parter out into operative position (see Fig. 3) when permitted to act. Stops 5 limit such movement, and a shoe 6 slides and rocks on the under side of the ear b , as in Patent No. 630,236; but one of the stops 5 has a lateral stud 7 secured thereto, on which is fulcrumed an actuating-pawl p to cooperate with a ratchet-wheel r , mounted to rotate on a stud b^2 , extended from the ear b , the ratchet being thus bodily movable with the temple, while the pawl p is bodily movable with the thread-parter, each operating movement of the latter causing the pawl to engage and rotate the ratchet one tooth. The projecting movement of the thread-parter by the spring d operatively positions it, while its operating or retracting movement is opposite thereto, from the position shown in Fig. 3 to that shown in Figs. 1 and 2. A plunger-stop r' , working in a socket b^3 in the pod of the temple, prevents overrunning or retrograde rotation of the ratchet, a spring s^x (see dotted lines, Figs. 2 and 3) controlling the stop.

The ratchet r (shown separately in Fig. 5) has secured to it or forming a part thereof a radially-extended lump r^x on its inner face, constituting a detent and movable in a circular path crossed by the spring d , so that when the detent is in the position shown in Fig. 2 it engages such spring, the thread-parter then being inoperative, and maintains it locked in such position. When the thread-parter is locked, the detent is on dead-center relative to the spring, so that the stress of the latter cannot throw the detent out of engagement

therewith. On its outer face the ratchet is provided with a laterally-extended starting-tooth r^2 for a purpose to be described and located out of the path of the pawl p , the relative angular positions of the detent and starting-tooth being shown clearly in Figs. 2 and 3.

Referring to Fig. 1, the temple-stand A has two lateral studs a^{10} a^{12} thereon, which pass through transverse slots 10 and 12 in a releasing device (shown as an arm m) extended in parallelism with the side of the stand and having at its front end a depending ear m' in the path of movement of the lateral head d^{21} of an arm d^{20} , secured to the rock-shaft d' . The free end of a spring s^5 , Fig. 1, secured at 35 to the stand A, bears on the top of the arm m and normally retains it in the position shown, the inner end of the arm having a downturned hook m^2 and an upturned cam portion m^3 beyond it, the hook lying above the starting-tooth r^2 . When the controlling-shaft d' is rocked in the direction of arrow 50, Fig. 1, to effect a change of filling in well-known manner, the head of the arm d^{20} acts on the ear m' to lift the outer end of the arm m and to depress the hook m^2 onto the top of the starting-tooth r^2 . The forward beat of the lay acts through the heel B^3 to move the temple outward against its spring S , and as soon as such outward stroke carries the ratchet r far enough to withdraw the tooth r^2 from beneath the hook m^2 the spring s^5 acts to throw the hook down into the path of the edge of said tooth, so that on the return or inward stroke of the temple the hook will engage the tooth, and as spring S is much stronger than spring d the ratchet r will be rotated in the direction of arrow 60, Fig. 2, carrying the detent r^x from the position there shown into the position illustrated in Fig. 3. The spring d is thus released from control by the detent and immediately slides the thread-parter C toward the lay and upward into the position shown in Fig. 3, with its heel c^4 in advance of the temple-heel B^3 . As the lay thereafter beats up it first engages the heel c^4 and moves it forward, retracting and depressing the hooked end c^3 , so that the filling end laid on the pick following replenishment will be caught and drawn across the blade a' and severed before the temple-heel is engaged by the lay. At the same time pawl p engages and turns the ratchet r one tooth, and when the lay moves back the temple returns to normal position, and thereafter the spring d again projects the thread-parter to operative position. This continues until sufficient successive operations of the parter have through the pawl p turned the ratchet until the detent r^x again engages and resumes control of the spring d , thereby holding the parter retracted, as in Fig. 2. As the starting-tooth r^2 is turned from the position shown in Fig. 3 it will be finally brought into its normal position, Figs. 1 and 2, beneath the hook m^2 , and should the arm m have failed for any reason to return to its normal position

the said tooth will act on the cam m^3 to lift the hooked end into the position shown in Fig.

1. The operation of the means for releasing the thread-parter from control of the detent is effected by the action conjointly of filling, replenishing, and the reciprocation of the temple, as will be manifest from the foregoing. The several successive operations of the thread-parter after it has been released insure the engagement of the filling end thereby and severance should the thread-parter fail to sever it properly the first time.

Various changes and modifications may be made in the construction and arrangement herein shown and described without departing from the spirit and scope of my invention.

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

1. A loom-temple provided with a thread-parter, means to actuate it and means to operatively position it, a detent to normally engage the latter means and maintain the thread-parter inoperative, a device to release such means, and means governed by a plurality of successive operations of the thread-parter to effect reengagement of the positioning means and the detent.

2. A loom-temple provided with a thread-parter, means to actuate it and means to operatively position it, a rotatable detent to normally engage the latter means and maintain said thread-parter inoperative, a device to rotate the detent and release such means, and means governed by a plurality of successive actuations of the thread-parter to effect movement of the detent into reengagement with the positioning means.

3. A loom-temple provided with a thread-parter, means to actuate it and a spring to operatively position it, a detent to normally engage the spring and maintain the thread-parter inoperative, a device to disengage the spring from the detent, and means actuated by a plurality of successive operations of the thread-parter to restore the spring to the control of the detent.

