

J. H. Durran.

Ratchet and Pawl.

Nº 100,510.

Patented Mar. 8, 1870.

Fig. 1.

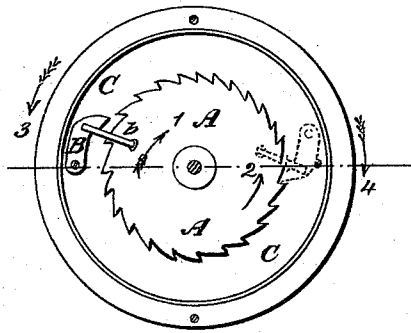
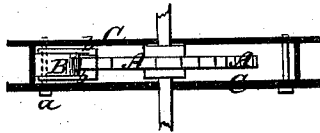


Fig. 2.



Witnesses.
John F. Brooks
E. Greenollins.

Inventor.
J. H. Durran.
per Wm. H. [unclear]
attys.

United States Patent Office.

JOHN H. DURRAN, OF AURORA, ILLINOIS, ASSIGNOR TO HIMSELF AND WILLIAM LOMBARD, OF BROOKLYN, NEW YORK.

Letters Patent No. 100,510, dated March 8, 1870; antedated February 26, 1870.

IMPROVEMENT IN RATCHET AND PAWL.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, JOHN H. DURRAN, of Aurora, in the county of Kane, and State of Illinois, have invented a new and improved Ratchet and Pawl; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 represents a face view of my improved ratchet and pawl.

Figure 2 is an edge view of the same.

Similar letters of reference indicate corresponding parts.

The object of this invention is to prevent the end of a pawl from working on the edge of a ratchet-wheel, and from thereby wearing off the contiguous surfaces while the pawl slips or works loose on the ratchet.

The invention consists in providing the pawl with spring clamps, by which it is held away from the edge of the ratchet-wheel, so as not to wear the same, as hereinafter more fully described.

A, in the drawing, represents a ratchet-wheel, arranged on a shaft or other part of a suitable mechanism or machinery.

B is a pawl, pivoted by a pin, *a*, to a pulley, C, or other suitable part of the machinery or mechanism.

To the sides of the pawl are secured arms *b b*, that project toward the ratchet-wheel, and fit over the faces of the same, as shown. These arms have sufficient spring power to press against the sides or faces of the ratchet-wheel.

When the ratchet-wheel is turned in the direction of the arrow 1 it tends to carry the ends of the arms *b* in the same direction, and swings thereby the pawl off its edge, and retains it thus as long as it is turned in this direction. The end of the pawl will, therefore,

not fit against the edge of the ratchet-wheel, while the same is free to move, and does not wear on the edge. As soon, however, as the motion of the ratchet-wheel is reversed into the direction of the arrow 2, the ends of the arms *b* are carried in the same direction, and draw thereby the pawl against the edge of the wheel, to prevent further turning of the latter in the said direction, as is indicated by red lines in fig. 1.

In case the ratchet-wheel is stationary, and the device C carrying the pawl is revolved, the action is the same. If C is turned in the direction of the arrow 3, drawing the pawl back toward its pivot, the arms *b* will be drawn out, and will keep the pawl away from the edge of the ratchet-wheel as long as C is thus turned. When, however, the motion is reversed into the direction of the arrow 4 the pawl will be forced against the ratchet-wheel, and will prevent further turning in the said direction.

In some cases, and when the material is of good quality, one single arm *b* may be sufficient to produce the requisite friction on the ratchet-wheel for keeping the pawl away from the same.

This invention can be applied to all kinds of machinery, and will produce a considerable saving in pawls and ratchet-wheels, as their rapid wearing is prevented.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

The combination with a ratchet-wheel and pawl, of the single or double spring clamp shown and described.

The above specification of my invention signed by me this 9th day of February, 1869.

JOHN H. DURRAN.

Witnesses:

JAMES D. FOX,

J. E. BAYLES.