

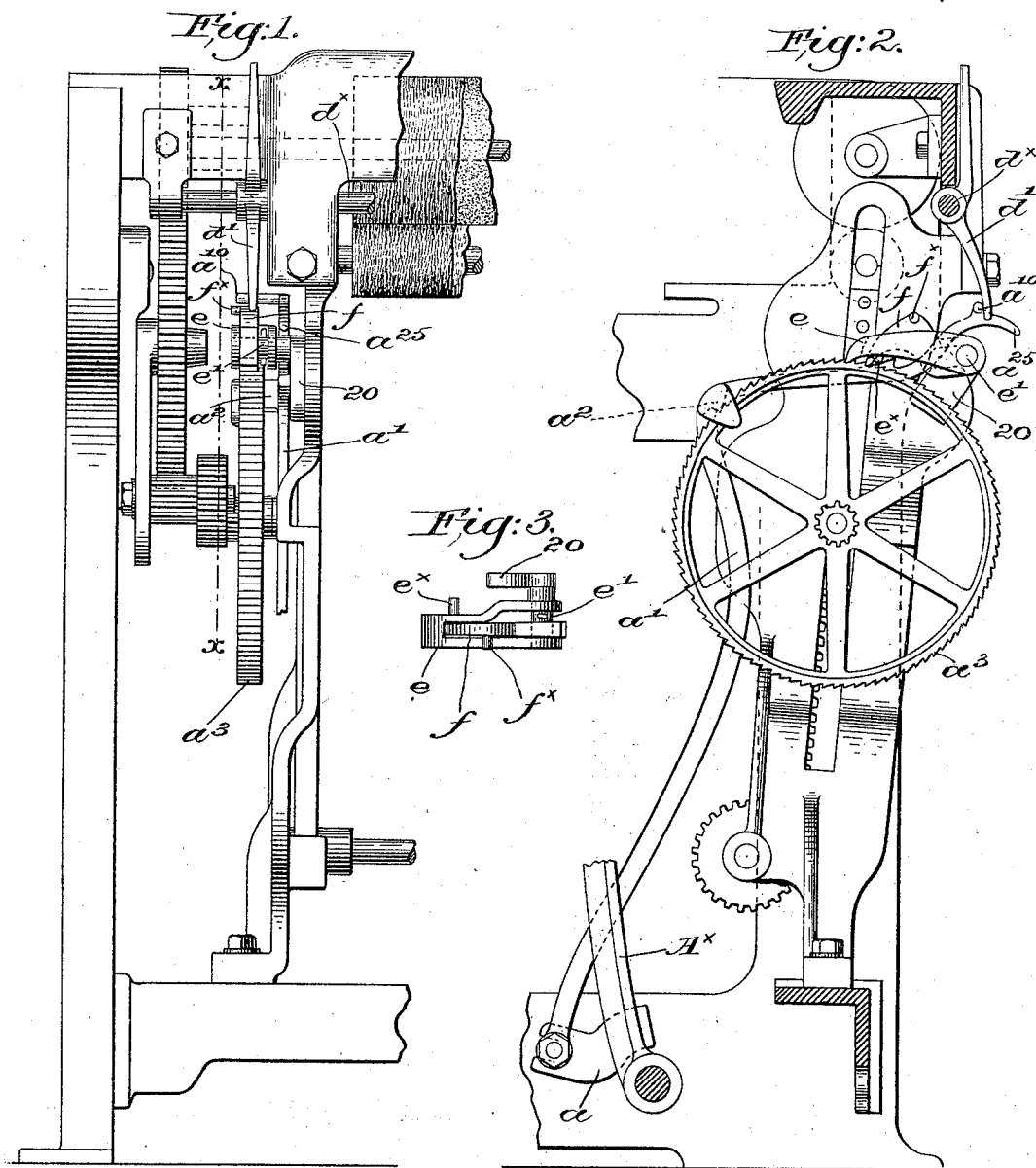
No. 643,284.

Patented Feb. 13, 1900.

A. W. CLEMENT.
TAKE-UP MECHANISM FOR LOOMS.

(Application filed Oct. 2, 1899.)

(No Model.)



Witnesses,
Edward F. Allen,
Thomas J. Hammond,

Inventor,
Alvah W. Clement,
by Crosby Gregory
attys.

UNITED STATES PATENT OFFICE.

ALVAH W. CLEMENT, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO THE
DRAPER COMPANY, OF SAME PLACE AND PORTLAND, MAINE.

TAKE-UP MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 643,284, dated February 13, 1900.

Application filed October 2, 1899. Serial No. 732,274. (No model.)

To all whom it may concern:

Be it known that I, ALVAH W. CLEMENT, a citizen of the United States, residing at 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 and numerals on the drawings representing like parts.

This invention relates to take-up mechanism for looms; and it has for its object the production of means whereby the weaver can readily liberate the take-up ratchet-wheel from its various cooperating devices—i. e., the actuating and let-back pawls—so that the said wheel may be freely turned by hand, as is necessary at times, in order that the weaver may repair defects by hand.

