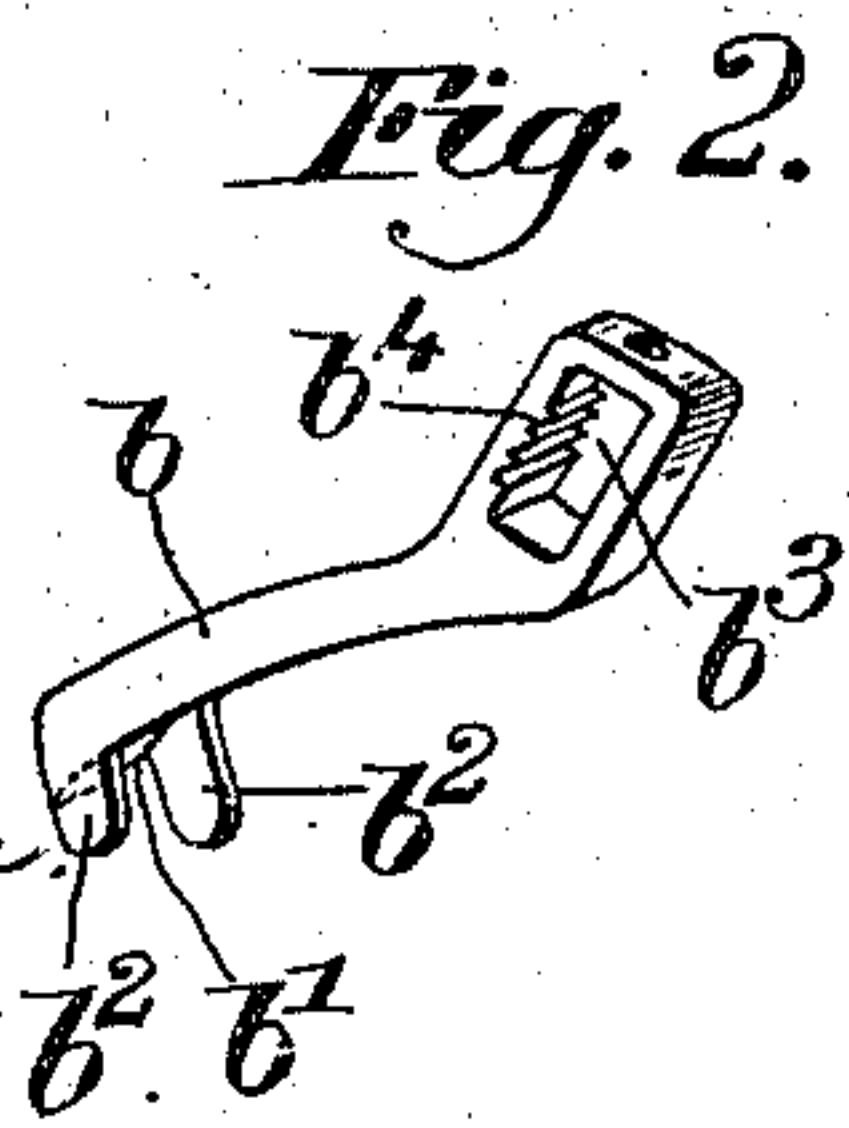
