No. 702,652. Patented June 17, 1902.

B. IVOR.

MECHANICAL MOVEMENT.

(Application filed Feb. 2, 1901. Renewed Dec. 2, 1901.)

(No Model.)

Fig. 1.

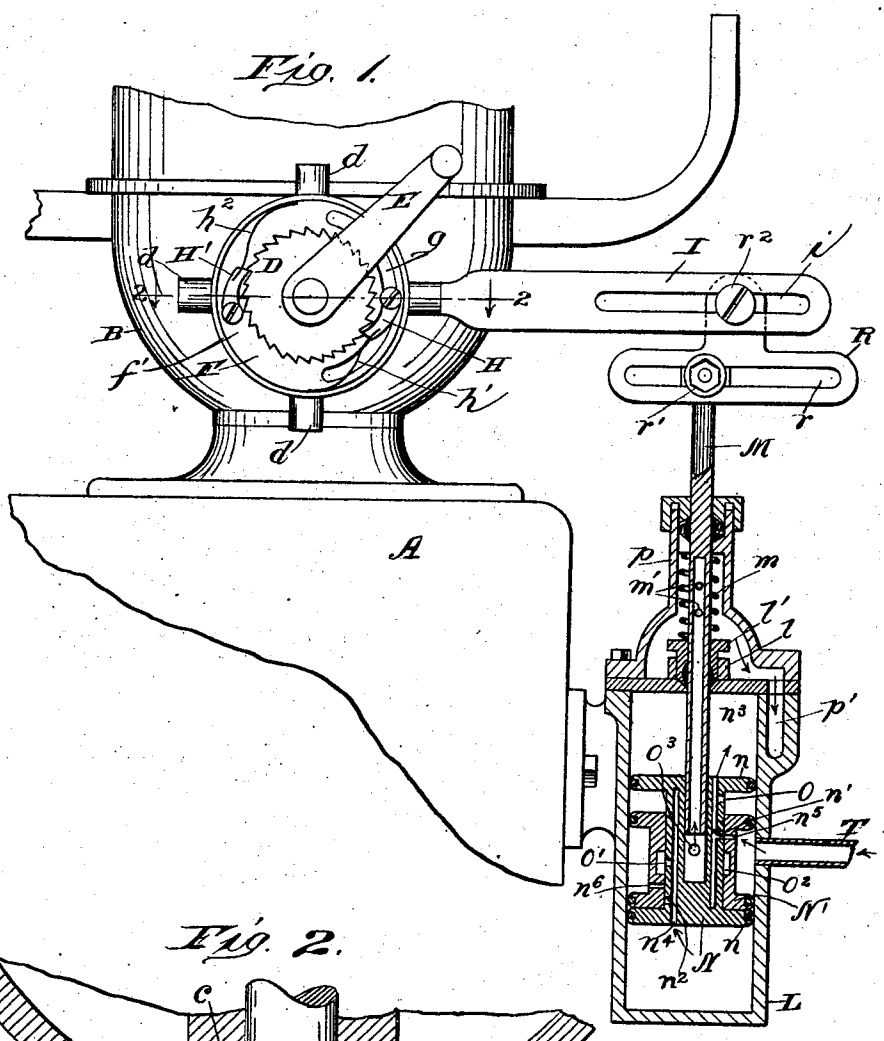
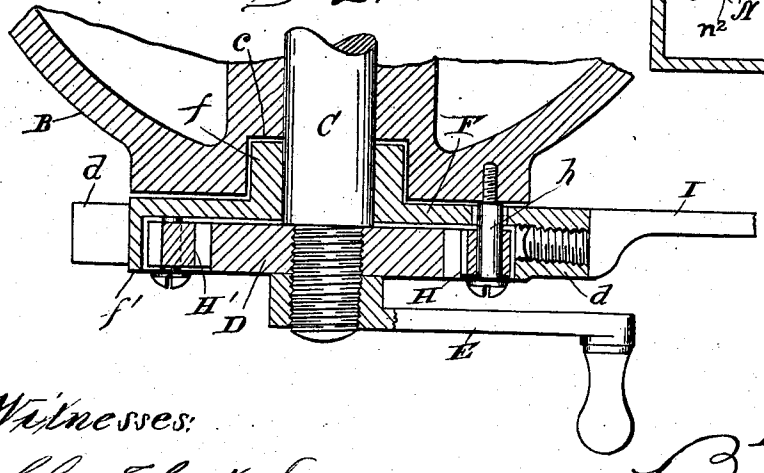


Fig. 2.



Witnesses:
Chas. E. Gorton.
A. Gustafson

Inventor:
Barry Ivor.
By Chas. C. Tillman
Atty.

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

UNITED STATES PATENT OFFICE.

BARRY IVOR, OF CHICAGO, ILLINOIS, ASSIGNOR TO CHARLES M. ROGERS AND LOUIE C. ROLLO, OF CHICAGO, ILLINOIS.

MECHANICAL MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 702,652, dated June 17, 1902.

Application filed February 2, 1901. Renewed December 2, 1901. Serial No. 84,454. (No model.)

To all whom it may concern:

Be it known that I, BARRY IVOR, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Mechanical Movements, of which the following is a specification.

