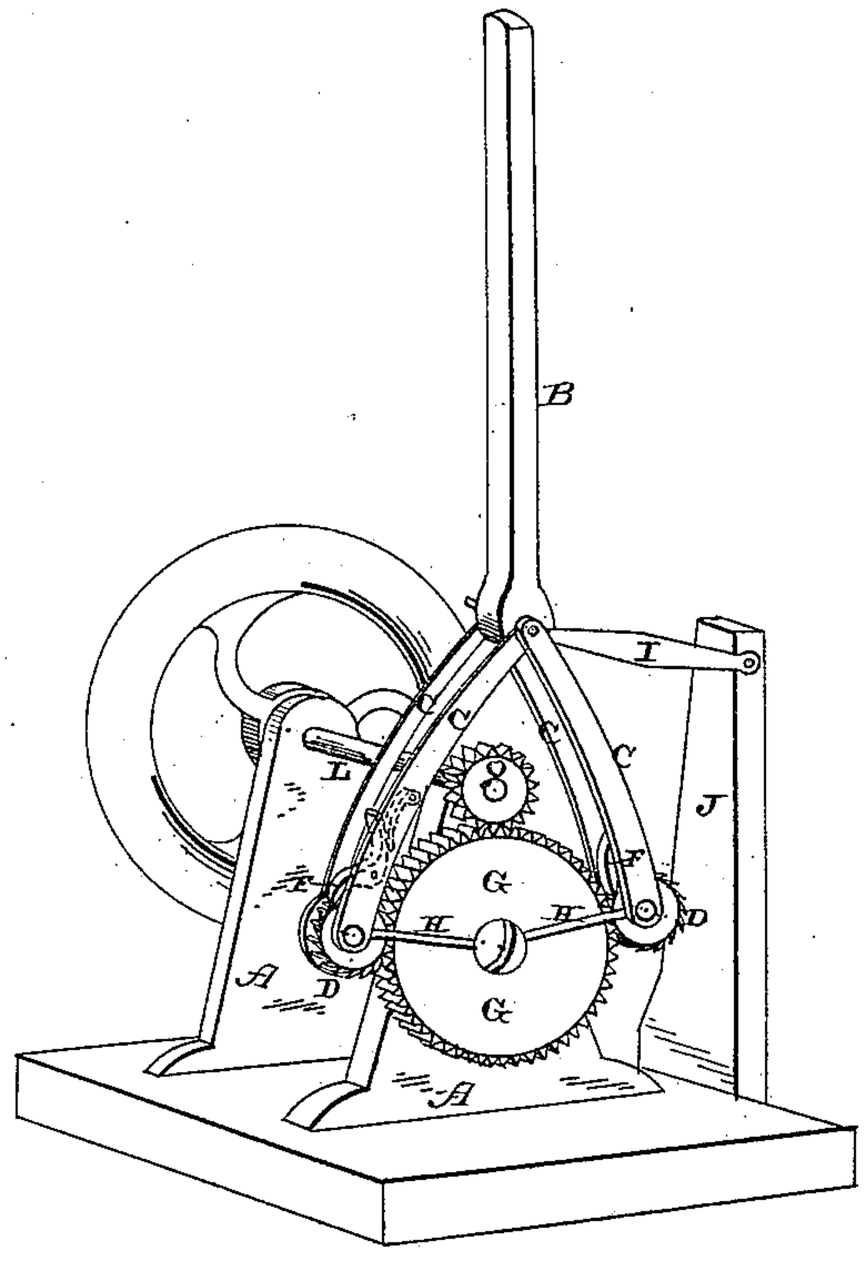
(No Model.)

A. P. GERLACH.

DEVICE FOR CONVERTING MOTION.

No. 355,986. Patented Jan. 11, 1887.



Witnesses:
L. J. Gardner
A. W. Brecht.

Inventor
A. P. Gerlach,
per F. A. Lehmann,
Atty.

UNITED STATES PATENT OFFICE.

ANDREW P. GERLACH, OF MENDOTA, ILLINOIS.

