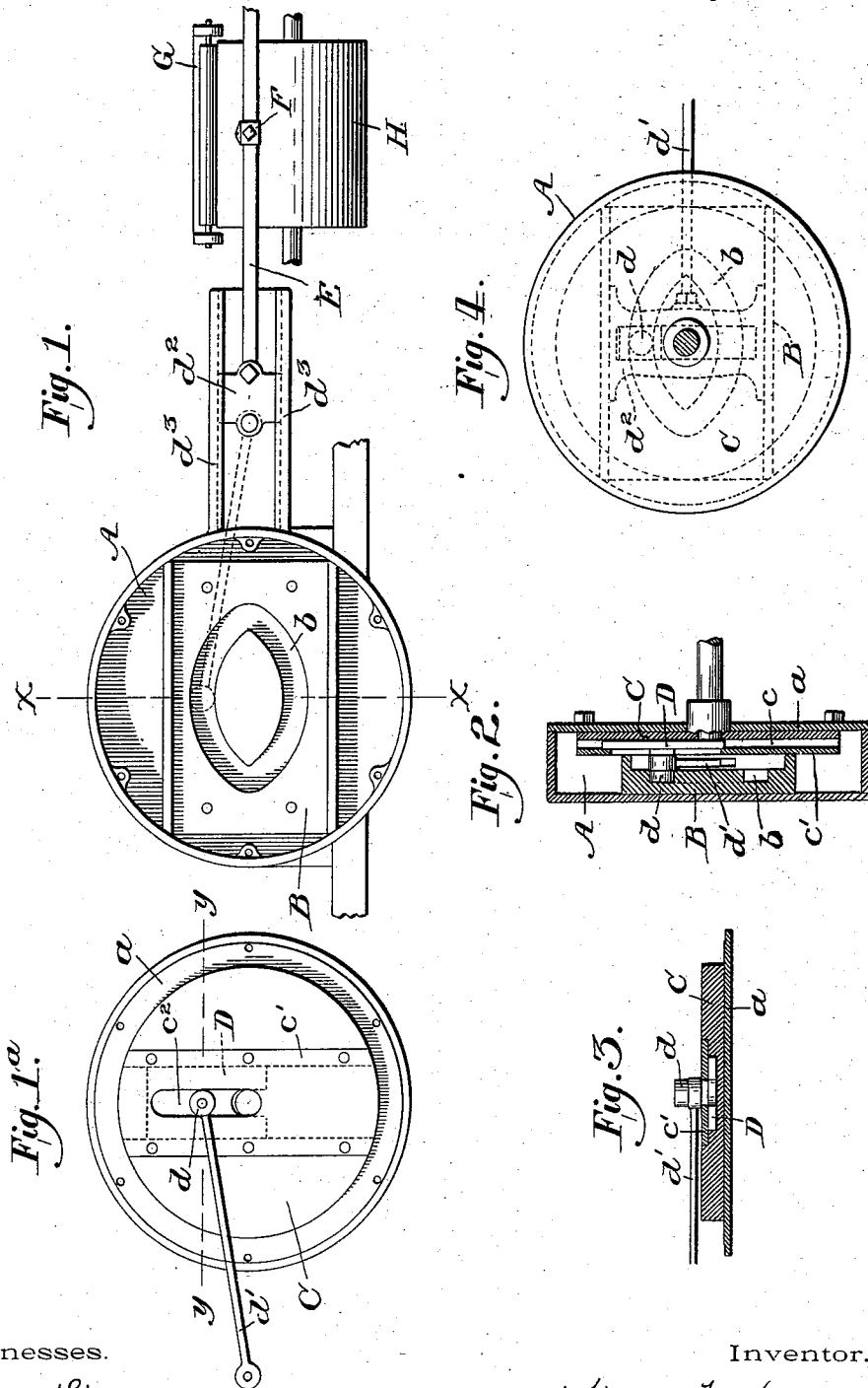


(No Model.)

W. T. HANSON.
MECHANICAL MOVEMENT.

No. 563,590.

Patented July 7, 1896.



Witnesses.

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UNITED STATES PATENT OFFICE.

WALTER T. HANSON, OF MACON, GEORGIA.

MECHANICAL MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 563,590, dated July 7, 1896.

Application filed June 5, 1895. Serial No. 551,731. (No model.)

