

No. 764,771.

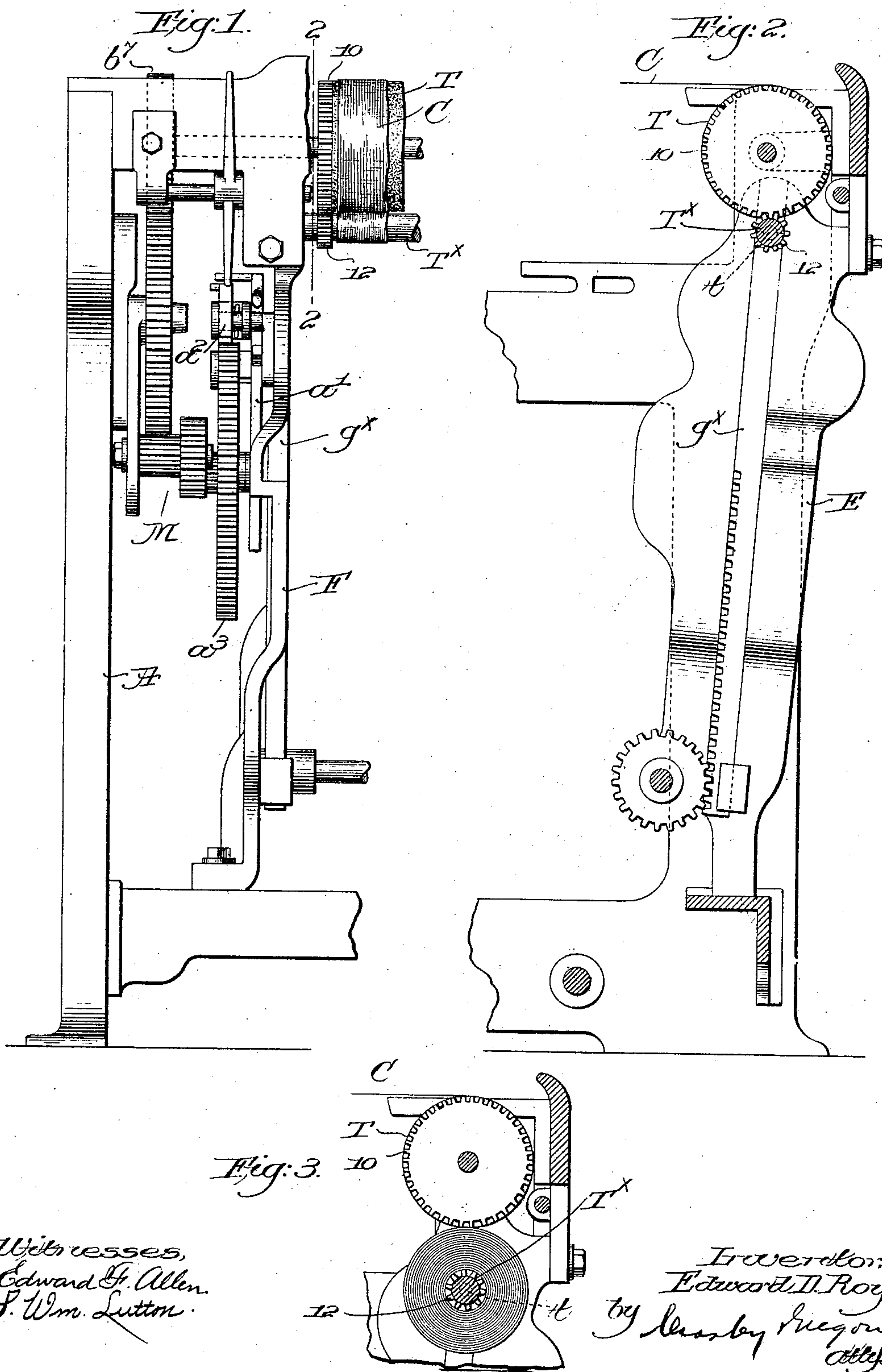
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TAKE-UP MECHANISM FOR LOOMS.

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NO MODEL.



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UNITED STATES PATENT OFFICE.

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TAKE-UP MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 764,771, dated July 12, 1904.

Application filed March 23, 1904. Serial No. 199,518. (No model.)

To all whom it may concern:

Be it known that I, EDWARD D. ROY, a citizen of the United States, and a resident of Anderson, county of Anderson, State of South Carolina, 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 characters on the drawings representing like parts.

