E. A. HOWE.

Mechanical Movements.

No. 203,734. Patented May 14, 1878.

Fig. 1.

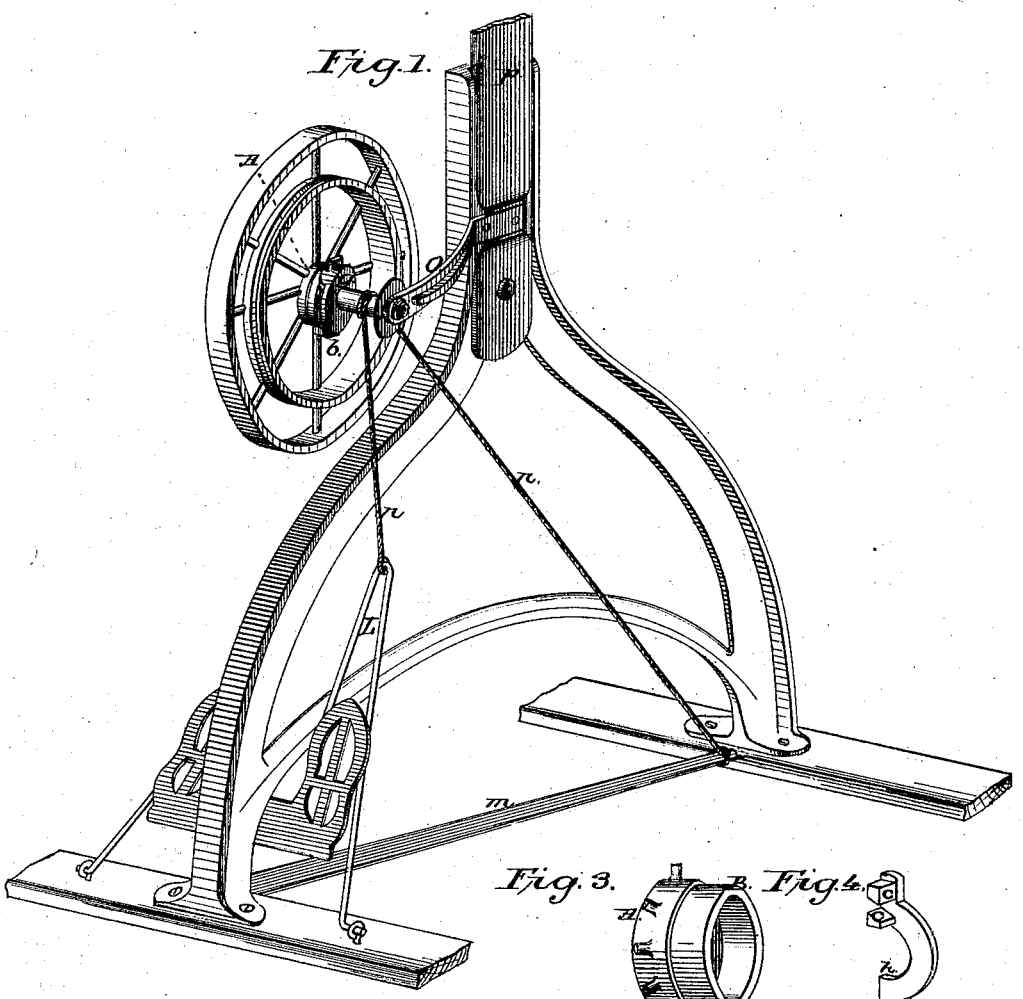


Fig. 3.

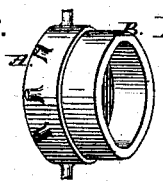


Fig. 4.

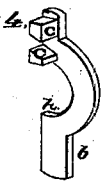
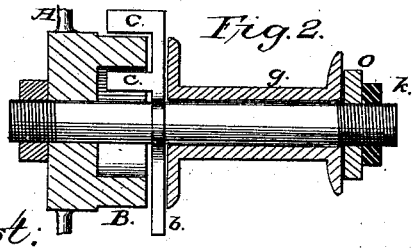


Fig. 2.



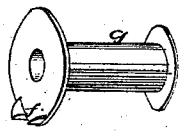


Fig. 5.

Attest:

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by S. S. Hurlbut Atty.

UNITED STATES PATENT OFFICE.

EDWIN A. HOWE, OF ELYRIA, OHIO.

IMPROVEMENT IN MECHANICAL MOVEMENTS.

Specification forming part of Letters Patent No. **203,734**, dated May 14, 1878; application filed February 13, 1878.

To all whom it may concern:

Be it known that I, EDWIN A. HOWE, of Elyria, in the county of Lorain and State of Ohio, have invented certain new and useful Improvements in Mechanical Movements, of which the following is a specification:

My invention relates to such mechanical movements as are used for converting oscillating into rotary motion without the use of the crank. It is especially applicable to all foot-power or treadle-machines for driving scroll-saws, grinding and turning lathes, and any machinery requiring a high speed and continuous motion in one direction.

The object of the first part of my invention is to secure a more direct and less expensive connection between a treadle or vibrating lever, to which power is applied, and a balance or band wheel, from which the power is taken, for useful effect.

The object of the second part of my invention is to secure positive motion between the spool, which is propelled by a single strap or cord in both directions alternately, and the driving-wheel through the clutch-lever and annular rim, with which the clutch engages.

In the accompanying drawings, Figure 1 represents a perspective view of my device. Fig. 2 is a vertical longitudinal elevation of the working parts, constituting part of my claim. Fig. 3 is a view, in perspective, of the hub and annular rim of the driving-wheel. Fig. 4 is a similar view of the clutch and clutch-lever; and Fig. 5, a view, in perspective, of the spool.

Similar letters of reference indicate corresponding parts.

A, Fig. 2, represents the hub of the balance-wheel; B, the annular rim; *c c*, the clutch; *b*, the clutch-lever; *f*, a slot between two projections on the flange of the spool *g*; *h*, a spring; *k*, holding-nut; *o*, the arm on which the mechanism is hung; and *p*, a slide, upon which the arm *o* is fastened and intended to raise or lower the table above, on which work is done. (Not shown in drawing.)

Having thus described my invention, I claim—

1. The spool *g*, propelled by the use of one strap or cord in both directions, the treadle being attached to one end of said strap, and a long wood or metal spring at the other, substantially as and for the purpose set forth.

2. The combination of the treadle with one strap or cord that encircles the spool one or more times and passes to the spring, substantially as and for the purposes set forth.

3. The combination of the treadle L, cord or strap *n*, spring *m*, spool *g*, clutch and lever *b* and *c c* with spring *h*, annular rim B, and wheel A, when constructed and operated substantially as shown and described, as and for the purpose set forth.

EDWIN A. HOWE.

Witnesses:
H. HUMISTON,
W. COOK.