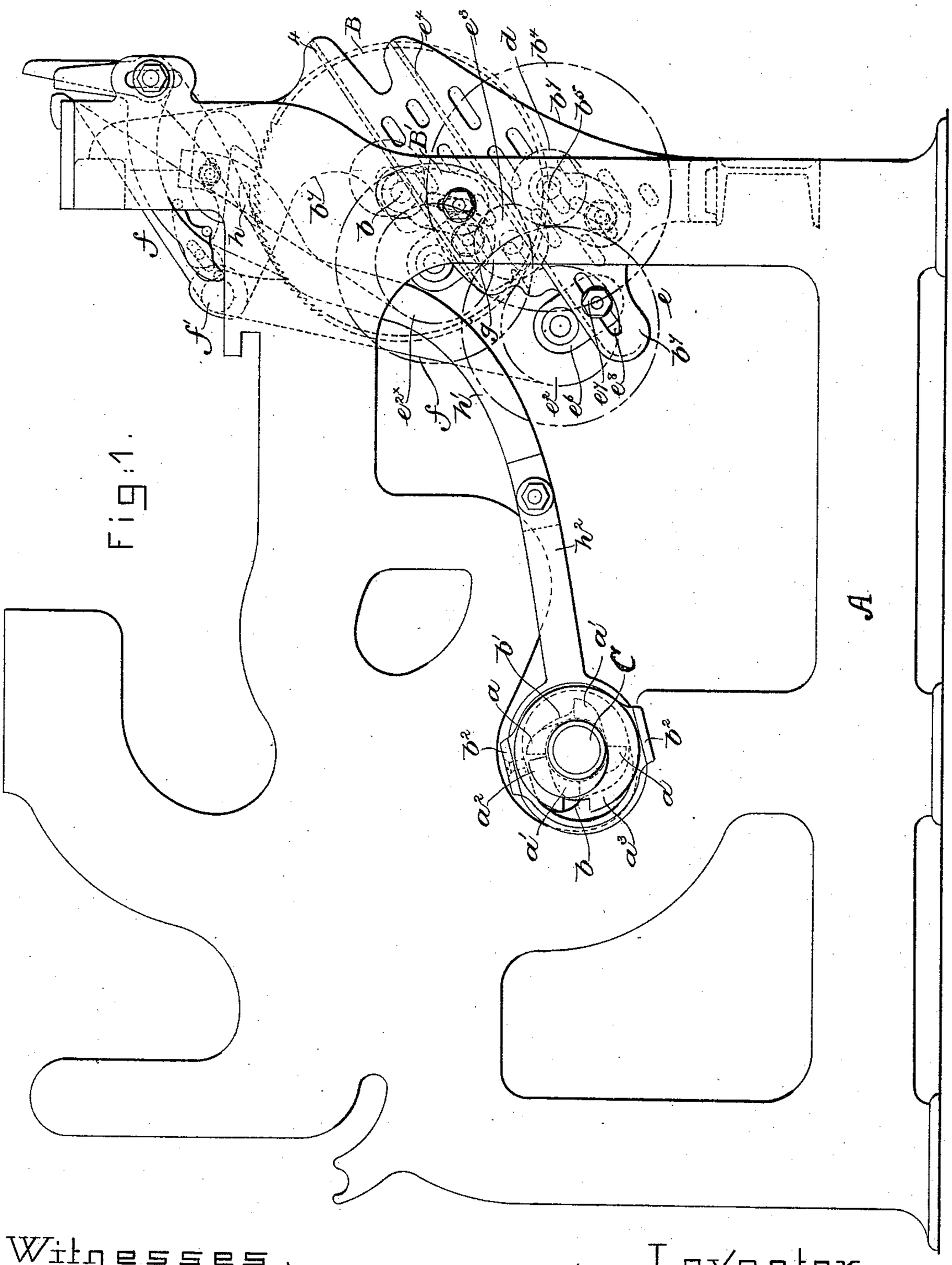
(No Model.) 2 Sheets—Sheet 1.

J. T. MEATS.

TAKE-UP MECHANISM FOR LOOMS.

No. 430,080. Patented June 10, 1890.



Witnesses.
Edgar A. Goddin
Frederick L. Emery

Inventor.
John T. Meats,
by Crosby & Gregory
Attys

(No Model.) 2 Sheets—Sheet 2.

J. T. MEATS.

TAKE-UP MECHANISM FOR LOOMS.

