No. 891,597. PATENTED JUNE 23, 1908.

F. CRATER.

MECHANICAL MOVEMENT.

APPLICATION FILED SEPT. 16, 1907.

Fig. 1.

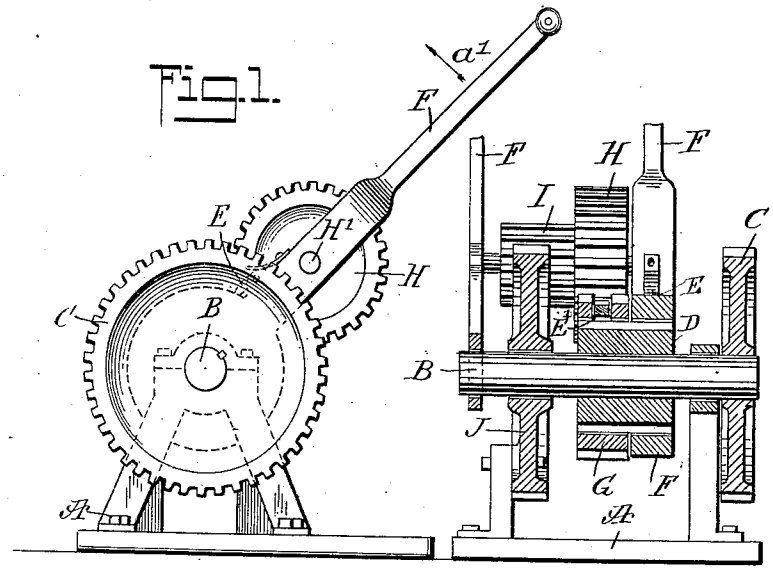


Fig. 2.

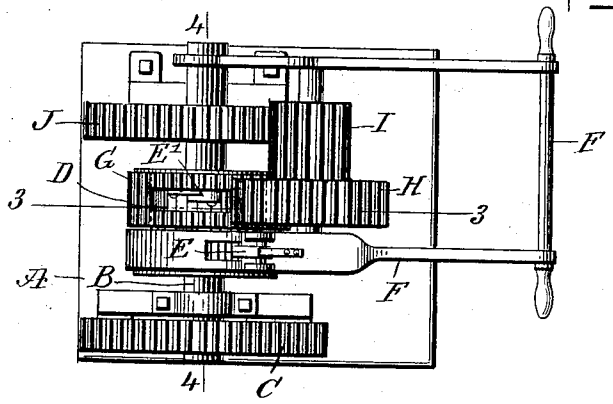
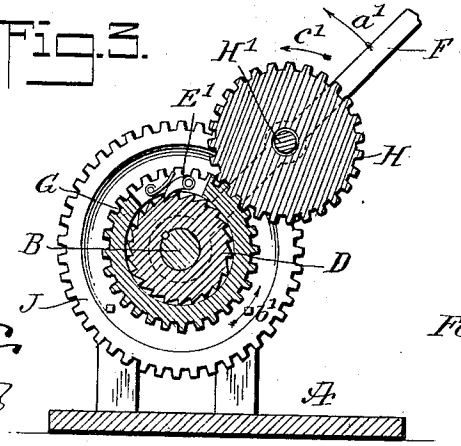


Fig. 4.

Fig. 3.



WITNESSES

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MECHANICAL MOVEMENT.

No. 891,597. Specification of Letters Patent. Patented June 23, 1908.

Application filed September 16, 1907. Serial No. 393,134.

To all whom it may concern:

Be it known that I, FORDHAM CRATER, a citizen of the United States, and a resident of Parsons, in the county of Labette and State of Kansas, have invented a new and Improved Mechanical Movement, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved mechanical movement, more especially designed for converting reciprocating motion into continuous rotary motion in a very simple and effective manner.

The invention consists of novel features and parts and combinations of the same, which will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement; Fig. 2 is a plan view of the same; Fig. 3 is a sectional side elevation of the same on the line 3—3 of Fig. 2, and Fig. 4 is a transverse section of the same on the line 4—4 of Fig. 2.

On a suitably constructed frame A is journaled a driven shaft B carrying a gear wheel C or other means for transmitting the rotary motion of the shaft B to other machinery. On the driven shaft B is secured a ratchet wheel D engaged by two sets of spring-pressed pawls E and E′, of which the pawl E is held on a lever F, fulcrumed loosely on the shaft B and receiving reciprocating movement by hand or by power according to the use of the mechanical movement. The pawl E′ is held on a gear wheel G, mounted to rotate loosely on the ratchet wheel D and in mesh with a gear wheel H journaled at H′ on the lever F, the said gear wheel H carrying a pinion I in mesh with a gear wheel J fixed to the main frame A, and having its axis coinciding with the axis of the driven shaft B. Now when the several parts are in position, as illustrated in Figs. 1, 2 and 3, and the lever F is swung in the direction of the arrow *a′*, then the pawl E turns the ratchet wheel D and consequently the shaft B in the direction of the arrow *b′*, and during this movement of the lever F the pinion I rolls off onto the fixed gear wheel J, thus causing the pinion I and the gear wheel H to rotate in the direction of the arrow *c′*, whereby the gear wheel G is rotated in the inverse direction of the arrow *b′* and hence the pawl E′ carried by the said gear wheel G glides loosely over the ratchet wheel D and hence does not turn the same. When the lever F is on the return stroke and moves in the inverse direction of the arrow *a′* then the pawl E glides over the ratchet wheel D without turning the same, but the shaft B is turned in the direction of the arrow *b′* by the other pawl E′, as the gear wheel G now rotates in the direction of the arrow *b′* owing to the reverse turning movement of the pinion I and gear wheel H. Thus during the forward as well as the return stroke of the lever F a continuous rotary motion is given to the ratchet wheel D and the shaft B in the direction of the arrow *b′*. The sizes of the ratchet wheel D and the gear wheels H, I and J may be varied to suit existing conditions, and the mechanical movement described can be readily used for various purposes, that is, may be used in ratchet drills and for operating blacksmith forges and other machinery.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A mechanical movement, comprising a shaft to be driven, a ratchet wheel secured on the said shaft, a lever mounted to swing loosely on the said shaft as a fulcrum, a pawl carried by said lever and engaging the said ratchet wheel, a gear wheel loose on the said shaft, a pawl carried by the gear wheel and engaging the said ratchet wheel, and means for turning the said gear wheel alternately in opposite directions.

2. A mechanical movement, comprising a shaft to be driven, a ratchet wheel secured on the said shaft, a lever mounted to swing loosely on the said shaft as a fulcrum, a pawl carried by said lever and engaging the said ratchet wheel, a gear wheel loose on the said shaft, a pawl carried by the gear wheel and engaging the said ratchet wheel, a gear wheel journaled on the said lever and in mesh with the said loose gear wheel, a pinion turning with the said lever gear wheel, and a fixed gear wheel in mesh with the said pinion.

3. A mechanical movement, comprising a shaft to be driven, a ratchet wheel secured on the said shaft, a lever mounted to swing loosely on the said shaft as a fulcrum, a pawl carried by said lever and engaging the said ratchet wheel, a gear wheel loose on the said shaft, a pawl carried by the gear wheel and

engaging the said ratchet wheel, a gear wheel journaled on the said lever and in mesh with the said loose gear wheel, a pinion turning with the said lever gear wheel, and a fixed gear wheel in mesh with the said pinion, the said fixed gear wheel having its axis coinciding with the axis of the said shaft.

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

FORDHAM CRATER.

Witnesses:
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R. R. WILSON.