DEVICE FOR CONVERTING MOTION.

SPECIFICATION forming part of Letters Patent No. 355,986, dated January 11, 1887.

Application filed October 4, 1886. Serial No. 215,304. (No model.)

To all whom it may concern:

Be it known that I, ANDREW P. GERLACH, of Mendota, in the county of La Salle and State of Illinois, have invented certain new and useful Improvements in Devices for Converting Motion; 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 pertains to make and use it, reference being had to the accompanying drawing, which forms part of this specification.

My invention relates to an improvement in devices for converting motion; and it consists in the combination of a reciprocating rod or pitman, pivoted supports attached loosely to its lower end, pinions journaled in the lower ends of the supports, and pawls which engage with the pinions, with a large wheel, with which the pinions engage, and an operating-shaft carrying a pinion at one end and a fly-wheel at the other, as will be more fully described hereinafter.

The object of my invention is to provide a mechanism which can be attached to the end of a pitman of a windmill, or other machine which has a reciprocating motion, and convert this reciprocating motion into a continuous rotary one, and thus enable a windmill to give a constant rotary motion, which can be applied to running machines of various kinds.

The accompanying drawing represents a perspective of a machine to which my invention is applied.

A represents a suitable frame-work, of any desired construction, in which the parts to be operated by the pitman B are journaled. The pitman B may either be connected to a windmill or any other machine which will impart to it a reciprocating motion, and which motion is to be converted into a rotary one. Pivoted to the lower end of this pitman B are a suitable number of supports, C, which project down any suitable distance, and in the lower ends of which are journaled the pinions D. Also pivoted upon these supports C are the spring-actuated pawls F, which engage with the pinion or ratchet teeth and allow them to revolve freely in one direction, but prevent them from revolving in the other. The pinions D are held in contact with opposite edges of the operating-wheel G by means of the connecting-links H, which are fastened at one end to the lower ends of the supports C and at the other to the journal or bearing upon which the wheel G is placed. These pinions D being held in contact with opposite edges of the wheel G, they are alternately made to revolve in opposite directions. While one is in motion the other is at rest. When the pitman B descends, the pawl, in connection with one of the pinions, prevents it from revolving, and this pinion, which does not revolve, in being forced downward, imparts a rotary motion to the wheel G at the same time that the other pinion is revolving idly around, but is descending so as to take a fresh hold upon the wheel G. When the pitman rises, the pinion which remained stationary and was forcing the wheel G around revolves idly backward, while the other pinion, which was revolving idly, is prevented from revolving by its pawl, and hence is made to drive the wheel G around. Thus it will be seen that the two pinions alternately cause the wheel G to revolve, the one beginning just as the other leaves off.

The pitman B is held directly over the wheel G by means of a rod, I, which is pivoted at one end to the pitman and at the other to the upright J. If the pitman B were passed down through a guide which would cause it to always reciprocate in a line, this rod I and upright J could be dispensed with.

In order to impart the rotary motion of the wheel G to other machines, the operating-shaft L is provided, and which has a pinion, O, secured upon one end, to engage with the wheel G, and the fly or band wheel P secured to the other. A continuous rotary motion of the wheel G causes the shaft L to revolve constantly in the same direction, and thus the reciprocating motion of the pitman B is converted into a continuous rotary motion, which can be applied to pumping and driving machines of different kinds.

Having thus described my invention, I claim—

1. The combination of the pitman B, the pivoted supports C, secured to its lower end, the pinions journaled in the lower ends of the supports, the pawls which engage with the pinions D, the wheel G, with which the pinions D engage, and the links H, which hold the

pinions D in contact with the opposite sides of the wheel G, substantially as shown.

2. The combination of the pitman B, the rod I, and upright J with the supports C, pinions D, pawls F, wheel G, links H, and the driving-shaft L, which is provided with a pinion at one end to engage with the wheel G, and a fly-wheel at the other, substantially as described.

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

ANDREW P. GERLACH.

Witnesses:
LOUIS ECKART,
SAML. HASTINGS.