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Fig. 3.

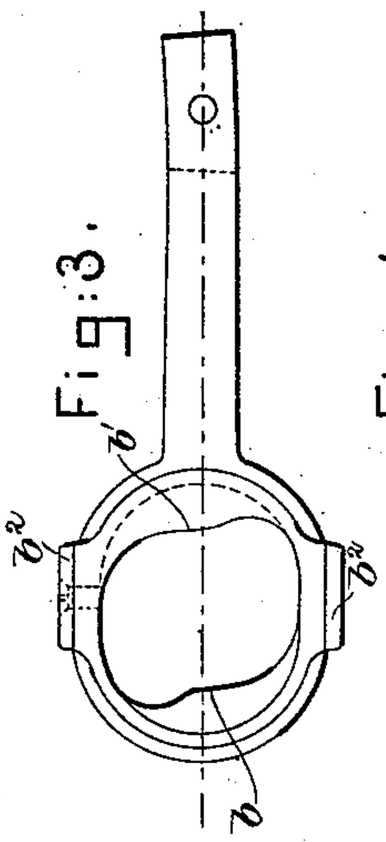


Fig. 4.

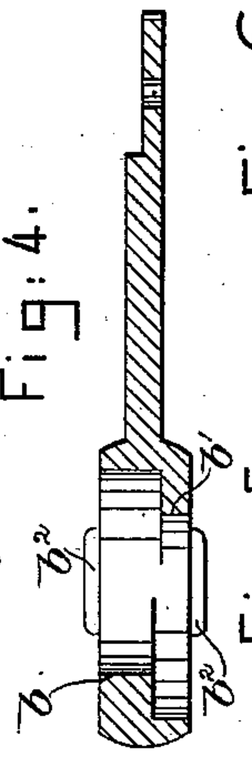


Fig. 5.

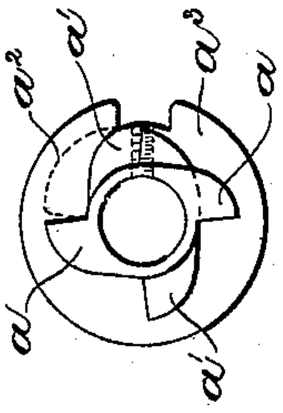


Fig. 6.