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

Figure 1, in front elevation and partially broken out, represents a sufficient portion of a loom to be understood with one embodiment of my invention applied thereto. Fig. 2 is a vertical section thereof on the line xx , Fig. 1, looking toward the right. Fig. 3 is a top or plan view of the let-back pawls; and Fig. 4 is a vertical sectional detail of a portion of the mechanism shown in Fig. 1, the pawl-carrier and let-back pawls, however, being shown as locked in inoperative position and the ratchet-wheel liberated.

Referring to Figs. 1 and 2, the lay-sword A^x , having a bracket a near its lower end, to which the pawl-carrier a' is attached, the actuating or take-up pawl a^2 to engage the teeth of the ratchet-wheel a^3 and the controlling-shaft d^x , having an arm d' to engage a lug a^{10} on the pawl-carrier to effect the disengagement of the pawl a^2 and ratchet-wheel upon failure of the filling, are and may be all substantially as in United States Patent No. 610,636, dated September 13, 1898.

I have herein shown two let-back pawls e and f to operate successively in well-known manner, a bracket 20 on the loom-frame having a stud e' , serving as a fulcrum upon which the longer pawl e rocks, while the shorter pawl f is slotted longitudinally at f' to em-

brace and slide on the stud e' when the pawl e is raised sufficiently to disengage it from the ratchet-wheel.

Referring to Fig. 3, the pawl e is shown as bifurcated, while the pawl f is mounted between the branches, a lateral lug f^x on the pawl f' extending over one of the branches of the pawl e .

In order that the ratchet-wheel may be simultaneously liberated from all of its connections, I have herein shown the upper end of the pawl-carrier a' as extended toward the front of the loom to form a handpiece a^{25} , which can be readily grasped by the weaver. A locking-shoulder a^{30} is formed on the pawl-carrier to at times cooperate with a projection e^x , extended from the let-back pawl e .

With the construction herein illustrated one tooth of the ratchet-wheel is taken up by the pawl a^2 at each beat of the lay, and the let-back pawl e prevents retrograde movement of the ratchet-wheel except when the rod or shaft d^x is rocked, at which time the pawl-carrier will be disengaged, the pawl e will be lifted, and the pawl f will permit the wheel to let back as many teeth as are advisable, so as to prevent thin places in the cloth, it being understood that the shaft b^x is rocked automatically upon failure of the filling.

It will be seen from Fig. 2 that normally the projection e^x of the pawl e extends over the pawl-carrier back of the locking-shoulder a^{30} ; but if the weaver wishes to liberate the ratchet-wheel he grasps the handpiece a^{25} and pushes the pawl-carrier backward. This movement disengages the actuating-pawl a^2 , and at the same time the pawls e and f are lifted until the projection e^x on the former drops in front of the locking-shoulder a^{30} , (see Fig. 4,) whereupon the parts will be locked in such inoperative position and the ratchet-wheel can be turned in either direction. The point of engagement of the projection and shoulder is between the fulcrum of the pawl-carrier and the pawl e and above them, so that the parts will remain locked until the pawl e is lifted sufficiently to withdraw the projection e^x from the shoulder, whereupon the pawl-carrier will return to normal operative position.

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

1. In take-up mechanism for looms, a ratchet-wheel, actuating and let-back pawls therefor, a carrier for the actuating-pawl, and means controlled by manual movement of the pawl-carrier to disengage said pawls and the ratchet-wheel and to lock them in inoperative position, thereby liberating the ratchet-wheel.

2. In a take-up mechanism for looms, a ratchet-wheel, an actuating-pawl therefor, a carrier for said pawl, a plurality of successively-operative let-back pawls to engage the ratchet-wheel, and means controlled by manual movement of the pawl-carrier to disengage said actuating and let-back pawls from the ratchet-wheel and to lock them in inoperative position.

3. In take-up mechanism for looms, a ratchet-wheel, actuating and let-back pawls therefor, a carrier for the actuating-pawl having a locking-shoulder and a projection on the let-back pawl, manual movement of the carrier to disengage the actuating-pawl effecting coöperation of said projection and locking-shoulder, to thereby maintain the pawls in inoperative position.

4. In take-up mechanism for looms, a

ratchet-wheel, actuating and let-back pawls therefor, a carrier for the actuating-pawl having a locking-shoulder, and a handpiece and a projection on the let-back pawl, manual movement of the carrier to disengage the actuating-pawl effecting coöperation of the projection and locking-shoulder, to thereby withdraw the let-back pawl from the ratchet-wheel to lock it and the pawl-carrier in inoperative position.

5. In take-up mechanism for looms, a ratchet-wheel, an actuating-pawl therefor, a carrier for said pawl, having a locking-shoulder, and a plurality of successively-operative let-back pawls to engage the ratchet-wheel, one of said pawls having a projection and at times controlling the other pawl, manual movement of the pawl-carrier to disengage the actuating-pawl effecting engagement of the locking-shoulder and the said projection, to thereby disengage the let-back pawls from the ratchet-wheel and to also lock the pawl-carrier in inoperative position.

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

ALVAH W. CLEMENT.

Witnesses:

GEO. OTIS DRAPER,
ERNEST W. WOOD.