(No Model.)

W. T. KELLOGG.

DEVICE FOR CONVERTING MOTION.

No. 279,651. Patented June 19, 1883.

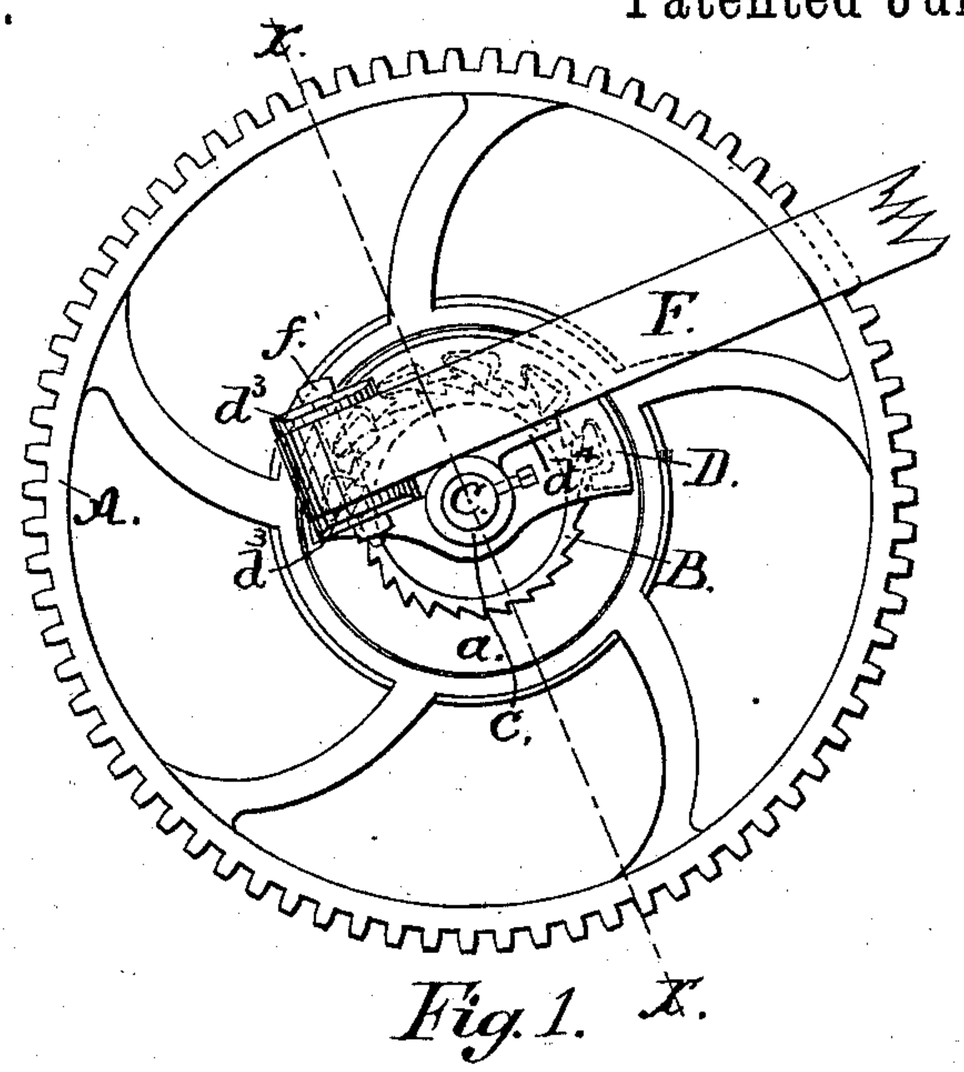

Fig. 1.

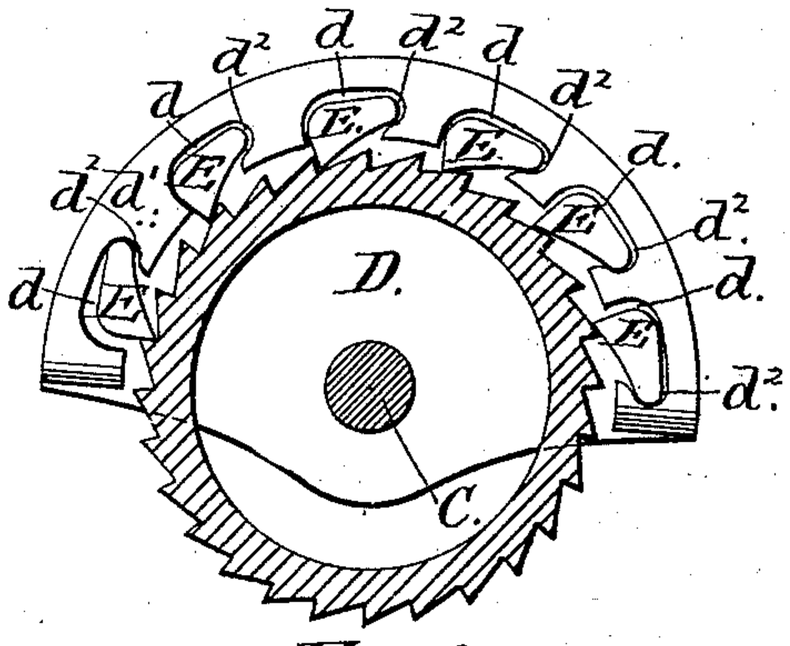

Fig. 3.

