No. 669,986. Patented Mar. 19, 1901.

D. W. GORE.

PAWL AND RATCHET.

(Application filed Mar. 16, 1900.)

(No Model.)

Fig. 1.

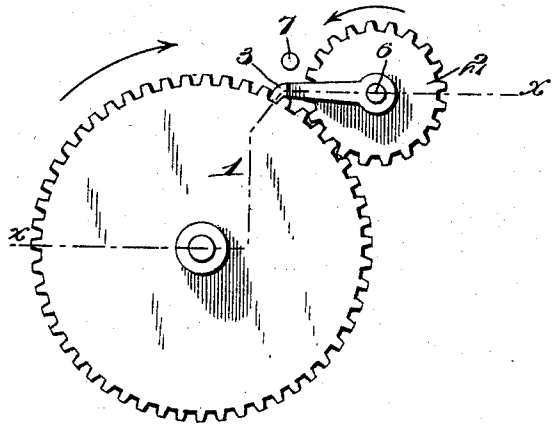


Fig. 2.

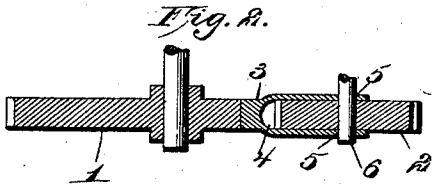


Fig. 3.

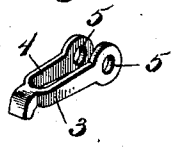


Fig. 4.

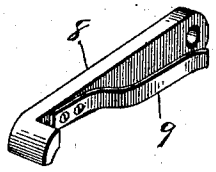
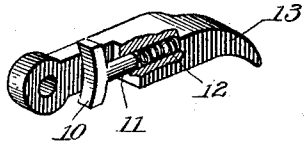


Fig. 5.



Witnesses

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PAWL AND RATCHET.

SPECIFICATION forming part of Letters Patent No. 669,986, dated March 19, 1901.

Application filed March 16, 1900. Serial No. 8,928. (No model.)

To all whom it may concern:

Be it known that I, DANIEL W. GORE, a citizen of the United States, residing at Cayuta, in the county of Schuyler and State of New York, have invented certain new and useful Improvements in Pawls and Ratchets, of which the following is a specification.

This invention relates to new and useful improvements in pawls and ratchets; and its primary object is to provide a pawl adapted to be operated by frictional contact with a wheel or disk movable with the ratchet.

To these ends the invention consists in the novel construction and combination of parts hereinafter more fully described and claimed, and illustrated in the accompanying drawings, showing the preferred form of my invention, and in which—

Figure 1 is an elevation thereof. Fig. 2 is a section on line *x x*, Fig. 1. Fig. 3 is a detail view of the pawl. Fig. 4 is a detail view of the modified form of pawl, and Fig. 5 is a similar view of another modification.

Referring to said figures by numerals of reference, 1 is a ratchet having teeth adapted to mesh with teeth of a cog 2, having a pawl 3 mounted thereon. This pawl is adapted to engage at one end with a ratchet 1, its opposite end being forked, as at 4, and sprung upon the cog 2. The ends of the prongs of the forked portion are provided with openings 5 for the reception of the shaft 6, which is secured to said cog, but revoluble within the fork of the pawl.

Secured at a suitable point above the pawl is a stop 7, for the purpose hereinafter described.

In operation when the ratchet-wheel is revolved in the direction of the arrow, Fig. 1, the cog 2 will be moved therewith in the direction of the arrow thereon, carrying the pawl by reason of its frictional contact therewith down into engagement with the teeth of said ratchet, stopping the revolution of the ratchet. When motion is reversed, the pawl will be carried out of engagement with the ratchet and thrown against the stop 7, which prevents its further movement in that direction. The cog, however, can continue to revolve, turning within the fork 4.

While I have shown and described the pawl mounted upon a cog, I do not limit myself thereto, as a disk may be substituted therefor and moved by frictional contact with the disk upon the shaft of the ratchet-wheel, or a belt or chain connection may be used between the ratchet and pawl carrying disk, &c; nor is it necessary to employ a pawl of the specific construction shown in Figs. 1, 2, and 3, as a modified form, such as shown in Fig. 4, may be substituted therefor. In this figure the pawl 8 is loosely mounted upon the disk-shaft at one side thereof, and a spring-prong 9 is detachably secured thereto and is adapted to bear upon the opposite face of the disk. This construction has the advantage over that hereinbefore described in that the spring may be readily replaced when worn or broken.

In Fig. 5 I have illustrated a modification which employs a shoe 10, adapted to bear against the edge of the disk and having a spring-encircled stem 11, which is slidably mounted in a recess 12, formed within the pawl 13.

In the foregoing description I have shown the preferred form of my invention; but I do not limit myself thereto, as I am aware that modifications may be made therein without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes as fairly fall within the scope of my invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. The combination with a ratchet; of a shaft; a disk mounted thereon and movable with the ratchet; a pawl having a reduced portion forming an arm which is mounted upon the shaft of the disk and a shoulder at a point between the ends of the pawl formed by the reduced portion thereof, said shoulder overlapping the periphery of the disk and having a recess therein; a stem slidably mounted within the recess of the pawl; a spring within the recess for holding the stem normally projected; a shoe upon said stem adapted to normally bear upon the edge of the disk; and a fixed stop for the pawl, said disk movable independently of the pawl when the same is stationary and out of engagement with the ratchet.

2. In a pawl-and-ratchet mechanism, the

combination with a ratchet; of a shaft, a disk mounted thereon, said ratchet and disk being adapted to move in unison, a pawl loosely mounted upon the shaft of the disk and in frictional contact with said disk, and a stop for limiting the movement of the pawl, said pawl being adapted to swing downward with the disk into engagement with the ratchet and upward into contact with the stop.

3. In a pawl-and-ratchet mechanism, the combination with a ratchet-wheel; of a gear meshing therewith, a shaft to said gear, a pawl loosely mounted upon the shaft and in frictional contact with the gear, and a stop for limiting the upward movement of the pawl, said pawl adapted to swing downward with the gear into engagement with the ratchet and upward into contact with the stop.

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

DANIEL W. GORE.

Witnesses:
CLARENCE D. TARBELL,
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