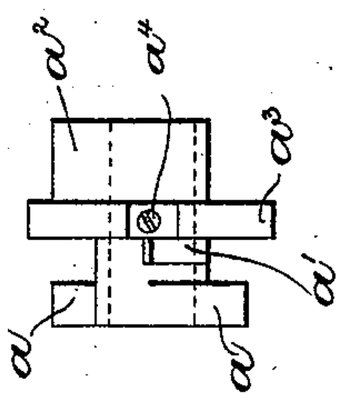
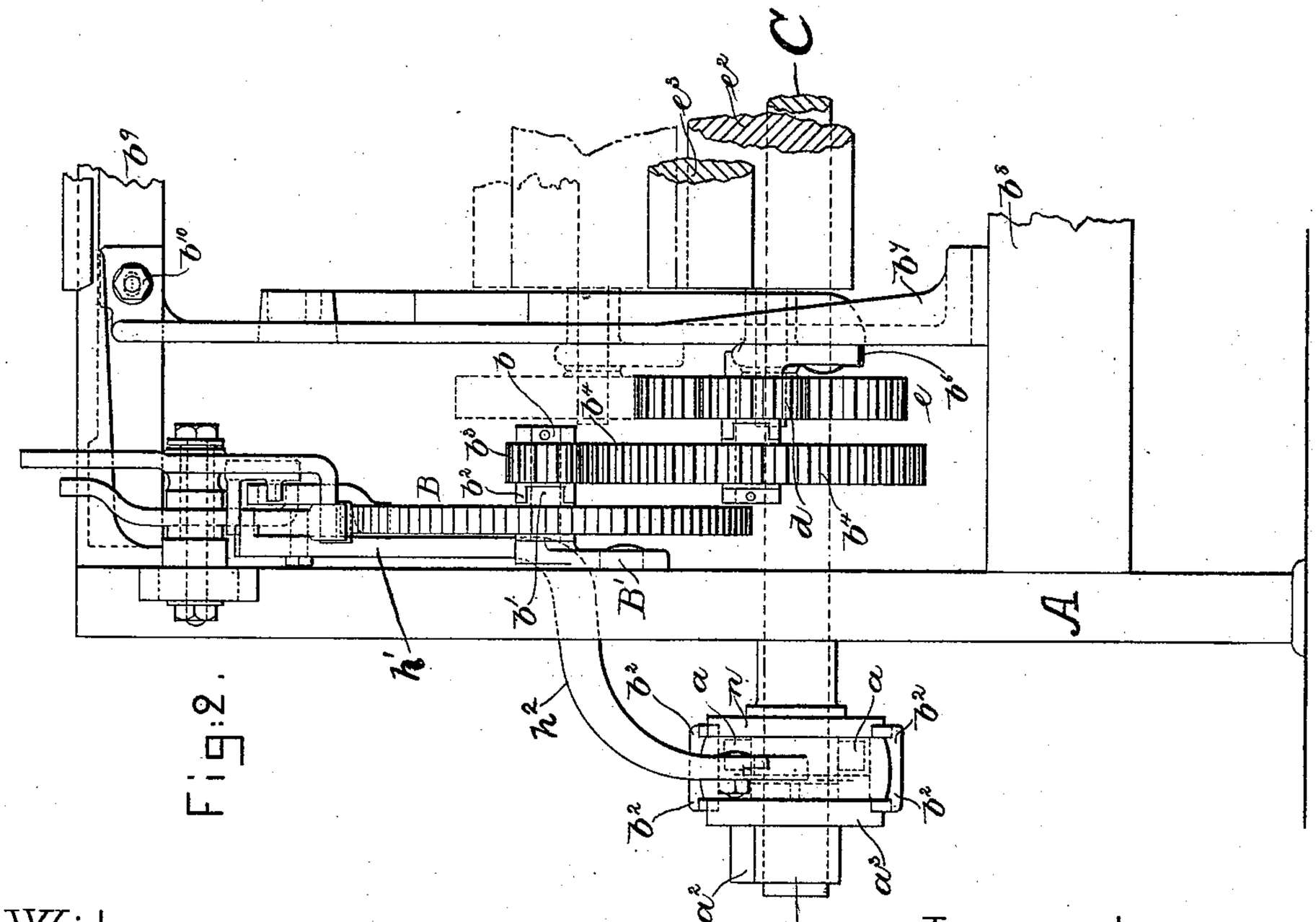


Fig. 2.



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by Crosby & Gregory Attys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN T. MEATS, OF TAUNTON, MASSACHUSETTS, ASSIGNOR TO THE MASON MACHINE WORKS, OF SAME PLACE.

TAKE-UP MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 430,080, dated June 10, 1890.

Application filed January 28, 1890. Serial No. 338,357. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. MEATS, of Taunton, county of Bristol, State of Massachusetts, have invented an Improvement in Take-Up Mechanisms 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 to improve the construction of take-up mechanism whereby the pawl may be made to make one or two reciprocations at will during one rotation of its actuating-shaft, according to the cloth being woven, the motion of the pawl being positive in both directions.

Figure 1, in side elevation, shows a sufficient part of a loom embodying my invention to enable it to be understood, the gear-wheels being represented by dotted circles, only a part of the usual ratchet-wheel being represented as provided with teeth. Fig. 2 is a view thereof looking from the right in Fig. 1 toward the left, and Figs. 3 to 6 show details to be referred to.

Let A represent part of the frame-work of a loom, C a cam or cross shaft thereon, and B a ratchet-wheel employed on the take-up, all as usual. The ratchet-wheel B, supported on a suitable stud b in a stand B′, fast to the loom side, has its hub b' slabbed off or squared (see Fig. 2) to receive a forked hub b^2 of a pinion b^3, which engages and rotates a toothed gear b^4, which in turn is rotated about a suitable stud b^5 in a stand b^6, secured to the upright b^7, the foot of which rests on the girt b^8, the upper end of the upright being secured to the girt b^9 by screw b^{10}. The hub of the toothed gear b^4 has coupled to it a pinion d, which engages a toothed wheel e, fast on the shaft of the sand-roll e^2, against which rests the usual cloth-roll e^3. The stand e^6, holding the journal of the sand-roll, is held by screws and bolts e^7 in slots e^8 of the upright b^7, the journals of the cloth-roll e^3 resting on a ledge e^4, forming part of the said upright and sliding to the right thereon as the cloth f, taken from the breast-beam over the roll f', having its journals in the upright b^7, is wound upon the said cloth-roll. The shaft C has on it a double or compound cam. (Shown detached in Figs. 5 and 6.) This cam is composed of a central portion a^3, at one side of which is a cam a^2, while at the outer side are tappets a a a' a' in pairs. The compound cam may be fastened to the shaft C either end in by the screw a^4. The pawl h for moving the ratchet-wheel B is carried by a strap-piece h' h^2, having supporting-lips b^2 b^2 and acting-faces b b' in different vertical planes, the cam-piece being revolved by means of the shaft C within the opening in the strap-piece.