To all whom it may concern:

Be it known that I, WALTER T. HANSON, a citizen of the United States, residing at Macon, in the county of Bibb and State of Georgia, have invented certain new and useful Improvements in Mechanical Movements, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

The object of my invention is to provide a mechanism whereby a regular and uniform reciprocating motion may be produced from a shaft revolving continuously in one direction, the same being especially, though not exclusively, designed for operating the traverse-bars of winding and spooling machines. In some machines of this character the traverse-bar extends from end to end of the machine and carries a series of yarn-guides which are arranged on the bar in respect to the revolving spools or cop-tubes to which the yarn is delivered. Hence any irregularity in the movement of the bar affects the uniformity of the winding of the yarn on the several spools or tubes. To overcome this objection, there have been used in certain machines independent cam-operated traverse devices for the individual yarn-guides, but that construction is complicated, expensive, and unreliable. My invention, however, provides a simple and efficient means whereby the single traverse-bar, with its series of yarn-guides, may be operated in a manner to effect a uniform and regular feeding of the yarns to the several cop-tubes, as will hereinafter appear.

The invention, as generally stated, comprehends a wheel or head provided with a radially-reciprocative stud or roller, in combination with a face-cam to which said stud or roller is fitted, and a connection between said stud or roller and a longitudinally-reciprocative bar, whereby during the relative operation of said wheel or head and the cam the stud or roller will traverse the cam and correspondingly actuate said bar. The cam is shaped to effect the reciprocation of the bar at a regular and uniform rate of speed, as will be hereinafter described.

In the annexed drawings, Figure 1 is a side elevation of my mechanical movement as

applied to a spooling or winding machine, the head of the casing with its immediate connections being removed and shown in Fig. 1^a. Fig. 2 is a full section, as on the line *xx* of Fig. 1. Fig. 3 is a transverse section on the line *yy* of Fig. 1^a. Fig. 4 is a modification hereinafter referred to.

A designates a cylindrical casing, one head *a* of which is bolted or otherwise detachably secured thereto. Within this casing is fixed a plate B, on the face of which is formed an appropriate camway *b*. Through the center of the head *a* extends a shaft to which motion is imparted from a suitable source of power. To the inner end of the shaft is affixed a wheel C, which is provided with a radial guideway *c* therein for the reception of a reciprocative block D, the latter being maintained in the recess by means of a plate *c'*, that is secured on the face of the wheel. In this plate is a radial slot *c*², through which extends a projection on the confined block. On this projection is mounted a freely-rotatable roller *d*, that is fitted to the camway in the plate B, so that during the continuous rotation of the wheel C through the power-driven shaft the roller *d*, being radially reciprocative, will traverse the camway. The projecting portion of the block is connected by means of a rod or link *d'* with an exteriorly-mounted cross-head *d*², which is guided in suitable ways *d*³, and the traverse-bar E is connected with the cross-head, to the end that said bar, during the travel of the roller in the camway, will be longitudinally reciprocated.

By constructing the camway of an elliptic contour, substantially as illustrated in Fig. 1, and by effectually guiding the roller in its radial movement, as described, a steady uninterrupted movement is imparted to the traverse-bar. In this figure the traverse-bar is represented as that of a winding or spooling machine, wherein are indicated the yarn-guide F, the cop-holding frame G, and the continuously-driven drum H, by contact with the periphery of which the cop or spool is revolved.

In Fig. 4 is shown a modification of the invention in which the cross-head *d*² is fitted to longitudinal guides on the cam-plate, and is rigidly connected with the traverse-bar by a rod *d'*. In this construction the cross-head

is slotted transversely in respect to its line of movement, and the projection of the reciprocative block in the wheel C is fitted to the slot in said head, in consequence of which
5 the head, during the traverse of the roller in the camway, is reciprocated longitudinally similarly to the construction first above described.

I claim as my invention—

10 1. The combination of a casing provided with a detachable head, a positively-rotated shaft extended through said head, a wheel or disk on the inner end portion of said shaft and having a radial guideway, a block fitted
15 to reciprocate in said guideway and having a projection, the slotted plate through whose slot said projection extends, a roller mounted on said projection, a fixed cam-plate whose camway is engaged by said roller, a cross-
20 head and a connection between said head and the projecting portion of said block, together with cop-winding mechanism connected to and operated by said head, substantially as specified.

2. In combination, a casing provided with 25 a detachable head, a positively-rotated shaft extending through the same, a wheel carried by said shaft within the casing and having a radial guideway therein, a block fitted to reciprocate in said guideway, a plate which 30 confines the said block in said guideway, and in which is a slot through which extends a projection of the said block, a roller mounted on said projection, a fixed cam-plate in said casing and having its camway en- 35 gaged by the said roller, a cross-head, a connection between the said head and the projecting portion of said block, and a bar attached to the said cross-head, substantially as specified. 40

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

WALTER T. HANSON.

Witnesses:

A. R. SCOTT,
GEO. W. REED.