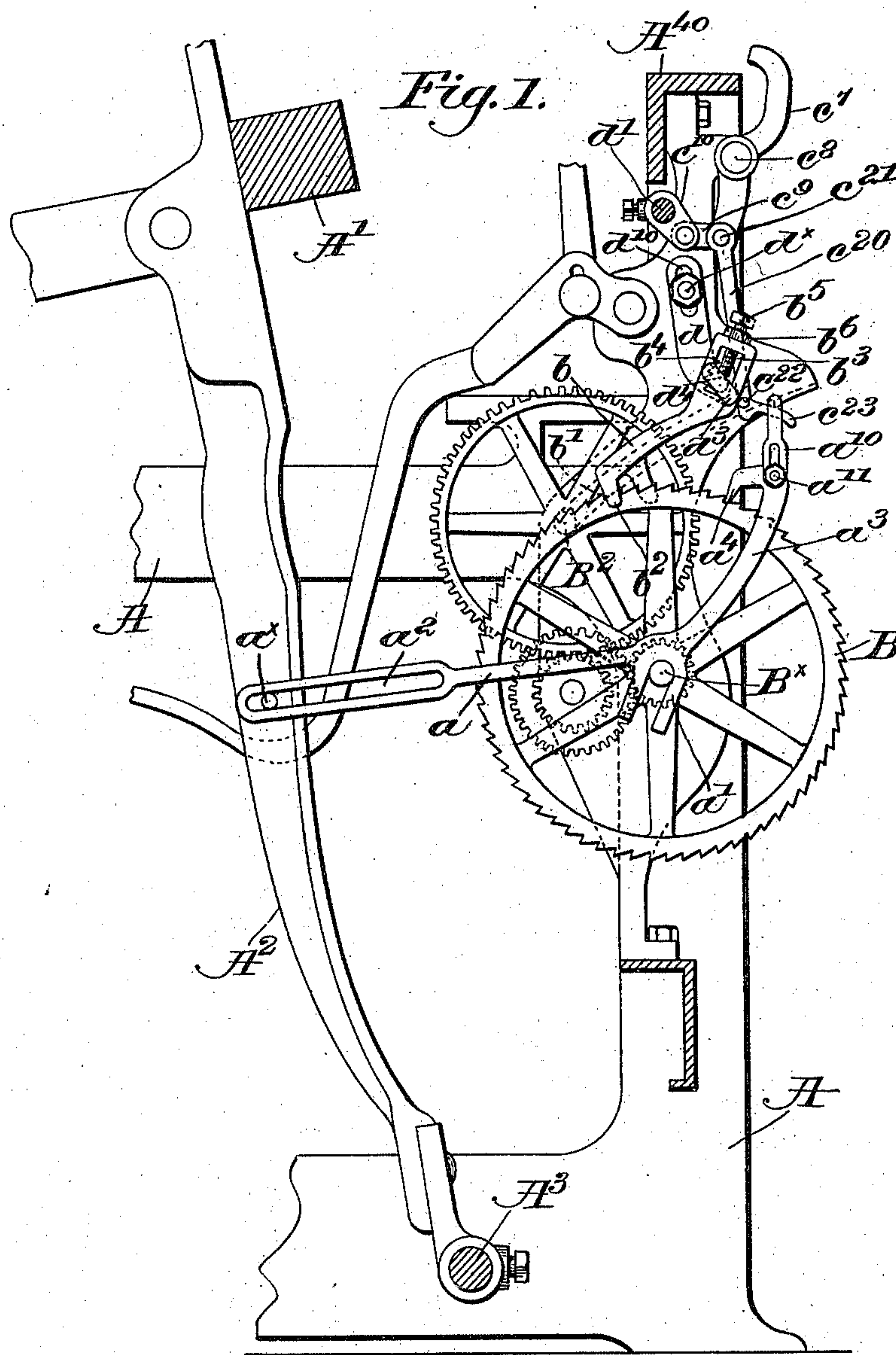