When it is required to obtain two reciprocations of the strap-piece and pawl while the shaft C is making one revolution, as when the motion of the take-up is to be more rapid to provide for what is called the "double cut," that end of the cam-piece which has the projections a and a' is inserted in the strap-piece, as shown in Figs. 1 and 2, the projections a of the cam-piece coming in contact with the projection b of the strap-piece, carrying it in one direction, the projection a' in the rotation of the cam-piece coming in contact with the projection b' on the strap-piece and driving it in the opposite direction. When, however, it is required to obtain but one reciprocation of the strap-piece b while the shaft C is making one revolution, then the cam-piece is removed from shaft C and reversed, so that that end of the cam-piece which has the projection a^2 is made to enter the strap-piece, the projection a^2 coming in contact with the projection b of the strap-piece to carry it in one direction, and the same projection a^2 coming in contact with the projection b' to return it to its former position.

The set-screw a^4 serves the purpose of securing the cam-piece to the shaft C and the collar or flange a^3, together with the flange n, surrounding the shaft C, Fig. 2, both of which are made concentric with the shaft C, receive upon or against them the ears b^2 of the strap-piece, thus guiding the strap-piece in its reciprocations. It will thus be seen that the rate of motion of the ratchet-wheel may be changed without changing the number of change-gears.

When the take-up is to be moved at its

more rapid speed for what is called "double cut," at which time, it will be understood, a larger amount of material will be wound upon the roll *e*, said roll will be made to occupy its lowest position, (shown in Fig. 1;) but when the take-up is to be rotated slowly then the bolt e^7 will be loosened and be put through the hole *g* of the upright b^7, and the said take-up roll will be raised in the position shown by dotted lines at $e^{2\times}$, the journals of the cloth-roll at such time resting on the ledge 4 above the ledge e^4, the pinion *d* engaging and rotating the gear *e* in the new position of the sand-roll.

I desire it to be understood that the herein-described cam and strap piece, pawl, and ratchet may be employed in other machines than looms, wherein it is sometimes desired to give some part two movements rather than one movement to one rotation of the shaft carrying the cam. I also desire it to be understood that instead of the pawl engaging ratchet-teeth on the wheel connected to the shaft to be rotated intermittingly by the cam-piece and strap-piece I may employ any usual mechanical equivalent for a pawl and ratchet, such, for instance, as those known as "friction-clutches."

The term "double cut" as used is intended to designate that at some times there will be twice as much cloth wound on the take-up beam as at other times, or more cloth at one time than at another, that depending upon the number of movements of the pull for actuating the take-up during any one rotation of the main shaft of the loom.

I claim—

1. The wheel B, the strap-piece having acting-faces *b b'* in different vertical planes, and means actuated by the said strap-piece to rotate the said wheel intermittingly, combined with the shaft C and cam-piece having at one end two sets of cams *a a'*, adapted to reciprocate the strap-piece twice to each rotation of the said cam-piece, and at its other end a cam a^2 to co-operate with the said strap-piece and reciprocate it once for each rotation of the said shaft, substantially as described.

2. The strap-piece having acting-faces *b b'* in different vertical planes and ears b^2, combined with the shaft C, the cam-piece having a flange a^3 to support the said ears, and two sets of cams *a a'*, to operate substantially as described.

3. The strap-piece having acting-faces *b b'* in different vertical planes and ears b^2, combined with the shaft C, having a collar *n*, and the cam-piece having a flange a^3 to support the said ears, and two sets of cams *a a'*, to operate substantially as described.

4. The upright having two rests e^4 and 4 in different planes for the journals of the cloth-roll, a sand-roll, an adjustable bearing for the shaft of the sand-roll, a gear *e* on the shaft of the sand-roll, the pinion *d*, and gear b^4, the pinion *d* engaging the gear *e* when the said roll is arranged with its shaft above either of the said rests, substantially as described.

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

JOHN T. MEATS.

Witnesses:

FREDK. MASON,

CHARLES L. HANDFORD.