4. A loom-temple provided with a thread-parter, means to project it into operative position and means to retract and operate it, a detent to normally engage the projecting means and maintain the thread-parter retracted and inoperative, a device to disengage said means and the detent, and means governed by a plurality of successive retractive movements of the thread-parter to restore the projecting means to the control of the detent.

5. A reciprocating temple provided with a relatively movable thread-parter, actuating means therefor to part the filling end in advance of the outward stroke of the temple, a detent to normally maintain the thread-parter inoperative, a device operative by or through the inward stroke of the temple to release the thread-parter from the control of the detent, and means governed by a plurality of suc-

cessive operations of the thread-parter to restore the same to the control of the detent.

6. A reciprocating temple provided with a relatively movable thread-parter, a spring to move it into operative position, a detent to engage the spring and maintain the thread-parter retracted, means to actuate the latter, a device fixed relatively to the temple, to effect disengagement of the detent and spring on the inward stroke of the temple, and means actuated by a plurality of successive operations of the thread-parter to effect reengagement of the spring and detent.

7. A loom-temple provided with a relatively movable thread-parter, means to operatively position it, and means to actuate it, a rotatable ratchet mounted on the temple and having a detent to engage and maintain the positioning means inoperative, an actuating-pawl for the ratchet, moved at each operation of the thread-parter to rotate the ratchet step by step, and a device to effect initial relative movement of the ratchet to release the positioning means from the control of the detent, whereby the thread-parter is permitted to be moved into operative position, successive operations of the thread-parter thereafter by its actuating means effecting the rotation of the ratchet to again bring the detent into operative engagement with the positioning means to retain the thread-parter inoperative.

8. A loom-temple provided with a relatively movable thread-parter, a spring to operatively position it, a rotatable ratchet on the temple, an actuating-pawl therefor movable with the thread-parter, means governed by the ratchet to engage the spring and retain the thread-parter inoperative, means to actuate the latter when operatively positioned, a predetermined number of successive operations rotating the ratchet to effect engagement of the spring and the retaining means, to hold the thread-parter inoperative, and a device to engage and rotate the ratchet from normal position, to thereby release the spring and permit it to operatively position the thread-parter.

9. In a loom provided with filling-replenishing mechanism, a controller therefor, a thread-parter, a spring to operatively position it, means to normally engage the spring and maintain the thread-parter inoperative, a device rendered operative by or through the action of the controller, to disengage the spring and said means, and means to effect reengagement of the spring, with the thread-parter inoperative, after a predetermined number of successive operations of the latter.

10. In a loom provided with filling-replenishing mechanism, a controller therefor, the lay, a thread-parter having a heel adapted when operatively positioned to be engaged by the lay, to operate the parter, means to operatively position the thread-parter, a detent to engage said means and normally maintain the parter inoperative, a device rendered operative by the controller upon filling replen-

ishment to effect movement of the detent to release the positioning means, and means to restore the latter to the control of the detent after a predetermined number of operations of the thread-parter by the lay.

11. In a loom provided with filling-replenishing mechanism, a controller therefor, a reciprocating temple, its fixed stand, a thread-parter movable on the temple, to be engaged and actuated by a moving part of the loom, means to operatively position the thread-parter, a detent mounted on the temple to normally engage said means and retain the parter inoperative, a releasing device carried by the temple-stand and rendered operative by the controller upon filling replenishment, to effect disengagement of the positioning means and the detent by or through the inward stroke of the temple, and means to restore the positioning means to the control of the detent by or through a predetermined number of operations of the thread-parter.

12. In a loom provided with filling-replenishing mechanism, a reciprocating temple provided with a relatively movable thread-parter, a spring to move it into operative position, a temple-stand, a ratchet rotatably mounted on the temple and having an attached detent to engage the spring and lock the parter in inoperative position, an actuating-pawl for the ratchet, to rotate the same step by step when the thread-parter is operated, a predetermined number of successive operations by a moving part of the loom causing engagement of the spring by the detent, a lug on the ratchet, and a normally inoperative hooked arm on the temple-stand, rendered operative upon filling replenishment to engage the lug on the outward stroke of the temple, the return stroke of the latter causing rotation of the ratchet, through engagement of the arm and lug, to release the spring from the control of the detent.

13. In a loom provided with automatic filling-replenishing mechanism, a reciprocating temple provided with a slidably-mounted thread-parter having a heel adapted to be engaged and actuated by a moving part of the loom, a spring to operatively position the thread-parter, a detent movably mounted on the temple and normally engaging the spring, to retain the parter inoperative, means operated conjointly by the reciprocation of the temple and filling replenishment, to move the detent out of engagement with and release the spring, and means actuated by a plurality of successive operations of the thread-parter, to move the detent into reengagement with the spring and retain the parter inoperative.

14. In a loom provided with automatic filling-replenishing mechanism, a reciprocating temple provided with a slidably-mounted spring-controlled thread-parter adapted when operatively positioned, to be actuated by a moving part of the loom, a detent rotatably mounted on the temple and normally locking the parter from operation, a ratchet

rotatable with the detent, an actuating-pawl
operated by a plurality of successive opera-
tions of the parter to rotate the ratchet and
effect the locking of the thread-partner by the
5 detent, and means operated conjointly by
filling replenishment and the reciprocation of
the temple, to move the detent and unlock
the thread-partner.

In testimony whereof I have signed my
name to this specification in the presence of 10
two subscribing witnesses.

EDWARD S. STIMPSON.

Witnesses:

GEORGE OTIS DRAPER,
ERNEST W. WOOD.