(No Model.)

E. W. DAVENPORT.
TAKE-UP MECHANISM FOR LOOMS.

No. 575,297.

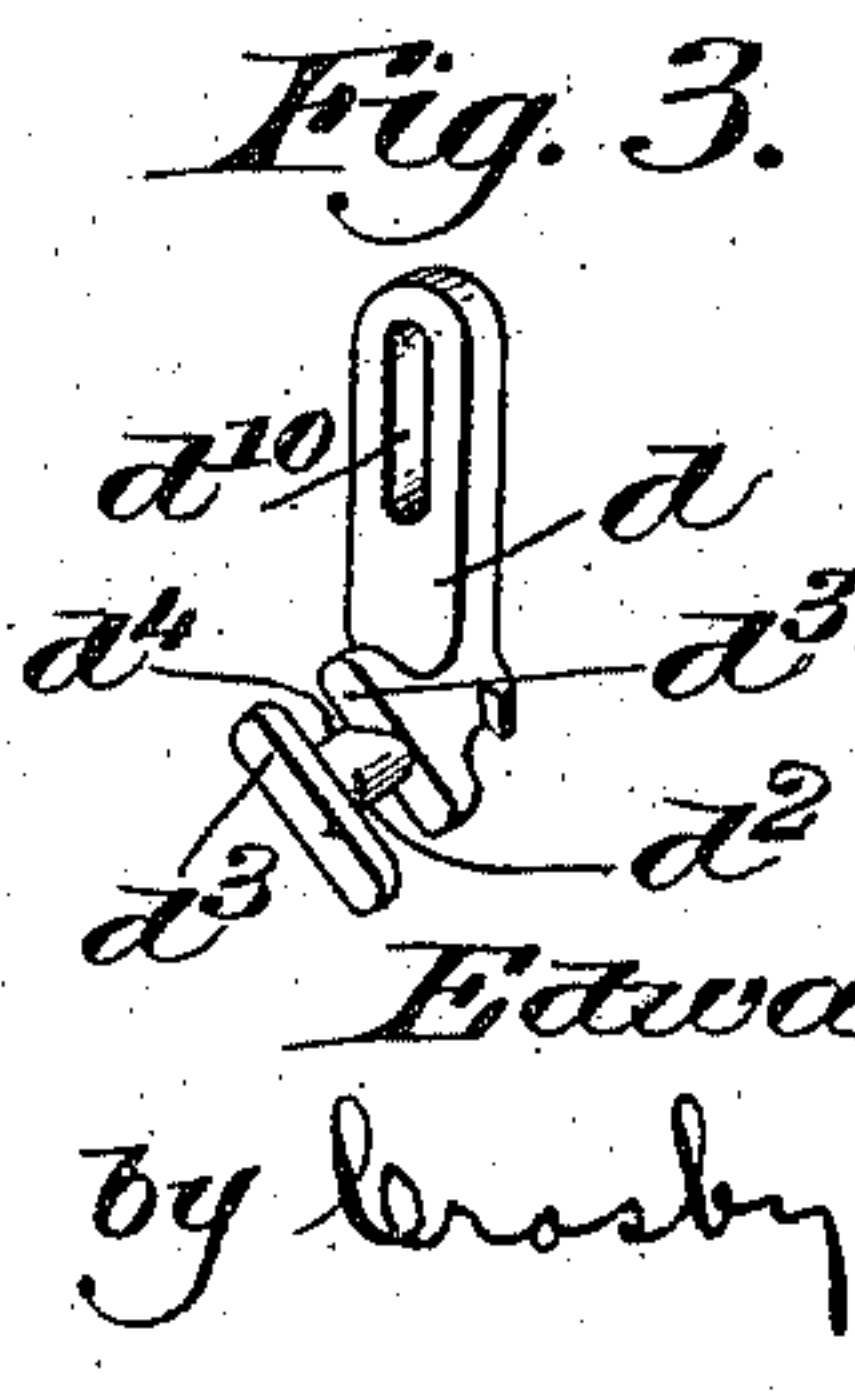
Patented Jan. 12, 1897.



Witnesses:

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Edward F. Allen.



Inventor:

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by Erasby Gregory. attys.

UNITED STATES PATENT OFFICE.

EDWARD W. DAVENPORT, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO
THE NORTROP LOOM COMPANY, OF SACO, MAINE.

TAKE-UP MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 575,297, dated January 12, 1897.

Application filed August 1, 1896. Serial No. 601,325. (No model.)

To all whom it may concern:

Be it known that I, EDWARD W. DAVENPORT, of Hopedale, county of Worcester, State of Massachusetts, have invented an Improvement in Take-Up Mechanism for Looms, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object the production of novel and effective take-up mechanism for looms wherein the said mechanism is operated at each pick of the loom.

Means are provided for controlling the actuating-pawl and detent to let off the take-up upon failure of the filling, the said means being of simple and novel construction and operation.

Various features of my invention will be hereinafter described in the specification and particularly pointed out in the claims.

Figure 1 is a transverse sectional view of a sufficient portion of a loom to be understood, taken at the take-up side of the loom, with my invention applied thereto. Fig. 2 is a perspective detail of the detent, and Fig. 3 is a similar view of the detent support or holder.

The main frame A of the loom, the lay A', lay-supporting arms A², one of which is shown journaled at A³, breast-beam A⁴⁰, the ratchet-wheel B of the take-up mechanism, mounted on the stud B^x, and the train of gears intermediate said ratchet-wheel B and the take-up roll B² are and may be of any usual or well-known construction.

Upon the stud B^x, I have mounted the pawl-carrier, (shown as a lever a,) having a downwardly-slotted bearing a' to embrace the stud and an elongated slot a² at its inner end to be entered by a lug or projection a^x on the lay-sword A², as herein shown. The other end of the pawl-carrier is upturned at a³, and has rigidly secured to or forming a part of it the actuating-pawl a⁴, adapted to engage the teeth of the ratchet-wheel B and rotate the same step by step from right to left, the take-up operating at each pick, producing a more even face in the cloth than can be had with a take-up acting at every other pick. The slot a² and bearing a' permit the pawl a⁴ to be disengaged from the ratchet-wheel when

it is desired to permit retrograde movement of the latter, as will be described.