In a well-known form of take-up mechanism the cloth is wound upon a roll or bar by frictional engagement with a positively-driven sand or take-up roll, the cloth as it is woven passing around the latter onto the cloth roll or bar, which is rotatively mounted in spring-controlled movable bearings. Such a form of take-up mechanism is shown in United States Patent No. 610,636, dated September 13, 1898, the frictional engagement of the take-up roll with the cloth as it is laid upon the cloth-roll effecting rotation of the latter, which moves away from the take-up roll as the diameter of the mass of cloth increases. When a roll is full, the web of cloth is cut and the wound mass removed from the loom and a new roll or bar is inserted in the movable bearings, or the roll may be withdrawn from the mass of cloth and replaced in the loom. The weaver then takes the loose end of the web of cloth in the loom and winds it around the cloth-roll, bringing the latter into position against the take-up roll to begin the winding of the next cut. Sometimes the cloth-roll will not be rotated properly at the beginning of the cut, owing to the small diameter of the roll acted upon by the take-up roll or from some other cause, and the cloth will be carried around the take-up roll itself and wound thereupon, damaging the cloth and often breaking the loom.

My present invention has for its object the production of temporarily operative means for positively driving or effecting rotation of the cloth-roll at the beginning of a cut, so that no slip or other faulty action is possible, the positive drive automatically ceasing to act when the diameter of the cloth wound upon

the cloth-roll is sufficient to insure proper rotation by or through frictional engagement with the take-up roll.

Figure 1, in front elevation, represents a sufficient portion of the take-up mechanism of a loom to be understood with one embodiment of my invention applied thereto, the positive drive for the cloth-roll being shown in operation. Fig. 2 is a vertical section thereof on the line 2 2, Fig. 1, looking toward the right; and Fig. 3 is a sectional detail on the line 2 2, but showing the parts after the positive driving means has ceased to operate.

The side frame A, stands F, (one at each side of the loom,) forming guides for the rack-bars g^x , in which the journals t of the cloth roll or bar T^x are rotatably mounted, the roughened sand or take-up roll T, having an attached gear b^7 , positively driven by a suitable train of gearing M, Fig. 1, between it and the ratchet-wheel a^3 , the take-up pawl a^2 , and pawl-carrier a^1 may be and are all substantially as in the Patent No. 610,636, referred to, and operate substantially as therein set forth.

As shown in Fig. 2, the cloth C passes from the fell over the take-up roll and around it to the cloth-roll T^x , upon which it is wound by frictional engagement with the take-up roll. In accordance with my present invention the take-up roll has an attached gear 10 to mesh at times with a smaller gear 12, fast on the cloth-roll T^x , the diameters of the gears being such that they will only mesh when the two rolls are quite near together, as at the beginning of a cut, when very little cloth is wound upon the roll T^x . This is shown in Figs. 1 and 2, and it will be manifest that so long as the gears are in mesh the cloth-roll will be positively driven to wind the cloth thereon as it is woven. As the diameter of the mass of cloth increases the cloth-roll is pushed away from the take-up roll, and when a predetermined diameter of the cloth mass is attained the two gears 10 and 12 will thereby be moved out of mesh with each other, and the further rotation of the cloth-roll will be effected in usual manner

by frictional engagement with the take-up roll, as in Fig. 3. When the winding is beginning, both the positive and the friction driving means act conjointly to rotate the cloth-roll, the positive drive absolutely preventing any slip or drag of the cloth-roll and insuring its proper rotation. The diameter of the positive driving-gears 10 and 12 is so arranged that when they are moved out of mesh, as described, the diameter of the cloth mass on the cloth-roll will be sufficient to properly coöperate with the take-up roll.

My invention is not restricted to the precise construction and arrangement shown and described, as the same may be varied or modified by those skilled in the art without departing from the spirit and scope of my invention.

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 roll upon which the cloth is wound, and temporarily operative means to effect positive rotation of said roll only at the beginning of a cut.

2. In take-up mechanism for looms, a roll upon which the cloth is wound, friction-acting means to rotate the roll, and separate means to effect positive rotation of the roll at the beginning of a cut.

3. In take-up mechanism for looms, a take-up roll, a roll driven by frictional engagement therewith, and upon which the cloth is

wound, and means to positively rotate the roll for the cloth until a predetermined diameter of the cloth thereon has been attained.

4. In take-up mechanism for looms, a roll upon which the cloth is wound, friction driving means therefor, and positive driving means for said roll, to rotate the same positively until the cloth thereon has attained a predetermined diameter.

5. In take-up mechanism for looms, a roll upon which the cloth is wound, friction driving and positive driving means for and to operate conjointly to effect rotation of said roll at the beginning of a cut, and means operated by or through the cloth wound upon said roll to automatically render the positive driving means inoperative when a predetermined diameter of cloth has been wound.

6. In take-up mechanism for looms, a take-up roll mounted in fixed bearings and having an attached gear, a roll upon which the cloth is wound by or through frictional engagement with the take-up roll, movable bearings for said cloth-roll, and a gear on the latter adapted to mesh with and be driven by the take-up gear at the beginning of a cut.

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

EDWARD D. ROY.

Witnesses:

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