

(Model.)

J. V. ROWLETT.
PAWL AND RATCHET MECHANISM.

No. 466,107.

Patented Dec. 29, 1891.

Fig. 1.

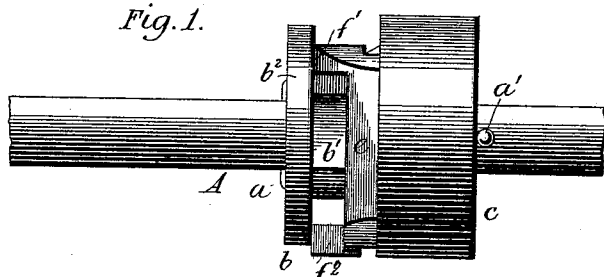


Fig. 2.

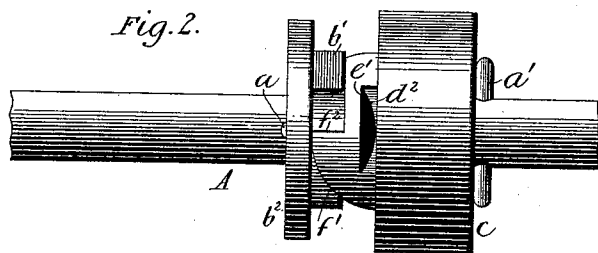


Fig. 3.

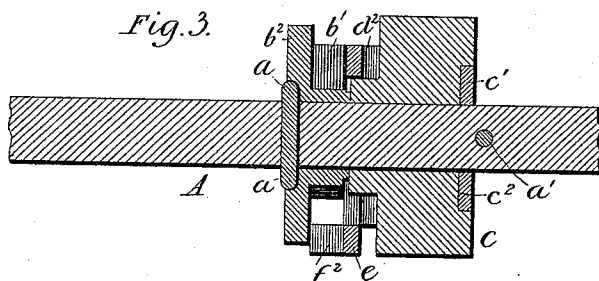


Fig. 4.

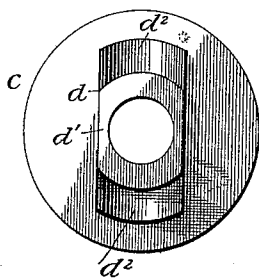


Fig. 5.

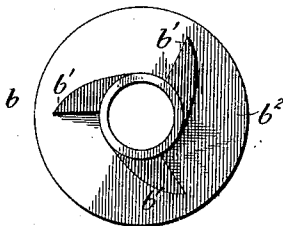
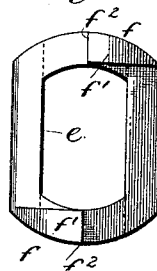


Fig. 6.



Witnesses:

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UNITED STATES PATENT OFFICE.

JACOB V. ROWLETT, OF RICHMOND, INDIANA.

PAWL-AND-RATCHET MECHANISM.

SPECIFICATION forming part of Letters Patent No. 466,107, dated December 29, 1891.

Application filed November 4, 1891. Serial No. 410,842. (Model.)

To all whom it may concern:

Be it known that I, JACOB V. ROWLETT, a citizen of the United States, residing at Richmond, in the county of Wayne and State of Indiana, have invented certain new and useful Improvements in Pawl-and-Ratchet Mechanism; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention has reference to that class of pawl-and-ratchet mechanism designed for engaging a loose part with a fixed part on a shaft, the objects being to improve the general construction and to increase its efficiency in operation.

To these ends my invention consists in the construction and relative arrangement of the several parts constituting my improved pawl-and-ratchet mechanism, all of which will fully appear in the following description.

Reference being had to the accompanying drawings, which form a part of this specification, Figure 1 represents in elevation my improved pawl-and-ratchet mechanism. Fig. 2 is a top view of the same. Fig. 3 is a longitudinal vertical section; and Figs. 4, 5, and 6 are details.

The reference-letter A in the drawings denotes the shaft upon which the mechanism is mounted. Fixedly secured to this shaft in any suitable manner, but preferably by means of the key *a*, is the ratchet *b*, which is provided with three teeth *b'* and with a disk or face plate *b²* integral therewith, which forms a bearing-surface for the teeth on the pawl, presently to be described.

c is the wheel, which is loose on the shaft, but held in its position by means of a key *a'* passed through the shaft, a suitable washer *c'* being interposed to lessen the friction. This washer is preferably seated in a recess *c²* in the wheel and is made of sufficient thickness to lie flush with the surface. The inner face of the wheel is provided with a guide *d*, upon which the pawl slides. The pawl is shown at *e* and consists of a yoke-shaped body

which freely encircles the shaft, and is provided with depressions *e'*, which conform in width to and fit over the guide *d*, the central raised portion *d'* entering the opening of the yoke. The pawl-teeth *f* are formed with the curved face *f'* and the straight face *f²*, which latter, when power is applied, engages the straight face of the ratchet-teeth and causes the rotation of the wheel. When, however, the shaft revolves in the opposite direction, the teeth of the pawl ride freely over the ratchet-teeth, owing to the opening in the pawl, thereby permitting it to slide on the guide and move alternately in or out or in opposite directions. When one of the teeth of the pawl reaches a tooth of the ratchet and rides thereon, the other pawl-tooth enters the space between the adjacent ratchet-teeth, and hence there is no engagement. The guide *d* is formed with a concave depression *d²* at each side of the portion *d'* for the purpose of the discharging of any dirt or dust that may accumulate under the pawl and prevent its proper working.

It will be observed that by reason of the construction employed each ratchet-tooth is in one complete revolution alternately engaged by the two pawl-teeth, and consequently an engagement of the pawl is had at six points of the circumference.

By my invention I am enabled to produce a pawl-and-ratchet mechanism of inexpensive manufacture, few and simple parts, and which is strong, durable, and not liable to get out of order.

I claim as my invention—

1. A pawl-and-ratchet mechanism comprising a ratchet fixedly secured to a shaft, a wheel loosely mounted thereon, and a pawl embracing said shaft and mounted on a guide on the pinion and adapted to slide thereon and having teeth adapted to operate in connection with the ratchet, substantially as described.

2. In pawl-and-ratchet mechanism, the combination of a shaft having a ratchet fixed thereto, a wheel loosely mounted on said shaft and having a guide thereon, a sliding yoke

shaped pawl having the depressions for said guide, and teeth on said pawl adapted to operate with the ratchet-teeth, as described.

- 5 3. In pawl-and-ratchet mechanism, the combination, with a ratchet fixed to a shaft, and with a sliding pawl for engaging said ratchet, of a wheel loosely mounted on the shaft and having a guide thereon for the pawl, and concave depressions in said guide, all sub-

stantially as described, and for the purpose ¹⁰ set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JACOB V. ROWLETT.

Witnesses:

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CHAS. C. GEHRING.