This invention relates to improvements in mechanical movements whereby reciprocating motion is converted into rotary motion, and while it is more especially intended to be used for operating lubricating-pumps, yet it is applicable for other purposes; and it consists in certain peculiarities of the construction, novel arrangement, and operation of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The object of my invention is to provide a mechanical movement for converting reciprocating motion into rotary motion which shall be simple and inexpensive in construction, strong, durable, and effective in operation.

In order to enable others skilled in the art to which my invention pertains to make and use the same, I will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1 is a view in side elevation of a portion of a lubricating-pump with my improved movement attached thereto and illustrating an engine for operating the pump, which engine is shown in section; and Fig. 2 is an enlarged plan sectional view taken on line 2 2 of Fig. 1.

Similar letters refer to like parts throughout both views of the drawings.

A represents a portion of a suitable support, on which is mounted a lubricating-pump B of the ordinary or any preferred construction. Journaled in the pump-casing is a shaft C, the outer end of which is screw-threaded to engage a screw-threaded opening in the ratchet-wheel D, which may be fixedly held in position on the shaft by means of a crank-handle E or otherwise. Rotatably mounted on the shaft C is a disk F, which is provided with a hub *f*, which fits in a suitable recess *c* in the casing of the pump. As shown in Fig. 2 of the drawings, the disk F is located between the ratchet-wheel D and the pump-casing and is provided at its periphery with an annular flange *f'*, which encircles the ratchet-wheel. The disk F is formed with a segmental slot *g* for the reception of a pivot or pin *h*, on which is pivotally secured a pawl H, which is held in engagement with the teeth of the ratchet-wheel by means of a spring *h'*, secured at one of its ends to the flange of the disk. Pivotally secured to the disk, almost diametrically opposite the pivot of the pawl H, is a pawl H', which is also held in engagement with the ratchet-teeth by means of a spring h^2, secured to the flange of the disk. The outer surface of the flange of the disk is provided with a number of socket-pieces *d*, into which may be secured an arm I, which has a longitudinal slot *i* near its outer end.

Secured to the side of the support A or otherwise suitably mounted is an engine-cylinder L, which is provided in one of its ends with a stuffing-box *l*, the gland *l'* of which may be held in position by means of a spring *m*, surrounding the hollow piston-rod M, which is provided with a number of openings *m'* for the exhaust of steam, as will be presently explained. Within the cylinder L is located a piston N, which has at its ends annular flanges *n*, which form a spool-like piston, which is provided with openings *n'* and *o* and n^2 and *o'*, communicating, respectively, with ports n^3 and n^4. Located movably on the piston N is a slide-valve N', which has openings n^5 and n^6 to register with openings *n'* and *o'*, respectively. The slide-valve also has on its inner surface an annular groove o^2, which communicates with the openings *n'* and *o'* and also with opening o^3 through the piston into the hollow piston-rod. The upper portion of the piston-rod M is surrounded by a hollow projection *p*, which communicates with a chamber *p'* for the exhaust-steam. The upper end of the piston-rod M is connected to the bar I by means of a link R, which is provided with a slot *r*, through which is passed a bolt *r'*, used for securing the rod M to said link. The upper portion of the link R is movably secured in the slot *i* of the bar I by means of a screw r^2, which will allow of a slight longitudinal movement in said slot. By admitting steam

through the supply-pipe T to the engine-chamber L the piston-rod M will be caused to move back and forth or to reciprocate, which operation will raise and lower the bar I and through its connection with the shaft C rotate the latter, for it is apparent that the pawl H′ will engage the teeth of the ratchet-wheel D and cause said wheel to turn, while the pawl H will hold said wheel in position.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a mechanical movement, the combination with a support, of a rotatable shaft journaled thereon, a ratchet-wheel fixed on said shaft, a disk loosely mounted on the shaft and provided with a segmental slot, a spring-actuated pawl pivotally secured on the face of the disk adjacent to the ratchet-wheel and engaging the teeth thereof, an arm or lever secured to the periphery of the disk, a pivot passing through the slot of the disk and into the support, and a spring-actuated pawl secured on said pivot, substantially as described.

2. In a mechanical movement, the combination with a rotatable shaft suitably journaled, of a ratchet-wheel fixed on said shaft, a disk loosely mounted on the shaft and provided with a segmental slot and having a peripheral flange surrounding the ratchet-wheel, a spring-actuated pawl pivotally secured on the face of the disk adjacent to the ratchet-wheel, and engaging the teeth thereof, an arm or lever secured to the disk, means to move said arm back and forth, a pivot passing through the slot of the disk and a spring-actuated pawl secured on said pivot and engaging the teeth of the ratchet-wheel, substantially as described.

3. The combination with a shaft suitably journaled, a disk mounted thereon, an arm secured to the disk and provided with a longitudinal slot, of an engine having a reciprocating piston-rod, a link movably secured in the slot of the arm and having a slot parallel thereto, and a pin in said slot pivotally uniting the piston-rod and link, substantially as described.

BARRY IVOR.

Witnesses:
CHAS. C. TILLMAN,
A. GUSTAFSON.