As shown separately in Fig. 2, the detent b is sharpened or beveled at b' to engage the teeth of the ratchet, with downturned ears b² to embrace the sides of the ratchet-wheel and prevent lateral displacement of the detent, the upper end of the latter being slotted, as at b³, one of the sides of the slot having transverse serrations or teeth b⁴.

The detent is pivotally mounted on a support or holder d, (see Fig. 3,) slotted at d¹⁰ to receive a bolt d^x, by which it is adjustably attached to the loom side, as shown in Fig. 1, the bottom of the support being turned out to form a foot d², having inclined cheeks d³.

As best shown in Fig. 1, the foot is sharpened along its inner edge d⁴ to engage the serrated side of the slot b³ of the detent, the foot extending through said slot, while the cheeks d³ maintain the detent from lateral movement, the said detent being fulcrumed on the sharpened edge of the foot d². A set-screw b⁵, provided with a suitable check-nut b⁶, is threaded into the upper end of the detent to limit the downward movement of the detent, the inner end of the screw normally resting on the foot.

The stop-motion rock-shaft d', extended across from one to the other side of the loom, has fast thereon an arm c¹⁰, joined by a link c⁹ to a lever c⁷, pivoted at c⁸ and adapted to be acted upon by the weft-fork slide, as in United States Patent No. 529,943, to which reference may be had.

When the upper end of lever c⁷ is swung out by the weft-fork, due to failure of the filling, the lower end of the lever is swung inward and raised, thereby moving a depending controlling-rod c²⁰, Fig. 1, pivoted at c²¹, on the lever, and provided at its lower end with a lug or projection c²², bearing against the outer side of the detent b, and an offset portion c²³, which latter extends beneath the bent end of an extension or link a¹⁰, shown as adjustably secured to end a³ of the pawl-carrier a by a bolt a¹¹. This lifting of the controlling-rod c²⁰ disengages the actuating-pawl a⁴ from the ratchet-wheel B, and at the same time the lug c²² pushes on the under side of the detent b to disengage its serrations b⁴

from the foot d^2 , thereby allowing the retrograde motion of the wheel B to push the detent up. When the lever c^7 returns to normal position, the rod c^{20} is lowered into position shown in Fig. 1, the pawl a^4 , pawl-carrier, and detent b returning to operative position.

By means of the set-screw b^5 the position of the detent is regulated on the support or holder d , and the latter is adjusted by bolt d^x .

As the lay moves forward the actuating-pawl is moved to take a new hold on the ratchet-wheel, and on the back stroke of the lay the take-up mechanism is operated.

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

1. In a loom; the lay, take-up mechanism, including a ratchet-wheel, an actuating-pawl therefor, a pawl-carrier on which the pawl is rigidly mounted, and having a slotted bearing, a fixed fulcrum for said bearing, connections between the lay and pawl-carrier, to operate the latter, and means to lift the pawl-carrier to thereby disengage the pawl from the ratchet-wheel, substantially as described.

2. In a loom, the lay, take-up mechanism, including a ratchet-wheel, a lever having a slotted bearing pivoted on the support of the ratchet-wheel, said lever having a pawl at

one end to move the ratchet-wheel, and a slot at the other end, engaged by a stud or pin on the lay-sword, to thereby positively swing the lever on each stroke of the lay, and means to lift the slotted bearing of the lever from its fulcrum, to thereby disengage the pawl from the ratchet-wheel, substantially as described.

3. In a loom, the lay, take-up mechanism, including a ratchet-wheel, its actuating-pawl, and connections between it and the lay, to rotate said wheel step by step, combined with a slotted detent for the ratchet-wheel, one side of said slot being serrated, a support for the detent, having a foot to enter the slot and engage the serrated side thereof, an adjustable stop to limit the downward movement of the detent, and means to move the detent laterally to thereby disengage the foot from the serrations, whereby the detent may move longitudinally to permit retrogression of the ratchet-wheel, substantially as described.

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

EDWARD W. DAVENPORT.

Witnesses:

GEO. OTIS DRAPER,
H. F. SEARLES.