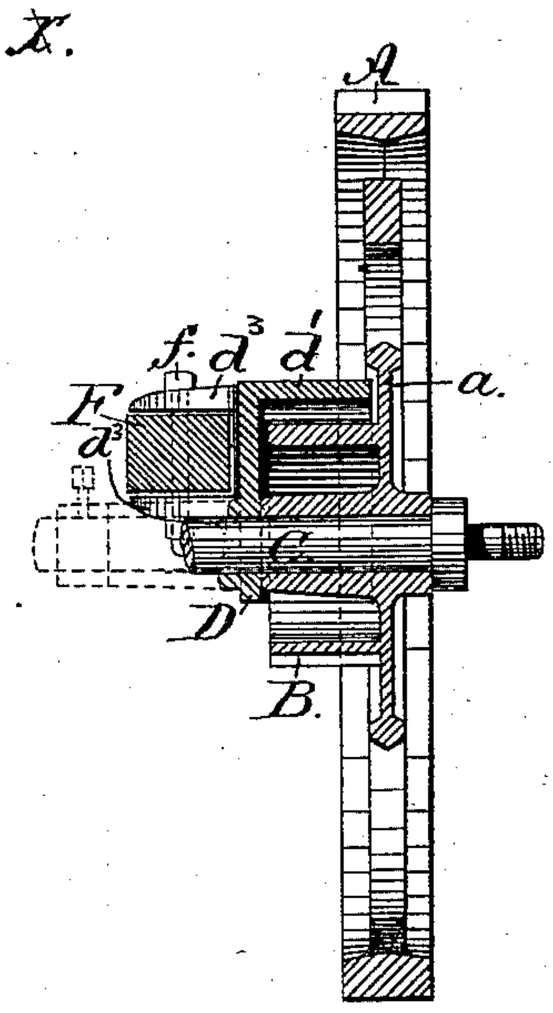

Fig. 2.

Witnesses.
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UNITED STATES PATENT OFFICE.

WARREN T. KELLOGG, OF COHOES, NEW YORK.

DEVICE FOR CONVERTING MOTION.

SPECIFICATION forming part of Letters Patent No. 279,651, dated June 19, 1883.

Application filed February 17, 1883. (No model.)

To all whom it may concern:

Be it known that I, WARREN T. KELLOGG, of Cohoes, in the county of Albany and State of New York, have invented certain new and useful Improvements in Devices for Converting Reciprocating into Rotatory Motion, of which the following is a specification.

My invention relates to that class of devices whereby an intermittent reciprocating or vibratory motion is converted into a continuous rotatory one; and the object of my invention is to provide a simple, cheap, and reliable device for the purpose above set forth. This object I attain by means of the mechanism illustrated in the accompanying drawings, which form part of this specification, and in which—

Figure 1 is a side elevation of my improved device as applied to a cog-wheel; Fig. 2, a vertical section of same at the line X X; and Fig. 3, an enlarged rear view of the vibratile pawl-holder, showing the ratchet-wheel in section.

As represented in the drawings, A is the driving-wheel, which may be made either with or without cogs or teeth around its perimeter. Said driving-wheel is provided with a ratchet-wheel, B, which may be made either integral with or of a separate piece from said driving-wheel. The driving-wheel A may be adapted to revolve on a fixed stud, C, as shown in the drawings; or, when preferred, it may be secured to a revolving shaft, so as to rotate therewith.

The pawl-holder consists of a vibratile segment, D, that is fitted to vibrate freely on, but independently of, the stud or shaft C. Said pawl-holder is provided with a series of recesses, *d*, which are formed in the segmental flange *d'*, and each recess contains a pawl, E, that is adapted to vibrate on a free or imaginary center in the smaller end d^2 of its recess; and for the purpose of facilitating and simplifying the construction of the device, all of said pawls are made of a uniform size and form. The recesses *d* are arranged to divide the "pitch" of the teeth on the ratchet-wheel B in such manner that the engaging points of the pawls E will vary in respect to the points of the ratchet-teeth, and so that some one of said pawls will be sure to engage with a ratchet-tooth at any point of the vibratory movement of the segment D, and by this means a positive engagement of one of the pawls with one of the ratchet-teeth is effected with but little, if any, lost motion of the segment. When the several parts of the device are in position, the pawls E are retained in the recesses *d* by means of the circular plate *a*, formed in the center of the wheel A. The segment D is provided on its outer face with lugs d^3, to which an operating lever or brake, F, is pivoted, (by means of a bolt, *f*,) so as to have a slight lateral motion to enable it to yield to any sway of the body of the operator. A bearing-lug, d^4, is also formed on the outer face of the segment D, to support the brake F and relieve the lugs d^3 from any excessive strain that might otherwise be thrown upon them by said brake. The segment D is retained in position on the shaft C by means of an adjustable collar, *c*.

As represented in the drawings, the device is provided with a series of six of the vibrating pawls E; but I do not limit myself to that precise number, for it is obvious that as long as said pawls can be arranged around the periphery of the ratchet-wheel in positions where the force of gravity can be utilized for vibrating the free ends of them into engagement with the radial faces of the ratchet-teeth, any other number, either greater or lesser, may be employed; but it should be borne in mind that with a large number of the pawls the pitch of the teeth of the ratchet-wheel can be more minutely divided, and thereby a slighter lost motion of the vibratile segment D can be obtained.

I claim as my invention—

The driving-wheel A and ratchet-wheel B, as herein described, in combination with a vibratile segment, D, provided with a series of recesses, *d*, and an equal series of loose pawls, E, adapted to vibrate by gravity on a free or imaginary center in the smaller ends d^2 of the said recesses, the series of said pawls being arranged in relation to the pitch of the teeth of the ratchet-wheel B, in the manner and for the purpose herein specified.

WARREN T. KELLOGG.

Witnesses:

WILLARD E. LAPE,

WM. KIRKPATRICK.